MODAL VERBS IN ENGLISH AND FRENCH

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DEDICATION

This thesis is dedicated to the memory of my brother

STEPHEN DAVID WAKELEY
1946-1976
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I have to thank numerous people who have helped me in various ways with the work for this thesis.

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The decision to work on the modal verbs and on the semantically related items in French arose from an interest in those verbs and items as a pedagogical problem in teaching both English and French as foreign languages. This led to an interest in theoretical work on their semantics.

After the Introduction (section one) the thesis falls into three parts:

**Part A** In sections two to four the individual modal verbs in English and the related French verbs are studied and their meanings are compared and contrasted, together with those of other semantically related categories.

**Part B** In sections five to seven the theoretical background to the study of modality is examined, including the 'higher verbs' analysis, the work of Leech (1969), the formulae of modal logic, etc. Tables comparing the two languages are presented, using formulae adapted from Seuren (1969).

**Part C** In sections eight and nine some of the essential ideas from parts A and B are examined in the light of what would need to be contained in a pedagogical grammar and a sample of such a grammar for the English modals is presented.
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PREAMBLE

THE MOTIVATION BEHIND THIS THESIS
0.1. WHY MODAL VERBS?

Why yet one more work on modal verbs? Perhaps because, like mountains that get climbed because they are there, areas of interest and difficulty do not lose their interest or their difficulty because others have been to the summit before. Certainly, both the individual verbs and the general subjects of mood, modality, modulation, etc. (various labels have been used) have constantly interested writers of books and articles on linguistics.

Here are some examples of people who have included work on the area in general books: Joos (1964), Palmer (1965), Leech (1969), Seuren (1969) and Wierzbicka (1972). Then there are the people who have written major articles or whole books on the subject of modality or modal verbs: Anderson (1973), Halliday (1970), Dakin (1970), Huot (1974), Jenkins (1972), Boyd & Thorne (1969), Ehrman (1966), Ross (1969) and Darrault (1976). If we move on to particular aspects of the area, then again, we find a number of different approaches. For instance Traugott (1972) and, to a certain extent, Ehrman (1966) are concerned with the historical development of modals; Major (1974) studies the modals as acquired by young children; the various schools of contemporary linguistics have each produced an analysis of modal verbs, so that Jenkins (1972) deals with modals from a Chomskyan point of view, (modified as necessary), with re-write rules, etc.; Butler (1975) uses a Hallidayan approach; Reich (1970) gives a relational description; Johannesen (1976) gives a stratificational account; Lee (1972) and Calbert (1973) are interested in case grammar;
I here adopt a semantic approach based on various notions derived originally from logic as in Seuren (1969). To move on to the Applied Linguistics sphere, (without mentioning text-books), numerous writers have presented approaches, based more or less on theoretical linguistic work, which relate to teachers and teaching, such as Howatt (1963), Chaffey (1967), Leech (1971), Jarvis (1970 and 1972), Mitchell (1974) and Leech & Svartvik (1975).

All this goes to show how important the modal verbs and the whole area of modality are thought to be. If we look into the area, we soon discover why: anything in this domain involves people reacting, through language, with their environment and each other. We shall be making an important distinction in this work between deontic and epistemic notions; the deontic area, which involves notions like obligation and permission, clearly has people reacting with each other and with society, through things that they must, should, may or cannot do; the epistemic area, with its notions of what is possibly, probably and certainly true, involves the speaker reacting to evidence from the world around him to say what he thinks must, may and cannot be true. The items in the two languages, and indeed in any language, deal with precisely these notions. What is true or not true cannot be changed; it is immutable. But what is possibly, probably or even certainly true, is so only in the eyes of humans who are fallible. These same humans are also involved in a complex web of relations with each other; as a result, they wish to influence each other's actions, and they do so linguistically by means of various
devices of which verbs like *must*, *may*, *devoir* and *pouvoir* are important examples.

To sum up, we are not Gods, so we need modal verbs. Only a God can say *it is so* or *let it be so* and be sure that the fact is true or that the event will occur; mortals have to deal with the changeable, the uncertain, the uncontrollable and need to talk about them.

But let us return to earth. Why another work on modal verbs in English, (French has been less less frequently studied)? The reasons are complex. I shall start with some personal remarks. I was first introduced to the area of modal verbs in English in a tutorial conducted by Dr. Patrick Allen who presented to us the ideas of Julian Dakin which appeared shortly afterwards as Dakin (1970). I was at once able to relate these ideas to teaching experiences I had had over the previous four years. I also saw straight away that it would be interesting and revealing to compare the realisation of Dakin's formulae in French and English. This I did in my project (1969). The initial project was mainly theoretical in outlook, but already some of the practical implications had struck me. While continuing theoretical studies, I used to write exercises, drills, etc. and finally got the chance to write material for a text-book, Wakely & McArthur (1974). This is a general book, not aimed at French speakers in particular, but the main point is that it is an example of the combination of theoretical and practical notions - good text-books are good because they combine a useful view of the facts presented
with useful practice. If our text-book is any good, then it is because it combines relevant theory with appropriate practice. To quote Fishman (1971: 20): "there is indeed truth in Kurt Lewin's claim that "nothing is as useful as a good theory", just as much as it has convinced me that there is nothing as theoretically provocative as effective practice."

Fishman clearly sees the two processes as cross-fertilizing one another, as providing feedback from each to other. It is certainly the case, as many teachers have remarked, that the theoretical background to any subject is not just essential before they start teaching; the teaching itself leads them to appreciate the theoretical questions more fully and to return to them, as and when they have the time; this then renews and refreshes the teaching, and so on.

So the basic drive behind my work has come from both a practical and a theoretical interest in linguistics; I happened upon modal verbs originally rather by chance, but the choice seems to me still to be an excellent one. To put it simply; the notions are necessary in any language, but they, and their realisation in actual linguistic forms, is complex. As a result, learning them is essential, but presents problems, even in two fairly closely related languages like French and English. I do not believe that the question of modal verbs has been looked at in so detailed a way in this light as it has in others. I hope that something fresh will emerge from this viewpoint.

The importance of both practical and theoretical considerations can be seen if we anticipate a little the discussion that will take place in the body of this thesis.
In part B we adopt a theoretical model both for practical reasons, (because it is clear and can be modified and simplified in a way that will allow a teacher without more than a slight knowledge of linguistics to follow it), and for theoretical reasons, (because, in my opinion, it allows us to present the facts in the best possible way). Even the distinction that I shall seek to make between syntax and semantics will partly be based on practical rather than theoretical considerations.

This kind of approach does, of course, risk running into confusion because of confused objectives; is a certain decision made for theoretical or practical reasons? Is it not necessary to have the theoretical model and its applications clearly presented before practical use can be made of them? I think that this is not necessarily the case and that an approach which draws from both sides, provided the relative importance of each at any point is made clear, has many advantages over a more 'step-by-step' one.

Why English and French, or perhaps better, why French? — (since so much of the theoretical studies have been done for English that it makes a good starting point). Again, this is partly by chance; it happens to be the foreign language I know best; it is also easy to find native speakers against whom to try one's own intuition and whom one can 'play off against one another' when they fail to agree. It might be thought better to take a language not in the Indo-European group, in order that the contrast with English might be greater and any similarities, as a result,
more significant. This would certainly be a reasonable thing to do, but French already provides a number of indications of what may be particular and what may be general and I shall be suggesting various hypotheses, some more speculative than others, which could be tested in all languages. I do, also, refer to data from some other languages in passing, in order to indicate how far, with such data as are at my disposal, I think that my ideas are on the right track.

So, why modal verbs? Because they are interesting; the whole area is interesting — both for practical and theoretical reasons. When the last word has been written on such questions, then linguistics — theoretical or applied — will have ceased to exist.

0.2. Learners' errors

We mentioned in the previous sub-section that one of the interesting points about the modal verbs and the similar items in French is that learners of either language have difficulty in mastering these items. Our part C (sections 8 and 9) will present proposals for a pedagogic grammar which might, we hope, help by setting out the facts clearly for teachers of English.

It should not be supposed, however, that adopting a contrastive approach which arises from an interest in areas of proven difficulty means that we accept any learning theory according to which a significant proportion of errors are interference errors. Rather the areas of difficulty in the two languages provide the stimulus for the research, and
contrasting English and French is illuminating and allows us, I hope, to propose a clearer analysis in our pedagogic grammar in section 9.

Here we justify our selection of this area as one of learning difficulty by a brief explanation of the kinds of errors that are met with. It will be brief since this is further discussed later, for example, in section 4.7. (We shall not consider problems that arise in reported speech.)

0.2.1. Difficulties experienced with the English modals by French speakers

The English items have at most two forms, e.g. may and might. This is a problem for French speakers who have a full range of tense forms. This leads to confusion between, especially, the ‘past tense’ forms of the modals and of the suppletive items. Learners are uncertain as to when to use, for example, could and when to use was able to. Sometimes this leads to a strategy in which the suppletive forms are used constantly and the modals are avoided. There are other related tense/aspect problems: since some methods of teaching describe forms like might and could as ‘past tense’ forms, learners sometimes think that he might be there is the correct way of expressing he may/might have been there.

A related problem involves the forms which have different truth implications, such as had to and should have; in particular, French speakers, even at an advanced level, tend to use the first of these items where the second is more appropriate. These items are discussed fully in section 7.
The group of English modal verbs and related items has been less stable historically than the French group. This has led to considerable regional variation, (which we shall refer to in passing but which is not a central concern of this thesis), and also to a certain amount of 'untidyness' in the system. A number of these points will be discussed in section 2. We can mention here two of them: shall and should have become 'separated' in most cases. Learners often have difficulty in appreciating that ought to is another possible form, close in meaning to should: second, may and can, used to mean 'possibly true' are very nearly in complementary distribution; failure to appreciate this leads to utterances like it can be John rather than it may/might/could be John.

There are other problems which arise in the area of negation. Ones that spring to mind are a tendency among some learners to use mustn't to mean 'certainly not the case' and an inability to use needn't.

0.2.2. Difficulties experienced with the French verbs by English speakers

Some of the main difficulties experienced are those concerned with tense. Naturally, this is a general area of difficulty for anyone learning French, but the problems are very considerable in this particular area, partly because of the truth implications of forms like a pu, a voulu, and also, in a grammar-translation method such as I am used to, because of the ambiguity of English forms like could which can be translated into French in a number of ways, (pouvait, pourrait, etc.)
As with the English modals, there are difficulties with the complex forms with various implications, such as aurait pu and aurait dû. This is especially so when they are contrasted with the other past tense and conditional forms mentioned in the preceding paragraph. This difficulty extends to restrictions on the use of the Perfect infinitive. This is a common form in English, but forms like doit avoir fait are, according to informants, less likely in French than forms like a dû faire, (this accords with my own observations).

The area of negation presents problems. French has no real equivalent for needn't and this leads to English speakers producing forms like ne doit pas when the only form available is peut ... ne pas. Even this form is often felt by French speakers to be stylistically awkward and other forms are preferred, such as pas nécessairement.

0.2.3. Summary of difficulties for both languages

With both target languages learners experience difficulties with the following points:

(i) knowing which items are available and with which meanings

(ii) knowing which form of the verb and which infinitive to use

(iii) knowing which negative forms are available for which meaning.
SECTION 1

INTRODUCTION
1.0. CONTENTS OF THE SECTION

The purpose of this Introduction is to 'clear the ground' so that we need to spend less space later on defining the basic concepts concerned in a study of modality and of modal verbs. The main sub-sections are:

1.1. GENERAL
1.2. SOME DEFINITIONS
1.3. THE METALANGUAGE OF ILOCUTIONARY FORCES
1.4. IDENTIFYING THE VERBS AND OTHER ITEMS TO BE STUDIED
1.5. SYNTAX AND SEMANTICS, A PRELIMINARY DISCUSSION
1.6. JUDGEMENTS OF ACCEPTABILITY
1.7. STRESS
1.1. GENERAL

As stated in the abstract, the thesis proceeds as follows. Having given the motivation for the research in the Preamble and after considering some general matters of terminology, selection and approach in this Introduction, the thesis is divided into three parts:

Part A comprises sections 2, 3, and 4. These present some of the essential facts about the items we are studying and attempt a preliminary comparison of the two languages.

Part B comprises sections 5, 6, and 7. These consider theoretical approaches to the study of modal verbs. We treat syntactic approaches, but only in so far as they relate to our semantic interests. In section 7 we present a semantic analysis of our own.

Part C comprises sections 8 and 9. Section 8 discusses some of the criteria that have to be taken into consideration when writing a pedagogic grammar, as well as the nature of such a grammar. Section 9 is the outline of a pedagogic grammar of the English modals with one chapter (on negation) given in full.

So the thesis follows the following pattern: the facts of part A are related to theories in part B. These are both related, in part C, to the kind of presentation appropriate in a pedagogic grammar.

1.2. SOME DEFINITIONS

Before we start, some technical terms need to be defined. These will be discussed in more detail in the course of the thesis.
1.2.1. Deontic, epistemic, non-modal

The term 'deontic' is derived from a number of Greek words, for instance ἱέκευ which signifies 'that which is binding, needful, right, proper', (Abridgement of Liddell and Scott's Greek-English Lexicon). It was first used by Von Wright (1951) to signify notions like obligation and permission. It has come to be used widely to include any kind of influence on action exercised by one person on another, it therefore includes notions like urging, advising, pleading, commanding, etc. We shall use it in this wide sense here.

The Greek word ἐπιστημή means 'knowledge, understanding, skill, experience, wisdom' (ibid.). It has come to be used in the form 'epistemic' to refer to judgements that the speaker makes about truth, e.g. that something is possibly, probably or certainly true. One might wonder why the word 'alethic', based on Greek αλήθιος ('truth', ibid.) is not preferred since truth, or estimation of truth value, is what is concerned. It seems that some writers decided that 'epistemic' was better, since it underlined the speaker's judgement, and the fact that the speaker is relying on his knowledge of the world when he makes estimates of truth value. Once again, we shall use the commoner term, even though 'alethic' seems to me personally to be a more appropriate term.

The term 'non-modal' will then be used as a general, term to describe everything that does not fall within the scope of 'deontic' and 'epistemic'. This means that it will include two main kinds of use: first, the original
meanings of verbs such as 'skill' or 'capability' for can and pouvoir, and, second, other uses that the verbs have developed in the course of time; these mainly have to do with repeated events or actions whose 'rate of repetition' is described by the verb used.

Besides the terms just mentioned, there is another, used particularly in American writings, namely 'root'. A 'root' modal is one with either deontic or non-modal as opposed to epistemic meaning. Many of the writers concerned do not make a further distinction between deontic and non-modal as we shall do.

1.2.2. Remote, non-remote

The term 'remote' is borrowed from Joos (1964) for the form of English verbs which is usually called 'past' or 'past tense'. Joos uses the term since this form is used both to talk about events which are remote in time, such as he went yesterday, or remote from current reality, such as it's time he went. We shall call these two uses 'past time use' and 'non-actual' use of the remote form. This terminology has the advantage of allowing us to use the expressions 'past', 'present' and 'future' for time only, whereas systems that use 'past/non-past' risk confusion. The only case where confusion may still arise is the verb be, which still retains a subjunctive distinction in the 3rd. person singular of the remote form, and which therefore distinguishes between past time when he was and non-actual if he were.

Since this distinction only operates in some varieties of formal English and since it does not apply to the modal
verbs we shall not need to modify our terminology to account for it.

1.2.3. Performative/constative

All discussion of the term 'performative' derives from Austin (1962). Austin discussed examples like marrying, naming ships, accusing in court, etc., in other words the accomplishment of various social acts by means of words. This led to the wider theory of 'speech acts', which has been greatly developed since Austin, for instance in Searle (1970). However, Austin's original important distinction was between the two terms mentioned above, the difference between using, for example I bet as an essential part of the act of making a bet, that is performatively, and using the same words I bet to talk about betting, as in I often/never bet, that is constatively. I shall say in this thesis that modal items are used performatively in two ways:

(i) when used epistemically. In that case the act performed by the speaker is one of making a judgement of the truth value of the predication concerned. All epistemic judgements are performative, either made by the speaker or requested from the hearer in interrogatives.

(ii) when used deontically to issue obligation, permission, etc. at the moment of speaking. It is here that the difference between 'performative' and 'constative' is most important, since we shall wish to distinguish between, for instance must used performatively in you must go at once, where it will be taken as issuing obligation at the moment of utterance, and must used constatively, as in he said I must go at once, where the speaker talks
about obligation, but does not ‘issue’ it.

1.2.4. Mands

This notion is directly linked to the ‘performative/ ‘constative’ distinction. The term ‘mand’ is derived from the fact that certain English words that refer to notions in the deontic area end in ‘-mand’, in particular demand and command. From this starting point, ‘mand’ has been applied to all deontic notions. We shall talk here about ‘issuing mands’; this means accomplishing performative acts of giving permission, advising, obliging, urging, etc. or asking the hearer to perform such acts. So that, in I demand that you tell me a mand is issued, whereas in he demanded that I tell him a mand is talked about or described.

1.2.5. Internal/external

These terms are used by Anderson (1971) to distinguish, essentially, can/could and will/would in some of their meanings from the rest of the group of modals. The meanings which are seen as ‘internal’ are ‘capability’ and ‘willingness’. If someone is able or willing to do something then that ability or willingness is ‘internal’ to him or her, and has nothing to do with outside forces, except in so far as people are forced to learn abilities or induced to be willing. But the actual ability or willingness is ‘internal’. By contrast, ideas like permission and obligation (deontic) or logical possibility and necessity (epistemic) are ‘external’, in that if I say John may come then either I am giving John
permission, and the permission is 'external' to John, or I am saying that it is possible that John will come, and the possibility is 'external' to the proposition John — come.

The difficult cases arise here with constative deontic notions. Is the permission internal or external in John is allowed to come? John now has the permission (internal) but that permission came from someone else (external). It is cases like this one that place can/could and will/would in a special category which I call 'link' modals. (see 4.1.4.).

1.2.6. 'Modal' and 'propositional' negation

When comparing it can’t be true and it may not be true we can give the following analyses:

- **can’t** = not possible that ... = modal negation
- **may not** = possibly not = propositional negation

With modal negation the not precedes the modal element, whereas with propositional negation the not follows the modal element.

1.2.7. Meanings and uses

In part A, especially in sections 2 and 3, we shall several times employ the label 'uses'. The 'uses' of the different modal verbs are seen as distinct from their 'meanings' which we identify with such labels as 'obligation', 'certainty' etc. Taking can as an example, we have, as meanings, 'permission', 'capability', etc., but we shall say that in:

(1) Can I see your driving licence?

can is 'used' in an utterance which has the force of a request.
This distinction between semantics and pragmatics is not always easy to draw, but it is necessary to attempt to draw it, since it is strange to interpret the force of (1) as being "Do you permit me to ...?". Similarly, we may derive I'd like from "I would like, if you asked me" but that does not help us to describe how would is 'used' in such cases.

1.3. THE METALANGUAGE OF ILOCUTIONARY FORCE
1.3.1. General

In subsequent sections, we shall need to make various remarks about the different illocutionary forces that the modal verbs are used to realise. In doing this, we shall need a certain number of terms such as 'urge', 'advise', 'forbid', etc. But we shall also need other terms similar to what Leech & Svartvik (1975) call 'variety-labels'. These labels are used to indicate to what 'register' or 'level of language' (French 'niveau de langue') the various items studied belong.

Besides items like 'American English' versus 'British English', Leech & Svartvik (1975: 21 ff.) give the following:

- Formal/informal
- Written/spoken
- Polite/familiar
- Impersonal
- Tactful
- Tentative
- Literary, elevated and rhetorical
- Elevated/slang

First of all, we can note that when we are dealing with the polar pairs of terms such as 'formal/informal' we have to do with what Lyons (1968: 463-467) calls 'antonymy'. That
is, the terms in such pairs are gradable, both explicitly using 'more than ...', 'less than ...' and also implicitly. So that, if we say of some expression that it is used in 'polite speech' we imply that the speech in which the expression is used is 'more polite than not', i.e. that it is polite in relation to some accepted norm of politeness. There are other implications, in particular, that:

\[ X \text{ implies not } Y, \text{ but - } \]
\[ \text{Not } Y \text{ does not imply } X \]

To give an example, if I say 'John is tall' I imply 'John is not short', but if I say 'John is not tall' I do not (necessarily) mean that 'John is short'; he may be of medium height. Put in other terms, this means that the two terms in each of these pairs are to be seen as the two extreme points on a continuum; in the middle of the continuum we cannot say whether something is 'formal' or 'informal', (though we can still say that \( X \) is 'more formal' than \( Y \)). We shall assume that this is accepted, and that we are entitled to use, e.g., 'formal' to mean 'more formal than not according to some accepted norm'.

If, now, we look at the list of items from Leech & Svartvik (1975), we see that there is a certain amount of overlap between some of the terms. 'Formal' can be taken as a general term which subsumes all of 'impersonal', 'literary', 'elevated' and 'rhetorical'; similarly 'informal' includes the notion of 'slang'. The opposition 'elevated/slang' is therefore a more specific one already included in the opposition 'formal/informal'.

The distinction 'written/spoken' cuts across the
'formal/informal' distinction, since there is a great difference between the style of a thesis and that of a letter between friends, just as there is a great distinction between the style of a sermon and that of a conversation in the pub, (a fact exploited by comedians, who mix the registers intentionally).

If we now look at the pair 'polite/familiar', there are some difficulties. Clearly it would be nonsense to say of someone that the way he spoke on a certain occasion was 'formal and familiar', or even 'formal BUT familiar'. However, both 'informal and polite' and 'informal and familiar' make sense. So we can say that politeness can be an added feature of formality, but that a distinction 'polite/familiar' can only be made inside the area of 'informal'. ('Familiar' will here be taken in the sense of 'failing to be polite', and will therefore include the notion of 'rude' or 'impolite', though one can be familiar without being rude, just as one can use informal language without necessarily using slang.)

1.3.2. Warm/cold

The main omission that I personally notice in the above list is a distinction 'warm/cold'. This is particularly important in the area of formality. Clearly, if we are speaking informally, we will not normally be speaking coldly, though we may be speaking without any special warmth. We can therefore say that warmth is a possible added feature of informality, but that a distinction 'warm/cold' needs to be made inside the area 'formal'. 
We can illustrate what is meant by the distinction 'warm/cold' by taking a simple example. Imagine two ambassadors meeting at a reception; they are in full dress and are accompanied by their aides, not to mention their spouses; they will therefore be formal and polite, but we do not know whether they will greet each other warmly or coldly - that will depend on whether their own relations, or those of their respective governments, are cordial or not.

To a certain extent, warmth and coldness will be conveyed by tone of voice and gesture and facial expression, but certain linguistic choices will also be made, according to which feeling they wish to convey. We shall see this when discussing, for instance, the distinction between can and may, (see 2.12.4.).

So we have the necessary extra distinction 'warm/cold'. This distinction includes a number of notions under each of the two extremes; for instance, 'warm' includes 'heated' (for arguments) and 'cold' includes 'distant', since a common purpose of coldness is to make the other person keep his or her 'social distance'.

1.3.3. Mitigated

The terms 'tactful' and 'tentative' lead us on to another term which is sometimes met with in Sociolinguistic works: 'mitigated'. For example, Labov (1970: 51 ff.) discusses the case of a Negro pupil known as 'Junior' who was constantly getting into trouble because of his failure to use 'mitigated' speech forms. Junior's responses to his teachers were always direct and forceful, not because he intended to be rude, but because he
seemed not to have at his disposal the 'verbal forms of mitigation which would make it possible for him to object and refuse without a major confrontation'. (Labov, 1970: 54). Labov's use of the term 'mitigated' seems to place it in opposition to 'direct' or 'blunt'. The distinction here is not quite the same as the 'polite/familiar' distinction, (although it appears from Labov's account that Junior's teachers felt him to be acting rudely), since other factors come into account here, such as age differences, dialect differences and the notion of 'restricted codes'. The notion 'mitigated' is relevant to a study of the modals, since it can usefully be applied to the usage of modals in two main areas:

(i) modals are often used in mitigated speech to avoid too direct a construction, such as an imperative. So that:

(2) Can I see your passport?
is preferred to:

(3) Show me your passport, (please)

(3) is not actually rude, if uttered in a polite tone of voice and provided the speaker is an Immigration officer entitled to ask such questions, but (2) uses a mitigated form,

(ii) the remote/non-remote pairs of modals in English and the Present/Conditional pairs in French are often in a relation of direct/mitigated. Cf:

(4) a. Will you be quiet!
b. Would you be quiet?

(5) a. Can I ask why?
b. Could I ask why?

These examples show that the distinction 'direct/mitigated' is not always identical to that of the pair 'polite/familiar',
though it is certainly the case that many direct forms are impolite.

This distinction can be applied to the epistemic sphere as well. In such cases it is similar to the distinction 'overtone/undertone' in Halliday (1970: 331-4) except that for Halliday 'up and down-toning' is applied to a particular form, so that would + 'overtone' gives 'would predictably' and would + 'undertone' gives 'would presumably'. However, we can say that an extreme example of 'overtoning' could lead to a direct form and an extreme example of 'undertoning' could lead to a mitigated one. In the modal area of English, using epistemic instances, the most direct form would be 'will most certainly' and the most mitigated one 'might just conceivably'. The term 'tentative' from the list taken from Leech & Svartvik (1975) can be subsumed under 'mitigated' both for the deontic and epistemic areas, as can 'tactful' for the deontic area - or, indeed, any area of interpersonal relations.

1.3.4. Summary of 'variety labels'

- Written/spoken
- Formal/informal
- Polite/familiar
- Warm/cold
- Direct/mitigated

'Formal' includes 'literary', 'elevated' and 'rhetorical'. 'Impersonal' can be thought of as a particular combination of 'formal' and 'cold'. 'Warm' includes 'heated' and 'cold' includes 'distant', 'off-putting', etc. 'Informal' includes 'slang' and 'familiar' includes 'rude'. On the whole, the
distinctions overlap, but there are exceptions. For instance, it is not possible to be formal and familiar, nor can you be very direct and very polite, though 'direct and fairly polite' is an acceptable combination.

Besides the above terms, we shall need some others, such as 'archaic' and 'awkward' when making style judgements and 'peevish', 'said peevishly' when talking about tone of voice, etc.

1.4. IDENTIFYING THE VERBS AND OTHER ITEMS TO BE STUDIED

1.4.1. Identifying the English modal auxiliaries, etc.

In English, the class of items known variously as 'modal auxiliaries', 'modal verbs', 'anomalous finites', etc. is identified according to some well established criteria, even if authors differ slightly on what these are. These criteria allow us to establish a basic list of core items, to which must be added certain other fringe items. The criteria used are morphological and syntactic; if we then proceed to use semantic criteria we produce a longer list of items.

One of the main places where a list of criteria may be found is Palmer (1965: 20-43). As can be seen, this is a fairly long section and copious relevant examples are given. The main criteria given are:

Negation: can't not *don't can
Inversion: can I? not *do I can?
'Code': I can come and so can you not *and so do you
Emphatic assertion: You must see him not *you do must see him

The above deal with the syntax; morphological criteria are:
Weak negative forms: mustn't, can't, needn't, etc.

No 3rd. person singular -s: he must not *he musts

Palmer also deals with the various possible phonetic realisations of the weak forms, positive and negative, and discusses the 'problematic forms', which include not only dare, need and used, but also better, going to and let's.

Other writers also consider the criteria by which the modals can be identified. For example, Major (1974: 35) includes ought to, 'd better and 'd rather amongst the modals since they do not co-occur with them, i.e. there is no form like *can ought to. This fact, is of course, not conclusive, since other forms, e.g. auxiliaries like be and have cannot precede the modals, though they can follow.

Major also points out that modals cannot occur as the first element in imperatives (p. 36) that they have no inflected -ing or -ed forms (p. 38). She groups the modals into four categories:

center: can, could, will would, should
restricted: shall, may, might, must
marginal: ought to, 'd better, 'd rather
straddlers: need, dare

Our distinction will not be the same, though it is true that Major's aim was to find out how children handled the morphology, whereas ours is to look more at the meanings; we include need and ought to on semantic grounds and find that the distinction 'center/restricted' is meaningless, since all modals have restrictions on their use in certain contexts, though we could no doubt establish a continuum with, perhaps, could as the least restricted.
Other ways of dividing up the modals into smaller groups suggest themselves as well. For instance, we could divide them into forms which still have a 'past' form, (which we call 'remote'), and those which do not, see Palmer (1965: 106). We shall suggest several ways in which some modals are distinct from each other in the course of this thesis. For each distinction, some of the 'marginal' items like ought to belong naturally to one or the other group and this will have little to do with their morphology or syntax.

Other writers who give details of the facts that distinguish the modals are Marino (1973) and Halliday (1970: 330). One writer who strikes a discordant note is Garcia (1967) who suggests that there is a continuum between modals and other items such as begin, expect, want and hope, which she calls 'aspectuals' and which, in turn, are in a continuum with full verbs. Her main point (p. 866) is that 'grammarians ... have traditionally refused to recognize the continuum between grammatical and lexical items, and have steadfastly persevered in drawing what are probably very arbitrary boundaries about their domain'. (See also McCawley, 1975.)

From a teaching point of view the problems are, in my opinion, clear, even if the solutions to them are not. There is indeed a group of verbs which we will continue to call 'modal verbs', which present problems because of their morphology and syntax and which need to be taught in a way that will permit the students to handle them correctly. This teaching is best done in a way that handles them as a group. This does not mean that there are no other items
that present parallel problems; of course there are. In addition to the 'mechanical' problems associated with the modal verbs, there is the problem of their meaning. Here again, they form a group, but it is much easier to introduce other items, (and not only verbs), at this point. We shall, however, see in the course of this thesis that the modal verbs are a semantic group as well, even if other items need to be added to the list.

The homogeneous group of modal verbs includes the following items: can, could, may, might, must, shall, should, will and would. We shall have to include with the group, partly for formal reasons, but mainly for semantic ones, the items need and ought. Once we go outside this restricted number, it immediately becomes difficult to identify what to include and what to leave out. But I have found it best to remark on certain other items, either because they have traditionally been associated with the main group, such as have to, or because they are relevant for formal or semantic reasons, e.g. be to, and be allowed to, but to leave out the many items which could appear to be linked to the modal verbs in one way or another, but for which there is simply no space. This decision will exclude many sentence adverbs, such as undoubtedly and others dealing with the speaker's estimation of truth value.

1.4.2. Identifying French items similar to modal verbs

In English, modal verbs are fairly easily identified by their morphology and syntax; this is not an easy task in French. If we start by trying to find equivalents for the
English items, then two French verbs immediately come to our attention: *devoir* and *pouvoir*. But if we try to go further, we find that it is difficult to find criteria which will allow us to delimit a group of items. In fact, such few writers as have tried to delimit a group in French, have usually relied on other criteria than formal ones.

I should like, nevertheless, to propose that we can go a little further, though the criteria will not be as satisfactory as for the English items. The verbs most easily linked to the two already mentioned all end, in their infinitive form, in *-oir*. This gives us a further group: *falloir, savoir, valoir, vouloir*

However, these are not all the verbs in *-oir*. We must add the following at least:

*avoir, mouvoir, pourvoir, voir.* (Also some rare verbs we shall discount, such as *chaloir, choir* and its derivatives *dchoir, déchoir.*

But we can see straight away that the first group is different syntactically in taking a direct infinitive, rather like the English ones do, without the need to interpose *à* or *de*. So that we can say:

(6) *Il doit/pou/sait/vou nager.* (*Il = 'he')
(7) *Il faut/vaut (mieux) nager.* (*Il = impersonal 'it')

but not:

(8) *Il a/meut/pourvoit/nager*

*Voir* is a more difficult case: to start with, it is a monosyllable and therefore could be said not to end in *-oir* at all. But if we accept that it must be included, then we can find examples like:
Here, we have to appeal to a semantic difference from the items in (6): the surface subject of voir and the underlying subject of the following infinitive cannot be the same, whereas with the verbs in (6) the two subjects must be identical. There is another difference in Modern French, in that (9) is correct, but:

* Je le dois/peux etc. faire

is not, though it was in an earlier state of the language and can still be found as an intentionally archaic form.

So we are reduced to a list of six verbs. We can make further distinctions here. We have already given, in example (7), an indication that falloir and valoir are separate: they are always impersonal verbs, using the impersonal pronoun il in formal French, though in the colloquial language:

Faut pas s'en mêler

and

Vaut mieux le faire demain

are common. With or without il, however, they cannot have personal subjects whether expressed or understood. But there is another distinction inside this group of six, more important than that between the impersonal verbs and the rest and that is a semantic distinction: only devoir and pouvoir are used, normally at least, to express epistemic notions. We shall justify this in more detail when we look at each of the items in turn, for the moment we shall simply say that falloir and valoir are never used for epistemic notions, that savoir, as in:
(13) Cela ne saurait être vrai
sounds archaic and that:

(14) Il veut pleuvoir (= 'it is going to rain')
is dialectal. This leaves devoir and pouvoir as the central
items, the ones that Benveniste (1965: 13) calls the
'modalisants de fonction' as distinct from items like vouloir,
désirer, savoir and faire, which are 'modalisants
d'assomption'.

Benveniste's article is one of the rare places that we
find any term with the root 'modal-' in it applied to the
French items. Certainly, we do not find in text-books
and manuals for the teaching of French that any such term
is used. This is because of the lack of the formal criteria
which are so easily found for the English items. In some
of the linguistic literature we will find expressions like
'auxiliaire de modalité' used, but this is often felt to be
a translation from English.

It is not out of place here to note some of the differ¬
ences between the French and English verbs, which mean that
the French items are far more a part of the normal verb system
than their English counterparts. First of all, all these
French verbs, except for the impersonal ones which are limited
to 3rd. person singular forms, have the full range of
indicative and subjunctive forms that most French verbs have.
In addition, they have, for the most part, kept their
original meanings and can, therefore, be followed by NP's,
as in the following examples:

(15) Nous devons de l'argent

(16) Il peut cela. (though pouvoir is rather restricted
as to NP objects)
(17) Il faudrait du papier fin
(18) Cela vaut trois francs
(19) Il a su cela en lisant les journaux
(20) Elle voudrait une nouvelle robe pour après-demain

From a formal point of view, then, only the absence of à or de before an infinitive, plus the special subject restrictions in this construction, serve to distinguish them from the common run of verbs; this feature is one that they share with their English counterparts, which have no to before an infinitive.

So we have identified the following groups, or sub-groups:

(i) a number of the verbs with infinitives in -oir, which take direct infinitive; we can call these the 'potential modals'

(ii) two verbs of (i), viz. devoir and pouvoir, which can be used for the epistemic as well as deontic area; we can call these the 'actual' or 'core modals'. This should not be taken to imply that these verbs are 'modal verbs' in the English sense, but since they are used semantically with similar meaning to the English modals, it seems reasonable to refer to them as 'the French modals', hence the title of this thesis: 'Modal Verbs in English and French'.

1.5. SYNTAX AND SEMANTICS, A PRELIMINARY DISCUSSION
1.5.1. General

The main interest of this study is semantic; not that modal verbs in the two languages do not present interesting morphological and syntactic features, which in their turn create learning problems, but it is in their meanings and the way these meanings combine with features like negation, past time, non-actual, etc. that are particularly interesting
when comparing two, (or several) languages.

But, what do I mean by 'semantic'? This, and other, terms are used in more than one way in contemporary linguistics. In the following paragraphs I shall give my view of what the difference is between syntax and semantics, at least in so far as it applies to this study.

1.5.2. Chomsky and G. Lakoff

Some of the most important discussion that has taken place in theoretical linguistics in the era following Chomsky (1965) has concerned the boundary between syntax and semantics and the priority of one or the other. Without wishing to oversimplify the discussion, I would nevertheless like to make a few remarks on the subject. The main argument for putting syntax in the base of the grammar goes something like this: we have the sounds or symbols of the message, the study of which is phonology (or graphology), on the one hand and, on the other, we have the sense of the message, the study of which is semantics; the rules which, in any language, relate meaning to sounds (or other symbols) are the rules of syntax, which is therefore central and independent of both speaker and hearer. Despite modifications to this attitude, leading to the 'revised standard theory' of Chomsky (1971), it remains the basic reason for keeping syntax in the central position as the organising principle that allows us to associate sounds or symbols with various meanings and vice versa.

The contrary view, known as 'generative semantics', is mainly associated with the name of George Lakoff, especially
his (1971) paper. Now, this has been modified and even abandoned by some of its proponents, but few of them have advocated a return to the 'revised standard theory' or even to a theory based on earlier Chomsky, say (1957). The introduction of other notions, partly associated historically with the development of generative semantics, such as the various studies in case grammar, have remained 'non-syntactic', whatever else they are. They either consider the study of syntax to be a study of surface phenomena or else refuse to see that there is any cut-off point in principle between syntax and the various kinds of semantic or relational notions which they use.

In this kind of situation, in which linguists disagree on what they are doing and on what they should be doing, it is important for us to be as clear as possible on what we are trying to do. I wish to suggest that there are good reasons for keeping syntax and semantics absolutely separate; these reasons are largely practical but have some theoretical justification and many theoretical repercussions.

1.5.3. Division of the teaching problems

With modal verbs, it is quite clear that the teaching problems can easily be divided up into morphological, syntactic and semantic categories.

(1) **Morphological**

Problems arise here if the student fails to learn he **must** not **the musts**, if he thinks there is a form **musting**, etc. (There are also phonological questions which we shall omit here.)
(ii) **Syntactic**

The problems here concern, for instance, must he? and not * does he must?, must not and not *doesn't must. Clearly there is some overlap here with morphological problems, since the fact that there is a weak negative form mustn't is more a morphological question.

(iii) **Semantic**

Here the questions that arise concern questions like 'must is used either to talk about obligation or to give the speaker's estimate that some fact is very probably true'. Or, 'with the negative form may not, the negation affects either the modal or the following predication, depending on the sense'.

Of course, all the above can be involved together in some teaching problem. To take an example, students often have multiple problems with items like would have done. To start with, they have difficulty in understanding how the string of sounds /wudəv/ corresponds to 'would have', then they have problems in producing the same strings fluently themselves, and, most importantly, they have difficulty in understanding the usually counterfactual nature of sentences in which such items occur, and therefore in using them appropriately. Clearly, a number of factors are involved in the learning of such items. But this does not alter the basic fact, which is that the problems are separate at some point.

1.5.4. **Priority of one component**

It might seem that we are moving in the direction of a
theoretical attitude which says that semantics is prior to
syntax, since we are wishing to compare languages and will
be forced to take an approach which allows us to do so, which
cannot be that of surface syntax. This is not really the
case; it is my intention at this point simply to insist on
the distinction that needs to be made between syntax and
semantics. It is true that the need to take a more abstract
approach in order to paint a broader canvas makes that
abstract approach assume great importance. That is not
the point at issue. The surface forms with their idiosyn-
cracies keep their autonomy - they are not reducible to
formulae, the formulae simply serve to represent them in an
abstract but also in an artificial way. The need to use
abstractions does not undermine the primacy, from another
point of view, of the surface forms.

This decision, to keep syntax and semantics separate,
and not to label either of them as logically or procedurally
prior to the other, has repercussions. First of all, it
means that we shall avoid any formulae that seek to, or even
only appear to, confuse or merge syntax and semantics.
This is especially important when we come to discuss the work
based on Ross (1969) which uses tree-diagrams and syntactic
labels in analyses that, from our point of view, are more
semantic than syntactic. Secondly, we shall not feel
obliged to have precise rules which match syntactic formulae
to semantic ones or vice versa. We shall say things like:
'must means such-and-such, which we can represent in the
following formula' - a semantic statement, and also: 'the
negative form of must is must not (or mustn't) which implies
that the re-write rules generating the negative will be as follows ...' - is a syntactic statement. The reason for this separation, as we have said, is that the motivation behind the two different sorts of formulae is different; for the semantic formulae the motivation is the desire to compare the two languages and to present the meaning of the various forms in a way that teachers can follow, and for the syntactic formulae the motivation is to provide re-write rules which will generate all and only the correct sentences in which modals occur.

1.5.5. Historical change

At this moment, I wish to point to one example that shows both the importance of historical development and the need to keep syntax and semantics separate. In American and some other varieties of English, the form have to is widely used to mean 'most probably' or 'almost certainly true'. In standard British English this is not possible; only must can have this force. Now, it is obvious that have to and must have quite different syntax: have to takes an infinitive after to where must takes a direct infinitive; have to has negative forms haven't to and don't have to where must only has must not (mustn't). The syntactic (and morphological) facts can be presented independently of the sense, in any particular dialect, of have to and must. If a quite different, abstract, analysis is used for the semantic notions, then it will be simple to say that 'formula X' is realised in one dialect by must and in another by must or have to. So that the abstract formula allows not
only for the comparison of two languages but also for the
dialect variation and historical change of only one language.
With a changing, varied system such as that of English, this
is essential, (French is far more stable and 'static'.)

1.5.6. Summary

So, to sum up, the surface forms keep their autonomy
BUT an abstract semantic system is also necessary for the
reasons mentioned; this too, of course, develops its own
autonomy. The advantages of this approach are that we
shall be able in part C to present semantic facts to teachers
in a quite different way to and quite separately from the
syntactic facts; our approach is therefore empirically
justified as much as theoretically.

1.6. JUDGEMENTS OF ACCEPTABILITY

In a thesis like this one, which is not based on a
corpus of data, the problem of acceptability can be a
difficult one. This is especially the case when two languages
are being studied.

For English, I have used myself as my own main informant.
Many works, theoretical and pedagogical, base their judge-
ments on standard, educated Southern English usage. Being
myself from an educated background and coming from Surrey,
born of parents from the same area, I feel it is reasonable
for me to act as an informant. All judgements, unless
accompanied by statements to the contrary, are therefore
based on my own intuitions, though in many cases I have
also consulted other people.
For French, matters have been more problematic. All the informants used have been young and have been well educated. On a number of points they have disagreed amongst themselves or with what is said in works like Huot (1974). In some cases I have gone against all of them, (or at least against those whom I consulted on the point in question). These disagreements are mentioned in the body of the thesis.

This question of acceptability is particularly important in part C, where we have to decide what to propose for our pedagogic grammar, since it is confusing if variants are presented. However, since our model is, as stated, one that is commonly used, the fact that my intuitions are, no doubt, socially determined by my background is not actually a disadvantage; if anything, the contrary is true, since it means that my reactions help the description to conform to a real socio-regional variety of the language rather than to one arrived at intellectually.

1.7. STRESS

At various points in this thesis we shall talk of forms being 'stressed'. By this we mean that they receive tonic stress in the relevant tone group. For instance, the form which we write can NOT has the 'not' receiving tonic stress; this form has a different meaning from cannot or can't.

Generally the modal verbs in English and the parallel verbs in French only receive strong stress in contrastive contexts, as in:

(21) Well, he CAN but I'm not sure if he WILL

In most other cases the stress is fairly weak and certainly
not tonic. We shall not attempt to give a full account of
the phonology of the modals, interesting though this would
be, largely for reasons of space. We can, perhaps, mention
in passing that must usually has the full vowel /ʌ/ in
it must be true but the 'reduced' vowel /ə/ in you must come
and see me (unless this last demands stress).

Naturally, strong, contrastive stress, in English
as in French, is often associated with more than a desire to
be clear or to contrast one idea with another. For instance,
in:

(22) You might pay a little attention to me!
might will normally receive a greater degree of stress than in:

(23) You might try the shop next door
and, in addition, there are other features about the manner
in which (22) is uttered which I call 'peevish'.

Various phonological features therefore combine, with
the modals as elsewhere, to help to disambiguate, to
differentiate between the 'normal' and the 'contrastive' and
to carry various emotional messages.
PART A

SECTIONS TWO, THREE AND FOUR
SECTION 2

THE ENGLISH MODAL VERBS AND SIMILAR ITEMS
2.0. CONTENTS OF THE SECTION

Sub-sections 2.1. to 2.11. consider the individual modal verbs.

2.12. compares the modals with each other and with other items like have to.

Sub-sections 2.13. to 2.17. study the effects on the meanings of the modals of various possible changes, such as negation, interrogative, etc.

2.18. considers the remote/non-remote pairs.

2.19. is a provisional classification of the modals.

This section is by far the longest in the thesis, about twice the length of any other. This was inevitable, seeing the amount of discussion in the literature on problems raised by the modals and their semantics.

Though, in this section and section 3, we identify separate meanings for each individual modal, this should not be interpreted as signifying that these meanings are totally unconnected, but we have not felt able to present the facts in the same, 'unitary' way as Ehrman (1966).
2.1. **CAN**

2.1.1. General

*Can* has a claim to being the modal with the widest range of uses. The existence of *could* as its remote form both for past time and non-actual uses, the 'usefulness' of its negative *can't*, plus the existence of another negative form *can NOT* all make it very popular with linguists in examples; Chomsky's *flying planes can be dangerous* is a good instance of this.

It is difficult to make a list of meanings for *can*; I use five here, though other commentators need more and Ehrman's (1966) 'Grundbedeutung' approach manages with one. The five are: 'capability', 'permission', 'logical possibility', 'characteristic' and 'sense'. Here are examples of each:

1. He *can* lift heavy weights
2. You *can* go now, if you want
3. *Can* she be hiding something?
4. It *can* be extremely cold there
5. I *can* see him coming

I shall comment on each of these meanings in turn.

2.1.2. Capability

The oldest meaning of *can* is that of 'knowing how to'; this is still the main sense of its German cognate *kennen* when used with an infinitive. We could consider this meaning of *can* to be really two: 'know how to' in *I can swim* and 'capability' in *you can get to the station*. 
in ten minutes from here. While it is certainly the case, as Traugott (1972: 170) and Kakietek (1970) point out, that can has taken over historically from may in its 'capability' meaning, nevertheless, it seems to me that the two meanings of can are now not easily distinguishable; at most they are two sub-varieties of the same meaning.

2.1.3. Permission

This meaning can be either performative or constative. The performative use is the one that prescriptive grammarians have condemned. Despite this, can is still used to give permission; it is felt to be less formal and also warmer than may, with which it is, socially at least, in contrast. A number of writers have remarked on this distinction between may and can when used for permission, e.g. Joos (1964: 180), Palmer (1974: 119). Examples of the performative and constative uses of permission can follow:

(6) Yes, you can come and see me if you want

(7) Yes, you can walk on the grass; there's no notice saying you can't

2.1.4. Logical possibility

This meaning is only possible in questions and with the negative form:

(8) Can it really have been so long ago?

Usually can with this meaning is followed by be-ing or have-ed infinitives. Can he come tomorrow? cannot be interpreted in this sense (= 'is it possible that...?')

(9) The film can't be coming next week, the cinema's closed
These restrictions will be discussed when can and may are contrasted, (see below, 2.12.4.).

2.1.5. Characteristic

This meaning is so called because it describes inherent characteristics which make people, or phenomena like the weather, behave in a certain way. Another possible title for this use would be 'potential' but this term does not differentiate this particular use sufficiently from the others. It is true that people or the weather behave in a certain way because of some 'potentiality' to do so, but the main point is that can is here used to say what they actually do. However, the two ideas, (of 'potential' and 'characteristic') are both important. As Palmer (1974: 117) points out, be able to is not a suppletive form for this meaning.

2.1.6. Sense

In this meaning, can appears to be 'selected' by certain lexical verbs: those of sense, such as see, hear, smell, etc. In other languages, the same idea is normally expressed by the unsupported lexical verb in the appropriate tense. Forms such as I see you are also, of course, correct.

One could argue that this use is now no longer a separate one and that it should be included under capability. This becomes clearer if we look at the negative.

(10) I can't see you

Are we to gloss this as:

(10) a. I do not see you (for whatever reason)

or as:

b. I am unable to see you

We can say that both glosses are possible in different contexts and that there is a continuum between them.

R. Lakoff (1972: 242 ff.) discusses cases in which 'sense' can does or does not appear. The relevant examples are:

(11) a. Joan can hear voices telling her to save France

b. Joan hears voices telling her to save France

The distinction, as far as R. Lakoff is concerned is that with can the speaker considers the voices as real, whereas without can he thinks they may be hallucinations. It is presumably this distinction that makes us say to people whom we suspect of being subject to hallucinations:

(12) You're seeing/hearing things in which can see/hear would be inappropriate. R. Lakoff suggests that we may need to make a distinction between 'legitimate' and 'illegitimate' actions.

This distinction would apply to 'capability' can as well. R. Lakoff says (1972: 242) 'a person might be capable of something without our being able to describe him as able to do it'. She gives as examples (p. 246):

(13) a. John is capable of murder

b. John can commit murder

Murder being viewed as an 'illegitimate' act does not 'fit' with can.

Johannesson (1976: 46-48) disagrees with R. Lakoff's (1972) analysis of the difference between sentences with and without 'sense' can. He points out that the verbs of sense all refer to involuntary events and interprets sentences including can as meaning that the sensation is
possible, while sentences without can merely mean that the 'sensation event' is taking place.

2.1.7. Discussion

The above meanings cover a wide range. It would be neater if we could accept Ehrman's approach and thereby a single definition, (1966: 74): 'nothing in the state of the world prevents the predication', but matters are unfortunately more complex. Besides, other writers take a rather different line, for instance Catford (1962) who talks of something specific making the predication possible.

The word 'possibility' creates some confusion. This arises because certain writers fail to distinguish clearly between 'logical possibility' (something that is possibly true) and 'capability' (having the possibility of doing something). For instance Kruisinga and Erades (1950: 547) have a category of 'capability or fitness' which includes examples like:

(14) The train can start when it likes now, for all I care
Here the idea of 'fitness' seems to include permission, since this is a kind of 'I don't care' permission sense. However, they then go on to say that the following is to be classified under 'possibility' (= logical?) rather than 'capability':

(15) Most extraordinary thing. I can't keep a single possession to myself

Whether or not their labels are appropriate, Kruisinga and Erades are here dividing up the area of meaning of can in rather an odd way.
2.1.8 Internal

Can is what Anderson (1971) calls an 'internal' modal (see pp.17-18). This notion will be discussed further later (see 2.19).

2.1.9 Negation

The negative form can't is used to mean 'not able/permitted to', 'not possible', etc. There seems to be no negative of the characteristic use. There is also a form can NOT in which the negation applies to the following predication rather than to the idea of 'possible', 'permitted', etc.

2.1.10 Uses

Can, with its wide range of meaning, is used in various ways in different social contexts. In 2.1.7, we mentioned the 'I don't care' permission sense, further shown in examples like:

(16) You can say what you ___ well please!

and, with a strong, tending to obligation, effect:

(17) You can mind your own business!

Other important uses are for offers and for 'polite commands':

(18) (Offer) Can I help you?

(19) (Command) Can I see your passport/driving licence, etc.?

Some of the factors governing these uses of can are discussed in the various papers in Cole and Morgan (1975). The most important paper in the collection is that by Searle (pp. 59-72) on 'Indirect Speech Acts'. Here, Searle suggests that we can posit a 'maxim of conversation':
"Speak idiomatically unless there is some special reason not to."

Certain idiomatic sentences then become 'entrenched' as conventional devices for accomplishing certain speech acts. As Alice Davison points out in the same collection (pp. 143-185) the can in sentences like (19) seems to acknowledge something like intrusion; the immigration officer or policeman is at one and the same time the servant of the public and a person with authority over members of the public in certain fairly well-defined situations, it is therefore best that he use mitigated forms.

2.2. COULD

2.2.1. General

We have already seen that can has a wide range of meanings and uses; could, its 'remote' counterpart has an equally wide range. Since, in addition, could can either refer to past time or have 'non-actual' meaning it has potentially TEN meanings to correspond to the five of can. Not all are found, as we shall see.

2.2.2. Capability

(20) a. He could lift heavy weights then (= was able to)
   b. He could lift heavy weights if only he trained (= would be able to)

(21) a. You could get to the station in ten minutes until they closed the road
   b. You could still get to the station in ten minutes if they hadn't closed the road
2.2.3. Permission

(22) a. He could come whenever he wanted to then

b. He could come whenever he wanted if he just asked for permission

Only the (b) example can be both performative and constative. You can't give people permission to do things in the past so that could, if non-actual, either gives conditional permission, as in (22.b), or is used to make suggestions, (see 2.2.10).

2.2.4 Logical possibility

The interesting thing here is that the restrictions which exist with can (only in the interrogative and the negative) do not exist with could.

(23) a. (Does not exist)

b. The film could be coming next week

The restrictions on epistemic modals having past time meanings will be discussed separately, (see 4.2.2. and 4.2.3).

2.2.5 Characteristic

(24) a. It could be extremely cold there (= was often/sometimes)

b. ??He could be very pleasant, if he took the trouble (= would behave so)

(24.b) is an acceptable sentence, but I am not sure if the meaning is characteristic rather than capability. Perhaps the two are overlap enough for the question to be undecidable. It is the 'potential' rather than the 'characteristic' aspect that is stressed here.

2.2.6. Sense

(25) a. I could see him coming
(25) b. If you moved your head, I could see him better
Once again, as we saw with can, the (b) example seems to
express the idea of capability since clearly the speaker
cannot see him well at the moment because of some obstacle,
(the hearer's head). So the continuum between the various
uses of can exists with could too.

2.2.7. Non-actual

The non-actual use is often counter-factual, especially
when used with the perfect infinitive. E.g.:
(26) You could have finished it by now
(27) I could have kicked myself!

2.2.8 Past time

There are restrictions on the past time use. This
has been noted by many writers, for instance Chaffey (1967).
The following is unacceptable:
(28) * I ran fast and could catch the bus
Was able to has to be used instead. The negative is not
restricted in the same way:
(29) I ran fast but still couldn't catch the bus
Could can therefore not be used in some types of achievement
sentences; couldn't obviously refers to non-achievement
and is therefore not affected by the ban.

Palmer (1977: 6) says: 'Positive modality (of the CAN
type) may imply either positive or negative actuality. If
some one can do something, he may or may not do it. But
negative modality of this kind implies negative actuality.
If some one can't, he doesn't, and if he couldn't, he didn't.'
2.2.9 Negation

The negative with could produces the meaning 'not possible', if we exclude could NOT (with the not stressed). This negative, usually couldn't, is unusual if not impossible with the characteristic sense, since this is used to say what people habitually do, not what they do not do. (Can one habitually not do something?)

2.2.10 Uses

Apart from this restriction, could has a very wide range of uses. If we allow example (24.b), then only (23.a) is an impossible combination of meaning and tense, which means nine uses for could. Since the restrictions of sentence type which exist with 'logical possibility' can are absent, could is perhaps the most potentially ambiguous modal verb. As a result, it is popular in jokes. In Punch magazine (1933) we find:

(30) Useless golfer, (perspiring): What couldn't I do with a nice cool bottle of beer?

Caddie, (scornfully): Hit it with a golf club!

Only intonation (and situation) differentiate between:

(31) You could have killed me!

and

(32) You could have told me!

The 'social' uses are numerous:

(33) Could I help you/see your driving licence/have a word with you?

(34) Could I just mention at this point that ... ?

In these examples the rest of the group of 'possibility words', i.e. can, may and might are usually possible too.
There is a difference between the special uses of permission can and those of the parallel could, however. Can often has overtones of I don't care, as in:

(35) You can go to the devil!

Could, being the hypothetical, mitigated form, is used for suggestion, whether polite or peevish. The following sentence could be uttered both ways:

(36) You could try telephoning him (or with '!!')

2.3. MAY

2.3.1. General

Apart from some archaic or very formal uses which will not concern us here, as in May you be rewarded!, may is used with three main meanings: 'permission', 'logical possibility' and 'sometimes'.

Since the first two of these meanings have been given for can also, full discussion of them will have to wait until the section in which the two are compared, 2.12.4.

However, preliminary discussion will take place here.

2.3.2. Permission

(37) Yes, you may leave if you wish

In my dialect, may has come to be used only in statements in which the speaker gives permission, rather than refers to it. As a result, sentences like:

(38) ?? I may go there whenever I want to

are, at best, only marginally acceptable (because of the 1st. person pronoun). This distinction, between what we are calling 'performative' and 'constative' permission, is discussed at greater length in later sections, but we should
perhaps note at this point that not all regional varieties of English accept the distinction. *May* is only possible for me as a constative form in some set phrases with *if,* like *if I may make so bold, if I may say so,* etc.

Naturally, if we change from an affirmative to an interrogative sentence, the speaker is seeking permission rather than granting it, as in:

(39) *May I leave now?*

### 2.3.3 Logical possibility

Here, *may* allows quite a wide range of exact forces, from:

(40) *It may just conceivably be true*

to:

(41) *It may quite likely be true*

It is this that leads Ehrman (1966) to say that *may* has a "bipolar range" of "shifting" meaning. Perhaps we could say rather more accurately that its meaning allows it to be 'toned up and down', to use a term of Halliday's (e.g. 1970). As is often the case, other factors, pragmatic or linguistic, can affect this, so that in questions there is no equivalent to (41). Compare the two following:

(42) *May he just possibly have been there after all?*

(43) *May he quite likely have been there after all?*

(though the last example is acceptable with *may he not,* but negative questions are distinct in force from positive questions.)

Some writers, e.g. Huang (1969: 178), say that "possibility" *may* is never used in interrogatives. This is
not the case in my dialect, since (42) is quite acceptable. But it is true that other forms often tend to be used in preference to may, for instance might. We shall remark on this further when discussing can in section 2.12.4.

2.3.4. Sometimes

(44) On Sundays, he may go to church or he may wash his car

This means 'sometimes he does the one, sometimes the other'. This meaning is distinct from the 'possibility' one, since might is used as the past time equivalent for it, which is not the case with the other meaning, which uses may have done for past time.

2.3.5. Capability

Historically, may is linked to the noun might, as in Might is right. Its original meaning, as both Traugott (1972: 72 and 118) and Kakietek (1970) say, is similar to that of Modern English 'capability' can. We can perhaps find some uses of it today, especially in academic writing. There is little difference between can and may in the following:

(45) We can/may label this use 'deontic' in the sense of 'there is nothing to stop us', 'we are justified in'.

2.3.6. Discussion

As often with the modals, it is sometimes difficult to decide which meaning is involved of the three - or four, if we count 'capability'. If we take:
(46) You may often see him sitting at his window we can reasonably ask whether this is an example of 'sometimes', 'capability' or 'possibility' may. ('Permission' seems unlikely). The tests for 'possibility' are: past time expressed with may have and near synonymy if may is replaced by possibly or perhaps. In this case I think both tests fail. So we have to decide between 'sometimes you see him' and 'often you can see him'.

Both have might for past time. Perhaps the question is undecidable; perhaps the meanings overlap as is so often the case. My feeling is that it is an instance of 'sometimes' may, but it is true, as against this, that replacing may by can does not change the force very much.

2.3.7. Negation

The effect of negation on the three main meanings is as follows:

'Permission': not permitted
'Possibility': possibly not
'Sometimes': sometimes not

This difference between 'permission', which has modal negation, and the other meanings, which have propositional negation, is noteworthy, since may seems to be the only item amongst the modals which makes such a clear difference in this respect. It affects the modals as a group, as we shall see later, for example in 2.13.3., where we also discuss short forms like mayn't.
2.3.8. Uses

'Permission' may has overtones of coldness. At the very least, the speaker of an initiating phrase can be said to be using may to assert his authority, or, in a question, to be recognising the speaker's authority. This is no doubt why parents insist on it, as Joos plausibly suggests: (1964: 180-1). Joos says further (p. 188):

'The principal employment today is the use to impose a formal chill upon the social interaction.' And also (pp. 188-9): '...politeness can be a cruel weapon. This may belongs to what used to be called 'the small civilities'. Joos' remarks, of course, refer primarily to the use of may in initiating statements. His mention of politeness is interesting; both can and may are perfectly polite - it is may alone, however, that imposes the formal chill of which Joos speaks. On this subject, Traugott (1972: 118) speculates that may is following the historical path of must in moving from 'capability' through 'permission' to 'obligation'. She correctly points out that if a boss says to a subordinate:

(47) You may go

this will normally be taken as an order - there will be no answering Thank you! The fact that (47) has the force of an order could be said to come from the relation between the participants in the discourse, but that is just the point - it is in just such situations, where one person wishes to reaffirm superiority - or the other to recognise it - that may has come to be appropriate.
'Possibility' may also has a common use as a concessive, as in:

(48) He may be a fool, but he has the sense to keep his mouth shut

(49) She may be rich, but I wouldn't dream of marrying her

Johannesson (1976: 92) actually classifies this separately from his 'commentative' (i.e. epistemic) uses. The force is that the speaker admits the fact but dismisses it as irrelevant or modifies its importance because of some other relevant fact; to do this he says that it is 'possibly' rather than 'actually' true, even though it is clear that he realises that it is true.

2.4. MIGHT

2.4.1. General

Might has three basic meanings, just as may does. However, there is no 'permission'; instead, in the deontic area, we have a 'suggestion' meaning to go with 'logical possibility' and 'sometimes'.

2.4.2. Suggestion

(50) You might try cooking it a little longer (= I suggest you do)

We found this meaning with could, but only as one use in the deontic area, (see 2.2.3. and 2.2.10.). Could keeps the permission meaning which can has, both as a conditional (non-actual) and as a past time equivalent to can. Might, on the other hand, is not used as a past time form when it has this meaning, nor is the following acceptable in my dialect:
(51) * You might leave early, if you finished everything (= 'I would permit you to leave')

This meaning often occurs in counterfactual sentences - usually uttered peevishly, as in:
(52) You might be a little more careful!
(53) You might have told me!

2.4.3. Logical possibility

As with *may*, this meaning has a range of precise forces from 'just conceivable' to 'quite likely'. The question then arises: 'what is the difference between *may* and *might*?' The answer seems to be 'negligible'. Textbooks, however, often say that *might* is 'more tentative' than *may*. If we accept this notion, it must be with the proviso: 'all other things being equal', since both items allow 'up- and down- toning'. Both *may* and *might* can be used for warnings and threats, as in:
(54) Careful, it may/might bite
(55) Watch it! I may/might get angry

In interrogative sentences, *might* sounds rather cold and formal:
(56) Might you have forgotten to tell him?
(57) Might he be living somewhere else?

In everyday conversation, my dialect uses *could*.

2.4.4. Sometimes

This is the only one of the three main meanings for which *might* is a past time equivalent to *may*; the other two meanings use *might have* to refer to past time.

(58) In the evenings, after he finished work, he might watch TV or he might write letters
2.4.5. Capability?

For remarks on this, historical, meaning, see under may, 2.3.5. In this meaning might would be a past time equivalent for may, as well as a non-actual one.

2.4.6. Discussion

The main point to discuss here is the extent to which might is a counterfactual form. If we take the 'suggestion' meaning, we can see that suggestions for the future are not normally counterfactual - they simply suggest a course of action which may help the hearer to solve a problem.

Examples like (52) and (23), on the other hand, which clearly refer to present or past actions of the hearer, are frequently, if not normally, counterfactual.

In the 'possibility' meaning might is not always counterfactual, but rather a slightly more tentative equivalent to may, (all things being equal, as I said in 2.4.3.). But, being a remote form, might is 'available' for counterfactual use, as in:

(59) If he'd caught the early train, he might now be here (= 'it is possible he would be here')

Palmer (1974: 147) notes a rather unusual use of may where I (and, apparently, he) would prefer might. His example is:

(60) You may have been killed (= 'possibly you would have been')

I have noted:

(61) If X had stopped the ball first time, Y may have been run out (= 'possibly he would have been')

This use is certainly not acceptable in my dialect, where only remote modals can be counterfactual.

(The question of counterfactuals does not arise for
the 'sometimes' meaning.)

2.4.7. Negation

With *might*, all instances of negation are instances of propositional negation, as in:

(62) You might not whine like that! (= I suggest you do not!)

(63) He might not like it (= 'it is possible he will not')

(64) He might take the train or he might not (= 'sometimes he did not')

The short form *mightn't* is frequently used, perhaps more frequently than the parallel form *mayn't*.

The fact that negation for the 'suggestion' meaning is propositional shows how far this deontic meaning is separate from that of 'permission' *may*, which has modal negation. For the other meanings, negation for *may* and *might* operates identically.

2.4.8. Uses

Though we have excluded a permission meaning for *might*, there is one in the interrogative, as in:

(65) Might I have a word with you?

The force of such sentences is that of a polite, rather cold, request. The speaker acknowledges the superiority and 'social distance' of the hearer. We could derive this use historically from 'would you permit me, if I asked you?', but the force is such that the original meaning is scarcely felt - we could consider this use of *might* an institutionalised illocutionary force marker, rather like *could*, except that 'permission' *could* is still an active
meaning of that Modal. Permission is also the meaning of might in:

(66) If I might make so bold...

2.5. MUST

2.5.1. General

Must has two basic meanings: obligation and logical necessity. Here are examples of each:

(67) You must behave yourself
(68) You must like coffee, that's your third cup

As elsewhere for the other modals, it has been suggested, (e.g. by Antinucci & Parisi, 1971) that the two can be linked by analysing both of them as involving obligation, thus:

(67) a. I oblige you - you behave yourself
(68) a. Evidence oblige me - I say - you like coffee

Nevertheless, the distinction clearly exists, as we shall see better when we come to look at the effects of negation, of the continuous infinitive, etc. (See 2.13 and 2.14 below.)

2.5.2. Historical

The historical development of must is perhaps even more significant than that of the other English modals. It is originally a preterite form but has not developed a new preterite. For this reason, it appears to be somewhat isolated and has required other items to act as suppletive forms for it, for example have to, need, should and ought to. Having no preterite form, but being itself one historically, it seems to appear easily in reported speech, so that for:
a. He said: "You must leave at once"

We can have either of the following:

b. He said I had to leave at once

c. He said I must leave at once

With other modals, there is usually a change to the remote form, e.g. from can to could.

The original 'present tense form' of must still exists dialectically as mun or maun and speakers of the standard language seem to accept these as variants of must when they appear in Mommersomt and its equivalents.

Must has continued to move away from its old preterite self even in recent times. In the last hundred years or so, sentences like the following have started to sound archaic, though still easily interpretable:

(70) Another step, and she must have fallen

This sense of would certainly have fallen sounds normal for Jane Austen and even for Dickens but is scarcely colloquial nowadays. Typically, the sentences which can be glossed with would have contain the preterite form modals, could, might, should, ought to, would and also need, followed by perfect infinitive. The gradual disappearance of this use with must indicates that it has continued to 'turn itself' into a non-past form.

2.5.3. Time restrictions

Another development, more difficult to explain, is that must is much more restricted than other modals, e.g. may or can, in its use with direct simple infinitive with future meaning, when must itself has its 'logical necessity'
meaning. Sentences such as the following are clearly acceptable:

(71) It must be going to rain
(72) They must be going to leave soon

But the following are only with difficulty interpreted as having 'logical necessity' meaning; at best a note of desperation enters:

(73) It must rain (soon, tomorrow)
(74) They must leave soon

The same sentences could easily be interpreted with epistemic force with *may*.

2.5.4. Negation

The negative form, often shortened to mustn't, is only used in the standard language in the deontic sense; then it means 'obliged - not'. One can hear mustn't used epistemically, as in:

(75) It mustn't have been there after all
My dialect uses can't. (Palmer, 1974: 137, allows mustn't as does Lyons, 1977: 801).

2.5.5. Uses

There are a number of what we may call 'social uses' which need to be mentioned. *Must* occurs in questions in cases like:

(76) Must you make so much noise?! (also with *why*)

*Must* is also used very commonly as an invitation or to urge action favourable to the hearer:

(77) You must try some of this pie!

*Must* can be considered a warm word, often somewhat informal,
in sentences like the above, either when expressing annoyance as in (76), or urging as in (77).

2.6. **NEED**

2.6.1. General

*Need* is a marginal item for inclusion in the group of modal verbs. However, it must be included, if only because a form like *he needn't* shows two important characteristics of all modal verbs: no *s in the 3rd. person singular and direct negation rather than use of *don't*. Also, although *need* as a full verb exists with similar uses to modal *need*, there is a clear difference between modal *needn't have done* and full verb *didn't need to*.

2.6.2. Suppletive

As is well known, *need* as a modal is only used in the interrogative and negative forms; *he need go* is not acceptable (though introduction of *only* would make it acceptable). As such, *need* can perhaps be seen as a suppletive form, introduced into the modal verb system in order to 'plug some gaps'. The question is: if *need* is used as a suppletive form, then suppletive to what? The obvious answer is: to *must*. The form *mustn't* is to be analysed as 'obliged - not' and *may not* and *can't* have similar uses, so that there is no item in the system whose force is 'not obliged' and *needn't* fills this slot. (Foreign learners sometimes have problems here and use *must not* for *need not*.****
2.6.3. Meanings

The commonest meaning of *need* is its deontic one (= not obliged to), e.g.:

(78) You needn't do that if you don't want to
This can, as we might expect, be used 'socially' to mean 'you are not obliged to: so don't', as in:

(79) You needn't wait (said by superior to inferior)
However, *need* can also be used epistemically to mean 'not necessarily', as in:

(80) He needn't necessarily have a well paid job, (he may have inherited money)

This use is by far the rarer of the two in my dialect. To start with, as we shall note with *should*, it is restricted as to past time contexts. When the Perfect infinitive corresponds to a Present Perfect (rather than to a simple past or a Pluperfect) then we can find examples:

(81) He needn't necessarily have bought that car, (he may have hired it)

When (needn't) *have done*, corresponds to a simple past, examples are more difficult to find. The following is perhaps possible:

(82) Queen Elizabeth I needn't necessarily have slept here
Often the form *may not*, which has similar force, is used instead.

2.6.4. Interrogative

The above examples have used the negative form. Here are some with the interrogative:

(83) Need I finish this?
(84) Need they answer all the questions?
(85) Need it necessarily be that large?

(86) Need it be that tooth that's hurting? What about the next one?

(83) and (84) are deontic examples. Both of them refer to future events or actions. It is difficult to refer to a repeated present with this form, the full verb or have to tend to be preferred, so that:

(87) Need he go there every day?

is probably to be interpreted as 'do you oblige him to go there every day (from some future point)', whereas:

(88) Does he need/have to go there every day?

could be seen as meaning 'is he at present obliged to go there every day?'. In the past, there is no problem:

(89) Need he have worked so hard?

implies that he did work hard and asks about the presence of obligation. Examples (85) and (86) are epistemic ones. Future examples are difficult to find, though perhaps easiest with be -ing infinitive:

(90) Need he necessarily be arriving tomorrow?

Past time contexts are even more difficult to find. The following are perhaps possible:

(91) Need that necessarily have happened in 1944?

(92) Need it necessarily have been him who sent the letter?

We may wonder why this interrogative form was developed; the same sentences seem to have much the same sense if must is used instead. However this does not apply to those like (89), which have the Perfect infinitive (which is absent with deontic must). Here the interrogative form shows its
usefulness. But in many cases the answer does not use need; the possible answer to (83) would perhaps be Yes, you must.

Another context in which need is similar to must is that of questions expressing annoyance, such as:

(93) Need you make all that noise?!

Native speakers whom I have questioned to find out whether they thought one form or the other was ‘stronger’, (more peevish, more challenging of authority, etc.), than the other disagreed. Personally I find must stronger. It is also the only one which can be found without a following infinitive as simply Must you?

2.6.5. Remote

Needn’t is an interesting form, as it appears to have turned itself into a remote form. We note elsewhere (see 2.18.7.) that the remote form modals + Perfect infinitive can often be counterfactual, which the non-remote ones cannot. So that:

(94) You shouldn’t/oughtn’t/to/might not have told her can, given the right context, be interpreted as implying but you did. The same is true of needn’t in examples like (94). It is the counterpart to shouldn’t and oughtn’t to, which mean ‘obliged not to’ where needn’t means ‘not obliged to’.

2.6.6. Full verb

This leads us to examine the difference between the modal and full verbs need. The past time context, is, I think, the most revealing, that is sentences with either
didn't need to or needn't have. Note that needn't have could not be substituted in the following:

(95) He didn't go to work that day because he didn't need to.

But, conversely, didn't need to could also be used in this sentence:

(96) He went to work that day although he needn't have.

Needn't have is therefore seen to behave as a remote modal form might be expected to, whereas didn't need to is 'two-faced' in allowing the negative to affect the modal or the following proposition. This goes for didn't have to as well, at least in some dialects. The following examples are from educated speakers from different parts of the U.K.:

(97) The doctor told me I didn't need to eat lamb (= wasn't to)

(98) I'll not need to stay very long (= I'd better not)

(99) I was told I didn't have to vote twice (= wasn't allowed to)

These examples are all unacceptable for me but the speakers came from as far apart as Birmingham and Fife. The situation seems to be that didn't need and have to are available for both 'not obliged' and 'obliged-not', but needn't have is only used for the first, as we might expect since it is in the modal verb system as a suppletive form for must/should/ought to, whose negatives cover the 'obliged not' area.

In this connection, it is strange that Huddleston (1969: 781) analyses the needn't in:

(100) You needn't have bothered as 'past' and the lexical verb bother as 'non-past'. This makes it receive the same analysis as didn't need to and a
similar one to could = 'was able to'. To start with didn't need to is not possible here for me, (though presumably it would be for the speakers of (97)-(99). Furthermore, and more importantly, if needn't is past, what is the purpose of the have -ed infinitive? Huddleston seems to think that it makes the needn't past. As we have just mentioned, need has become a remote modal form and is therefore 'past' in that sense, but the past time marker in (100) is the infinitive. This explains why (100) needs to have a Perfect infinitive, whereas the same sentence with didn't need to would not need one, since the past time marker would be the didn't).

2.6.7. Performative

We shall discuss elsewhere (see 4.1.2. and 4.2.2.) the way in which the modals have a tendency to carry performative force Cp. (87) and (88), so that:

(101) a. We don't need to have finished the project by the end of term

is more likely from a student to whom the lack of obligation applies than:

(101) b. We needn't have finished the project by the end of term

2.7. SHALL

2.7.1. General

Shall is the least used of the modals in my dialect and is not used at all in some regions according to certain informants. This is surprising since its remote form should is very much in active use. Even in those varieties which do
still keep the form, certain uses sound archaic, such as the Clerk of the Court's phrase when informing the accused of his rights to challenge jurors:
(102) Speak and you shall be heard

2.7.2. Commissive

One possible label for deontic \textit{shall}, used by Jarvis (1970), is 'guarantee'. This allows him to account for examples like:
(103) You shall have another cake if you behave yourself
(104) Johnny shall help you with the arrangements
If we take interrogative examples, however, the force is more that of an offer:
(105) Shall I help you with the dishes?

Normally we could dissociate the two uses and label the affirmative one, treating the interrogative as having the illocutionary force peculiar to itself. This is not very satisfactory in the case of \textit{shall}, since the interrogative form is commoner, at least in my dialect. Perhaps 'promise' \textit{shall} is close enough for both, though not totally satisfactory, (there are also problems with the force of the negative). In both affirmative and interrogative cases the speaker 'commits' himself to a course of action, or to ensuring an event – the Austinian label would possibly be 'commissive'.

2.7.3. Future?

As with \textit{will}, it has been suggested, at least by traditional pedagogues, that \textit{shall} is a future tense marker.
For a general refutation of this attitude, see my remarks on will (2.9.3.). The problem remains, however, to determine whether shall has an epistemic meaning, similar to that of 'inference' will. There is one important difference: shall only occurs in sentences with future reference, so that:

(106) He shall have finished it
could not, like the parallel sentence with will, be expanded with 'by now'. In fact, this sentence could not receive epistemic interpretation because of the third person subject. Only first person subject sentences can be interpreted as predictions, as:

(107) I shall be seeing her soon, I expect
where the 'I expect' indicates the epistemic force. The same sentence with you or he as subjects, if interpretable at all - which is dubious - would have to receive 'promise' interpretation. So we can label this first person epistemic use as 'future inference', which then distinguishes it from the 'inference' of will while keeping the same term 'inference' for both.

2.7.4. Discussion

Having made the point that 'future prediction' shall only occurs with first person subjects, we should perhaps reflect on this fact. The pedagogues' rule which instructs one to use shall with first person and will with second and third person pronouns for 'The Future' is partly based, though this is not normally made explicit, on the fact that 'future inference' shall is not available for use with anything but
first person pronouns anyway. The reason, presumably, is that authority, when linked with the speaker, can easily be interpreted as prediction whereas with second and third person subjects the authority of the speaker affects someone else and the force remains deontic only.

2.7.5. Interrogative

Example (105) above has already raised the question of interrogative sentences using shall. Since such sentences ask the hearer whether he wishes some action (authoritatively), they will be unlikely with you subjects, if not impossible. Third person subjects are also unlikely, as in affirmative sentences, though I have heard the following.

(108) Shall Sally help you with the shopping?

As noted above, in affirmative sentences the epistemic sense occurs only with first person subjects. We would therefore expect it to occur, if at all, only with second person subjects in the interrogative. Again, examples seem to be restricted to certain rather special 'social levels' of English, particularly that sort which we can associate with Sir John Betjeman (though see Palmer, 1974: 114-5), e.g.:

(109) Shall you go to Ascot this year?

Even this example is dubiously epistemic; it could be interpreted as meaning: "Do you intend to go?" This meaning exists, according to informants, in some Eastern English dialects; I have made it reported by Cambridgeshire and Lincolnshire speakers. A typical example would be:

(110) Shall you have your bath now? (said to a lodger, for instance)
When questioned, informants say that *will* is not appropriate, since that would mean that the speaker wanted the hearer to have the bath now. *Shall*, on the other hand, means that the hearer is requested to decide. Clearly, this is a deontic meaning, and we can probably say that *shall*, therefore, does not have its epistemic use in the interrogative.

2.7.6. Passive

*Shall* is fairly commonly used in passive constructions; the force is that the speaker 'guarantees' the occurrence of the predication:

(111) It shall be done

The style is, once again, often very formal.

2.7.7. Negation

The negative form *shan't* is again rather formal for me, though the following are correct:

(112) He *shan't* hurt you, I promise
(113) You *shan't* have any, I'll see to it

Alongside these we have the child's petulant 'Shan't!', where the style changes completely. It is as though the child was assuming authority; the petulance would then be explained by the fact that he does not have any authority!

2.7.8. Restricted uses

The restrictedness of *shall* appears very clearly if we consider typical conversations involving it. *Shall* can be used only with difficulty in the responses to these remarks:

(114) Shall I tell you about it? ?? Yes, you shall
(115) I shall see him tomorrow. ?? Really? Shall you?
2.7.9. Historical

Traugott (1972: 70-71, 114, 117, 168-170) gives some historical details of the way in which shall changed and gradually lost in 'popularity'. In Old English it was used for obligation in a way similar to modern must. Chaucer already shows a tendency to use it for prediction with first person subjects only. Its deontic 'obligation' use gradually became more and more restricted as must moved from 'permission' meaning to replace it. Now it is a residual form and some dialects are quite able to do without it. It can be seen as having been the victim of a 'historical squeeze'. It failed to develop a proper epistemic use and its deontic use is now restricted in most dialects that I have heard.

2.8. SHOULD and OUGHT TO

2.8.1. General

In this section we shall discuss both should and ought to. The first part of the discussion will be devoted to should only and then a comparison will be made between the two items.

2.8.2. Exclusions

First of all, there are two uses of should to which we shall only be devoting a small amount of space. Here are examples of each:

(116) It is better you should know the truth.
We can call this the 'subjunctive' use; it also occurs in
If I should die.

(117) I should be angry if you repeated that to other people.
This use is parallel to the one in which shall occurs in some varieties of English rather than will with first person subjects. This has already been fairly fully discussed in the section on shall, so only a few comments are needed. First of all, there are some dialects in which this use occurs in questions with persons other than first. The following are taken from Kruisinga and Erades (1950: 568):

(118) How much should you take it they might be worth? (De Morgan)

(119) Are they the girl’s grandparents, should you think? (Swinnerton)

This use is more common in certain fixed expressions, such as I should say so, I should have thought so, I should think so too! (Perhaps an original ‘if my opinion were asked’ has been deleted here.)

2.8.3. Conditional obligation

The label ‘conditional’ will be justified later in 2.8.7. Obligation of a mitigated kind is clearly present in:

(120) You should see a doctor at once

Counterfactual force is common, and always the interpretation given when the time is past:

(121) You really should be eating more

(122) They should have reported it to the Police

2.8.4. Conditional logical necessity

(123) I should get it soon, I expect

It is best to add the ‘I expect’, since otherwise the sentence might be interpreted as ‘conditional obligation’, which seems to be the preferred reading. Halliday (1970: 343) remarks on the tendency for ‘remote modals + simple infinitive’ to
be ambiguous.

There are time restrictions with this meaning of *should*. The judgement of likelihood, here 'probable' or 'I expect that ...' etc., is, present 'as of now', as with all epistemic cases, but the time reference of the following proposition needs to be discussed. R. Lakoff (1972: 233 ff.) remarks on the restrictions, and some of the following discussion is based on what she says. All the following, with present or future time reference, are possible with this meaning:

(124) John should be easy to talk to
(125) He should arrive soon
(126) We should be hearing from her in the next week
(127) They should have completed it by tomorrow

With recent past reference, the following (b) example is acceptable:

(128) a. They have now arrived
    b. They should have arrived by now

But with a distant past example, it is impossible to give an epistemic interpretation.

(129) Queen Elizabeth I should have slept here cannot be understood as 'she probably did'. Such exclusions even work for the present sometimes, as in:

(130) * You should be crazy!

The position is therefore the opposite of that with *must*, where restrictions tend to be on future reference. Presumably, this is because we are more certain about the past (and so use *must*), but can only make assumptions about the future (for which *should* is suitable).
2.8.5. Interrogative

The rather restricted use of epistemic should continues to be seen if we take interrogative sentences. The following, though not impossible, seem to me a little unlikely to occur:

(131) a. Should you be hearing from him soon, do you think?
(132) Should we see it when we get round the next corner?

The negative question form shouldn't we/you is perhaps easier, but negative interrogatives are always distinct from positive interrogatives in force and therefore in acceptability. Again, the deontic meaning is clearly acceptable:

(133) Should I tell him the truth?
(134) Should they report it?

2.8.6. Negation

It is easier to find contexts for epistemic should in negative sentences:

(135) It shouldn't arrive for some time yet, I don't think

And deontic should is, naturally, quite acceptable:

(136) You shouldn't speak like that!

Which element does the negation go with? With the epistemic use, there is not much difference between 'not likely' and 'likely - not'. A fuller analysis leads us to prefer the second; 'evidence (partial) - oblige me - I say - X not true'. For the deontic meaning we have: 'obliged (conditionally) - not to do X'.

2.8.7. Remote

Anderson (1971: 78-83) suggests, following Zandvoort, that should is to be considered as the remote form of must.
There is much in favour of this idea. To begin with must was originally a preterite form, but has lost this character in the course of time. Secondly, must took over some of the functions of historical shall (sceall), so that shall is now a restricted item, even non-existent in some dialects, whereas should is a very common item and corresponds quite closely to 'must + restrictions or conditions'. Should also fits quite well into the whole system of modal verbs if we consider it as the remote form of must, or as the nearest equivalent to one in Modern English; this will become clear when we examine the whole system, (see section 7).

2.8.8. Should and ought to

We now move on to a discussion of the similarities and differences of should and ought to.

First of all, a few remarks on ought to. Its origins are interesting. Its non-past form, owe(s) to, has not got established in the modal system in the same way. We may speculate that it was introduced as a preterite equivalent for must at a time when must was becoming a non-past form and when should and shall were still felt to make a pair. The choice of owe may have been a chance one, or, to be more precise, by its being one of the words in the language whose meaning fell within the required area. Alternatively, it may have been based on the equivalent forms in other languages, especially Latin debere, French devoir, etc. It is interesting to note that philosophers often talk about ought, for instance when discussing the distinction
between an 'Is' and an 'Ought'.

However this may be, ought is now a well established item in Modern English. Looking through the examples so far used in this section (except 116-119), and substituting ought to for should we find that all of them remain acceptable and have the same meanings, being ambiguous just in the same way as the same examples using should. The only point is that should tends to be preferred in examples in the interrogative, like (131) to (134), because, for me at least:

(131) b. Ought you to be hearing from him soon? is rather stilted.

However, the question remains: is there no difference at all between should and ought to? For some writers, there is, for example, Wierzbicka (1975: 163-4) finds should 'weaker' than ought to. Ought to points more clearly to moral norms. Her method of showing this, (tentative, it is true), is to analyse them as follows:

(137) He ought to go (= it will be bad of him if he doesn't go

(138) He should go (= it will be bad of someone if he doesn't go

In other words, should does not place such a direct obligation on the subject of the sentence as does ought to. This seems to me dubious as an analysis, and is not backed up by any evidence.

Leech (1969: 214 and 233 ff.) also makes a distinction between the two items. This is done in terms of his actuality versus hypothetical system $\psi$. We shall discuss
this system more fully elsewhere, (see 6.2.3.). The relevant facts regarding the two modals in question are that should is specified for $-\psi$, whereas ought to is not specified for $\gamma$ at all. It is not clear why this should be. The point of the symbolism at this point seems to be to distinguish between the oblique or remote modals and the non-remote ones, so that might, for instance, is specified as $-\psi$, whereas may is specified as $+\psi$. Ought to presumably is not specified because owes to is not used.

Generally, I find no difference between the two items. I have one example, for which I have to thank John Christie of Edinburgh University Linguistics Department, which contrasts:

(139) a. Passengers should have their tickets ready
    b. Passengers ought to have their tickets ready

The (b) example sounds as though they don't have their tickets ready, so we may accept Wierzbicka's idea, even if not her analysis, that should is the 'weaker' of the two. Because of the greater degree of 'counterfactuality' with ought to, it is odd that Leech does not categorise it, too, as containing $-\psi$.

2.8.9. Footnote

In this discussion we have not mentioned one other use of should which, though dialectal, is commonly understood by all English speakers, and even used by them as a joke, and that is the Jewish-English use in expressions like:

(140) I should worry
(141) I should live so long
The origins of this are clearly not in English itself.

2.9. **WILL**

2.9.1. General

*WILL* is a very controversial item; its status as 'future' marker and the rules for differentiating its use from that of *shall* are the main questions which concern commentators. For the second of these see 2.7.3, 2.7.4.

The status of *will* as a future marker is discussed under 2.9.3.

The most common meaning for *will* is that of 'judgement'. This can be divided into 'willingness' and 'inference about truth' as exemplified by these examples:

(142) I will tell you all about it if you pay me
(143) I'm sure that will be fun

The other meaning for *will* is 'habitual' as in:

(144) He will often sit for hours staring out of the window

This meaning is clearly distinct from the other two since replacement of *will* by *would* makes the sentence refer to the past, whereas in the other two the effect is to make the sense non-actual.

As elsewhere, there are ways of linking the deontic and epistemic meanings; this I have done by giving to both the title 'judgement'. But equally we can distinguish them: only the 'inference' meaning is possible in past time contexts, as in:

(145) That will have been two years ago, I expect
2.9.2. Willingness

This use has a whole range of illocutionary forces, e.g. promise:

(146) I will help you as much as I can

or threat:

(147) You will be hearing from me

or order:

(148) You will leave in five minutes

There is also what Leech (1969) calls the 'insistence' use, in which will is strongly stressed:

(149) I will be heard!

This use sounds archaic or formal, and the tendency is to use other lexical verbs such as insist to express the same notions, though the negative won't is frequently used as a stressed or unstressed form with this force.

This meaning is, of course, the original one for will, and is maintained in sayings like Will he, nill he and whether he will or no, (the first of which uses the negative form which is extinct in the standard language but still exists dialectically, see Brown and Miller (1975)). Want, and other items have tended to replace will; German wollen, for example, a cognate form, cannot often be translated by English will.

2.9.3. Inference

The force here is that of prediction. Though it is often used in sentences which have future reference, all times are possible, as in:

(150) a. You will be feeling rather tired by now, I expect
She will have forgotten all about it, so let's start without her.

It can be seen to be distinct from the 'willingness' meaning in its non-occurrence in sentences with 'if'. (153) clearly includes an example of 'willingness' will.

(152) If you see him, let me know.

(153) If you will see to it, I'll put in a good word for you.

It is the 'inference' which is the candidate for being considered a 'future' marker. I shall now comment on this idea.

Palmer (1965: 62-3 and 1974: 104) wishes to separate the notions time and tense. He points out that English verb flexion shows the formal category of tense in the difference take-took but not in shall/will take. He says further:

'There is really very little justification for the selection of WILL and SHALL as the markers of future tense in English, even if we rely heavily upon time reference'.

He points out that there are other ways of referring to the future (simple present tense, am doing, am going to do, etc.) and also that WILL need not refer to the future, as I have shown, see (150) and (151) above. More importantly, all the modal auxiliaries can occur in sentences with future time reference, e.g.:

(154) He may/could/might/must/should be here tomorrow.

Will and shall are not therefore to be separated from the rest and designated simply as tense markers.

Fries (1927) tries to put the whole question in a wider framework. He lists some forms which are used in Modern
English to talk about the future. He also quotes various writers (Brugmann, Jespersen, etc.) on the historical origins of the various auxiliaries adopted in different Indo-European languages.

Fries's main purpose is to criticise writers who present the general ideas prevalent about such forms:

(i) The words or inflectional forms used looked to the future for fulfillment;

(ii) The full meanings gradually faded;

(iii) But the original meanings still 'glimmer through'.

Statement (i), says Fries, is correct, though similar items have been used in different languages with differing results. Statement (ii) is also correct but the notion of statement (iii) is not, so that (ii) and (iii) together give an incomplete picture, because:

(iv) **Will** is used for compulsion on the subject in the 2nd, and 3rd, persons,

(v) **Shall** is used for resolve or determination and not just for compulsion,

(vi) Other forms, such as **be going to**, be about to and the present tense (simple or continuous) are used for the whole range compulsion-necessity-determination.

Fries's conclusion is as follows: languages adopt items from anywhere within the range 'desire, hope, intention, compulsion, possibility', but, once adopted, the items can be used for any of the ideas related to the future, whether these are connected to the form's original meaning or not. This leads Fries to talk of a 'future idea', to express which different items are used in different languages at different times.

This accords well with Lyons' ideas (1968: 307-317).
Lyons here talks about notions like tense, mood and aspect and indicates to what extent they are not totally discrete, so that different languages or the same language at different points may express the same idea by using an auxiliary, an inflected form, etc. Lyons' ideas are important. They lead us to question the notion 'future'. The fact that English will is translated into languages like French and Italian by (often) a 'future tense' form is not sufficient evidence for calling will a 'future tense marker' or 'auxiliary'.

The point is that the future, being less certain than the past, (except in a world-view which allows for omni-science), tends to be referred to by various kinds of 'uncertainty-items' in different languages. English, having a tendency to develop the modal verb system, has made use of part of that system for one (but only one) of its means of talking about the future; French, on the other hand, having already lost one future tense, 'felt the need' to develop another one, (which it did by using an auxiliary, as it happens). On the subject of the future, see also Palmer (1977: 2-3), R. Lakoff (1972: 243) and Gougenheim (1970: 6).

2.9.4. Habitual

Though we have described this as a separate meaning from the preceding two, there does seem to be some 'semantic leakage' from the decision meaning. When used without stress, this does not appear, as in:

(155) She will often get up at 6.00 in the morning where there is no sense of 'being willing', only the idea of habit. However, in:
(156) He will talk so loudly!
(said with stress), the 'ornery' nature of his behaviour is almost as important as its habitual nature.

Are we, then, justified in calling these separate meanings of will? There is the past tense test; the 'willingness' meaning only has past time would in reported speech and in the negative. A sentence like:

(157) He would go there at ten o'clock
cannot be interpreted as meaning he agreed to/was willing to, if taken in isolation.

Basically, the situation is as follows: 'habitual' will only appears to be connected to 'willingness' will if it receives strong stress and, in that case, the idea of 'insisting on' can be said to derive from the stress, rather than from the meaning of will; however, 'semantic leakage' operates so as to modify this situation and to link this meaning to the decision meaning. Clearly, the use of will, rather than of another item, is significant. The sense of insistence would not be so clear if we substituted can, and even less clear if we used may, in examples like (156), if, indeed, the examples were acceptable at all. But a final decision on these points is best left until we have discussed would (see 2.10.4.).

2.9.5. Oil and pigs

Two of the favourite examples with will, e.g. Palmer (1974: 112), are:

(158) Oil will float on water
(159) Pigs will eat anything
Palmer says that these are examples of 'inference' as applied to 'timeless truths'. The fact that we do not say:

(160) * The Severn will flow into the Atlantic

is explained by the fact that for oil, experimentation will prove that if you pour oil on water, it will float.

This analysis is surely not correct. If we take the past time equivalent for 'inference' will sentences like

(150.a) we have:

(150) b. You will have been feeling rather tired, I expect

Here will have rather than would is used for past time. By contrast,

(161) ?? Oil will have floated on water

sounds barely acceptable. The problem comes from the 'timeless truths' idea. In fact, the relevant detail in (158) and (159) is that they are obviously general statements with no article. If we take specific examples, we might have:

(162) His pigs would eat anything

or, in the context of astronauts landing on an unknown planet:

(163) We found a liquid which we were sure was water, but, to our surprise, oil would not float on this 'water'.

Clearly, would, rather than will have, is the appropriate past time form here. This means that we have, in such examples, either an example of 'willingness' will (which suits the pigs) or of 'habitual' will (which suits the oil).

I think the crucial example concerns the oil, since the other timeless truths concern entities like the sun and the Severn, rather than animates like pigs, so I suggest that examples
like (158) are examples of 'habitual' will.

2.9.6. Negation

For fuller discussion, see 2.10.6. The basic effects are as follows:

willingness: not willing
inference: infer - not
habitual: habitually - not

2.9.7. Uses

There is a considerable difference in force between 'willingness' will as used in affirmative and as used in interrogative sentences. Compare:

(164) You will keep your mouth shut!
(165) Hare will go to Rome (quoted in Hare, 1971: 55)
and:
(166) Will you help me, please?
(167) Will you shut up!

The difference, for me, lies in the fact that, whatever the precise force of the sentences individually, the affirmative ones are cold and the interrogative ones warm. There are, of course, other labels we could give, for instance (165) is formal, but also mitigated compared to Hare! Go to Rome!.
But the main distinction is warm/cold.

2.10 WOULD

2.10.1. General

Would has the meanings of will, though, as with the other remote modals, especially could and might, the effects of the remote tense form are somewhat complex. Here are
examples of the three meanings:

**Willingness**
(168) I wouldn't do that, even if you paid me
(169) He just wouldn't do what I asked!

**Inference**
(170) He would be old enough by now, I expect
(171) That would have been in 1950, if I remember rightly
(The negative is clearer than the positive, for reasons we shall discuss later.)

**Habitual**
(172) They would often spend the summer in Egypt

As always with epistemic meanings, the 'inference' one does not involve past time reference for the modal. So, when the remote form is used, this simply indicates hesitancy of judgement. In order to refer to past time the have-ed infinitive has to be used, as in (171). With the 'willingness' meaning, would can be non-actual, as in (168), or past, as in (169). The time with the 'habitual' meaning is always past; there is no non-actual present or future.

2.10.2. Conditional?

With will we discussed the question whether forms with will were 'future' tense. The question is also posed as to whether would is used to form the 'conditional' tense. A number of the points used to refute these ideas for will are relevant here, too. The term 'conditional' is, anyway, best applied, if at all, to any sentence with if, or to others like Do that and I'll hit you! which also express conditions on truth or action. (See Jarvis, 1971, for a full discussion).
Furthermore, the term is usually applied only to the examples of the 'inference' type, whereas, as (168) shows, conditions can be relevant to the decision meaning as well. In many cases, like (168), there is not really any condition, only hesitancy on the part of the speaker, which makes him use would rather than will. The term 'conditional', for a variety of reasons, is best forgotten.

As Jarvis (1971) notes, examples of the 'inference' type can be either open or counterfactual, and it is mainly context that determines this. Even the presence of the perfect infinitive, as in (171), while it does make the counterfactual more likely, does not determine it or 'command' it in any way. Here are two counterfactuals:

(173) He would have paid up if you had threatened to tell his wife

(174) She would play better if only she practised

2.10.3. Used to

The 'habitual' meaning, which Joos (1964: 173) calls 'characterizing', is similar in meaning and use to the phrase used to. Would is the more restricted of the two, since in certain sentences referring to states of affairs, rather than iterated actions or events, only used to can be used. For example:

(175) There is a car park where the cinema used to be

Would is not possible here, but in other examples, both items can be used:

(176) In the evenings, he would/used to tell us stories
2.10.4. Typical

There are a number of items which it is difficult to categorize. Here is the first:

(177) Johnny has just been sick!
He would!

The force is clearly that of 'that is exactly the kind of thing one would expect from Johnny'. Note, that it is difficult to imagine this occurring in any other co-text, for example in a question or even simply with an infinitive to complete the phrase:

(178) He would be sick!

even said with strong stress on would and the same intonation as the phrase in (177), is difficult to contextualise, for me at any rate. However, the main question here is: what time reference does the would here have? Is it past? In fact, it is not past but non-actual as we see if we change the time reference of the sentence which elicits the comment:

(179) John says he is going to make a formal complaint. He would! (= that's typical!)

The time reference of is going to in (179) is future. The would is then a kind of remote prediction implying: 'that is what I would have expected if I had known more or thought about it more carefully', and the meaning is 'inference'. Of the other candidates, 'habitual' would does not have any examples which are non-past, and 'willingness' would tends to restrict the stressed positive form to the past or to sentences with if. However, we can perhaps say that 'semantic leakage' is operating here as we noted with will, example (156).
The other case which is difficult to categorise also involves stress on would. An example would be:
(180) He would talk so!
Are we to interpret this as 'decision' would and to interpret it as meaning 'he insisted on behaving like that', or is it simply a case of 'habitual' would, meaning 'he used to behave like that' with the notion that his behaviour was 'ornery' being expressed by the presence of stress on would? Either interpretation seems possible, and we have perhaps once again a case in which 'semantic leakage' between the various meanings accounts for the difficulty of finding the right analysis. How can we decide? One test for the 'descriptive' would is its iterative nature, also expressed, as we have seen, by the item used to. Clearly, we could replace would by used to in (180) and, provided we kept the appropriate intonation, the meaning would be similar, even if not identical. So far, the 'habitual' analysis is possible, so the only way to eliminate it would be to find examples in which the context makes it clear that the action or event in question happened once only; 'habitual' would could then be excluded as a possibility. Again, the evidence is somewhat ambiguous:
(181) James would go tramping all over the zoo
(The context showed that this was once only). Other examples are difficult to find. Is the following acceptable:
(182) I told him to keep down but he would stand up?
Insisted on seems the more correct form. As we mentioned after examples (168) and (169) the negative form makes things
clearer:

(183) We tried to reason with him but he just wouldn't see sense!

This, clearly, applies to one occasion and seems to make the 'willingness' analysis for (180) more likely. But the question still remains: why does (182) sound odd and what are the restrictions on would meaning 'insisted on'? It seems as though 'willingness' would is restricted either to cases where it receives strong stress or to the negative when referring to the past (as opposed to the future 'would be willing to'). So we can interpret (180) as being an example of 'willingness' would, though perhaps, once again, with some hesitation.

2.10.3. Interrogative

If we look at the question form, the restrictions on the 'willingness' meaning are still present:

(184) Would he see you?

is not very likely (though not impossible) meaning was he willing to see you? Once again, the negative makes things easier:

(185) Wouldn't he see you?

As we have noted elsewhere, e.g. with mayn't, negative questions are rather special items anyway, as are questions with why.

(186) Why would he talk so?!

is quite acceptable, whereas the same example without why is unacceptable: clearly, the combination of interrogative and stress (for 'ornery-ness') is an unusual one.
2.10.6. Negation

2.10.4. has brought us back to the problems of negative wouldn't being less restricted than the positive form. This restriction is unexpected at first sight, since the original meaning, or one of the original meanings, of would (or its historical predecessor) was 'willing to'. We have already noted the tendency to restrict 'willingness' meanings with will, example (149). Other lexical items have come to be used, if not preferred, such as willing and insist, depending on the exact force required. It is difficult to explain this. It seems that all lexical items in common use, such as modal verbs, both acquire and lose meanings. In this case, would has acquired the 'inference' meaning but is beginning to lose some of the 'willingness' uses. This historical explanation seems to me the best that can be given. The restrictions make these items a problem for foreign learners.

We have already made a number of comments about the negative form without saying whether the negation affects the modal or the following proposition. If we take a 'willingness' example:

(187) He wouldn't do as he was told
the meaning is clearly 'refused to', 'was unwilling to'.
But if we take:

(188) I asked him not to tell anyone and he said he wouldn't a possible analysis is 'agreed not to' with the negation affecting the proposition. So, though 'not willing to' is perhaps the basic analysis, 'willing not to' makes sense too.
If we now take an 'inference' example:

(189) He wouldn't be 80 years old yet, I don't think the analysis is 'I infer - he not 80 years old' in which the negation applies to the proposition. Now the 'habitual' meaning:

(190) He wouldn't get up before 9 o'clock usually

Does it matter if we analyse this as 'was not in the habit of' or 'was in the habit of not'? The second is perhaps the most satisfying as is shown by the fact that used not to has preferred, in most varieties of English, to keep the full not, so that usedn't is an unusual form in my experience: this seems to indicate that the not is felt to apply to the following proposition rather than to the modal. (See also Halliday, 1970: 332).

But, generally, we can say that the position as regards would and negation is, at best, confused.

2.10.7. Uses

Joos (1964: 173-4) remarks on what he calls the 'urbanity' of some uses of would. This exists both in affirmative sentences:

(191) That would be after you yourself had given her...
(i.e. presumably, no doubt)

and in interrogative sentences:

(192) Wouldn't you think he would ....?

Joos' context, a murder trial held in London, makes such uses likely, because of the way lawyers use suggestion and innuendo.

Here are some other uses:
Another interesting point concerns the shortened form of would have: would've. Children particularly often interpret this as would of and write it accordingly when they start writing at school. As a result it often continues as an 'uneducated' form into adult life.

As a polite, mitigated (though not necessarily formal) form would is common, as in:

(195) Would you mind if ...?
(196) Would you like another piece of cake?
(197) Would you help me, please?

No doubt we could analyse these as deriving from sentences with a deleted 'if I asked you', but this is not felt to be present - rather would simply marks certain kinds of illocutionary force.

'Willingness' would is also used for inanimate objects which refuse to do things, (negative only):

(198) The key wouldn't fit in the lock

2.11. DARE

2.11.1. General

The word dare will not enter our discussions except at this point. This is because, although it has some of the characteristics of a modal verb of English, it is quite isolated semantically, unlike other 'fringe' modals like ought to and need.
2.11.2. Full verb

As with need, the full verb dare exists alongside the modal item, so that both daren’t and don’t dare are possible, as are dare I? and do I dare? In fact, the syntax of the modal is sometimes used with the full verb, so that the following can be attested:

(199) I don’t dare go

Normally the absence of to would only be expected with daren’t.

Semantically, as we have just said, dare is isolated. It scarcely seems worth establishing a separate system for ‘courage’ as Chaffey (1967) does.

2.11.3. Historical

It seems that, historically, dare may have been an item that the language tried out as a possible ‘recruit’ to the modal system. The following is from the early 17th. Century:

(200) Vasques. ... will’t please you to be of the number?
Giovanni. Yes, tell them I dare come.
Vas. Dare come?
Gio. So I said; and tell him more, I will come.
Vas. These words are strange to me.
Gio. Say I will come.

(John Ford, *Tis Pity She’s a Whore, V, iii, 46ff.)

No doubt we, like Vasques, find the words strange, (though it should be said that the play is supposed to take place in Italy and Vasques is a Spaniard - hence foreign). Nevertheless, Giovanni (or rather, Ford,) seems to be trying to bring dare into the modal system, since it occurs in close
proximity to and in contrast with will. If generalised, this could have produced an item dare which would have been stronger than may but weaker than must or will and which would have meant something like 'I feel justified in’ or ‘I see no reason not to’. In fact the Modern English I daresay means something like 'I feel justified in saying, though I don’t know the truth of the matter'.

However, dare never did become generalised, and it remains on the fringes of the modal system of English; it is, anyway, the only item that can co-occur in some circumstances with other auxiliaries, so that the following are correct in my dialect:

(201) He won't dare come
(200) I wouldn't dare do that
(Cp. archaic he must needs do it.)

2.12. COMPARISON OF MODALS WITH EACH OTHER AND WITH OTHER ITEMS

In this section we shall be examining some of the questions which have arisen in the modal verb area, including the 'can/may for permission' question, the 'must/have to' problem and the 'will/be going to future' labelling:

2.12.1. Must and should/ought to

We have already suggested, (see 2.8.7.), that must, having no remote form of its own, since it was originally one itself, has acquired should and ought to as suppletive forms. One additional point should be made here: these forms are only used with non-actual meaning and not as past
time equivalents for **must**. This makes **must** the most isolated of the modals, in that even its suppletive forms are several in number and have to 'share out' the semantic area to be covered.

2.12.2. **Must** and **have to**

In the epistemic area, use of **have to** tends to be common in American English. Remarks like President Nixon's to the astronauts:

(203) This has to be the most historic telephone call ever made

sound very American to my ears, but still, interestingly, perfectly comprehensible!

Mrs. Jennifer Coates has, however, noted some examples in British English in the course of research that Professor G. Leech and she are doing at Lancaster University. The introduction of **have to** into this area, whatever its dialectal 'spread' geographically, should not surprise us. We can apply Fries's remarks on the future, discussed in 2.9.3., to this area as well. Since English is a language which often takes items from the deontic sphere and applies them to the epistemic, and since both **must** and **have to** deal with obligation, both can be considered as equally appropriate items to express the notion of 'logically necessary'. Which one is preferred is a question of usage.

**Have to** is the item which seems to spring to mind, most readily when people are talking about suppletive forms and 'modal-like' items. Certainly, Leech (1969: 202) includes it in his list, for semantic rather than grammatical reasons. This is a little dubious: why not include **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able to**, **be to**, **be able 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be going to, etc., as well? However, Leech has reasons for his approach which have to do with what we call elsewhere (4.1.2.) the 'performative' tendencies of the English modals. This is not the place to go into the details, but we can say at this point that there is a sense in which English has specialised the modal verbs in the deontic area so that they are used mainly to issue mands rather than to talk about them. This means that, as Leech points out (1969: 228), there is a difference between a soldier saying to another:

(204) You must be in by midnight
and,

(205) You have to be in by midnight
Leech points out that (204) is more likely to be said by a soldier in authority whereas (205) is probably uttered by a soldier informing another. For this reason, Leech analyses must as having extra features indicating that the speaker 'causes' the obligation, (1969: 225-9).

In the epistemic area, however, I find Leech's ideas a little odd; perhaps he speaks a different dialect from me, but ideas like:

(p. 221) *(a) Someone has to be telling lies is synonymous with It is impossible for everyone to be telling the truth. (b) Someone must be telling lies is synonymous with It is impossible that everyone is telling the truth.*

seem very idiosyncratic. Prior to this, (p. 222), Leech suggests that (a) implies (b), though it is only fair to say that he adds:

'the difference is subtle enough to make intuition
uncertain'
and further:

'The provisional solution given here is perforce ad hoc, since the distinction just examined has not been noted anywhere else in the language.'

To return to the deontic area, where Leech is on safer ground, we must, I think, accept that there is indeed a sense in which must is used to issue commands, etc. and in which have to is mainly used to talk about them. The time scale with have to is therefore free, hence had to, going to have to, always have to and so on, whereas must, having 'performative tendencies', is restricted to the hic et nunc and is not so free: it is difficult to think of the following as being acceptable:

(206) * I always must deal with it immediately (not, note, must always)

(207) * I must do it yesterday

Similarly, there is a fundamental difference between:

(208) You must see to it tomorrow

and,

(209) You’ll have to see to it tomorrow

(209) could, of course, be meant as an instruction from the speaker and would often be understood as such, but only (208) seems to me to 'urge' that interpretation. Must is, then, restricted normally to the 'performative' present which is why forms like have to and be obliged to are needed to supplet it.

R. Lakoff, following ideas from an unpublished paper by Larkin, also accepts that must is distinct from have to, in
that the speaker who uses must 'goes along with' the obligation, even if he himself is not the originator of it. She says: (1972: 240) 'The speaker's participation in the obligation is one of sympathy'.

This opinion is not accepted by all writers, for instance not by Bouma (1975).

2.12.3. Must and will

These two modals have, at first sight, got similar uses. Both are used in the epistemic area to talk about truth that is rather less than certain but more than probable, and in the deontic area to issue what we may call 'strong' mandates. In reality, however, the two items are specialised and are 'kept apart'; (it was, presumably, failure to 'keep apart' that led to the near disappearance of shall after competition from must.)

In the deontic area, the use of will in affirmative command-type sentences is situationally restricted:

(210) You will leave at once
It seems to be most appropriate in the military context.
It is in this kind of situation that Hare (1971: 55) quotes it. His example is:

(211) Hare will go to Rome

Must on the other hand is a much warmer expression, hence its use in all of the following:

(212) You really must learn to behave
(213) You really must try some of this flan
(214) You must get out at once

By contrast, will in its deontic use is felt to be cold. In
interrogative sentences, on the other hand, the situation is different:

(215) Will you be quiet?!
(216) Will you do as you're told?!

The '?' is not really appropriate here, because of the intonation typically associated with this type of utterance. Note, further that 'I' is possible as a subject with must but not with will (except dialectally):

(217) Must I do that now?

The contrast here is more with shall, used to offer, than with will.

In the epistemic area also the two modals have tended to specialise each in its own domain. Though, as we have said earlier, will is not to be described as a 'future tense' marker, it is certainly the case that will is often used with future reference and must with present and past. Must sounds awkward if substituted for will in:

(218) —I'm going to Mongolia in June.
     —That will be interesting.

Must, on the other hand, is the item to use here:

(219) —He spends a lot of time in Mongolia.
     —That must be interesting.

There are contexts where we can find both:

(220) —He was made a director a year ago.
     —He must/will earn a lot, then (or be earning)

(221) —He's forty minutes late now.
     —He must/will have forgotten.

This is not to say that the two modals are synonymous in contexts where they are both possible. For me, will sounds more confident and matter of fact in (220) and (221), whereas must brings the speaker more into contact with things, using
his judgement based on evidence, etc.

R. Lakoff (1972: 243) also sees will as the 'strongest of the modals'. This means that it is stronger than epistemic must. On the whole, I agree with this judgement, but it should be noted that the following are not acceptable:

(222) * Perhaps he must be arriving soon
(223) * He must probably be arriving soon

in contrast to:

(224) He must certainly be arriving soon

If we substitute will for must in (222) and (223) the results are acceptable sentences. Will and must seem to operate in rather different ways; whereas must can be linked in a system with can and may.

Another point: only will of the two is commonly found in questions:

(225) Will he be here soon, do you think?

This would sound odd with must.

2.12.4. Can and may

The traditional discussion here has taken place about the deontic ('permission') meanings. We can, however, find a number of interesting things in the epistemic area as well, to say nothing of the 'non-modal' uses, i.e. 'characteristic' can and 'sometimes' may. Let us begin with the traditional problem.

This problem arose originally from historical fact, as Traugott (1972: 118 ff. and 170) remarks. The form cunn was used, for instance, to translate Latin scire in Old English and mag was used for posse. The important thing to note here is that originally neither was used for permission.
When **must** (or its historically prior forms) moved along the path towards its modern meanings, **may** (or its historically prior forms) started to occupy its slot so that it is attested in permission uses from the 14th Century, though not usually in performative examples until the 16th, at which time **can** replaced it in the sense of 'have the power to'.

The problem seems to arise from the fact that **can**, in its 'permission' meaning, did not become widespread until the 19th Century, though earlier examples exist. From the above historical survey, partial though it is, we can see that **can** has been following **may** along the same path, that is via 'capability' to 'permission'. If the process were to continue in the same direction, we could expect that **may** would more and more come to mean 'obligation', which already exists, given the right superior-inferior relationship in:

(226) You may go now, Mr. Brown

The objection to **can** is therefore justified by the fact that **may** 'got there first'. If history is any guide, then the objections will carry no weight in the long run, in the sense that they will fail to stop future developments in the same direction.

Does this mean, however, that there is no difference between **can** and **may** when used for permission? I would say that there was a difference, and some other commentators appear to agree. For instance Joos (1964: 180) says that parents present **may** as to be used because **it is 'correct'**,
but the child is 'not fooled' — he knows that may is to do with 'authority'. This kind of attitude is seen also in Leech (1969: 212ff. and 228-9) and in Palmer (1974: 118). Here Leech analyses both must and may as involving the speaker's authority, whereas have to and can do not. We have already discussed this notion with relation to must and have to in the 2.12.2., and accepted it. But there is a difference in this case, namely that can and may are both modal verbs, which is not the case for the other pair of items. I think, nevertheless, that we can accept Leech's point of view once again, though with some provisos. The main test is the time/tense one. Might is not usual, except in reported speech, in the sense of 'had the permission to'. The following is 'indirect' reported speech:

(227) What was it we mightn't do? (i.e. I have forgotten what was forbidden.)

The following seems to me most unlikely in standard Modern English:

(228) In those days, I mightn't speak to the neighbours

These, on the other hand, seem quite normal:

(229) You could cross his land, provided you kept to the footpath

(230) They could stay out until midnight once a week

The difference from have to arises from could's being a modal verb and therefore not available for achievement senses, so that we have to use be allowed to, in such cases as:

(231) After showing my pass, I was allowed to go in

(232) We'll be allowed to see her, once the nurse has changed her bandages

The other difference seems to me to be social: while must
is a warm word, may is a cold one. For this reason, people tend to prefer can, so as not to be thought snobbish, cold or 'stuck-up'. As a result, and perhaps also as a result of the general historical 'drift' that we have already identified, can is increasingly used 'performatively', i.e. to give permission, as well as to talk about it. May, on the other hand, tends to specialise in the 'cold' and authoritative. We may wonder which came first: may becoming 'cold' or can being used 'performatively'. Perhaps there is no final answer, the two processes being mutually conditioned.

We now pass on to a discussion of the epistemic uses of these two modals. Here the distinction between them seems to be a syntactic one, though this may relate to semantic differences as well. The basic fact is that may is used in affirmative sentences whereas can is used in interrogative ones, the contrary, in both cases, being rare, (though this does not apply to can't). As a result, we have in my dialect:

(233) He may be hiding
(234) Can he be hiding?

This is an interesting case of complementary, or near complementary, distribution. Once again, it is difficult to find a satisfactory explanation for this, especially since it does not apply to the remote forms could and might. Personally, I consider it to be a chance fact, though motivated by a tendency to simplify and specialise, which languages often have. The use of the negative form can't would then be
explained by the fact that it is needed in the system, since \textit{may not} is a case of propositional negation, whereas \textit{can't} is a case of modal negation.

Perhaps another possible explanation appears when we consider the other uses of these two modals, 'characteristic' \textit{can} and 'sometimes' \textit{may}. The \textit{can} use is by far the commoner, and it is perhaps because of its frequency that \textit{can} is avoided in epistemic affirmative sentences. Leech confuses the two in his attempt to justify his operator $T$. His examples (1969: 220) are:

(235) The Monsoon can be dangerous
(236) The Monsoon may be dangerous

(235) is an example of 'characteristic' \textit{can}, but (236) is an example of either 'possibility' or 'sometimes' \textit{may}, though the first is more likely. Leech was trying to distinguish epistemic uses, as far as I can tell, and had not clearly identified the very common, and very different, use of \textit{can}. His gloss for (235) shows this, since it uses 'possible for', which is not epistemic, rather than 'possible that', (used for (236)), which would be. If we assume (236) to be epistemic, then clearly there is a tense/aspect difference between the two sentences: only (235) could be changed to the past by using the remote form of the modal; (236) would have to use \textit{may have been}. The force of (235), the menace, if you like, comes partly from the more or less frequent occurrence, which leads to a warning, and partly from characteristics of the subject. My gloss for (235) is something like: 'Monsoon have characteristic - it, from
time to time, be dangerous*. (See further 6.2.5.)

Having, I believe, established that the 'characteristic' use of can is quite different from any epistemic uses, we can proceed to look more closely at the non-epistemic and non-deontic uses of the two modals.

The difficulty here is with 'sometimes' may. It is as though may, at this point, was 'straying' over the line from the epistemic and acquiring a tensable usage. So that the epistemic and 'sometimes' uses can be glossed as: 'there is some possibility - that ...' and 'there are some occasions - when ...' the time in the second accounting for the fact that this use can have a past time equivalent with might. 'Possibly' can then be seen as meaning 'maybe yes, maybe no' when applied to one fact, and 'sometimes yes, sometimes no' when applied to a repeated action or state of affairs.

In general, then, 'characteristic' can still shows the 'potential' meaning of 'capability' can, and 'sometimes' may still shows the 'possibility' meaning of its epistemic counterpart.

2.12.5. Can and be able to

Clearly, these two items are closely linked and can both be glossed as 'have the capability'. This of course does not apply to the epistemic or 'characteristic' uses of can. What about the permission meaning? Could:

(237) He'll be able to come and see you once a week be interpreted as meaning 'will be allowed to'? Possibly it could, though be allowed to would be the normal form. If
this is correct, it shows once again how the introduction of can to the permission area is not, in the context of English, a chance phenomenon: capability and permission are felt to be connected since both involve the notion: *there is nothing, physical or moral, that prevents X*, hence the development of both can and may in this area.

The main distinction between the two items is one of tense/aspect. This partly concerns the remote form could. Could follows the general tendency of remote form modals to be used for non-achievement senses only. As such, a suppletive form is needed to fill in the gap thus left. As a result, although be able to is similar in meaning to can/could, it could scarcely be substituted for them in sentences like the following, (nor they for it):

(238) I could do whatever I liked
(239) I was able to do whatever I liked
(238) would almost certainly be repeated and (239) would most commonly concern achievement on one occasion.

Similarly:

(240) Can you do it tomorrow?
(241) Will you be able to do it tomorrow?

make the same distinction, albeit more subtly. (240) asks whether the possibility is already known to exist and (241) whether obstacles will be absent so as to allow achievement.

This whole question is put into a wider perspective if we consider the use of the similarity between these two items to suggest an identical underlying form for both. Jenkins (1972: 41 ff.) attacks this view, proposed by Langendoen (1970). Besides giving examples like the ones already given
here, Jenkins points out restrictions on passives:

(242) a. John was able to boil water
    b. * Water was able to be boiled
    c. Water could be boiled in less than 15 minutes on the powerful cookers

He also notes that whereas these sentences are synonymous on one reading:

(243) a. The doctor can examine John
    b. John can be examined by the doctor

the parallel sentences with is able to are never synonymous. From these facts Jenkins concludes, in my opinion correctly, that can is not derived from an underlying ABLE and that be able to already has the structure be + adj. in the base.

(See further 5.3.2. and see also Palmer, 1977: 6).

Leech also (1969: 222 ff.) sets up a system ABLE, (though not like Langendoen's which is an element in the base of a Grammar), to handle the ability sense of can. However, this causes problems. He decides that be able to includes the feature 1 \[\overline{1}\], since ability implies possibility and since 'possibility' includes this feature. However, all items which have this feature do so because of a system of inverses, so that, for instance:

'not permitted' is equivalent to 'obliged - not'.

But there is no item in the inverse 2 \[\overline{2}\] slot to correspond to ABLE, so that there is a gap in the following schema:

1 \[\overline{1}\] items: POSSIBLE - PERMIT - ABLE
2 \[\overline{2}\] items: NECESSARY - OBLIGE - ?

What would be the meaning of the item that could fill this last slot? It would have to be something like 'feel unable
not to', 'feel compelled to' and perhaps be lexicalised with have to. But this seems very unsatisfactory. The other candidate is must, which does not have the tense possibilities. The feature 1 \( \neg \) seems to me superfluous at this point.

I have not included a separate section on can versus be allowed/permitted to. It seems to me that the main distinction is, as here, one of tense/aspect.

2.12.6. Could and might

We have already noted in 2.12.4, that the restrictions which apply to can and may in the epistemic area do not apply to could and might. This does not mean, of course, that these two items are identical in all respects. There is, in fact, a large area of overlap, but also some differences which arise from the fact that (a) the negatives are different and (b) might does not have a capability sense. Fact (b) means that:

(244) He could have helped us if he had wanted to
(245) I could lift that if I had a crowbar
are not possible with might.

It is interesting to note that the pedagogues' prescriptions on which item is to be used for permission apply to can and may only and do not affect these two items. We have already remarked in the sub-section on can and may on the past tense/time restrictions on the remote forms, here we are concerned with 'permission' could (= 'would be allowed to') and with the 'suggestion' use.
(i) Permission could

Might is unlikely to be used here, perhaps because the sense of the speaker being involved is not sufficiently clear:

(246) He could have his water-pistol back if he apologised. Might would sound barely acceptable here; it would presumably mean, if it were possible, 'I would permit him to have it back'. This fact follows from the general tendency of may/might to lose their former possibility and permission senses and to specialise in 'performative' permission and '(logical) possibility'. The field is therefore clear for non-actual could to be used for permission as well as for capability.

(ii) Suggestion could and might

As we have noted, (see 2.4.7.), the negative of might is possible:

(247) You might not make so much noise!
'I suggest - not' makes sense, but 'I not suggest', apparently, does not, so that couldn't (rather than could NOT), does not occur. Both could and might occur in the affirmative and with the have -ed infinitive:

(248) He could/might have let me know he was coming!

The greater freedom of might compared to may is presumably due to its being the remote item of the pair. It is able to 'co-exist' with could without difficulty.

2.12.7. Will and be going to

This pair of items is important because of the association of will, traditionally, with 'the Future'. It
then became obvious that the form be going to was also frequently associated with future events. To distinguish it, it received labels like 'immediate future', (French 'futur proche'). In fact, as is so often the case, the distinction between the two items can not be made in terms of time, (more or less immediate future, in this instance), but on the basis of speaker's attitude to what he is saying.

Some of the most perspicacious remarks that have been made on this question are to be found not in a work on general linguistics, but in R.A. Close's English as a Foreign Language (1962: 104-5). After pointing to the fact that be going to frequently emphasises what the speaker wants to say, he gives some useful examples, which we shall make use of here:

(249) (The telephone rings) All right, I'll answer it. (The situation does not require the emphasis. I'm going to answer it would suggest a sequence of consideration, decision, action and ultimate fulfilment, by the end of which the caller would have lost patience and rung off.)

(250) I'm going to answer your letter, point by point. (Here the sequence of forethought, purpose, action and fulfilment is deliberately stressed.)

(251) I'll answer it if you give me time (the conditions which might lead to future action are not provided).

(252) Tomorrow is going to be a busy day (so much has been planned, all the evidence points to it). Yes, it will be a busy day (emphasis not repeated).

(253) Tomorrow will be Tuesday (simple statement of future, with no justification for the stressed form).

Two main points stand out here: first, the use of be going to
for a particular kind of emphasis and, second, its use to suggest forethought or planning or decision, etc. Close’s examples also point us in the direction of conditional sentences (with or without if). Note how awkward

be going to would sound in the following:

(254) If you do that I'll hit you
(255) Don’t do that or I’ll hit you

Whereas, if the decision has already been taken, I’m going to would be normal. This sense of 'knowledge aforethought' is, I think, even more important than the feeling of emphasis. A former colleague of mine, R. O’Neill used Close’s ideas in teaching materials, e.g. in English in Situations (1970). A typical example would be:

(256) Look at those black clouds. It’s going to rain

The evidence of the clouds makes the fact certain - 'planned by nature', perhaps.

Binnick (1971) also wishes to demonstrate that be going to has the idea of 'pre-arranged'. He denies Joos' (1964: 22) analysis of it as 'completely colorless'. He also gives examples with if:

(257) a. If you will do that, I'll ... (getting agreement)
   b. If you are going to do that, I'll ... (assuming that the person is)

He says that 'pre-arranged' is better than 'intentional':

(258) I was going to write to my mother

He also says that will is indefinite but be going to is specific:

(259) a. The man who will rob his saintly grandmother is capable of almost any atrocity
b. The man who is going to ...

Using is going to here implies that the man is identifiable, whereas with will, the implication is that a class of men is being referred to.

A final pair of examples, before we leave this subject:

(260) a. I knew she would leave me
   b. I knew she was going to leave me

(260.a) implies that I knew it, perhaps only subconsciously, a long time before and perhaps before the thought had crossed her mind; the sentence could be expanded by 'one day', 'sooner or later'. (260.b), on the other hand, suggests that she definitely had it in mind to leave me, and that I had realised this. Here, the expansion could be by 'quite soon', 'as soon as she had fixed up another place to stay', 'but couldn't bring herself to make the break', etc.

2.12.8. Would and used to

We have already remarked on the restrictions on would and the consequent greater usability of used to in 2.10.3. Two other points need to be mentioned here. The first concerns the syntax of used to. The form used you to...?, is considered as 'correct', but did you use to ...? ('use' pronounced /juːs/) is probably commoner and sounds less formal to my ears.

The second point concerns whether we can make use of used to to help us decide on the question of sentences like:

(261) He would talk so!

We were concerned in 2.10.4. to determine whether this and similar sentences were to be analysed as 'willingness' or
'habitual' would. If the latter, then the stress on would alone would give the sense of 'ornery-ness' which is typical of such sentences. I think we can see that the following are acceptable:

(262) a. He used to talk so!
   b. He did use to talk so!

On the whole, therefore, the evidence here points towards a 'habitual' interpretation for (259). But since the examples of (262) are perhaps not quite synonymous with the same sentences with would, once again the evidence is inconclusive.

2.12.9. Be to

This item generally has the sense of 'decided on', though differently from be going to. We do not say:

(263) * It is to rain

Typical examples of this item include the past, giving us:

(264) I am to see him tomorrow

(265) They are to report the moment they arrive, do you understand?

(266) If I were to meet her, what should I tell her?

(267) He was later to become Governor-General of Australia

Generally, this item is epistemic in force, to be glossed as something like: 'this will turn out to be so'. However, the feeling of human agency is strong, particularly in examples like (265), so that deontic force is felt to be present in such cases. In the past, as with (267), the feeling is purely epistemic and only facts are involved, not human orders and plans. The modal verbs, as we see elsewhere (3.15.4.) were all in origin items with deontic
force, acquiring their epistemic uses in the course of time. Perhaps with be to we have an item 'going in the opposite direction'.

2.12.10 Various forms dealing with obligation and negation

We have already remarked elsewhere on the difficulties we can encounter, partly because of dialect variation, with the force of the negation in items like haven't to, needn't, etc., (see 2.6.6.). We shall now take a more systematic look at this whole area.

Obliged - not: haven't to, had better not, not supposed/meant to

Not obliged: don't have to, don't need to, needn't, haven't got to

The above are the facts in the standard language as far as I can tell. All the above forms are common in my dialect, with the possible exception of haven't to. The real problem here is 'what to teach'? Since, as we have noted, there is considerable regional variation, students from abroad may well find that local usage is different from what they have been taught.

I shall confine my attention here to cases which involve past time. This immediately eliminates two of the forms, had better not and haven't got to; the following are unlikely if not impossible:

(268) ? You'd better not have gone there. (except in a very restricted sense, = 'I hope you haven't or else ...')

(269) ? You hadn't got to go there

The main problem, then, is to make it clear in what contexts the other forms can be used. This involves the question of
presuppositions - was the obligation present or absent? and - what happened? This gives us four possibilities:

(i) Obliged - not, BUT did: wasn't supposed/meant to, shouldn't/oughtn't to have
(ii) Obliged - not, AND didn't: wasn't allowed to, couldn't (in some cases)
(iii) Not obliged, BUT did: needn't have
(iv) Not obliged, AND didn't: didn't have/need to.
(Though both these are used for (iii) as well).

This whole area of obligation and permission and past time will be returned to in a later section, (see 7.4.).

The confusion in this area is reflected by an example in Grech (1967). She gives a list of common errors involving modals and similar items, which includes the item:

(270) I haven't to call the doctor

It is not clear whether she considers this an unacceptable form, or whether it is simply used to mean the wrong thing. According to dialect it could mean either 'not meant to' or 'don't have to' and is hardly incorrect.

2.12.11. Possible, necessary, etc.

It is well known that the epistemic uses of the modals can usually be expressed with almost identical force by items like possibly, certainly, perhaps, etc. We shall examine a number of facts in this area.

First of all, it needs to be said that, just as the modal verbs function in both the deontic and the epistemic areas, so do some of the adjectives. These two can be interpreted as concerning obligation and permission, respectively:
(271) It will be necessary for you to make a full report

(272) It is possible for her to bring up to 100 kilograms of luggage

The main indicator here that the deontic area is involved is the for to construction; if that were used, then the examples would be epistemic, unless we could find a place for the rather archaic subjunctive of:

(273) It is necessary that he understand what he must do

The above facts only apply to the adjectives; sentences with adverbs cannot receive deontic interpretation:

(274) He will possibly do that

Also, the adjectives used are limited in number; we do not find, for instance probable or certain used in the deontic area.

The next point is a syntactic one, and concerns 'raising':

(275) He is certain/likely to come

(276) * He is possible/probable/necessary to come

Some of the adjectives permit raising, while others do not.

Or a different fact, noted by Anderson (1973: 164):

(277) There is a possibility of ...

(278) * There is a certainty of ...

Anderson also points out some of the restrictions on quantifiers, (p. 173):

(279) a. Nobody is certain to pass the test
    b. * It is certain that nobody will pass the test
    c. It is not certain that anybody will pass the test

(b) is starred here because it is not the equivalent of (a).

These restrictions should not surprise us particularly; after all, we have found a number with the modal verbs - on
the use of *may* in epistemic interrogative sentences, for example. However, the restrictions here are quite different, and show, once again, that the modal verbs are in a system by themselves. This does not mean that it is not useful to compare the various systems, far from it; students can be led to a better understanding of both areas by a comparison of them, or by a use of one area, already acquired, to teach the other. But the irreducible nature of the modal verbs, insisted on, amongst others, by Joos (1964: 148), needs to be stressed.

The adverbs in this area also form a group which has its own special characteristics. These are noted, for example, by Schreiber (1971) who identifies a class of 'modal adverbs' such as clearly, obviously and apparently which are distinct from 'evaluative adverbs' like unfortunately or regrettably (see 1971: 88 for lists). Schreiber also notes the restrictions on negative modal adverbs like impossibly, inconceivably (p. 95) (see also Schreiber, 1972, for other interesting remarks).

The general point to be made here is that, although certain items, like possible, certain and necessary are fairly easily linked to the modal verbs, (indeed, I use them at numerous points in this work,) it is nevertheless important to remember that each of the two systems has its own particularities. I shall finish here by pointing out an advantage that each system has over the other. The modal verbs, for their part, are often much 'neater' and more succinct than the adjectives/adverbs. A form like
it can't have been is 'neat' compared to it is not possible that it was. On the other hand, gradations are possible with forms like very possibly, quite likely, more or less certainly which are not possible with the modal verbs without additions of the very same items, as in may quite likely.

2.13 EFFECTS OF NEGATION ON MODAL VERBS

2.13.1. The System

It is when we look at negation that we appreciate best the way in which the various modal verbs are interrelated in a system. This is because, in any one case, negation can apply either to the modal verb itself or to the following proposition. This can be illustrated clearly in the case of can. We can distinguish:

(280) a. I can't come
    b. I can NOT come

If, then, we gloss the meaning of can here as 'possible', we see that (a) is to be analysed as 'not possible' and (b) as 'possible-not'. Most modal verbs, however, do not allow this two way negation and it is this which allows us to see their interrelation, since one modal verb has to act as suppletive form for another, since that other has already exhausted what we may call its 'negative possibilities'. An example will make this clear:

(281) a. You mustn't tell him
    b. You needn't tell him

If we analyse must as 'obliged to' then (a) is to be analysed as 'obliged-not to' (propositional negation) and (b) as 'not obliged to' (modal negation). Needn't can then be
seen as a suppletive form for \textit{must} which only has one 'negative possibility', since saying \textit{must NOT} does not change the sense as it does with \textit{can NOT}.

Foreign learners find this a difficult area because of the complexities of the modal system. A typical error would be:

(282) I must not cook for myself
meaning 'I don't have to'. Or, they are confused by the fact that the words \textit{may} and \textit{can} both have to do with possibility but their negatives are distinct.

We can divide the modal verbs into three groups for the purposes of this discussion:

- **Group 1.** \textit{Must}, \textit{may/might}, \textit{can/could}, \textit{need}
- **Group 2.** \textit{Should/ought to}
- **Group 3.** \textit{Will/would}, \textit{shall}

\textbf{2.13.2. Group 1}

This is the group in which the 'negative possibilities' are greatest and in which English has made greatest use of a suppletive network of items. The basic items in our analysis are:

\textbf{Deontic:} obliged, permitted

\textbf{Epistemic:} (logically) necessary or certain; possible. (We shall use 'certain' here, to avoid the ambiguity of 'necessary').

Given these items, we can give four possibilities for each of the deontic and epistemic systems, using one negative in each case. (What happens when TWO negatives are used we shall leave aside for the moment).
Here are the two systems, with the commonest modal forms used to realise them:

<table>
<thead>
<tr>
<th></th>
<th>Deontic</th>
<th>Propositional negation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Modal negation</strong></td>
<td>not obliged: needn't</td>
<td>obliged not: mustn't</td>
</tr>
<tr>
<td></td>
<td>not permitted: mayn't, can't</td>
<td>permitted not:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>can NOT, needn't</td>
</tr>
<tr>
<td><strong>Epistemic</strong></td>
<td>not certain: needn't, may not</td>
<td>certain not: can't</td>
</tr>
<tr>
<td></td>
<td>not possible: can't</td>
<td>possible not: may not</td>
</tr>
</tbody>
</table>

The above tables raise a number of interesting questions. First of all, there is the case of needn't. Its status in the epistemic system, as we saw (see 2.6.3.), is somewhat marginal, but as a deontic item it is essential. This is clearly why English adopted it in the first place; as a 'gap-plugger'. The second possibility with can, that is can NOT, is felt to be awkward, and so needn't serves in the 'permitted-not' slot as well.

This leads us to our next point, the difference between the epistemic and deontic negations of may. In the deontic area, the negatives of may and can have the same force. It is no doubt for this reason that needn't is used for the 'permitted-not' slot. In the epistemic area, however, can't and may not are distinct. This then allows may not to fill not only the 'possible-not' slot, but also the 'not certain' one, which is presumably why needn't is somewhat rare with this meaning. The other interesting thing here is that mustn't does not occur in Standard English at all in the epistemic area, hence the double occurrence of
can't in the epistemic table. It should be stressed that this is a fact of the standard language only. I have noted speakers from a wide area of the English speaking world using forms like:

(283) I mustn't have seen that film before

The gap therefore seems rather strange. Perhaps English shows a tendency here to economise on forms and to use the minimum necessary, so that the deontic area can be handled with three forms, (mustn't, needn't and can't - mayn't being less and less used in Modern English as Palmer, 1974: 118, says), and the epistemic area with two forms, (can't and may not).

The other point that needs some comment here is the fact that, whereas deontic may not can, in many dialects at least, be shortened to mayn't, this is less common in the case of the epistemic item. Barbara Strang, remarking on this, (1967: 317-21) talking about Palmer's (1965) remarks on the subject, says that in her idiolect there are two distinct shortened forms, /meint/ and /meînt/, the first being deontic and the second epistemic. I have since found one other speaker who makes the same distinction. The intriguing thing, for me, is the way in which these idiolects manage with great economy of means, simply a little /ə/, to indicate the difference between modal negation, (no /ə/), and propositional negation, (use of /ə/). This method seems entirely appropriate.

So far, we have not remarked on the other two items in group 1, mightn't and couldn't. In the deontic area, the positive forms are used for suggestion, as in:
(284) You could/might try phoning him (may also be said peevishly)

It seems to me that could NOT is unlikely, though possible and that couldn't is quite unacceptable, being kept for 'capability' and 'sense' contexts. Might not seems more likely than mightn't and occurs in cases like:

(285) You might not shout so loud!

I think we have to analyse this as 'suggest (or 'urge' or 'wish') - not', which is interesting, since we do not find the non-remote may not in the corresponding slot, i.e. 'permitted not'. The two items seem to have 'parted ways' at this point, just as shall and should have in a more general way. I do not feel competent to say how this happened, but I am willing to speculate that may not (later also mayn't) did not originally mean 'not permitted' but rather 'permitted not'. Only a historical study could show whether this is justified.

In the epistemic area, the situation is clearer. Might not means 'possibly not' and couldn't means 'not-possible', in each case similar to the negative of the equivalent non-remote form.

Further remarks about the negation of the group 1 items can be found in discussion about other items like hasn't to, doesn't need to, etc. See 2.6.6.

2.13.3. Group 2

There are no problems with the two items here in the deontic area:

(286) You shouldn't/oughtn't to do that

clearly means 'obliged ('urged', 'advised') - not'.
obliged' would be *needn't*, as in Group 1.) In the epistemic area, however, the correct analysis is more difficult to see for:

(287) He shouldn't/oughtn't to be coming until tomorrow

Does this receive the analysis 'expected - not' or 'not expected' or, alternatively, 'probable - not' or 'not probable', and does it matter? It seems as though there is not much difference in force between the two versions of the glosses we have given with *expect* and *probable*. It is certainly the case that it far less important which order we put the negation and the other item in than it was in group 1. It is difficult if not impossible to posit a set of inverses when dealing with 'probable', while it is easy with '(logically) necessary' and 'possible'.

2.13.4. Group 3

As with the epistemic area in group 2, it is difficult here to set up the neat tables we had in group 1. Consider the following exchanges:

(288) -Please don't tell her.
     -All right, I won't.

(289) -Please tell her.
     -No, I won't.

(Similar examples could be given for *Wouldn't*). The analysis must change here according to the context, so that *won't* is analysed in (288) as 'willing - not' and in (286) as 'not willing'. 'Not willing' is probably the basic analysis as is seen if we take examples like:

(290) The handle won't turn
(291) He wouldn't help us
Without context, as in these examples, the force is clearly that of refusal. But the fact that context can lead us to modify the analysis is surely relevant.

Let us now look at the epistemic area. How shall we analyse these?

(292) As far as I can guess, he won't be coming
(293) He wouldn't have come unless we had asked him

Here, the basic analysis should, I think, be with proposition-al negation, rather than the modal negation we preferred for the deontic area meaning. This gives us 'predict - not'. However, once again, the opposite analysis, 'not predict', makes good sense as well.

(We have not mentioned shall here because of its increasingly vestigial nature. The analyses would be 'not willing' and 'predict - not' here also).

So, to sum up, the position is that there are some points at which the order of modal element and negation is extremely important and others at which, although one analysis is to be preferred, the decision is less important. This begs a big question, however. Is it not important simply because it is not lexicalised or are there more general grounds for the clear distinctions made by the group 1 modals? This is a philosophical question as much as a linguistic one.¹

¹While on the subject of negation, we should mention that for Halliday (1970: 333) modal negation in the epistemic area does not exist, only denial that something is possible/certain.
2.14. THE EFFECT OF DIFFERENT INFINITIVES ON THE MEANINGS OF MODAL VERBS

2.14.1. General

The main items of interest here are the be -ing and have -ed infinitives. Modal verbs are all ambiguous and, without context, this ambiguity appears clearly with a simple infinitive, so that:

(294) He must catch the bus

...can either mean 'I oblige him to' or 'I am certain that he does'. What we are concerned to find out here is whether changing the infinitive makes any difference, that is to say whether, in the absence of context, one interpretation seems more likely than another or even whether one interpretation becomes impossible.

2.14.2. Modal + be -ing infinitive

The main effect of this infinitive is to make the epistemic meanings more likely than the deontic ones, especially with the non-remote modals. Consider:

(295) You must/may/can/shall be doing it when I come back

...Clearly, it is possible to give all these a deontic interpretation, but, equally clearly, these are not very frequent sentence types. This is because the action or event mentioned in the infinitive following a non-remote deontic modal is normally to be accomplished subsequent to the issuing of the mand signified by the modal. The association of the be -ing infinitive with the future, is, of course, quite normal, but it does seem a little strained when put after a non-remote modal verb with deontic force.
With the remote modals the situation is different, because of their use in counterfactuals, (among others). As a result, a deontic sense is quite normal:

(296) You could/should/ought to be paying attention
(297) You needn't be working so hard

Might in its suggestion sense is a little more difficult to exemplify:

(298) You might be paying a little attention!

Here the time is normally present, (though future is not excluded), since the remote modals allow for a wider time range than the non-remote modals, which are normally of the type: "mand issued as of now - action to be completed at later time".

When they are not counterfactual, the remote modals can still have deontic meaning but the time is then future and the same difficulties arise as with the non-remote modals, so that it is difficult to interpret the following as deontic:

(299) ?You should/ought to/could/might be writing a letter tomorrow

The following is possible:

(300) You should be working hard when I get back

With epistemic force, on the other hand, all the modals seem to function quite freely, unless, like needn't, they do not often have epistemic force:

(301) He must/may/could/might be making a big mistake
(302) I should/ought to/will/shall be hearing from him soon

The time can be either future or present, (provided the right lexical item is chosen.)
2.14.3. Modal + have -ed infinitive

With this frame we meet the same effect as with the preceding one, that is that the non-remote modals only occur with difficulty with deontic force:

(303) You must/shall have finished it before I return
It seems very difficult to find examples with can or may.

Once again, it is perfectly easy to find counterfactual examples with the remote modals, so that the following is quite possible:

(304) You should/ought to/could/might/needn't have done that

Here the time scale is past, which is possible with the remote modals because of their counterfactual potential, but not with the non-remote ones, which, as we said when discussing the continuous infinitive, issue a mand to be accomplished later. Again, the remote modals are difficult to exemplify if we take the time scale as future, (and abandon the counterfactual):

(305) You should have made a start by this time next week is possible. Perhaps the reason for the difficulty of finding convincing examples is due to the fact that we do not often want to instruct, permit, etc. people to have finished something by a future time. The whole 'future perfected' notion is rather over-complex and tends to be avoided.

Epistemic examples are easy to find and can refer to the future as well as to the past:

(306) You should/ought to/will/might have heard from him by next week

(307) You must/could/may/will have seen her in the street
2.14.4. Summary

To sum up, infinitives other than the simple one occur freely with the epistemic senses of the modals and with the deontic senses of the remote ones when counterfactual in force. There are, I think, two reasons for the ease on the one hand and the difficulty on the other:

(i) the function of the epistemic uses of the Modals is to attach a truth value or estimation to a proposition and the time scale of this proposition is irrelevant, so that we can say all of:

(308) I feel certain that - it happened/it is happening/it is going to happen

(ii) The function of the deontic uses of the Modals, except the remote uses when counterfactual, is to issue a mandate (permission, obligation, etc.) whose realisation, in the nature of things, must take place later. You can't tell someone to do something in the past, you can only tell him he was supposed to do it - hence the counterfactual uses with their freer co-occurrence with different infinitives.

2.15. THE EFFECT OF CHANGING FROM AFFIRMATIVE TO INTERROGATIVE

2.15.1. General

One effect of using an interrogative structure, as opposed to an affirmative one, is as expected. Clearly, we give permission to others, not to ourselves and we request permission for ourselves of others. As a result, permission may tends to be used with you in the affirmative and with I
in the interrogative. The situation with must, should and ought to is similar. These facts are part of pragmatics, which affect all items in the vocabulary of any language; the reverse works, for instance, with I think/do you think?

2.15.2. Restrictions

The main restrictions seem to be on the epistemic uses of the modals. The only items which operate easily in this area are the 'possibility' and 'inference' ones:

(309) Could that have been John?
(310) Can he be trying to trick us?
(311) Might he be willing to discuss it, do you think?
(312) Will that be next week?
(313) Would it be easier if I changed the date?

If we try to insert, in place of the items used, any of the others, i.e. must, should, ought to, need or even shall, we find that it is difficult, if not impossible to give an epistemic interpretation, or indeed any interpretation. The analysis for the 'inference' modals, will and would, is simple: the speaker asks the hearer whether or not he predicts or infers something. The interesting thing is to decide why the 'possibility' modals are easy to find examples for, whereas the 'probability' and 'logical necessity' ones are not. The fact seems to be that, when we use the 'possibility' items in interrogatives, we are putting forward an idea tentatively, a position which makes the stronger items inappropriate. In cases where these stronger items are possible, such as:

(314) Need it be happening tomorrow?
then the force is rather that of the speaker 'picking up' something that has been said, or at least has been suggested or implied by someone else, and is querying it. Perhaps these facts come from general pragmatic conditions and are therefore not particularly interesting facts of English alone. Certainly, it is difficult to use *devoir* epistemically in the interrogative in French.

There are no such restrictions on the deontic uses of the modals. The only ones are those on subject pronouns we noted above. Otherwise, we can find many examples:

(315) Must/need/should/ought (I) to/can/could/may/might I give the full facts?

(316) Will/would you be quiet? (or!)

2.15.3. Negative questions

Negative questions are a rather special case. Seuren noted this (1969: 134 ff.), which is why he put forward an extra Sentence Qualifier, over and above those for affirmative, interrogative and imperative sentences: this is 'SUGG', the force of which is to put forward an idea, rather like *nonne* and *num* in Latin. The modals seem to occur in this type of sentence most easily in their deontic uses:

(317) Can't/couldn't/mayn't/mightn't I have a brief word with him?

(318) Won't/wouldn't you help at all?

(319) Mustn't/needn't/shouldn't/oughtn't (I) to I write a full report?

In the epistemic area, *may* and *might* seem to prefer their unshortened negative forms:

(320) May/might he not be trying to tell us something?
In general, here as with the positive interrogative cases, it is the 'possibility' and 'inference' items which occur, rather than the 'probability' and 'logical necessity' ones:

(321) Can't/couldn't it be a little closer than that?
(322) Won't/wouldn't that have been in June?

2.16. THE EFFECTS OF 'IF' ON MODAL VERBS

The most important effect of using if with modal verbs is that it allows us to distinguish between the 'inference' and 'willingness' uses of will and would. There is no need to return to this fact, which has already been treated, (see 2.9.3.).

However, this leads us on to a more general question. With will and would, the epistemic meaning is excluded and the deontic one occurs. If we look at other modals, we see that this seems to be a fairly general phenomenon. If we exclude special cases like 'subjunctive' should, as in:

(323) If I should die.... (= were to)

then we find that epistemic uses are barely acceptable, if not impossible, with if. It should, of course, be stressed that if itself is an ambiguous item. One of its senses can be glossed as 'given that':

(324) If he left on time, why didn't you?

This use often, though not exclusively, occurs with past time contexts.

(325) If he's going to play his part, why won't you?

would be a future time example.

However, the ambiguity of if is not very important here.
Whichever interpretation is possible, or preferred, the
deontic and non-modal meanings predominate:

(326) If I must/needn't wait, why have you got to?
(327) If I may/might/could put in a brief word here, ...
(328) If I can/could finish it, so can/could you
(329) If they ought to tell the truth, so should you

Perhaps the easiest items which could receive epistemic
interpretation are could and might:

(330) If it could/might be due next week, what are you
doing about it?

The following seem less acceptable:

(331) If it must have been John, why didn't you tell me?
(332) If it may be getting dark in an hour, why don't we
hurry?

Again, we can only speculate as to the reason for this
pattern of usage. Probably, the word if, being hypothetical
in force, that is querying about truth value, does not occur
easily with the epistemic uses of the modals, which also
deal with truth values at the 'less than fact' level. One
can hypothesise about facts or one can give an estimation
of their likelihood, but not both.

2.17. SUMMARY OF THE EFFECTS OF REMOTE FORM

Apart from the use of the remote form in reported speech,
where it can be said to be 'commanded' by the reporting verb's
tense, the remote form is used as follows:

(1) to indicate past time. The meaning tends to be
  'non-achievement', hence the restrictions on could
  and would but not on their negatives. Might and
should are extremely rare as past time equivalents to may and shall.

(ii) to indicate various kinds of 'non-actual' sense, of which the main types are:

(a) Polite. E.g. Might I? for may I?

(b) Tentative. E.g. It might be instead of it may be.

(c) Counterfactual. E.g. You might work a bit harder. (May is inappropriate here.)

2.18. THE REMOTE/NON-REMOTE PAIRS

2.18.1. General

As we have said elsewhere (2.5.2.) must was originally a preterite form and, since it has lost that nature, it has 'adopted' should and ought to to fill the gap. As a result, shall and should are only felt to be a pair in cases where the 'first person shall, other persons will' rule is followed. Therefore, our discussion here concerns mainly the pairs can/could, may/might and will/would.

What we are concerned to do here is to say, for each meaning of the non-remote modal, whether the remote form refers to past time or whether it has the effect of making the item non-actual - or both.

2.18.2. **Can/could**

The meanings we identified for can were:

1. j Capability. Could can be both past time:
   
   He could do that in those days

   and tentative:

   He could do that if he tried
2. Permission.

Could can be both past time:
   I could come and go as I pleased
and tentative:
   You could go in if he allowed it

The suggestion use of could is related to this tentative one:
   You could at least try!

3. Logical possibility.

Non-actual could only:
   It could be going to rain


Past time could is possible:
   He could be very charming

Non-actual is less certain:
   ?It could be very snowy there. (i.e. you might find it so)

5. Sense.

Could can be both past time:
   They could smell burning

and non-actual:
   I could hear it better if you turned up the volume
(Though we questioned the validity of the non-actual, since it sounds like 'lack of capability'.)

2.18.3. **May/might**

The meanings were here:

1. Permission.

**Might** does not refer to past time, (except in reported speech), and so only the non-actual is likely, and then only in the suggestion use:
   You might try phoning her
(Conditional permissions like: **You might do that, if you**
asked politely are most unlikely in my dialect.)

2. Logical possibility.
   Only non-actual:
   It might happen next week

3. Sometimes.
   Only past time:
   In the mornings, he might rise at eight or not until nine

2.18.4. Will/would

   Here we have:

1. Willingness:
   This can be past time, if insistence/'ornery-ness' is involved (but see 2.18.8.)
   He would always shout!
   It wouldn't budge an inch
   and also non-actual, if ordinary willingness is involved:
   I would help you if I could
   -or when pleading:
   Would you please be quiet?!

2. Inference.
   Only non-actual is possible:
   She would be 21 now, I think

3. Habitual.
   Only past time is possible:
   He would normally take the bus

2.18.5. Summary for epistemic cases

   We shall now attempt to bring together the essential facts from the above data. The main point to note is that the epistemic meanings do not have a past time equivalent using a remote modal. If one wished to refer to past time, one would have to use the have -ed infinitive. We shall explain this fact by saying that the epistemic modals are,
by their nature, tied to the *hic et nunc*, that they are by definition 'performative' (in one sense of that term), and that the use of the *have -ed* infinitive reflects the fact that the past time is contained in the event or state expressed in the infinitive, and not in the modal. The analysis for, for example, *may have been* is 'is possible - that was' and not 'was possible - that is/was'. (See further 4.2.2.)

This gives independent grounds for making the distinction between the deontic and the epistemic areas. They can be seen to be distinct because their different natures lead to different syntactic results.

The meanings concerned for the three pairs dealt with are: 'logical possibility' *can/could* and *may/might* and 'inference' *will/would*. What we have just said does not mean of course, that the remote modals cannot be used to talk about past time when used in their epistemic senses. But in those cases the meaning of the modal is non-actual and the past time is referred to by the perfect infinitive, just as with the non-remote modals; *might be last year* is unacceptable - *might have been last year* is correct.

2.18.6. Summary for non-epistemic cases

We now look at the other uses of the three pairs. Clearly we must make two further distinctions here, between those modal uses which are strictly deontic, i.e. have to do with permission, obligation, and other 'mands', and those which are not, and, secondly, between those deontic uses which are utilised to *issue* mands and those which are used to *talk about* mands. The deontic uses are 'permission'
can/could and may/might and 'willingness' will/would. We shall deal first of all with the other uses, i.e. 'capability', 'characteristic' and 'sense' can/could, 'sometimes' may/might and 'habitual' will/would.

The main point to note here is that all these uses involve the subject in the meaning of the modal; they are what Anderson (1971: 81 ff.) calls 'internal' uses of the modals. In this they are different from both the epistemic modals, in which the sense of the modal concerns speaker-judgement and not the subject of the sentence, and from the performative deontic uses of the modals, in which the modal indicates, or helps to indicate, that a mand is being issued by the speaker, and 'imposed upon' the surface subject of the sentences.

So, in these cases, the uses of the modals are closest to those of other verbs of the language, which also refer to actions, events, states and thoughts that are 'internal' to the subject of the sentence. For those other verbs, there is usually no question of their not being able to use their preterite forms to refer to past time; nor is there any such question here. The only use that presents any problem is 'sometimes' may/might. Here, the modal does not really refer to some characteristic of the subject, but rather to the fact that some action of his is accomplished sometimes. So, it really, like an epistemic modal, applies to the whole predication. However, like 'habitual' will/would, it does involve time, rather than epistemic or deontic notions, and is therefore best classified with this group.
We shall now consider the deontic area. Here the distinction is between 'mand-issuing' uses and the rest. The mand-issuing uses involve the speaker giving or asking for permission or making suggestions (can/could and may/might) or expressing williness and insistence or making requests and pleading (will/would). Once again, we find that such uses cannot use the remote forms to express past time. This is as we would expect: one cannot permit or request someone to do something in the past; one can only react favourably or unfavourably to his having done or not done it. So when we do find a remote modal used in the deontic area to refer to past time, we can be sure that it is being used to talk about mands rather than to issue them. In this connection we note that might is no longer used in Modern English, (except in reported speech), to talk about what was permitted or not.

The following seems barely acceptable:

(333) He might go whenever he wanted. (unless taken as a conditional?)

This means that the may/might pair has gone the furthest of these three pairs along the path of what we call 'performativization', (see 4.1.2., 4.1.4. and 4.2.2. for more details), that is to say they are only used to issue mands and to make epistemic judgements. (The only exception here is the 'sometimes' meaning.)

The other two pairs (can/could and will/would) do produce past time deontics, but we shall notice that these, like the previous group of meanings we dealt with, ('capability' can, etc.), are 'internal' in their use. So
that when we say:

(334) He would talk so!

we mean, 'he personally insisted on talking so much' and not 'he was desired/requested by others to talk so much'.

Similarly:

(335) He could leave whenever he wanted

means 'he had the permission' and not 'he was thereby empowered'. So we cannot 'make past' sentences issuing

mands like:

(336) You will leave at once! (Would makes no sense)

(337) You can leave at once. (Could would involve a

suggestion)

This means that the non-performative deontic uses are free

of various constraints. We will not normally find 'I' as

the subject of a permission can sentence, so that:

(338) I can leave at once

will normally be interpreted as being 'capability' can,

since I cannot empower myself to leave, and since the 'at

once' makes it unlikely that the permission already exists

and can therefore be talked about. But:

(339) I could leave whenever I wished

with its possibilities of repetition, is acceptable in this

sense, since non-performative, and can be interpreted as

capability or permission.

We have already noted when talking about the effect of

the perfect infinitive when used with the modals (see

2.14.3.) that the non-remote modals when used deontically

only rarely occur with this infinitive, and then only to

refer to future completed actions, as in:
You must have cleaned this room before she gets back.

We also noted that the remote modals could occur with perfect infinitives, in this case, they can be used in sentences which refer to past events and their force is then to react to past events, so that, for example:

You needn't have done that implies that you did do it and this this was not obligatory.

This allows us to sum things up as follows:-

2.18.7. Summary for all cases
- Non-remote modals only occur in sentences which include past reference if there is a perfect infinitive, as in it may have been true in which case they are used epistemically.
- Remote modals occur in sentences which include past reference in the following ways:
  (i) when they themselves have past time reference when their meaning is neither deontic nor epistemic, (e.g. 'capability' can) or when the meaning is non-performative deontic, as in (334) and (335) above.
  (ii) when they are non-actual in force and the past time is carried by the perfect infinitive. This occurs as for the non-remote modals and also in counterfactual deontic sentences and sentences with 'capability' could.

From the above it follows that one of the 'most ambiguous' forms is could. This can itself have past time sense in the 'capability', non-performative deontic ('permission'), 'characteristic' and 'sense' uses and with a perfect infinitive a form like:
You could have done that could receive the following interpretations:
- were able to but didn't
- were permitted to but didn't
- (peevisishly) I wish you had but you didn't (suggestion)
- maybe you did, maybe you didn't

(None of this list include future time possibilities, which exist if we add 'by tomorrow'.)

Palmer (1977) points out that could have is even more ambiguous than we have accounted for here. His principal examples (p. 7) are:

(343) He could have jumped six feet, if he'd trained hard
(344) He could have jumped six feet, if he'd wanted to

Palmer says of these:

'The first says (roughly) that he would have acquired the ability (but did not), if he had trained hard; the second says (again roughly) that he had the ability, and that he would have exercised it (but did not), if he had wanted to.'

In other words, what Palmer calls 'unreality' can apply either to the ability or to the 'event'. By 'event' Palmer means what we have called the proposition, in this case 'he jump six feet'. It is, of course, the case that in both examples the 'event' is not 'actualized'; but the causes of its 'non-actualization' are different. If we take an example with 'even if', the sense of could have in (343) is not possible, as we can see:

(345) He could have jumped six feet, even if he'd been bare-foot

Here, the sense of 'would have acquired the ability' is clearly nonsense.
2.19. PROVISIONAL CLASSIFICATION OF MODALS

2.19.1. General

Our discussion in the previous sections now allows us to give a classification for the modal verbs of English. We shall see later, after examining the French verbs, whether any modifications are needed to this classification, (see section 3.15).

There seem to be three main groups:

2.19.2. Non-modal

This group is identified in contrast to the other two. Its items often deal with repeated actions or events. The other items are 'capability' and 'sense' can. 'Sense' can also is involved with time, and can be interpreted as being the equivalent of a continuous form, (can see rather than *am seeing). If this is accepted, we have a distinction between 'capability' can and the rest. This gives us:

(i) 'Capability' can/could

(ii) The 'time' uses: 'characteristic' can/could, 'sense' can/could, 'sometimes' may/might, 'habitual' will/would.

For all these, remote form is used for past time.

2.19.3. Deontic

This group has to do with ideas such as permission and obligation which are often termed 'mands'. All the forms can be used to issue or 'go along with' mands but some can, in addition, be used to talk about them. Those which are only used to issue mands are the most 'performativized' ones. In the following list, I have separated the two groups;
(i) Used 'performatively' only: 'obligation' must, 'obligation' should and ought to, 'permission' may, 'suggestion' could and might, 'promise' shall, 'obligation' need, (the modal only)

(ii) Used both to issue and to talk about mands: 'permission' can/could, 'willingness' will/would.

In (i) past time can only occur with remote modals, (which includes need), if there is a perfect infinitive following. In (ii) the remote modals can be used for past time, (though not in achievement sentences).

2.19.4. Epistemic

This group has to do with such traditional logical notions as 'possibility' and 'logical necessity'. Each item is used to express speaker's judgement at the time of utterance (or, in interrogatives, to ask the hearer for his judgement).

Here is a list:

'necessity' must
'necessity' should and ought to
'necessity' need
'possibility' can/could
'possibility' may/might
'inference' will/would
'inference' shall/should (standard language, 1st person only)

For all of the above, past time can only be expressed by a following perfect infinitive, since the sense of the modal is attached to the performative hic et nunc of the moment of utterance and of the speaker.

2.19.5. Non-modal comments

Our choice of the term 'non-modal' for the first group
needs some comments. In English, at least, various verbs have been developed historically to refer first of all to the deontic and then to the epistemic areas. In 2.19.6. I shall give a fuller account of my ideas on a semantic definition for the term 'Modal verb' or 'item'; here all that is needed is the idea of 'progression' up to and including the epistemic area. This definition, of course, includes items like supposed to which are not normally classified as modal verbs. However, for the time being we shall call 'non-modal' any meaning of any item which falls outside the deontic or epistemic areas.

2.19.6. Justifications for historical approach

The next point concerns the history of English. It may be thought strange that in a survey of this area whose original motivation was from the teaching of the modern language, and which is, therefore, primarily synchronic in approach, it should be found useful to mention the history of the language. I personally find this enlightening, however, and have not hesitated to refer both to the purely historical approach of Traugott (1972) or to the general, 'how-things-develop' approach of Fries (1927). The point is that this approach allows us to predict, not accurately, but in general terms, how the modal system of English is likely to develop in the future. It also allows us to identify those languages which have a similar approach to the selection of what we may loosely call 'modal items' and those which take a different approach, e.g. in not linking the deontic and epistemic areas in the same way, or, indeed, at all.
What I wish to suggest here is that, generally, English has proceeded as follows:

1. It selected various verbs whose original meaning was what we have called 'non-modal', e.g. will = 'wish', 'want'; can = 'know how to'. These it used initially in the deontic area, but without 'performative' meaning, that is, with 'internal force' = 'subject is permitted/willing etc. to do \( \neq \) \ldots'.

2. Fairly quickly, the performative force developed, since telling someone that they are permitted (etc.) to do something is felt to be equivalent to giving them permission.

3. Fairly soon after this, the epistemic use of each modal was developed. Probably, later 'recruits' to the modal area acquired it simultaneously with stage 2, since English had by then already established a firm link between the deontic and the epistemic areas. Items which have completed this stage 3 can rightly be called 'modal items', since 'modal' has to do with 'modality', which has to do with 'epistemic'.

4. Early recruits to the class of 'modal items' probably already had distinctive syntactic properties. Their historical development brought other features, such as no 3rd. person singular -s. Later recruits to the class (ought to, etc.) have tended to copy some, though usually not all, of these features, whether morphological or syntactic.

5. The English 'modal items' of ancient date have tended to specialise the performative force in the deontic
area and to abandon the 'internal' deontic force progressively and also any non-modal uses. In such cases, remote forms could no longer have past time reference since they were now only performative, (in the epistemic area by definition, since that always deals with 'speaker-now' judgements, and in the deontic area through historical development). Items which have reached this point, can be thought of as the 'most modal of modals'. They include must, ought to, should (discounting cases when it is the equivalent of shall), need (when a modal verb) and may/might (discounting the 'sometimes' use). The 'less modal' items include the pairs can/could and will/would, dare (which has didn't dare and dared not) and all other marginal items such as have to, be able to, etc.

It should be noted that the above classification allows us to judge how far any item has progressed along the path. For instance have to is used in the USA with epistemic force extremely frequently and has therefore reached stage 3 and qualified for the status 'modal item'. This status could be denied it in most varieties of British English.

We have avoided the term 'modal verb'. The characteristics mentioned in stage 4 are those which have allowed various writers to identify a class in English of items called 'modal verbs'. However, since our interests here are more semantic than syntactic, we are more interested in the way in which some of the verbs concerned have become 'performativized'. In this respect, ought to, while it has kept the to, is further along the path than can, which
has all the characteristics mentioned in stage 4, since it (ought to) has reached stage 5.

We shall comment further on these five stages after examining the French items, (see 3.15.).

2.19.7. 'Drift'

The other historical tendency which interests us here is what I shall call the 'weak-to-strong drift'. Traugott (1972: 70-72, 114-118, 168-170 and Appendix A 198-199) discusses various facts which indicate that such a drift has taken place. The essential facts have to do with the permission/obligation area and are as follows:

(i) must, whose ancestor referred to permission, gradually came to be used to refer to obligation. Shall became displaced, as a result, and now sounds archaic in Thou shalt not kill, etc. Must also took over its remote form should for non-actual (conditional) 'obligation' and also for (conditional) 'logical necessity'.

(ii) May, whose ancestor meant something like 'be able to' took over from must as the main item for permission. It has since tended to become 'performativized' and increasingly formal. Traugott suggests that this is how must became used for obligation, i.e. in contexts like You may go now, said by superior to inferior. However that may be, it is this very formal nature of may which allowed ---

(iii) --- can to enter the permission sphere, from its original 'know how to' and later 'be able to' (in which it had already replaced may).

The drift is called 'weak-to-strong' because of the movement from permission to obligation. We can speculate as to
whether this drift will continue. If it does, then may will one day replace must just as must ousted shall. What seems more likely is that permission may will be 'squeezed' between can and must and will eventually be used only rarely and in extremely formal circumstances. This would give us an archaic/non-archaic contrast between two pairs: may/shall and can/must. Since there is no indication that the epistemic sense of may is likely to suffer this fate, the elimination of the deontic sense would make may an 'ultra-modal', used only in the epistemic area, having completely lost its deontic and non-modal origins and having reached some hypothetical stage 6 beyond the five already listed.

2.19.8. Teaching

These facts, I insist, do have repercussions on the teaching of the modals. Clearly, any teacher will have to make sure that the particular morphology and syntax of the modals is dealt with to ensure fluency in their use. But he should not, for instance, neglect the teaching of ought to and need on the grounds of their marginal membership of the group; they are essential members of it. The tendency to 'performativization' is important in its effects on the uses of the remote forms for past time or not. All teachers and courses that I know restrict the teaching of shall to some very specific contexts. This can be seen to be justified on historical grounds; teachers should take confidence from these grounds as justifying them further in the teaching of can for permission and restricting their
teaching of *may*. The historical grounds that I am presenting here are different from those usually used. The normal reasons are static and say 'this used to be wrong (or simply not used) and therefore it is still wrong'. My approach is to say, by contrast, 'this is the direction things are going, so feel justified in teaching the points listed'; these are *dynamic* reasons.
SECTION 3

THE FRENCH -OIR VERBS AND SIMILAR ITEMS
3.0. CONTENTS OF THE SECTION

This section follows a similar pattern to section 2.
3.1. to 3.7. consider the various French verbs.
3.8. looks at other items with similar meaning to those considered in 3.1. to 3.7.
3.9. to 3.13. study the effects of change of tense, of infinitive, etc.
3.14. is a provisional classification of the French verbs.
3.15. brings together various ideas from sections 2 and 3.
3.1. *DEVOIR*

3.1.1. General

Though I am not a native speaker of French, my task of presenting the basic facts about *devoir* has been made tolerably easy by a whole book on the subject: Huot (1974).

After eliminating the verb *devoir* which means to 'owe', (its original meaning), Huot proceeds to make a further distinction between:

- *devoir* = obligation, 'un verbe au sémantisme plein' and
- *devoir* = probability/future, which 'serait un auxiliaire, dépourvu de sémantisme propre, et dont le rôle serait seulement de modaliser l'énoncé' (pp. 14-15).

We shall have occasion to remark later on this notion, which is more extreme than anything we have met with in comments on the English modals; no one has yet, to my knowledge, suggested that any of the English modals should be considered as an auxiliary when it has its epistemic use, and not as one when it is being used deontically. (See 5.1.2.)

The main thing here is that Huot distinguishes the three types of meaning that we have already noted for the English modals, namely: non-modal (i.e. neither deontic nor epistemic), deontic and epistemic. Huot refers to the *Grammaire méthodique* (1681) of Vairasse d’Allais in which all three senses were, she says, already recognised.

We shall pass over the first meaning (= to owe money, etc.) and concentrate on the deontic and epistemic ones.

Huot says that the sentences which are most likely to be ambiguous between the two senses are those like:
The main features of such sentences are: animate subjects, Present or Imperfect tense of the verb, simple infinitive and positive rather than negative. If any one of these features is absent then one of the two readings becomes the preferred one, and, in certain cases, one reading can become impossible, see Huot (1974: 36ff., 49ff.). For example, the future je devrai can only receive an 'obligation' (deontic) interpretation and a form like il doit avoir dormi with the perfect infinitive can only receive an epistemic one. But if we change the tense of devoir to the conditional, so as to get (p. 54):

(2) Jean devrait avoir établi un rapport
then the deontic sense is preferred because of the overriding effect of the conditional.

We shall consider the tenses of devoir one by one.

3.1.2. Present, je dois, vous devez, etc.

The Present tense is the most obviously ambiguous tense, particularly when there is a personal subject. Our example (1) has already shown this; it could be translated as either 'must/has to leave' (deontic) or 'must leave' (epistemic) - in other words, the situation is parallel to that of English.

Clearly, changing various features such as the subject will change the preferred reading, so that:

(3) Je dois partir
will receive an 'obligation' reading, since I am unlikely to draw conclusions about what I myself do; this, however, is a
general point, and not restricted to *devoir* in particular.

3.1.3. Imperfect, *je devais*, *vous deviez*, etc.

This tense is also ambiguous, so that, for instance:

(4) L'ingénieur devait établir un rapport
could either mean 'had to draw up a report' (probably more
than once, but not necessarily) or 'probably, almost
certainly was drawing up a report' or, even, 'was (later)
to draw up a report'. From the last two readings given,
we can see that the Imperfect tense has two epistemic uses,
corresponding roughly to English *must have* and *was to*.
Here are two further, clearer, examples:

(5) Il devait être huit heures ('must have been 8 o'clock')

(6) Il devait plus tard devenir Maréchal de France
('was later to become...')

3.1.4. Future, *je devrai*, *vous devrez*, etc.

Here, according to Huot, (see, for example, 1974: 47),
only the 'obligation' reading, corresponding roughly to
'will have to', is possible. This same restriction
appeared when I was trying to elicit examples from a native
speaker for my original project on this subject, (Wakely,
1969: 13). So that:

(7) Il devra partir
cannot be interpreted to mean 'he is likely to leave (at
some future moment)'. This means that some sentences
become totally or nearly unacceptable:

(8) *Il devra être huit heures*
could only be used with the sense 'it will have to be 8
o'clock (before I do ...)'.
3.1.5. Conditional, je devrais, vous devriez, etc.

Huot (1974: 47) allows both readings for this, whereas my 1969 informant only allowed the 'obligation' reading. The 'obligation' reading is itself ambiguous, because the French conditional is partly a sort of 'future hypothetical' and partly more like a mood, so that:

(9) Il devrait partir
could be read as either 'would have to leave, (if...)' or as 'should leave'. The epistemic meaning would presumably mean something like 'is probably leaving'.

If we take Huot's usual example:

(10) L'ingénieur devrait établir un rapport
then it is very difficult to interpret this as meaning '... probably is drawing up/will draw up a report'. Huot herself says (1974: 54-55) that changing to another infinitive makes the 'obligation' reading the preferred one. Though not a native speaker, I am willing to risk the statement that the 'obligation' reading is always the preferred one.

3.1.6. Past Historic, je dus, vous dûtes, etc.

Though this form is restricted to the formal, normally written, language, I feel I ought to remark on it, partly because I disagree with Huot. She (ibid: 47) only allows the 'obligation' reading. This example, from Stendhal, seems to prove that the epistemic reading is possible:

(11) Il dut léguer à ses fils une honnête fortune puisque le cadet put vivre de ses rentes. (he must have left a fair amount of money to his sons, since the youngest was able to live off the interest)
The 'obligation' reading 'had to' is quite impossible for (11), as the context shows; the puisque would have to be replaced, possibly by pour que. I can see no real reason for distinguishing this tense from the Perfect, for which Huot allows both readings.

3.1.7. Perfect (passé composé), j'ai du, vous avez du, etc.

Here there is no difficulty; both readings are possible, so that:
(12) Il a du partir

can be read as 'had to leave' or 'must have left'. As in English with 'had to', the deontic reading implies that he did actually leave, as well as that there was obligation on him to do so.

3.1.8. Pluperfect, j'avais du, vous aviez du, etc.

Again, both readings are possible, with the interpretations as 'had had to' and 'must have'. French is therefore able to make a distinction that English cannot make, since the Perfect infinitive in English is ambiguous between 'have done', 'did' and 'had done'. 'Must have done' can therefore be translated into French in more than one way.

3.1.9. Future in the Past, j'aurai du, vous aurez du, etc.

Here only the epistemic reading is possible, according to Huot (ibid: 47). This means that:
(13) Il aura du répondre

can only be interpreted as 'will certainly have replied' and not as 'will have had to reply'. Personally, I have my doubts about the accuracy of Huot's remarks on this form.
But since Huot (p. 54) remarks on the 'très douteuse' acceptability of sentences with this form, I shall not insist.

3.1.10. **Past or Perfect Conditional, j'aurais dû, vous auriez dû, etc.**

Huot (1974: 47) only gives the 'obligation' reading for this form and I would tend to agree; certainly, informants have not accepted the epistemic reading of sentences given them. However, I have found one example which does look as though it must receive an epistemic reading:

(14) Prononciation qui aurait dû être corrigée si la participation avait été meilleure

This was a written comment on a student's work, and I interpret it as: '(Has a) pronunciation which would certainly have been corrected/improved if he/she had taken more part (i.e. in the discussions)'. Without the si clause, the obligation interpretation would have been the preferred one. I have not found any other examples, however.

With the deontic use, the question arises whether both the following two interpretations are possible, or only the second: 'would have had to' and 'should have'. Informants have certainly preferred the second, but some of them have allowed the first as well.

(Like Huot, I have not considered the Past Anterior tense; the deontic reading seems the likely one.)

3.1.11. **Independent subjunctive forms**

*Devoir* is used independently in forms like dût-il,
dussé-je. Huot deals briefly with these (1974: 49) and says that examples like:

(15) Jean terminera ce travail, dut-il y passer la nuit

can only receive a deontic reading. This seems rather restricting to me; (15) could surely be interpreted as meaning 'even if he were to' as well as 'even if he had to'. Given the right context such as 1st. person subject, the 'be to' reading even becomes the preferred one:

(16) J'y parviendrai, dussé-je mourir tout de suite après

It would be ridiculous to interpret this as meaning 'even if I was obliged to die'; however, two informants agreed with Huot here.

3.1.12. Dependent subjunctive uses

Both meanings are possible and the preferred reading will depend on a number of factors. These are discussed by Huot (1974: 132-133) who gives some interesting examples. Here is an ambiguous one:

(17) Il ne pense pas que Jean doive effectuer ce travail

This can be read as 'has got to' or 'is likely to'. By contrast, a probability reading is more likely for:

(18) Il doute que Jean doive effectuer ce travail

We shall leave until 3.9. and following sub-sections a discussion of the effects of negation, the different infinitive forms, etc.

One restriction not already mentioned is that devoir has no imperative form. Quite apart from the fact that, even with the non-modal sense, it is difficult to say:

(19) *Dois de l'argent!
deontic and epistemic uses of any verb seem to preclude an imperative.

3.2. **POUVOIR**

3.2.1. General

Here, as with *devoir*, we can identify a non-modal, a deontic and an epistemic use. We can label these 'capability', 'permission' and 'logical possibility'. Here are examples of each one:

(20) On peut prendre l'une ou l'autre route (Both lead there)
(21) Oui, tu peux partir si tu veux
(22) Cela peut être vrai

Corresponding to the 'possibility' use exemplified in (22), there is the form *peut-être* and also the reflexive form, as in:

(23) Il se peut qu'il vienne demain

This form is always impersonal and cannot take a following infinitive. As for *devoir* we shall consider the various tenses of *pouvoir* and discuss preferred readings.

3.2.2. Present, *je peux*, *vous pouvez*, etc.

(24) Il peut venir

is ambiguous and can be read as 'he can come' or 'he may come', with the first of these ambiguous, in its turn, between 'is able to' and 'is allowed to'. The French are fortunate in having only one word, so that the arguments about *can* and *may* for permission have no place in French. As elsewhere, the usual factors can make one interpretation the preferred one, so that:
(25) Je peux venir
will not have an epistemic reading, nor a performative deontic one.

3.2.3. Imperfect, je pouvais, vous pouviez, etc.
Once again, all three senses are possible, so that:
(26) Elle pouvait partir
could mean 'was able to', 'was allowed to' ('could' will do for both) or 'may have' (probably iterative in all three cases, but especially in the third).

3.2.4. Future, je pourrai, vous pourrez, etc.
As with devoir, the epistemic reading is impossible, presumably because of the meaninglessness of 'it will be possible that it is true', since epistemic modality is always 'present-as-of-now'. The other two are quite possible, so that for:
(27) Il pourra partir
we can have either 'will be able to' or 'will be allowed to'.

3.2.5. Conditional, je pourrais, vous pourriez, etc.
My informants did not give me any epistemic senses here, any more than for the future. But it was with the parallel tense with devoir that Huot did allow such interpretations. For:
(28) Il pourrait partir
we can have 'would be able to', 'would be allowed to' and 'could', especially when used to make suggestions, but it seems difficult to think of an interpretation 'he could just possibly leave'.
Of course, the reflexive form, as in:

(29) Cela se pourrait

must receive epistemic interpretation. The cases where the non-reflexive form could receive this interpretation would be very restricted; ones with être and an imprecise subject are the easiest to find:

(30) Cela pourrait être lui
(31) Cela pourrait te coûter beaucoup

3.2.6. Past Historic, je pus, vous puttes, etc.

Here two readings are possible, namely the 'capability' and 'permission' ones. The epistemic reading seems rather difficult to find, even for examples like:

(32) Cela put être lui
(33) Il put se tromper

We disagreed with Huot on this subject when treating devoir (see 3.1.6.); perhaps it is indeed the case, as she seemed to suggest, that this tense does not go well with epistemic meanings, because of its *punctual* time force.

The 'capability' and 'permission' senses will be interpreted as 'was able to' and 'was allowed to' respectively.

3.2.7. Perfect, j'ai pu, vous avez pu, etc.

Here all three readings are possible. This means that for:

(34) Il a pu venir

we can have the senses 'was able to', 'was allowed to' and 'may have'. As with the parallel tense with devoir, the
implication of the 'capability' and 'permission' uses is that he did, in fact, come.

3.2.8. Pluperfect, j'avais pu, vous aviez pu, etc.

As with the Perfect, all three readings are possible.

3.2.9. Future in the Past, j'aurai pu, vous aurez pu, etc.

With devoir, we doubted the accuracy of Huot's judgement that only the epistemic reading is possible. Certainly, the 'capability' and 'permission' meanings seem easy to find here, so that:

(35) Il aura pu venir

can be read as 'will have been able to' or 'will have been allowed to'. The epistemic reading will presumably be possible as well, and will be the equivalent of 'maybe will have', which could be shortened in some contexts to 'may have'.

3.2.10. Past Conditional, j'aurais pu, vous auriez pu, etc.

For devoir I provided one example which seemed to force an epistemic interpretation, but I also said that it seemed unusual. The same is valid here, and only the 'capability' and 'permission' senses are normally acceptable. This means that:

(36) Il aurait pu le faire

will be interpreted as 'could have' or 'would have been able/allowed to'. The counterfactual force is strong here, and the 'peevish' tone similar to that used with the suggestion uses of might and could is possible.
3.2.11. Subjunctive uses

Pouvoir does not have the range of uses in independent subjunctive that devoir does (Puisse-t-il réussir is archaic). In dependent subjunctive use, the interpretation would depend on context, though the 'capability' and 'permission' senses tend to predominate.

Like devoir, pouvoir has no imperative form.

English-speaking learners seem to have no special difficulty in appreciating that pouvoir is the equivalent of both can and may. But since these two forms have different epistemic negatives, this leads to some problems in expressing 'possibly-not', until peut - ne pas and se peut que - ne pas and other ways round the problem are mastered.

3.3. FALLOIR

3.3.1. General

Falloir is always and only an impersonal verb. This can lead to errors when English speakers start thinking of it as equivalent to must or have to and use it with personal subjects; for a list of some important restrictions, see Gaatone (1976).

The essential point about falloir is that we cannot consider it as a 'modal item' because it has no epistemic use, only a deontic one. Its original sense is that of 'lack', similar to the original sense of English want. If we say:

(37) Il faut de l'argent

then we mean 'money is lacking', which would normally be rendered into informal English as 'we need money'. The
translation by need is significant, since need is a marginal, but important, member of the English group of modals.

3.3.2. Deontic

The deontic sense developed from the sense of 'lacking' is similar to that of must, have to and need, so that:

(38) Il faut faire cela
means 'one/you/we must do that', 'that needs to be done', etc. If falloir had developed an epistemic sense, then we would expect:

(39) Il faut être comme cela
to mean 'things must be like that', 'I expect things are like that', etc. But there is no such sense. This is, no doubt, partly due to the impersonal nature of falloir. Whereas, with devoir, an example like:

(40) Jean doit habiter près d'ici
the subject is 'raised', so that there is no impersonal il, as there would be in:

(41) Il est certain/probable que Jean habite près d'ici
This raising possibility is not present with an impersonal verb like falloir.

Of course, there is another possibility with falloir: that of the 'que + Subjunctive' clause. There is no epistemic reading for:

(41) Il faut que ce soit vrai
It must be true can be translated using devoir but not with falloir.

So, with falloir, we have an item similar to have to in British English which is not used epistemically. The
fact that have to is used in other varieties of English in this way could allow us to call falloir a 'potential modal item'.

The main interest with falloir will come when we discuss tenses like the Perfect for all the French verbs and the effects of negation, (see 3.9. and 3.13.3.).

3.3.3. Uses

Falloir is commonly used to urge people to do what is to their advantage, as in:

(43) Il faut absolument que tu viennes dîner chez nous

It is also used to refer to 'ornery' conduct as in:

(44) Bien sûr, il a fallu que Jean révèle tout!

(English would use 'just had to'.) Foreign learners also have to appreciate the frequent use of faut by itself, as in some expressions that have almost become fixed, such as:

(45) Faut le faire, hein? (= it's not easy, just you try!)

The negative is also common in such expressions, meaning 'obliged/necessary - not'.

3.4. SAVOIR

3.4.1. General

Savoir in its original meaning means 'to know'. It is the direct descendant of Latin sapere, which already had the two senses, kept by savoir, of 'know a fact' and 'know how to do something'. This second use corresponds to the original sense of can, which is still part of the 'capability' meaning. Examples of the two sorts of 'knowing' would be:

(46) Je sais qu'il est parti très tôt
(47) Je sais nager
The main point is that other parts of what in English are
handled by *can* are dealt with in French by *pouvoir* and not
by *savoir*. *Savoir* deals with the area covered by *know-how*,
*ability or skill learnt* and *pouvoir* handles the area
covered by *capability through favourable conditions or
lack of obstacles*. It is possible, however, to find areas
of overlap between the two.

3.4.2. Not a modal

As with *falloir*, we cannot really consider *savoir* as
a *modal item*, since sentences like:

(48) * Cela sait être vrai
cannot receive an epistemic interpretation. At most, we
might just possibly find such a sense for:

(49) Cela ne saurait être vrai
To be interpreted as something like *couldn't possibly ever
be true*. However, such examples are of doubtful accept-
ability in Modern French; only the *know* sense is common.

*Savoir* does not even have a deontic sense. Whereas:

(50) Tu dois/peux faire cela
(51) Il faut faire cela

concern permission or obligation, there is no such sense with
any sentence with *savoir*. It is not even, like *need* in
English, a marginal item of the group of modals.

We shall, however, return to *savoir* when discussion the
effect of using the Perfect and other tenses on this group
of verbs, see 3.13.
3.5. VALOIR

3.5.1. General

Valoir is like falloir, an impersonal verb, as in:

(52) Il vaut mieux hésiter que mourir

However, unlike falloir, it can, in its original use, have precise subjects.

(53) Cela vaut mille francs

(54) Jean ne vaut pas grand'chose

Here, the sense is that of 'being worth' something - the English word value comes from the same root. Valoir is only used impersonally when it is being used with an infinitive.

3.5.2. Mieux

In this case, valoir is always, or almost always, used with mieux. The literal translation for il vaut mieux is 'it is worth more', but the nearest equivalent in English is had better. We have already seen that Palmer (1965: 40 and 147-8) includes this item amongst the marginal ones for the group of modals; it is also included in the group that Major (1974) tried out with children.

Clearly, in its sense of 'had better', valoir is a deontic item, and can be used, indeed, normally is used, to urge action, so that:

(55) Il vaut mieux partir tout de suite

will often have the force of 'we/you had better leave at once'. But, like falloir and savoir, valoir has no epistemic sense and cannot, therefore, be considered to be a modal item.

We shall return to valoir when considering forms like
3.6. **VOULOIR**

3.6.1. **General**

*Vouloir* derives from Latin *volere* meaning to 'want' or 'desire'. Like English *will* it is used deontically in certain contexts, such as:

(56) Veux-tu te taire?
(57) Veuillez bien me répondre

In these cases it is clearly being used to get the hearer to act in accordance with the speaker's wishes. Occasionally we can find this in affirmative sentences too:

(58) Vous voudrez bien l'accepter, je vous prie

Just as *valoir* tends to occur with *mieux* when being used deontically, so *vouloir* often occurs with *bien* as in (57).

This has the effect of making the sentence more polite; this is obviously inappropriate in cases like (56).

3.6.2. **Epistemic?**

Can *vouloir* have an epistemic use? The answer to this is: normally not. However, dialectally, there is a use in sentences like:

(59) Il veut pleuvoir

In the standard language, this would normally be expressed by:

(60) Il va pleuvoir

This use, normally called 'futur proche' ('near' or 'close future'), has been commented on by a number of writers. For example, Linder (1968) says that it is, in fact, quite a common form in different Romance languages. According to
hit, it is particularly common in Southern France. Short 
notes on the subject have, over the years, been provided for 
Le Francais Moderne on different French regions by a number 
of writers, see, for instance Vol. 11 (1943), pp. 62-63.

We could ask ourselves whether this use was established 
in Norman French at the time of the Conquest, and, if so, 
whether it had any influence on the development of English 
will, in its epistemic use. Personally, I doubt this; 
English will has followed a pattern that is general, if we 
are to believe Fries (1927), in that a number of languages 
have used forms whose basic meanings were those of 'want' 
as epistemic verbs. Besides, it is quite clear that the 
French form, where it exists, is closer to English 'is 
going to' than to 'will'.

The central fact is that vouloir is NOT used epistemic-
ally in the standard language. Like falloir, it is 
perhaps a 'potential epistemic item' whose potential is only 
made use of dialectally.

3.6.3. Vouloir que

There is one other use of vouloir which can be consider-
ed as a candidate for the label 'epistemic'. If we take 
the sentence:

(61) Elle veut qu'il soit intelligent

then the preferred reading is that in which vouloir is 
translated as 'want', but there is another reading, in which 
(61) would be translated as 'she insists that he is 
intelligent'. In other words, this use of vouloir is 
employed only of facts. Another example would be:
Elle veut que je sois malheureux pour pouvoir s'occuper de moi

Here the force is almost that of 'makes me out to be' or 'pretends (to herself or others) that...'. Other tenses are presumably possible with this use, but I have only met it in the Present.

I think this use is not epistemic. Epistemic uses like:

Il doit/peut être malheureux
or even like (59), always have the force:

Speaker concludes - it is possible, etc. - X is true

In other words, the surface subject of the sentence is really the subject of the proposition expressed in the infinitive phrase and not of the modal verb, whose function is to express the speaker's judgement. In examples like (61) and (62) this is not the case; the speaker simply describes what someone else is saying about truth. However, it is interesting to find one more verb from this group being used to talk about truth value, even if we cannot allow it the status of 'modal item'.

3.6.4. Uses

In (57) and (58) we have already made use of bien in collocation with vouloir. With:

Je veux bien
the force is that of 'certainly', 'O.K.', 'I don't mind'. This is generally used informally. By contrast veulliez is formal and cold.
3.7. CONCLUSION ON THE FRENCH ITEMS

We said before examining the individual modals, (see section 1), that only *devoir* and *pouvoir* were central in this group. We have now justified this by showing that none of the other items, except for *vouloir* in some dialects, can be used epistemically. French therefore presents a quite different picture from English, where a large number of the verbs which have been used in the deontic area have acquired epistemic uses as well. French has quite a considerable stock of deontic items, but only two well established epistemic ones. This means that, statistically, French is more likely to express epistemic judgements of truth value by using non-verbal items, such as adjectives and adverbs. Of course, only a large scale statistical study of actual texts would justify this hypothesis, since it could also be the case that *devoir* and *pouvoir* were simply used all the time.

The learning problems are, therefore, rather different, depending on whether an English speaker is learning French or vice versa. An English speaker has fewer items to learn, but those items have a full range of tenses and can be used in the subjunctive mood. In addition, he has to learn that items that can be used in the deontic area cannot necessarily be used for epistemic sentences as well; this mainly, in my experience, means that *falloir* cannot be used to translate *must* in its 'certainly true' sense, and that English speakers often try to use it.

In the opposite direction, French speakers have a larger number of items to learn, but those items have at most two
forms, remote and non-remote. They have to be brought to use them in epistemic senses as well as deontically. Many of the difficulties here arise, however, from features like negation and the difficulty of distinguishing, e.g., between had to and should have.

Just as with the English group there are 'fringe' items, similar in meaning, even if not in morphology. We shall now deal with some of these.

3.8. FRENCH 'FRINGE' ITEMS
3.8.1. Avoir à

Just as must has its suppletive form have to, so devoir has its parallel item avoir à, as used in:

(65) Il a eu à leur parler
to be translated as 'had to', 'needed to', etc. Since there are not the tense restrictions on devoir that there are on must, we could ask whether there is any difference between them. There does seem to be a difference in their negative forms.

(66) Il ne devra pas le faire
means 'mustn't', 'shouldn't', whereas:

(67) Il n'aura pas à le faire
means 'won't have/need to'.

When I was trying to elicit from native speakers sentences equivalent to various English ones, avoir à was quite often used; this may have been because the English examples quite often used have to, which is a literal translation of the French item. However, my impression is that avoir à does occur quite frequently in spontaneous
speech and prose. It is only used as a deontic item referring to obligation and never epistemically.

3.8.2. Avoir beau

This is one of the items quoted by Huot (1974: 9) and taken from Sandfeld (1965: III chap. 4). It occurs in sentences like:

(68) Tu as beau faire cela, il ne changera pas d'avis

The translation is either 'it is in vain that' or, more informally 'it's no use doing that'. This could be regarded as a deontic item, used to urge different action or inaction, but it has no epistemic use.

3.8.3. Être censé, Être supposed

These items have their English parallels be meant and be supposed to. Deontically, there is absolutely no difference, so that:

(69) Il est censé travailler 8 heures par jour

has the same force as the English equivalent, that is to say that a counterfactual interpretation, though not obligatory, is, to say the least, 'invited'. Could (69) also receive the epistemic reading 'he is said to work...'? Native speakers, when asked this, usually hesitate, saying that they had not thought of that interpretation; but they usually accept it. So here we have two items which are used like German sollen, or like items in certain other languages which have a 'reportative' mood.

3.8.4. Oser

We treated English dare very much as a 'fringe item'
amongst the modal verb group. It is interesting, therefore, to find oser mentioned in Huot's (1974: 9) list quoted from Sandfeld. Once again, there is little reason to include it, because of its isolation semantically. We shall, however, return to it when dealing with negation, because of its isolation semantically. We shall, however, return to it when dealing with negation, because of its reduced negative form je n'ose.

3.8.5. Possible, certain, etc.

Just as in English, we can find these basically epistemic adjectives used for capability, as in:

(70) Cela n'est impossible
or for (deontic) obligation, as in:

(71) Il est nécessaire d'en parler

As with the English group, gaps appear in the pattern so that, for instance, we can find nécessairement, certainement, probablement but not *possiblement. The first of this list can function deontically, which we did not find with the English group, but in French the following is possible:

(72) Il devra nécessairement s'en occuper

Other deontic adverbs such as obligatoirement also exist and are, perhaps, more common than their English counterparts.

We noted with English the remains of subjunctive examples like 2.12.11. example (273). These are still very much alive in French which has kept its subjunctive in active use. This gives us:

(73) Il est nécessaire que vous partiez

though the style here is felt to be rather formal.
Certain, though not, as far as I can tell, other items, occurs in constructions, such as:

(74) Jean est certain de réussir (sûr is also very common)
The reason for this is perhaps that certain has the possibility in general of taking a personal subject, so that we have:

(75) Je suis certain qu'elle viendra
but not:

(76) *Je suis possible/probable/nécessaire qu'elle viendra
(The same is true of the parallel items in English, of course.)
The difference is that the English examples with certain allow raising (i.e. *speaker is certain*); the French ones do not.

3.9. THE EFFECT OF NEGATION ON THE FRENCH ITEMS

3.9.1. Individual items

We saw with the English items how important negation is, particularly in the cases of the inverse pairs 'obligation/permission' and 'logically necessary/possible'.

We shall now look at the French items with a view later to comparing the two languages. In this section we shall use labels like *not certain* and *not possible*. Whether such things exist from the point of view of illocutionary force we shall discuss in section 7.2.6.

Dévoir

(77) Il ne doit pas faire cela
     = Obliged - not

(78) Cela ne doit pas être vrai
     = Certain - not

The negation in each case applies to the following predication, not to the main notion of the modal verb.
Falloir

(79) Il ne faut pas faire cela
     = Obliged - not

Pouvoir

(80) Il ne peut pas venir
     = Not capable/permitted

(81) Cela ne peut pas être vrai
     = Not possible

Forms like the following are acceptable, but are often avoided because they are felt to be awkward:

(82) Cela peut ne pas être vrai
     = Possible - not

Savoir

(83) Elle ne sait pas nager
     = Not know how to

(84) Cela ne saurait être vrai
     = Not possible

Valoir

(85) Cela ne vaut pas grand'chose
     = Not worth

(86) Il vaut mieux ne pas y songer
     = Had better - not

In its deontic sense with mieux, valoir cannot have modal negation; *il ne vaut pas mieux is impossible.

Vouloir

(87) Il ne veut pas nous aider
     = Not want/willing

(88) (Dialectal) - Il ne veut pas pleuvoir
     = Not going to

(89) (Polite) - Je vais vous aider à faire la vaisselle. 
     - Mais vous ne voudriez pas!
     = Don't bother (I hope you - not willing)

(90) Vous ne voudriez pas le faire
     = I want - you not do it

If we take some of the fringe items we get some interesting
results:

(91) Elle n’a pas à s’en occuper
     = Not necessary, has no need to

(92) Il n’est pas censé le faire
     = either Obliged not, not supposed to or Probable - not

3.9.2. Schéma

If we set up the same sets of four items as we did for English in section 2.13.2., then some interesting facts emerge.

Obliged - not: ne doit pas
Not obliged: n’a pas à (in some contexts at least)
Permitted - not: peut ne pas (sometimes felt to be awkward)
Not permitted: ne peut pas

Certain - not: ne doit pas
Not certain: peut ne pas
Possible - not: peut ne pas
Not possible: ne peut pas

If we compare this with the English pattern, presented in section 2.13.2., we see that only very few items are used in French compared to English, and these, as a result, have to be used in a number of different positions in the pattern.

Note, first of all, that there is no form *doit ne pas, (nor *faut ne pas, for that matter), so that French does not make use of its potential in distinguishing two forms as it does with pouvoir. In the deontic area this does not particularly matter, since avoir â can be used instead, but in the epistemic area, various forms with pouvoir have to be used to occupy three out of the four slots. In fact, forms based on pouvoir are quite extensive in their use, whereas there are no others based on devoir. With pouvoir
we could also have: *il se peut que... ne... pas* and *peut-être pas*, though these are only available in the epistemic area.

In all the above examples with *devoir* and *pouvoir* the negation is modal. If we wish to negate the following proposition, then we have to use *ne pas* together following the modal item.

We noted that English did not use *mustn't* epistemically in the standard language, though it is quite common dialectically. In French, the parallel *ne doit pas* can be used epistemically.

3.9.3. Short negative forms for French items

We have already seen that one of the distinguishing features of the English modals is that they have contracted negative forms in a number of cases like *can’t*, *won’t* and *shouldn’t*. The French group also includes items with the nearest French equivalent: a possible negative form with no *pas*, only a *ne*. This form is somewhat restricted and is often felt to be archaic. This is because *ne* is often dropped in spoken French, which makes the *pas* essential, since it has tended to become the only marker of negation in informal spoken French. However, the alternative negative forms are interesting, if only because they provide further grounds for considering these verbs as a group.

The forms are:

*Je ne puis, je ne sais, je ne veux*, to which must be added *je n’ose*. The archaic nature of these forms is underlined by the use of *puis* rather than *peux*, otherwise used only in very formal interrogatives: *puis-je?* The
senses involved here are, respectively, 'capability', 'knowing a fact', 'wanting' and 'daring'.

It is particularly interesting to note that oser has, in this respect at least, 'attached' itself to the group of -oir verbs that we have been discussing. Dare, the obvious English item with which to translate it, is equally a 'fringe' member of the English modal verb group. We decided that it was not a very interesting member for our purposes because of its separateness semantically; the same is true of oser, but it is interesting that both languages should have chosen to assimilate similar items, (similar in sense), to the group of verbs dealing with deontic and epistemic notions. Oser is even more of a 'fringe' item in French, however, since it appears not to share the other characteristics of the -oir group, except for the ability to take a direct infinitive.

Once again, the French group, while having certain features that allow us to identify it, shows less cohesion than the parallel English one.

3.10. EFFECT OF PERFECT INFINITIVE ON THE FRENCH ITEMS

The effect here is similar to that in English, that is to say that the Perfect infinitive is normally used for epistemic senses when the time is past; it is difficult to use it for the future. The main difference is that the English remote modals can be used deontically with this infinitive, whereas the French 'conditional tense + perfect infinitive' does not give quite the same results.
(93) a. Il doit l'avoir fait
will normally be interpreted, without further context, as
epistemic, so that it is almost identical in force to:
(94) Il a dû le faire
in the epistemic reading of (94). If we add a phrase making
it clear that the time reference is future then a deontic
reading is possible:
(93) b. Il doit l'avoir fait avant la semaine prochaine
Since falloir has no epistemic use, it is only in this last
type of example that we can find it:
(95) Il faut être parti avant la semaine prochaine
The same is true of valoir mieux:
(96) Il vaut mieux être parti avant la semaine prochaine
With vouloir we have two possible uses:
(97) Il veut être parti avant la semaine prochaine
will normally be read as 'wants to have left', but:
(98) Il veut avoir oublié
would be interpreted as 'makes out that he has forgotten'.

With avoir à this construction would be avoided, no
doubt partly because of the difficulty of saying a à avoir.
With censé, however, we can find both deontic and epistemic
readings:
(99) Il est censé être parti avant la semaine prochaine
(100) Il est censé avoir oublié

The case of pouvoir is more difficult. While the
following is possible, even if not very elegant:
(101) Il peut être parti
a deontic sense is not possible even in a sentence like:
(102) * Il peut être parti avant la semaine prochaine

(102) would not be used for permission. Perhaps this is part of a general principle; after all, it would also be difficult in English to give permission by saying:

(103) You may have finished it by the time I get back whereas, the parallel sentence with must is acceptable for obligation.

Now we consider other tenses. In particular, since English uses the remote modals in their non-actual sense, which is similar to that of the French Conditional tense, we could expect to find that tense used with the Perfect infinitive, as in:

(104) Il devrait l'avoir fait

(105) Il pourrait l'avoir fait

Example (105) is acceptable in the epistemic sense, (= 'possibly he has done it'), but not in the 'permission' or 'capability' senses. (104) is a difficult case: my informants said it was unacceptable in any sense, but I have found the following deontic example, admittedly in 18th. century French:

(106) Je devrais déjà l'avoir fait (= 'I should already have done so')

But such examples are difficult to find. As we see in sections 4.1.6. and 7.4., French has preferred to use the Past Conditional for cases where English uses 'remote modal + Perfect infinitive'.

In general, this construction with Perfect infinitive is little used in French. Huot (1974: 53) discusses them a certain amount, but tends to disallow them in cases where
the main verb is itself in a compound tense, so that the following are strange if not quite unacceptable:

(107) * Il a dû avoir établi un rapport
(108) ? Il aura dû être parti
(109) * Il avait dû avoir été inscrit
(But see 5.1.2.)

3.11. FRENCH MODALS IN REFLEXIVES

3.11.1. General

If we take the French modals in their reflexive forms we find that pouvoir is in a class by itself, being the only one to have developed a use in the epistemic area.

Even devoir, which does have an epistemic use, can only use the reflexive form in cases like:

(110) ... comme cela se doit (= 'as is right and proper')
(111) Elle se doit de bonnes vacances (= 'owes herself')

We shall give examples of the other -oir verbs, which all, when reflexive have 'internal' meanings, except for:

(112) Il s'en est fallu de peu qu'il ne tombe (= he almost fell)

Here are examples of the rest:

(113) Elle se sait aimée (= 'she knows that she is loved')
(114) Ces deux méthodes se valent (= 'are each as good as the other')

(This form with valoir can only be used with reciprocal value and therefore in the plural.)

(115) Et ça se veut intelligent! (Ironic = 'And he/she pretends to be clever!')
3.11.2. Se pouvoir

We shall now discuss pouvoir in its reflexive form. This construction has become very common. Some of my informants, when offered epistemic examples using pouvoir, said that they would be more acceptable or better expressed if the reflexive were used. One instance of this was:

(116) a. Il peut être 6 heures

which the informant said would be better if expressed as:

(116) b. Il se peut qu'il soit 6 heures

or perhaps by using the Conditional:

(116) c. Il pourrait être 6 heures

The tenses are restricted with the reflexive form of pouvoir to the non-compound tenses, so that the following are acceptable:

(117) Il se pouvait/pourra/pourrait que ...

but these are not:

(118) * Il s'est/s'était/se sera/se serait pu que ....

In fact, only the Present and Conditional are common. These can be used without que, as in:

(119) Cela se peut/se pourrait#

This epistemic use of the reflexive of pouvoir, and only of pouvoir, is interesting. The same verb has provided the language with the form peut-être, whereas there is no *doit-être. In this respect French is similar to English, which has a form maybe, but no *must be. It is true that in conversational English all of the following are used: must be, might be, could be, should be, but only maybe is so well established that it can be used in examples like:
(120) Maybe he’s left
(121) She’s forgotten, maybe
and even:
(122) They’ve maybe sent it
This means that both pouvoir and may have developed their epistemic uses in a way that the ‘stronger’ items devoir and must have not done. We may speculate why this should be. Is it because items whose sense is ‘possibly true’ are, in some way, more central to the epistemic area than those which mean ‘certainly’ or ‘probably true’? Is it that devoir keeps an original sense (‘owe’) which prevents it from becoming ‘too epistemic’ whereas the ‘capability’ sense of pouvoir is ‘closer’ to ‘logically possible’? If so, how do we account for the parallel situation in English? By saying that must is not as well ‘established’ in its slot in the system as may is in its? This is not very plausible, but the fact remains, see also Lyons (1977: 801).

3.12. IMPERATIVE FORMS OF THE FRENCH ITEMS

We have already noted that devoir and pouvoir do not have imperative forms. Their meanings seem to preclude this, even with their original senses (‘owe’ and ‘be able to’). Falloir, which is always an impersonal verb, cannot have an imperative form. Valoir cannot have one either, as with devoir and pouvoir, its meaning makes it ridiculous to say:
(123) Vaux trois francs!
or
(124) Vaux beaucoup!
This only leaves savoir and vouloir of the group. These two can be used in the imperative.

(125) Sachez, monsieur, que je m'appelle Guy d'Orléans
(126) Veuillez bien me répondre tout de suite

Even these two imperative forms are odd, in their morphology if not in their use. Normally, in Modern French, the Imperative form is identical (less an-s in some singular cases) with the 2nd. person forms of the Present Indicative tense. This is not the case with these two verbs. This is a further indication that this group, while not as distinct as the group of modal verbs in English, does have a certain number of distinctive characteristics.

Since the Imperative, though in itself a deontic form, does not exist with the 'core' items devoir and pouvoir in their uses, deontic or not, we shall not have occasion to deal with these forms again.

3.13. EFFECT OF DIFFERENT TENSES ON THE FRENCH ITEMS

3.13.1. Effects of the Imperfect tense

French is different from English in allowing epistemic uses to past tense forms. The English remote forms, when used epistemically, merely make the truth value weaker; this is not so in French. Here are some examples:

(127) Il devait la voir souvent (= 'had to' or 'must have')
(128) Il fallait travailler tous ensemble (= 'was necessary', 'had to' or 'should have')
(129) Elle pouvait prendre la voiture (= 'could' or 'may have')
(130) Il savait se faire respecter (= 'knew how to')
(131) Il valait mieux éviter le centre-ville (= 'it was best to', 'would have been better to')
(132) Elle voulait leur en parler (= 'wanted to')

Both (127) and (131) are occasionally used with counter-factual force, if the context makes it clear that this is what is intended, i.e. the tense itself does not really have this force. An example would be:

(133) - Je n'ai pas dit à Jean de venir.
       - Mais il fallait! (= 'you should have done')

The two interesting examples here are those with devoir and pouvoir. We see elsewhere (see 3.13.3. and 4) that other tenses of the past, in particular the Perfect and Pluperfect, can be used in French for both deontic and epistemic uses of these two verbs. The force is different from that of both the other two tenses mentioned in that the force of the Imperfect is always that of 'past non-completed'. This means that the time/aspect applies not to the judgement of possibility or necessity, but to the following predication, so that:

(134) Il pouvait avoir quarante ans

will be read as 'it is possible that he was 40 years old'. The Imperfect is obviously the appropriate tense to use when talking about age - the Perfect could only be used if we were talking about reaching a certain age, as in:

(135) Il a eu quarante ans le Jour de l'An

When used deontically or non-modally, by contrast, all the verbs in the group will have the force of the Imperfect attached to the modal and not to the following proposition.

3.13.2. Effects of the Future tense

The main effect here is that the epistemic senses of
devoir and pouvoir are not possible with this tense. It is reasonable to ask why this should be, since this restriction does not exist with the various past tenses. The difference probably lies in the special nature of Future time and therefore in the forms used to realise it in French, as in any other language, (see Lyons 1968: 310). For French, there are two ways of making what we may call 'epistemic predictions':

(i) use a present tense modal with a proposition having future reference, such as il doit/peut venir demain

(ii) use a future tense, such as il viendra demain

The two cannot be combined, presumably because the use of the Future tense means that an epistemic judgement is already involved and that, therefore, another one would be redundant.

For the non-modal and deontic uses it is simple to give a few examples:

(136) Il devra partir bientôt (= 'will have to')
(137) Il faudra s’en occuper
(138) Elle pourra vous voir demain (= 'will be able' or allowed to')
(139) Nous saurons le faire avouer (= 'will find a way to')
(140) Il vaudra mieux le remettre à demain
(141) Ils voudront l’avoir par écrit

The advantage of the French items in the Future is that they can express ideas in one word that English often takes several words, (such as will be able to) to express.

3.13.3. Effects of Perfect (passé composé) tense

All the group of -oir verbs we have been discussing,
whether or not they have an epistemic use, are affected in their deontic and non-modal uses by the use of the Perfect tense. We shall discuss these first and then discuss the epistemic uses of *devoir* and *pouvoir* afterwards.

The effect is seen most clearly if we give examples with English translations or glosses which demonstrate it:

(142) Il a du partir (= 'He had to/was obliged to leave')

(143) Il a fallu lui en parler (= 'We/they had to talk to him/her about it')

(144) Il a pu se sauver (= 'He was able to/managed to get away')

(145) Elle a su cela par son frère (= 'She found it out from/through her brother, = 'came to know it')

(146) Cela lui a valu un mois de prison (= 'What he got from that was a month in prison', = 'that is what it cost him')

(147) Il a voulu se suicider (= 'He tried/attempted to commit suicide')

We can see that the combination of these verbs and this tense is to affect the implications of what is being talked about. In (142), (143) and (144) it is clear not only that there was obligation, etc., but that something actually happened. In (147) the opposite is true; it is clear that the attempt failed. In (145) and (146) the easiest way to show the sense of the French sentences is to use different expressions from the ones normally used to translate *savoir* and *valoir*, i.e. 'know' and 'be worth'. (Each language uses its own means for the same ends - this has often been said. Russian, for example distinguishes by prefixes, so that *znat'* is equivalent to 'know' and *uznat', a perfective form, to 'find out'.) The existence of the Perfect tense with the French verbs therefore permits them to express
notions that English, which has restricted its modals, has to express with different items altogether.

The forms *il a du* and *il a pu* can be interpreted epistemically as well as deontically. In this case, they are read as 'must have' and 'may/might have' respectively. French has therefore allowed something that English has excluded, namely using the modal items epistemically in tenses other than the present through 'tense-raising'. French does, of course, also allow forms like *il doit l'avoir fait*, but these are rarer according to my informants than the forms with the Perfect tense, which therefore retain all their ambiguity.

These facts present learners of either language with a certain number of difficulties. English speakers learning French have to realise, first of all, the effect of Perfect tense in the deontic and non-modal areas and, then, the ambiguity of the forms of *devoir* and *pouvoir*. This leads to errors of comprehension, when they fail to realise that there are two possible readings, and to awkwardnesses in production when they insist on using the rarer, 'Present tense + Perfect infinitive', alternatives. For French learners of English problems arise if they do not realise that their own items are ambiguous.

3.13.4. Effects of the Pluperfect

The effects of the Pluperfect are identical with that of the Perfect, with the single difference of the time being 'past-past' and not just 'past'. This means that:

(148) *Il avait du partir*
will be read as either 'had had to' or 'must have', and that:

(149) Il avait pu se sauver

is interpreted as either 'had been able to' or 'may/might have'. As we can see, English does not make any distinction in the epistemic examples but does so in the deontic and non-modal ones.

3.13.5. Effects of the Conditional

The effects of the Conditional are similar in some respects to those of the remote forms of the English modals in their non-actual sense. Both deontic and epistemic uses are possible, as well as the non-modal ones.

(150) Ils devraient être ici quelque part (= 'ought to be' either in the sense of 'obliged' or 'I'm fairly sure')

(151) Il faudrait partir plus tôt

(152) Il pourrait travailler là (= 'would be able/allowed to' or 'may/might does')

(153) Elle saurait se faire aimer (= 'would manage to')

(154) Il vaudrait mieux oublier cette affaire

(155) Ils voudraient déménager

Sometimes, frequently in fact, the non-modal and deontic uses are counterfactual in force. Once again, however, it is the epistemic items which are the more interesting.

Devoir and pouvoir can both have epistemic force with this tense, but it is easier to find examples with pouvoir than with devoir. Why should this be? Certainly, it is the case that it is difficult to give an epistemic interpretation to examples with action verbs, like:

(156) Il devrait travailler

(157) Elles devraient prendre la voiture
It is difficult to find a satisfactory explanation for this. However, we did notice similar facts in English, in which it is easy to find examples for epistemic could and might but less so for should and ought to. There seems to be some factor of a general nature which affects the combination of 'logically necessary + conditional' but not that of 'possible + conditional'.

3.12.6. Effects of the Past (or Perfect) Conditional

The Past Conditional in French is the counterfactual form par excellence. This is a fact that affects more than simply the items we are concerned with here, but it is of special importance for them, and is also important for a comparison of the two languages. A few examples will be useful:

(158) Il aurait dû vous en parler
(159) Il aurait fallu me le dire
(160) Elle aurait pu donner plus de détails
(161) Ils auraient su s'arranger pour venir
(162) Il aurait mieux valu essayer ailleurs
(163) Il aurait voulu partir plus tôt

The counterfactual nature of such sentences is quite clear. What is also clear is the fact that, though clauses with si could quite easily be added to these sentences, they are quite complete without any. The force of the forms, especially in (158) and (160), is clearly independent of any syntactic support, though, naturally, context of situation keeps its usual importance.

In examples like these, i.e. without si, devoir and
pouvoir cannot normally have epistemic force, see Huot (1974: 47). This presumably derives from the counterfactual nature of sentences using this particular tense form, since epistemic sentences are only counterfactual with would have -ed in English and the past conditional of ordinary verbs, outside the -oir group, in French. The combination of notions of 'possible', 'probable' and 'logically necessary' with contrary-to-fact force seems impossible in either language. We may speculate as to whether this is a universal fact.

This means that we shall interpret sentences like:

(163) Cela aurait pu être vrai
as meaning 'facts in the situation made it possible for things to turn out otherwise' rather than 'it is possible - things would have been different'. The difference is perhaps small here, but is much clearer if we take examples with devoir like:

(164) Cela aurait dû être vrai
which are difficult if not impossible to interpret. The best interpretation we could give would be one that assumed that the speaker was angry with the universe for not arranging things differently, which has deontic force.

This strong deontic, counterfactual force is, if anything, even stronger in the negative than in the positive.

A few remarks on example (163). In some cases this form is not so much counterfactual as tentative/polite. So that:

(165) J'aurais voulu voir M. Dupont
will be read as 'I should/would like...' rather than 'I should/would have liked...', though, of course, the second
is just possible in English, too. Since counterfactuals are particularly interesting in the deontic area we shall concentrate on that area.

Here are the items that seem to me interesting:
- aurait du: should have
- n'aurait pas du: shouldn't have
- aurait pu: could have ('capability' or 'permission'), also might have ('suggestion')
- n'aurait pas pu: couldn't have
- n'avait pas à: (in some contexts) needn't have
- aurait eu à: would have had to
- n'aurait pas eu à: wouldn't have had to
- aurait fallu: should have, would have had to
- n'aurait pas fallu: shouldn't have, wouldn't have had to
- aurait su: would have managed to
- n'aurait pas su: wouldn't have managed to
- aurait mieux valu: would have been better to
- aurait mieux valu ne pas: would have been better not to
- aurait voulu: would have liked to, (mitigated = polite) would like to
- n'aurait pas voulu: wouldn't have liked/wanted to.

It is clear that there is a wide range of French forms, which results from the fact that all the verbs concerned have a Past Conditional form. English makes a clear distinction between things that it can handle neatly, with a 'remote modal + Perfect infinitive', and those that it handles only with 'would + VP in the Perfect infinitive'. The counterfactual force of the French expressions comes from the Past Conditional tense, that is from a general fact about the language, whereas in English the group 'remote modal +
Perfect infinitive* is a rather special one.

We shall return to all these questions later, see 7.4.

3.14. PROVISIONAL CLASSIFICATION OF FRENCH ITEMS

3.14.1. General

In section 2.19, we discussed the English modals and placed them in sub-categories. We shall now do the same for the French items. The main sub-divisions are the same. We shall, for the time being, include all the -oir group in our discussions.

3.14.2. Non-modal

All the French items have non-modal uses; these would appear in each case to be their original ones, a fact that is not true of the English items. Examples for each verb follow:

(166) a. Je lui dois de l'argent
    b. Il faut au moins six chaises
    c. Tu pourras en trouver dans tous les magasins
    d. Elle sait déjà que c'était faux
    e. Cela vaut plus qu'il ne paraît
    f. On veut une table pour cinq personnes

3.14.3. Deontic

The French items can be used both to issue and to talk about mands. When used to issue mands, there are some restrictions on tense, etc.

(167) a. Tu dois nous quitter
    b. Il faut absolument en finir
    c. Tu peux en faire tout ce que tu voudras
d. Il vaudrait mieux nous écrire tout cela

e. Veux-tu te tenir tranquille?

Savoir does not have a deontic use, and those of vouloir are somewhat restricted. Another example would be

Vous voudrez m'excuser, je vous prie.

3.14.4. Epistemic

Except dialectally for vouloir and perhaps rather archaically with the Conditional form saurait, only devoir and pouvoir are used with epistemic force. Examples are:

(168) a. Elle doit avoir au moins onze ans

b. Ils ont pu oublier

With these two modals, unlike with the English ones, certain tenses other than Present or Conditional (= remote) are possible, in particular Imperfect and Perfect - also Pluperfect.

3.15. THE HISTORICAL SCALE FOR ENGLISH AND FRENCH

3.15.1. General

In section 2.19.6. I presented a 5-point scale which accounted for the development of the English items, in so far as comments from Traugott (1972) allowed me to do so. I now wish to look at the French items from the same point of view to see whether this necessitates any change in the scale in order to take in both languages.

1. The verbs selected to be used for deontic and epistemic force were first used in the deontic area. The subject is 'internal' to the following predication. The French group presents no difference from the English, a number of the items having nearly exact equivalents in the
two languages, e.g.:
- **devoir** = owe, cf. ought to
- **pouvoir** = the original sense of *may/might*
- **savoir** = the original sense of *can/could*
- **vouloir** = the original sense of *will/would*

We can even take in the other French items:
- **falloir** = need, as in archaic *it needs but a shilling from £2* (= is lacking).
- **valoir mieux** = had better (though here the parallel item is the better)

2. The performative force developed with those items felt to be of deontic force. This again was a natural process, as in English, though we should note that *savoir* has never been used deontically.

3. *Devoir* and *pouvoir*, and, dialectally, *vouloir*, developed epistemic uses. Unlike with English, the whole group did not follow their lead, so that the deontic and original (non-modal) senses have remained the commoner amongst the group. Standard French has therefore only two 'modal items'.

4. Some morphological and syntactic features are common to the -oir group and to *devoir* and *pouvoir* in particular, but it is far more difficult to identify this group than it is the very special group of modal verbs in English. One feature that is specific to both languages is the absence of an Imperative for modal items, (as for stative verbs generally).

5. The French items have not reached stage 5 in any instance.

6. We suggested a possible stage 6 for *may* at some
time in the future at which it could possibly lose its
deontic meaning and have epistemic force only. This stage
would be open to items having reached stage 3. There are
no indications that this is happening in French.

3.15.2. Discussion

We can note the extreme stability of the French items;
in fact, most of the facts noted were probably true in Latin,
or at least by the Gallo-Roman period. Certainly, it is
clear that debeo was used in Medieval Latin in its epistemic
(what Huot, 1974, calls 'probabilité/futur') use; see,
for instance, Turkowska (1971-2) in which it is stated that
debeo was used as a suppletive form in Classical Latin, though
the force may have been closer to that of Modern French
aller faire.

It is also clear that, with their stable nature, the
French items have not shown a tendency to 'drift' from weak
to strong, nor indeed in the opposite direction. The need
for suppletive items such as ought or need in has never
been felt.

The English group have shown a tendency to 'performativ-
ize', that is, to be used, when applying to the deontic area,
only with 'speaker hereby issues mand' force, (or with 'speak-
er asks hearer to say 'yes' or 'no' - hearer issues mand'
force). In such cases, particularly those of must,
may/might, shall/should and ought to, the original sense of
the verbs concerned, their non-modal sense, has been lost;
even will/would, which have kept their original sense, have
done so in a restricted way; only can/could have managed
to keep their original 'know how to' sense while developing others. The French items, by contrast, have kept their non-modal senses and can, in some contexts at least, take NP objects. This does lead us to wish to make a further distinction for the English items so as to distinguish between those that have lost stage 1 senses. We shall suggest a revised list of stages later in this section.

Since the French items have not in any instance reached the 'performativized' stage 5, they do not present the special characteristics of the English group such as no past time reference. All the French items, as we have seen, have tenses referring to past time. This goes so far that devoir and pouvoir, the only French modal items, even use past tenses for past time through 'tense raising' in their epistemic senses, something that the English items never do, even in cases like can/could and will/would where the remote form does have past time possibilities.

3.15.3. Teaching

We noted for English that the historical movement in the whole group gave 'dynamic reasons' for teaching, for example, can for permission. Parallel problems do not arise within the French group, because of its static nature, which has meant that purists have had little to do with prescriptions and proscriptions in this area. For French, such rules apply to other areas in which the written language has got 'fossilized' at a particular intermediate stage, such as Past Participle agreement, but not to the -oir verbs. It would be interesting if, for instance, falloir started
to acquire an epistemic use, to see whether this usage were to be condemned. Personally, I do not think anyone would notice, since the deontic/epistemic link is already established within the group for two of its members.

3.15.4. Revised stages and speculations

We shall now attempt a revised list of stages, in the light of our comparative remarks on the modals of the two languages. We shall not include stage 4 in this list at all. Certain features will tend to follow automatically from the fact that a certain verb is used for deontic and epistemic notions; for instance, it is unlikely to have an imperative form, or, if it has, it will use it only for some other, original and non-modal, meaning. So, although stage 4 contains some interesting facts, especially about English, it will not be really relevant to the development of specific uses.

Stage A

A verb with non-modal sense acquires deontic meaning, initially without performative use. E.g. have to.

Stage B

Stage A items acquire the possibility of being used performatively, but without losing their stage A uses. E.g. falloir.

Stage C

Stage B items develop epistemic meaning. (This is performative by its nature, since it involves speaker judgement). E.g. devoir.
Stage D

Stage C items specialise their deontic uses so that they are used only performatively. This involves loss, gradual but sure, of their stage A uses, both non-modal and constative deontic. E.g. *must*.

Stage E (speculative)

Stage D items lose their deontic uses, keeping only epistemic force. E.g. *may* at some future stage, perhaps.

My intention now is to widen the scope of the discussion so as to attempt some universal linguistic remarks on this area.

First of all, we can say that languages, such as French and English, which follow the above stages at least as far as stage C are 'modalising' languages, that is, they take items with deontic uses and allow them to acquire epistemic uses. We could speculate as to whether any natural languages allow the opposite process, ('deontification'?), in which items with epistemic force acquire deontic uses; we suggested in section 2.12.9. that *be to* in English was possibly such an item. If this were agreed, English would be classified in both categories, though with a clear tendency to 'modalise'.

'Modal items', as we have already said, are those items which have both deontic and epistemic force, i.e. they are the items which allow us to identify 'modalising' (or 'deontifying') languages. This means that *may be* and *peut-être* are not modal items, since their only force is epistemic.

Languages like English which have reached stage D, at
least with some of their items, can be labelled with the (unfortunately long) title of 'performativizing' languages. We could divide such languages into two groups, the first, like English, which allow this tendency to modal items, and the second, which would not have or would not use modal items, but would allow the special performative use to items with deontic force only. This would happen in French if falloir, without acquiring an epistemic use, became specialised performatively, and ceased to be used to talk about mands (i.e. constatively). If we were to find that there are no languages in the second group, then this would be explained by saying that only languages with modal items, i.e. with epistemic force which is by its nature performative, can develop deontic items with only performative force.

In other words, the sequence would have to be:

(i) acquire items with (constative) deontic force,
(ii) give them also performative deontic force,
(iii) give them epistemic force,
(iv) allow the performative nature of the epistemic and performative deontic uses to affect the deontic use to such an extent that it, too, tends to be used only performatively; this also involves loss of non-modal meanings.

In this process, the historically later meaning affects the earlier one, ensuring its continued development along the path to 'performativization'.

It should be made clear what proportion of the above remarks is speculative. I think that English did most likely follow the sequence (i) to (iv) above, though only research by someone considerably better qualified than myself
in the historical area could confirm or disprove this. But whether this is the path followed by all languages which have, like English, reached stage D is purely speculative. If it were proved true, then we would have an interesting universal, the principle of which would be that only languages with modal items can make the deontic senses of those items acquire a 'performative-only' force.

To sum up for English and French. English has reached stage D, and is therefore a 'performativizing' language; French has reached stage C and is only a 'modalizing' language. This is shown further by the fact that all the French items have kept clear non-modal senses, whereas only the can/could pair has in English.
SECTION 4

A PRELIMINARY COMPARISON OF THE ENGLISH AND FRENCH ITEMS
4.0. CONTENTS OF THE SECTION

This section attempts to compare all the interesting points that have arisen in sections 2 and 3, and also to prepare the way for the more theoretical considerations of part B.

4.1. THE DEONTIC AREA

4.2. THE EPISTEMIC AREA

4.3. TABLES FOR DEONTIC AND EPISTEMIC AND THEIR NEGATIVES

4.4. THE 'FUTURE' AND THE 'CONDITIONAL'

4.5. COMBINATIONS OF DEONTIC, EPISTEMIC AND NON-MODAL ITEMS

4.6. COUNTERFACTUALS

4.7. SUMMARY OF POINTS OF LEARNING DIFFICULTY

4.8. JUSTIFICATION FOR MORE ABSTRACT ANALYSIS
4.1. THE DEONTIC AREA

4.1.1. General

The following items are used in French: devoir, falloir, pouvoir, valoir mieux and vouloir (in some uses). To these must be added items like avoir à, Être censé/supposé, Être permis/obligé and others we shall not have space to discuss, like interdire, avoir le droit de, etc. In English all the modal verbs (if we except dare) can be used in this area as well as have to, be allowed to, had better and numerous others.

4.1.2. Performative/constative

It is at this point that we shall justify the distinction made between the performative and constative uses of these various items. This is the major factor which, to my mind, separates the English group from the French one. The distinction can be described as follows:

The modal verbs of English, in their deontic uses, have shown a clear tendency to be used only performatively; the French items can be used performatively, but also constatively, and cannot therefore be said to show any such tendency.

The justification for this has partly been covered already, see, for example, sections 2.12.2., 2.18.6, and 3.15.2. Here we shall re-capitulate the reasons and add some further details.

The term 'performative', based on Austin (1962) and used in various senses since then, is used for various types of language activity, in particular the kind known as 'speech acts', in which the essential element is that the
speaker of the utterance 'performs' one or more 'acts' by
the very fact that he does indeed utter something meaningful.
I call this particular position in which any speaker of any
utterance necessarily finds himself as the 'speaker
hic et nunc'. The term 'hic et nunc' refers to the fact
that the speaker utters whatever he does at a particular
time and in a particular place; the time is the more
important of these two. Now, clearly, any time I utter
something I am doing one or more of a number of possible
things. I may just be vocalising, or imitating sounds in
a language that I do not understand; or I may be play-
acting or reading or quoting out loud what others have said
or written. None of these interest us here; we are
concerned only with what is sometimes called 'interaction',
in which the speaker utters things which are meaningful,
which he intends to be taken seriously and which he expects
his hearer or hearers to react to, either verbally or in
action. (See Halliday, 1970, for a more detailed discussion
of notions of this sort.)

We can label the moment of utterance as the 'performative
present'. This is distinct from other kinds of 'present',
linguistic or not, in that it is punctual, i.e. without
duration, and that it is associated with one utterance of
one speaker.

We can immediately think of a few kinds of 'act' which
occur in this 'performative present'. Some of them are
traditional notions associated with different types of
sentence, such as stating, asking questions and giving orders,
corresponding to affirmative, interrogative and imperative
types of sentence. We shall discuss these, and their place in the sort of formulae we shall be using, in section 7.

To return to the modal verbs of English in their deontic uses, we have already said that, when used in statements rather than in questions, these verbs are used to issue mands. This means that if we use must, may, might, should or ought to in an utterance, we are exerting our authority in the performative present and not at any other time. This leads to the distinction, quoted from Leech (1969) in section 2.12.2. between must and have to (and also between may and can).

It seems to me, as I said in that section, that these facts are seen most clearly in examples with time adverbs included in them at the appropriate point in the sentence.

(1) ? I always must speak quietly
(2) ? You sometimes may talk to her

If we change the position, then the sentences become quite acceptable:

(3) I must always speak quietly
(4) You may sometimes talk to her

What is the force of (3)? In my opinion, it would only be used in reported speech, a point that we shall return to shortly. The force of (4) is to give permission to the hearer to 'talk to her', and the 'sometimes' will follow the performative present, i.e. (4) cannot be interpreted as 'you are (already) permitted to talk to her sometimes'.

This would be expressed as:

(5) You are allowed to talk to her sometimes (I know it is so)

Now let us contrast the following pair:
(6) a. They must finish it by tomorrow

(7) They have to finish it by tomorrow

Clearly, the first involves the speaker issuing some kind of mand (though Halliday, 1970: 344, would appear to disagree). This is not necessarily direct obligation from the speaker, since we could have: 

(6) b. They must finish it by tomorrow if they want to get away

where the force is more one of advice, but the point remains that in (6.a) and (b) some kind of mand is being issued whereas in (7) the speaker is simply referring to what he knows about orders issued by someone else.

R. Lakoff (1972: 240) uses two terms relevant to this discussion; they are 'go along (with)' and 'sympathy'. Even if the speaker is not directly obliging the hearer to do something when he uses must, he is, at the very least, going along with, or sympathising with, the issuance of the mand in question. This is particularly relevant to cases with 'I' subject, as we shall see shortly.

If we take examples with may and can, we see similar facts emerging.

(8) You can walk on the grass here

(9) People can park there

These would normally be used to talk about what is already permitted, and that can be seen to be permitted from notices or other published regulations, whereas if may were to be used in (8) and (9) the force would be of the speaker allowing something as of the performative present, or at least 'going along' with a permission.
Does this mean that can and have to can never be used to issue mands as well as to talk about them? No, they can be so used. This can be seen if we preface (7) by Now, look here! or (8) by All right. This is, I believe, part of an important general principle:

Constative deontic items can be used performatively but the converse is not true.

This is, in fact, the situation in French (and in other languages). Devoir and pouvoir can be used both to talk about mands and to issue them, so that sentences like the following are ambiguous:

(10) Il doit travailler

which can be interpreted as 'he has to' or 'he must' (I say so as of now). This means that there is an important distinction between English and French: English has both constative items and performative ones; French has only constative items, (though, as we said in the statement of general principle, constative items can also be used performatively given an appropriate context).

Most importantly, these ideas give us a good reason why most of the English modals do not use their remote forms for past time. Since they are restricted to the performative present, the past time force is quite simply excluded on general semantic grounds. Of course, one could look at the whole question the other way round, and say a form like must is itself originally a preterite, so that past time meaning is excluded for it anyway. This is true, but does not alter the fact that, however the position arose, the English modals have shown a tendency to become linked to the
performative present and that this ipso facto excludes past time reference. The constative items, have to and can, devoir and pouvoir, are not restricted in the same way, so that we can have, for instance, past time or extended present time reference, as in:

(11) He had to leave
(12) He often has to work hard

The future can naturally apply to performative and constative items alike. But there is a difference between the following:

(13) He must leave tomorrow
(14) He has to leave tomorrow

In the first the mandate is being issued or 'sympathised with', in the second it already exists.

Comparing French and English, we find that have to is 'less ambiguous' than devoir, precisely because of the existence of must. It would take precise context for us to know the exact force of:

(15) Il doit partir demain

Either the speaker could be giving instructions or he could be referring to instructions which already exist. The first interpretation would be unlikely in the case of have to.

Within English, if we compare two constative items, can and have to, we can find a difference between them. Although can is not a performative item in the way that may is, it is still affected by the general tendency of the whole group of modals to become 'performativized'. It is this that has led to the whole problem of correctness between may and can. Although may is a performative item,
can is available for performative use if the context allows it, as we saw with (8). This fact has tended to reinforce the tendency of may to be used only authoritatively. Have to, though it can be used performatively, as we saw with (7), tends to avoid this, though it is quite common in sentences like:

(16) You'll have to tell her yourself
But here it is the will, the first very, which bears the brunt of the authority; the have to supports it, of course, very effectively.

4.1.3. Reported speech and first-person mands

We shall now return to the question of reported speech which we mentioned when discussing (3). If sentences with must are always used to issue mands in the performative present, then surely it should be impossible for must to co-occur in affirmative sentences with I, unless the speaker were addressing himself - talking to himself and giving himself orders, in which case English speakers tend to use you anyway. We are concerned with sentences like:

(17) Well, I must be off/running along/on my way
(18) I really must remember to ring you when I find out the date

Note that in (18) have to would sound decidedly odd unless the whole sentence were preceded by I know that or something similar. For (17) have to is possible, but has a quite different effect, referring to the existence of an exterior obligation. There is not the same urgency, somehow, as with must, which urges upon the hearer the internal 'need to be off' of the speaker. I find both (17) and (18) very
'performative' in force, in the sense that **must** is used very much to impress upon the hearer the fact that the speaker is feeling - and saying - something as of the speaker **hic et nunc**. **Have to**, by contrast, is much more cold, distant and general. So there is no doubt about the 'performative present' status of **must** in these cases. Now let us consider:

(3) **I must always speak quietly**

(19) **I must make a weekly report**

Here, we could feel the force as a kind of 'self urging' or as reported speech. In English, we can sometimes use both **must** and **have to** to report the same utterance, so that:

(20) **You must look after the cat**

could be reported by either of the following:

(21) a. She said **I must look after the cat**  

b. She said **I had to look after the cat**

**Must** would be preferred in many cases, especially with **says**:  

(21) c. She says **I must look after the cat**  

or possibly:

(21) d. She says **I've got to look after the cat**

If we take examples with **may**, we will often find either **might** or **could** used to report what was said:

(22) **You may help yourself**

which could be reported in a number of ways:

(23) a. He said **I might help myself**  

b. He said **I could help myself**

but not:

(23) c. He said **I was allowed to help myself**

though:
(23) d. He allowed me to help myself would be possible, if I did, in fact, help myself. Another example with may which I noted was:

(24) What is it we mayn't keep?

i.e. 'what is it we have been told not to keep?'

4.1.4. Performative tendency and 'link' modals

Do all these facts not destroy my position that the English modals are mainly used performatively? I think not. They do lead me to place restrictions on any statement about their performative nature. At most we can say that the English modals show a tendency to be used performatively, a tendency which is particularly marked with must, may, should, ought to and modal need, less so with can. The result of this is that the only remote form associated with the above list, might, is only used with past time reference if the context makes it clear that the speaker is reporting past events. An unattached occurrence such as:

(25) He might leave will certainly not be interpreted in my dialect as meaning 'was allowed to'. By contrast the parallel form could is ambiguous, so that:

(26) He could leave can be read as 'had the permission' or 'I suggest', i.e. as past time constative or as performative present 'remote permission'.

We shall now extend this discussion to will and would. In some cases it is clear that would could not possibly be read as having past time reference:
(27) Would you help me?

does not mean 'were you willing to?' Only in the negative or when it is strongly stressed (for insistence) can would have a past time reading.

(28) They wouldn't say

(29) She would have it so!

So the pairs can/could and will/would are the only ones which still keep past time reference in a clear way in the deontic area. We shall call them the 'link' modals, to indicate that their present uses include a strong link with the historical past, i.e. they have kept something of their original meanings and forces, and because they are the items which 'link' the non-modal area to the deontic area most clearly. The French items, by contrast, are all link modals, since their original meanings and past time deontic uses are still well maintained.

It is interesting to note that the separation from the other modals of can/could and will/would is also the result of the analyses of Anderson (1971) for whom they are 'internal' modals, and of Palmer (1974) for whom they are subject oriented rather than discourse oriented, (see Palmer, 1974: 100 for these terms).

To recapitulate, the English modals, in the deontic area show clear tendencies to become performative items, used only to issue or 'sympathise with' mands or to ask the hearer about their issuing. This is less true of can/could and will/would and not true at all of fringe items such as have to. This does not mean that other items, in
particular the French ones, cannot be used performatively. As we said, constative items can be used performatively, but not vice versa.

4.1.5. ‘Weak’ and ‘strong’

We now pass on to a comparison of the ‘weak’ and the ‘strong’ in the deontic area. By ‘weak’ here is meant ‘permission’ and by ‘strong’, ‘obligation’. It is true, as Professor Lyons pointed out in one of his seminars (1974), that these two can be seen to overlap, given the right context, so that both of the following can be used to ‘urge’:

(30) You must have another piece of cake
(31) You may kiss me

However, we shall distinguish between them here.

In both languages there is an item for each member of the pair, so that we can establish correspondences, (not synonyms), as follows:

**Weak:** Pouvoir = can, may

**Strong:** Devoir = must

In each case we also need a ‘modified’ or ‘conditional’ item to correspond to the ‘straight’ item. Such items will be available for use in counterfactual utterances. This gives us another table:

**Weak:** Pourrait = could, might

**Strong:** Devrait = should, ought to

We have already mentioned in section 2.8.7. the notion that should and ought to can reasonably be considered as the remote equivalents of must. Here we use evidence from
French to confirm this parallelism. This can be seen clearly if we give a few examples:

(32) You must do that = Tu dois faire cela
(33) You should work harder = Tu devrais travailler plus
(34) You should have told me = Tu aurais du me le dire

To return to the 'weak' items, we can see that both pourra\^it and could/might can be used to make suggestions of courses of action.

(35) You could write to her = Tu pourrais lui \^{éc}rire

They can also be used in polite questions:

(36) Could/might I have a word with you? = Est-ce que je pourrais vous parler un instant?

We have noted that English has more actual items in its system than French. This is partly necessitated by the fact that must has no remote form, so that should and ought to act as suppletive forms. But in the case of need English has introduced a very useful item, useful because of its negative form. Here is the table for the negative forms:

<table>
<thead>
<tr>
<th></th>
<th>Non-remote</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weak</td>
<td>ne peux pas, can't, mayn't</td>
<td>? might not (in questions - ne pourrais tu pas?, couldn't you?)</td>
</tr>
<tr>
<td>Strong</td>
<td>ne dois pas, mustn't</td>
<td>ne devrais pas, shouldn't, oughtn't to</td>
</tr>
</tbody>
</table>

(Remote negative permission seems an odd concept, hence the difficulty of filling the upper right box.)

Where, in this table, is the slot for needn't? All the above involve modal negation in the weak and propositional negation in the strong. French seems to have been
content with this, but English has 'chosen' to allow for the other possibilities actually within the modal system, without having recourse to items like have to. Need can also function either as a remote or as a non-remote item. As a result, it can be used to mean 'not - obliged' (remote or non-remote) and also 'permitted - not'. This can be seen by the fact that needn't can be used to answer questions of both sorts:

(37) - Must I do it now?
    - No, you needn't
(38) - May I tell her?
    - Yes, but you needn't if you don't really want to

So we need a table which allows for all possibilities. (See 4.3.1., Table I).

Looking at this table, we notice that French uses items not within the -oir group, whereas English can express everything without any need to go outside the modal verb group. Once again, the great cohesion of the English group is demonstrated. As a teaching problem, this means that French speakers have more to master, but that the whole English group is very systematic once learnt. For English speakers learning French, the problem is for them to note the differences in negation and the need to introduce other items. In particular, English speakers, having associated devoir in their minds with have to as well as with must, use ne doit pas to mean 'don't have to', which is quite wrong. French speakers experience trouble with the 'social use' differences between can and may and with the subtle differences between the items like needn't which are strictly within the modal system and those like don't have to/
don't need to/haven't got to, which are linked to it but outside it.

4.1.6. Perfect infinitive

Both the English and French items in the deontic area are similar in placing restrictions on co-occurrence with the Perfect infinitive, with 'straight', i.e. non-remote, items. Forms like must have done, may have done and doit l'avoir fait tend to be restricted to the epistemic area, except in a few cases where future reference is possible, as with:

(39) You must have finished it before he gets here

English has, however, developed to a considerable extent the structure:

Remote modal + Perfect infinitive

whereas French, for the same kind of sentences, uses the structure:

Past Conditional tense of modal

We discuss the importance of these structures in the two languages in section 7.4. For the moment, we are concerned to explain why the Perfect infinitive is rare with the non-remote (or French Present tense) modal forms.

The answer may seem very simple and obvious, since the deontic modals are concerned with influences on action, a direct infinitive seems most appropriate. This is part of a general principle. If we take Imperatives, the most traditional type of mand-issuing sentences, then we can see straight away that it is unusual, (though not impossible), to find sentences like:
(40) Be doing it
or:
(41) Have done it

An expression like Have done is archaic. We could find examples like (40) in contexts like a director telling an actor what to 'be doing' at a certain point in a play; we also meet with it in the examination context:

(42) Be finishing off now, please!

But generally it is the simple form that is used in imperatives. This is true whether the action is to be carried out once or many times. Passing on from imperatives, we find that the simple infinitive is normal not only with modals, but with other verbs which are involved in similar notions:

(43) I want you to leave

(44) He expects us to work hard

Again, forms with other infinitives, though they certainly occur, are unusual. We have taken evidence from English rather than from French, mainly because in English the evidence is better, since there is a be -ing infinitive as well as a have -ed one and because sentences like (43) and (44) would most likely have 'que + Subjunctive' in French. But the general principle remains unaffected by the difficulty of finding parallel evidence in French.

Normally, dependent infinitives in sentences involving deontic/action notions tend to be simple infinitives. These facts are then not particularly interesting from a comparative point of view; rather they are part of a more general phenomenon which happens to affect the syntax of both English
and French. This phenomenon affects the modals in the deontic area since:

(a) you cannot issue mandates for actions in the past
(b) infinitives in sentences involving deontic/action notions tend to be simple infinitives.

This discussion has led us to mention in passing the Continuous infinitive (be -ing). This, of course, only occurs in English and has no parallel in French. However the same general principle mentioned in (b) above applies to this infinitive as well. So it, too, tends to be unusual in deontic sentences.

4.2. THE EPISTEMIC AREA

4.2.1. English expansionism

Here the items which can be used in French are restricted, for normal purposes, to devoir and pouvoir. We can add items like être censé/supposé as well but the main items outside the -oir verbs area are, of course, the many adjectives and adverbs like possible, peut-être, nécessairement and so on. In English, by contrast, all the modal verbs are used in sentences with epistemic force, even if there are some restrictions on a number of them. English has done this while keeping as many adjectives and adverbs as French.

The 'expansionist' tendencies of English in this area, that is the movement towards a principle which would say: 'Any deontic item can be used as an epistemic one as well', is seen if we look at two examples outside the modal verb group. First, both French and English have an item certain,
but parallel sentences do not have the same force. If we compare:

(45) Jean est certain de venir  
(46) John is certain to come

then we have two sentences in which the role of the subject is different. In (45) the sense is 'John is certain that he (John) will come' whereas in (46) the sense is that the speaker is certain that 'John will come'. Briefly, English permits raising while French does not and the simplest sentence in English is the epistemic one, that is the one in which the speaker's estimation of truth-value is important.

A second example concerns have to. We noted in section 2.12.2. that this form occurs dialectally, mainly in North America, with epistemic force. Avoir à, by contrast, along with other items actually inside the -oir group, has not acquired epistemic force.

So, although English certainly has not reached a point at which it follows the principle mentioned above, it has shown a definite tendency to expand from the deontic into the epistemic area, that is, deontic items have often acquired epistemic senses, even when, as with must and have to, there is already an item occupying the relevant place in the system.

4.2.2. Performativization

When discussing the deontic system, we talked about the notion of 'performativization' (see also 3.15.4.). When dealing with epistemic items, we find that these are, by
their very nature, performative. This means that they are always used, (except in reported speech), to give the speaker's judgement of truth-value. This judgement is issued at the performative present. We can see that this is so if we take a simple example, the English word possible.

Possible has two main senses, (or three if we separate the physically possible from the permitted). These two senses are exemplified in the following:

(47) It is possible for her to come tomorrow
(48) It is possible that she will come tomorrow
(47) talks of what is physically possible (or permitted)
and (48) talks of what the speaker thinks will conceivably be the case. Now, we want to show that sentences like (48), except in reported speech, are firmly based in the performative present. This can easily be seen by the oddity, indeed absurdity, of sentences like:

(49) It was possible that she will/would come tomorrow

If we wish to give an interpretation for such sentences, then we have either to interpret them like (47), i.e. that 'it was possible for her to come', or else we have to interpret the was as equivalent to seemed. By contrast, sentences like (47) have a free time scale, so that the following are perfectly acceptable:

(50) It was possible for us to see the coast
(51) It will be possible for you to borrow the car

From this we can derive a general principle:

Epistemic judgements, except in reported speech, are by their nature performative when uttered.

This means that whenever we use any of the items like must
or *devoir* then the performative present is involved. This includes their use in interrogatives, where instead of the speaker's judgement it is the hearer's which is in question. (See further Halliday, 1970: 336-7).

4.2.3. Tenses in the two languages

We noted that the French items could be used epistemically in tenses other than the Present. The English remote forms are not used with past time reference when used epistemically. Past time in the proposition is handled with the Perfect infinitive, so that examples like the following, with remote forms, could not be interpreted as having past time references:

(52) It could/might be in the second drawer down

(53) He would be at least 80 years old, I reckon

French, however, does allow past tense forms to have past time reference:

(54) Il devait être 8 heures

(55) Il pouvait avoir 40 ans à l'époque

Does this not go against the general principle mentioned above? Because the principle appears justified by the English examples, which always put past time reference in the following infinitive, but not by the French ones, which allow both past tense and Perfect infinitive possibilities. I think we can maintain the principle by saying that even (54) and (55) involve 'speaker *hic et nunc* judgements. It is clear that the sense of both sentences is that the speaker, as of the performative present, says that in his judgement it is likely/possible that some fact was true.
So we have kept our principle. But an interesting fact has emerged about the different structure of English and French. English does not allow remote form (= past time) to occur with modals but French does. French therefore has two possible structures with very similar forces, so that there is little difference between:

(56) Il a du le faire
(57) Il doit l’avoir fait

at least in some contexts. English does not have these possibilities, which creates a teaching problem since (56) is a more common structure than (57). Similarly, for French speaking learners, there is a problem in remembering to use a Perfect infinitive and in not assuming that a form like could can have the force 'is possible - that was'.

The above only applies to the past tenses of the French items. Forms like devra and pourra are restricted to the non-modal and deontic areas. The conditional tense, on the other hand, acts, as in the deontic area, rather like the remote form's non-actual use in English. This means that the form pourrait is similar to could/might and devrait to should/ought. At least, that is the principle. For devrait, I found disagreement among my informants, some of whom allowed devrait with epistemic force and some of whom did not (see 3.1.5.). Huot (1974: 47) does allow it so we must include it at least as a possible epistemic form. Besides, we did note that there were some restrictions on the use of should and ought to in the epistemic area; they only existed in some
time contexts, (see section 2.8.4.). So we can view the native speakers' hesitations on the status of epistemic devrait as normal. For some reason, 'modified logical necessity' is a 'less useful' concept than 'modified obligation' (see 3.13.5.).

4.2.4. Perfect infinitive

We have already mentioned that the Perfect infinitive was used in both languages. In the deontic area we noted some difficulties with this construction; these are absent here. This ease of occurrence can be explained quite easily by referring to the general principle that we expressed on page 227. Since the value of the epistemic modal is present performative and since the purpose of epistemic judgements is to give the speaker's estimation of truth-value for some fact, it is clear that the time scale of that fact must be free, so that we can say all of the following:

It is certain/possible, etc. - that it was the case that it is the case that it is going to be the case, etc.

English only has one possible construction here. In the deontic area only remote modals occurred with Perfect infinitive so that a non-remote modal with Perfect infinitive will normally be reserved for the epistemic area. This freedom extends to the Continuous infinitive as well:

(58) He must/may/will have left by now
(59) She must/may/will be having a good time
(60) They must/may/will be going to leave tomorrow
In French, on the other hand, there are two possibilities, as we saw with examples (56) and (57). As far as the Perfect infinitive is concerned, examples like the following certainly occur:

(61) Il doit/peut être parti
But things are less clear cut because of the other possibility, which would give:

(62) Il a dû/pu partir

It is interesting to note at this point that French has the syntactic means, at this point, to distinguish the deontic from the epistemic by using different structures. The fact that it has 'chosen' (to be anthropomorphic) not to do so indicates the extent to which, in French as in English, the deontic and the epistemic are so confused – perhaps 'intermingled' is a better term – that the languages do not 'feel the need' to distinguish them.

4.2.5. **Se pouvoir**

Where the two languages are distinct is in the reflexive area; French has the item *se pouvoir* which has no parallel in English. There is also the item *se vouloir* which, while not strictly epistemic since it does not deal with the speaker's estimation of truth, still is involved in similar notions. The existence of *se pouvoir* is convenient for structures in which the speaker wishes to express complex notions which are best dealt with in a separate clause. English *it may be that* has a similar effect.

(63) Il se peut qu'elle ait pensé le faire aussitôt
4.2.6. Negation

We shall now move on to the negative forms, which, as we saw in the deontic area, present us with some interesting facts and the learners of the two languages with some problems. But first of all, the 'strong/weak' items need to be established. Here we only have to remember that there are restrictions on the use of can and may, the first tending to be used in questions and the second in statements.

<table>
<thead>
<tr>
<th></th>
<th>Non-remote</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>doit, must</td>
<td>devrait, should/ought to</td>
</tr>
<tr>
<td>Weak</td>
<td>peut, can/may</td>
<td>pourrait, could/might</td>
</tr>
</tbody>
</table>

Passing now to the negative forms of the above, we note that the negative forms of the remote items in the 'strong' row are difficult to imagine, again something that we noted with the deontic area. Let us list all forms, nonetheless:

<table>
<thead>
<tr>
<th></th>
<th>Non-remote</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong</td>
<td>ne doit pas, should'n't</td>
<td>ne devrait pas, shouldn't/oughtn't to</td>
</tr>
<tr>
<td>Weak</td>
<td>ne peut pas, can't, may not</td>
<td>ne pourrait pas, couldn't, might not</td>
</tr>
</tbody>
</table>

As we have noted before, the form mustn't is not used epistemically in the standard language, though it is used dialectally. This leads to the gap in the 'strong non-remote' box.

Whereas, in the deontic area, can't and mayn't showed
equivalent effects of negation here they have quite different senses, and are to be analysed as 'not possible' and 'possible – not' respectively. French can make this distinction only by using 'peut – ne ... pas'. With the remote forms couldn't and mightn't the distinctions made between the non-remote items is maintained.

Because of the difference between can't and may not, the form needn't no longer has the same usefulness that it had in the deontic area. The empty place in the box labelled 'strong non-remote' can easily be filled by can't and the notion 'not certain that true' can be expressed by may not. Needn't is also used, however; this shows, once again, the tendency that English has to allow epistemic force to items originally only used in the deontic area.

In many varieties of English, especially in North America, the forms have to or have got to are used epistemically. As far as I can tell, however, the negative of these items is not used, presumably since can't and may not are found sufficient; it is true also that it is often in these dialects that the form mustn't is used epistemically, which leads to a rather confused situation in which have to is used for the positive and mustn't for the negative, neither form being possible in standard British English. This presents no problems to native speakers who react without surprise to the different varieties, but does constitute a problem for learners who have to understand the variations as well as for the writers of text-books and for teachers who have to decide which forms to teach for productive use. Certainly, it is important,
at the very least, that students beyond the elementary level should be made aware of the variations.

Once again, we need a table to indicate all the possibilities. (See 4.3.1. table II). Here, as in the deontic area, the striking thing is the few items that French uses as compared to English. The same two verbs appear constantly. In this case there is not even the possibility of using forms like avoir à. The extra possibilities here come from the existence of epistemic-only forms like peut-être and il se peut que, the second of which allows both negatives as in:

(63) Cela ne se peut pas
(64) Il se peut qu'il ne l'ait pas terminé
(64) could also be rendered with little difference of meaning by:
(65) Il ne l'a peut-être pas terminé

French does not make use of one of the possibilities that appears syntactically acceptable, so that the following does not occur according to informants:

(66) * Il doit ne pas le faire

4.2.7. Adverbs

A few remarks on the adverbs. Here is a fairly full list for both languages:

<table>
<thead>
<tr>
<th>English</th>
<th>French</th>
</tr>
</thead>
<tbody>
<tr>
<td>possibly</td>
<td>*possiblyment</td>
</tr>
<tr>
<td>maybe</td>
<td>peut-être</td>
</tr>
<tr>
<td>probably</td>
<td>probablement</td>
</tr>
<tr>
<td>certainly</td>
<td>certainement</td>
</tr>
<tr>
<td>no doubt, doubtless</td>
<td>sans (aucun) doute</td>
</tr>
<tr>
<td>necessarily</td>
<td>nécessairement (both commoner in the negative)</td>
</tr>
</tbody>
</table>
Each language has items for which there is no real parallel in the other such as *conceivably* and *censément*.

From a teaching point of view, the problems are similar to those in the deontic area; more items in the English group but a 'tighter' system once mastered; fewer items in the French group and therefore a tendency to use other means of expressing the same notions with adverbs, etc.

### 4.3. TABLES FOR DEONTIC AND EPISTEMIC AND THEIR NEGATIVES

#### 4.3.1. The tables

<table>
<thead>
<tr>
<th>I</th>
<th>Deontic</th>
<th>Not obliged/ permitted</th>
<th>Obliged/ permitted - not</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Obliged</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>must, have to need (in questions)</td>
<td>needn't, don't have to can NOT</td>
<td>mustn't</td>
</tr>
<tr>
<td></td>
<td>devoir, avoir à</td>
<td>?n'a pas à, peut - ne...pas</td>
<td>ne doit pas</td>
</tr>
<tr>
<td></td>
<td>Permitted</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>may, can</td>
<td>mayn't, can't</td>
<td>can NOT, needn't</td>
</tr>
<tr>
<td></td>
<td>pouvoir</td>
<td>ne peut pas</td>
<td>peut - ne...pas (n'est pas obligé)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II</th>
<th>Epistemic</th>
<th>Not necessarily/ possibly</th>
<th>Necessarily/possibly - not</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Necessarily</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>must devoir</td>
<td>needn't, may not peut - ne...pas</td>
<td>can't ne doit pas, ne peut pas</td>
</tr>
<tr>
<td></td>
<td>Possibly</td>
<td>can, may pouvoir</td>
<td>can't ne peut pas</td>
</tr>
</tbody>
</table>
We shall now attempt to combine the two systems. Forms in brackets are those only used in one of the two areas (deontic or epistemic).

### III

<table>
<thead>
<tr>
<th></th>
<th>Not X</th>
<th>X - not</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Strong</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>must (have to)</td>
<td>needn't (don't have to)</td>
<td>(mustn't)</td>
</tr>
<tr>
<td>(need)</td>
<td>(can NOT) (may not)</td>
<td>(can't) maybe omit brackets</td>
</tr>
<tr>
<td>devoir</td>
<td>PEUT - NE...PAS</td>
<td>NE DOIT PAS</td>
</tr>
<tr>
<td>(avoir à)</td>
<td>(? N'A PAS À)</td>
<td>(NE PEUT PAS)</td>
</tr>
<tr>
<td><strong>Weak</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>can, may</td>
<td>can't (mayn't)</td>
<td>(may not) (can NOT) (needn't)</td>
</tr>
<tr>
<td>pouvoir</td>
<td>NE PEUT PAS</td>
<td>PEUT - NE...PAS</td>
</tr>
</tbody>
</table>

The number of forms in brackets shows to what extent the two systems, however strong the tendency to conflate them in the two languages, fail to overlap.

4.3.2. Discussion

A number of points emerge from these tables. Some 'slots' are difficult to fill, in particular 'Strong not X' and 'Weak X - not'. in French. In English the existence of needn't allows us to fill those 'slots'.

We have already remarked in section 2.3.7. on the fact that not with may has a different effect depending on whether may is used in the deontic or epistemic sense. The same distinction works, though less satisfyingly, for can't and can NOT. The main point of interest for learners is that,
in the epistemic area, may not and can't are quite separate in meaning. In addition, can't acts for 'Strong X - not' in place of non-existent (or dialectal) mustn't. Since can is rare in the epistemic sense, except in questions, its negative can be viewed as a suppletive form, rather like needn't. Once again, English has 'introduced' items to complete the semantic system.

French learners are sometimes put off by the complexity (as it seems to them) of the English system and they therefore avoid problems by the use of circumlocutions such as It is possible, is it necessary?, etc. Teaching here is often concerned with encouraging familiarity with forms which are short and succinct and which therefore ensure fluency. It is tolerably straightforward, (I will not say 'easy'), to form associations with each of the negative forms so as to help their acquisition; this involves remembering combinations like needn't necessarily, couldn't possibly, etc.

We shall propose in a later section, 7., a more abstract notation for a number of the facts presented here.

4.4. THE 'FUTURE' AND THE 'CONDITIONAL'

4.4.1. General

Though we have denied to will the status of 'future auxiliary', (see 2.9.3.), and similarly to would the status of 'conditional auxiliary' or 'marker', there is no doubt that in many cases the obvious way of translating will and would into French is to use the Future or Conditional forms of the appropriate verb in French. This applies principally
to the epistemic ('inference') senses of the two English items. If we look at their other uses we find that the only case where French would use a member of the -oir group is for examples like:

(67) a. Will you be quiet?
    b. Veux-tu te taire?

4.4.2. Habitual and insistence

There is no equivalent to the 'habitual' meaning: French would normally use the Present or Imperfect tenses plus, if appropriate, a time adverb such as souvent. So that we get:

(68) a. He will often sit there for hours
    b. Il y reste souvent (assis) pendant des heures

(69) a. He would normally get up at 6.00
    b. Il se levait normalement à 6 heures

Even the 'insistence' use is not normally translated by vouloir except in the negative, so that we could have various translations for some examples.

(70) a. He will talk so:
    b. Il ne cesse de parler/parle tout le temps/ n'arrête pas de parler, etc.

But:

(71) a. He wouldn't talk to us
    b. Il ne voulait pas/n'a pas voulu nous parler

This last point is interesting, since vouloir itself often translates the idea of insistence, as in:

(72) Il acheta des manchettes qu'il voulut mettre tout de suite, dans le magasin (= 'insisted on putting on')

We speculated earlier whether the 'insistence' uses of will
and would were not simply the 'habitual' meaning, with the idea of 'ornery-ness' being carried by the intonation.

This non-use of vouloir, except in the negative, see (70) and (71), is perhaps a small indication that (70.a) is indeed an example of 'habitual' meaning. However, we shall continue to leave this question open, since evidence from other languages is not always conclusive.

4.4.3. Inference and 'future'

To return to the commonest uses of the two English items, we noted that one reason for not considering them as 'future/conditional markers' was the occurrence of the 'inference' meaning for present and past time events or actions. This fact has a parallel in French, as witness the following:

(73) a. That will be John
       b. Ce sera Jean

(74) a. He will have forgotten it
       b. Il l'aura oublié

This has implications for the terminology used for French; if 'future' is an inappropriate label for English, then it should surely be considered inexact for French, too. Of course, here we have to have regard to a well-established tradition, since the term 'future' for will has been widely attacked, whereas, by contrast, the French 'future tense' is a form of the verb, (even if it developed historically from a combination of 'infinitive + habeo'), whereas a form like will do is clearly two words, each of which has separate existence. However, it would be useful to point
out to teachers of French that the French 'future tense' is also used in the ways mentioned, and that therefore the term 'future' is by no means totally accurate.

4.4.4. Reportative

The French Conditional has an interesting use, the nearest equivalent for which is English said to. This is often used in news reports, both spoken and written, in which the purpose is to show that the report is indeed only a report, that is, that it comes from some third party and that the speaker or writer does not guarantee its accuracy. An example would be:

(75) Le syndicat serait prêt à entamer les pourparlers avec le patronat (= The union is reported to be ready to start negotiations with the management)

This is an intriguing extension of something like an epistemic use; but here the purpose is not for the speaker to present his judgement of truth value, but rather to disclaim responsibility for any lack of truth value the report may be found to have. Perhaps we may allow this to be an epistemic use - of a somewhat negative kind. Certainly it allows us to keep the pair Future/Conditional, in which we have:

Future = Speaker infers it likely - that X
Conditional = Speaker states - other people state - that X.

Just as we find the remote form used in English in various ways, all of which justify its label 'remote', so also the Conditional tense in French has a number of uses all of which involve 'far-from-the-speaker' in one way or another, in this case 'far' because stated by a third party, and therefore not
guaranteed by the speaker. This use justifies, in my opinion, the notion that the Conditional is best viewed as a mood rather than as a tense, since here it is in contrast with the Indicative, whose function is to 'Indicate' truth - facts - whereas the function of the Conditional is to talk about conditions on truth or 'conditional truth'. Like the Subjunctive, it deals with the non-actual. We could mention in passing, that in German the idea of said to/reported to is handled either by a form of the modal verb sollen or by using the Subjunctive and that certain languages have a 'reportative' mood; English, on the other hand, has not kept an active Subjunctive and has not chosen to give this task to a modal verb.

This particular use of the Conditional does present a problem to learners at the comprehension as well as at the production level.

4.4.5. Shall and French equivalents

Textbooks commonly only consider shall to be worth teaching in examples like:

(76) a. Shall I help you carry that?

for which we could either use the Present tense of vouloir in French:

(76) b. Je t'aide à porter ça?

(76) c. Vous voulez que je vous aide à porter cela?

The other, less common, use is that found in:

(77) a. You shall have a piece of cake in a minute

(78) a. Johnny shall help you carry that. (Won't you, Johnny?!)
(77) b. Tu auras (or je te donnerai) une tranche de gâteau dans un instant

(78) b. Jeannot vous aidera à porter cela. (N'est-ce pas, Jeannot?!) From these translations, and from what we saw in the preceding section on translations for will and would, it is clear that the French Future tense is used widely with deontic force.

4.5. COMBINATIONS OF DEONTIC, EPISTEMIC AND NON-MODAL ITEMS

4.5.1. General

If it is accepted that the three-way distinction between non-modal, deontic and epistemic uses of the English and French items is a valid one, then the question arises as to whether they can be combined, and if so, in what order.

This question was dealt with at some length in Professor Lyons' seminars (1974) and what follows was either part of the discussion on the subject or a result of my own reflections on what was said.

4.5.2. Modals in finite position

It is clear that there is no difficulty in combining the various notions in one sentence even without using the modal verbs of English or the -oir verbs of French. Thus:

(79) It is possible that he will be allowed to come
(80) It is now certain that she was forced to remain silent
(81) It is probable that he is capable of greater efforts

We can find sentences using modal verbs which correspond to (79) to (81), though without being totally synonymous:

(82) He may be able to come
(83) She must have been forced to remain silent
He should be able to do better
It has been noted by a number of writers, e.g. Palmer (1965) that the modal verbs of English can only occur as finite verbs and not as infinitives, so that the following is impossible, at least in standard English:

He should can do better
This is, indeed, normally presented as one of the main distinguishing characteristics of an English modal verb and as one of the features that serves to define the group. It certainly extends to fringe items such as ought to and (modal) need. Dare is marginal since:

He won't dare do that!
is attested in at least some varieties of English.

This fact, i.e. that the English modals cannot occur in infinitive position means, most importantly, that epistemic notions cannot occur verbally except in finite position, since the epistemic uses of the modals have no equivalent near-synonymous verbs: verbs like have to and be able to correspond to non-modal and deontic uses only.

As a result epistemic notions only occur in modal verbs or in the various adjectives and adverbs that express these notions.

This fact could be viewed as simply a quirk of English, which has derived epistemic modal verbs from items that were originally non-modal or deontic. But in fact it is more important. If we look back at examples (79) to (81) we see that the epistemic notions occur in initial position here too. If we try to change this, then we end up with sentences with
different meaning or nonsense, as in:

(87) * He will be allowed that it is possible to come

(88) * She was forced to remain silent that it is certain

So it is clear that epistemic notions normally occur first, whether they appear as modal verbs or as 'It is + Adjective + that' structures. Of course, the adverbs usually have more freedom, as in:

(89) a. Perhaps he is able to come
    b. He is perhaps able to come
    c. He is able to come, perhaps

(Examples such as:

(90) That he is capable of greater efforts is probable

are not counter-examples, since the that shows that the phrase 'he is capable' is subordinate and that the 'is' of 'is probable' is the highest verb.)

4.5.3. Position of epistemic items

Let us now look at French and the interpretation of sentences like:

(91) Jean doit pouvoir venir

(92) Jean peut devoir venir

Here again, if we are to give an epistemic reading to either of the two verbs involved, it must be to the first, (we shall discuss other possible readings in a moment.) The finite verb, as in English, is the one that has, or can have, an epistemic reading; an infinitival form cannot. It is no doubt this kind of fact that makes French writers like Huot (1974) feel justified in saying that epistemic devoir and pouvoir are auxiliaries, whereas in their non-modal
or deontic senses they are full verbs. Auxiliaries normally occur in finite form, not in infinitival or participial form.

Perhaps we could postulate a general principle here:

Any modal item which is a verb will only occur in finite form and position when used in its epistemic sense.

To what extent this principle is universal could only be shown by data from a large number of languages.

4.5.4. Other possible combinations

From discussion of combinations of epistemic and deontic, we pass on to consider combinations of two (or more) epistemic or of two (or more) deontic items in the same sentence. Again there are restrictions on the epistemic items. The principle expounded in the previous paragraph holds even when one epistemic item has already been identified in the sentence. The facts of French are such that an epistemic modal cannot occur except in finite form and position, so only the first modal – the finite one – can be epistemic. Mlle. Francoise Lombardy identified a possible counter-example:

(93) Il doit pouvoir pleuvoir en été sur l'Equateur

This has two readings. The first, which does not interest us here is 'it must be possible for it to rain in Summer on the Equator', that is the atmospheric conditions certainly permit it. The second reading is, 'it is highly probable that it does happen that it rains in Summer on the Equator'. Now, it might appear that the 'it does happen' is epistemic, in the sense of 'it is possibly true
that'. However, I think that what we have here is an example of a Time use of a modal, rather like 'characteristic' can and 'sometimes' may in English. The sense of the word 'happen' indicates this, too. Mlle. Lombardy's gloss was: 'Je suppose qu'il arrive que la pluie tombe en été sur l'Equateur'. Again, the verb 'arrive' indicates that it is a time use, not an epistemic use that we have here. (This does not mean that time uses and epistemic uses are unconnected, any more than epistemic and deontic uses are unconnected; this is all discussed more theoretically later, for example in section 6.5.3.)

We shall now discuss the other combinations; the obvious ones are two deontic items, two non-modal items or one of each. If we look back at (91), we can see that this can be interpreted as 'obliged to be able to' or as 'obliged to be allowed to'. These same notions could occur in English in:

(94) He must be able/allowed to come
in which the speaker insists that either 'he' arrange to be able or that the hearer must make sure that it is permitted.

However, if we look at (92), which has the 'weak' modal preceding the 'strong', it is difficult to give an interpretation of 'John is permitted to have to come'. This also seems to apply to English, since in:

(95) John may have to come
the may would naturally receive an epistemic reading. Perhaps this is a general restriction, which comes from the social nature of permission and obligation, so that it is ridiculous to permit someone to be obliged (presumably by
someone else) to do something, whereas it is conceivable that one might wish to oblige someone to get permission from others to do something.

So we have allowed, for (91) and (94), both 'deontic + non-modal' and 'deontic + deontic'. Can the non-modal appear first? I think not. I do not think we could interpret (92) as: 'John is able (physically) to be obliged to come'. The context for this would presumably be: 'John is now fit enough to be given orders'. Neither (92) nor (95) could be given this reading, and it would not change matters if we replaced may by can in (95). We now consider the following:

(96) Jean peut pouvoir venir
Can this be read as 'John is able to be permitted to come'? Again, I think, no. Other sequences, such as 'is able to be willing to', involving two non-modal notions, also seem nonsense. So it appears that non-modal notions occur either alone or second after either an epistemic or a deontic item.

This means that the only combinations that are possible in either language are:

- Epistemic + Deontic
- Epistemic + Non-modal
- Deontic + Deontic
- Deontic + Non-modal

The last two are restricted, as we saw when discussing (91), (92), (94) and (95). Here is a sentence with all three, the order being 'Epistemic + Deontic + Non-modal':

(97) John may have to be able to come

When we excluded 'non-modal + Deontic' this was in
relation to certain specific items such as able to. It is clear that deontic notions can be embedded after certain verbs, as in:

(98) Jean veut pouvoir venir
for which the reading 'wants to be allowed to' is possible. English would have to use structures with 'to + infinitive' in such cases, while French has in its -oir group several items which are always non-modal but which take a direct infinitive. Another example would be:

(99) Jean sait devoir venir
English would have to use 'knows that'.

4.5.5. Discussion

So far we have not identified anything that presents a particular teaching problem, since both languages seem to handle these notions in much the same way as far as order of items is concerned. There are interesting general points that have arisen, though. It certainly appeared in Professor Lyons' seminars that languages that have modal items always place the epistemic use first and with finite morphology. We could then predict that this will never be a teaching problem, which, though a negative prediction, is none the less interesting for that.

Also, in both languages the non-modal and deontic senses of pouvoir and be able to tend to be treated in such similar ways that it is difficult to separate them on formal grounds. This could lead us to reexamine our distinction between the two areas, at least for 'capability' versus 'permission'.
In sections 3.15.4. and 4.1.2. we talked of the notion 'performatization'. We said that the English modals had shown a marked tendency towards this, that is to be used in the deontic area only to issue mands and not to talk about them. This was less true of the can/could and will/would pairs, but noticeable even there. We also said that all epistemic uses are by their very nature 'performative' since their purpose is to issue the speaker's judgement of the truth-value of the predication at the moment of utterance, (the speaker hic et nunc). We noted that one point of evidence for this label of 'performative' for the English modals was the fact that they never appear in embedded structures, except in reported speech, hence the impossibility of:
(100) * He must may come
(He'll can come exists dialectally, but only, as far as I can tell, with will as the first element. (100) is always unacceptable).

The facts that we have noted in this section allow us to put the whole question in a wider context. The principle we shall posit is:

Performative items always occur as finite verbs, and, except in reported speech where they are embedded, as the 'highest' verbs in any sentence.

These facts apply to the epistemic verbs in both languages; since such uses are by their nature performative, they must always occur first in English or French. In English, in addition, performative deontic items must occur first. But in fact, though there is not the difference in morphology
in French that there is in English between modal and other verbs, this fact applies to French as well, so that deontic verbs in sentences like (91), (92), (98) and (99) are constative deontic rather than performative deontic in force. This can easily be seen: if I utter (91), then I am certainly not giving permission to John to come; my role as speaker is to say that it is highly probable (doit) that John is allowed (pouvoir) by someone else to come. The principle expressed earlier in this paragraph will then be a general one, applicable to all languages. All verbs can occur in finite form and position, but performative verbs or verbs used performatively must do so.

All this discussion links up with wider issues, such as the general nature, in any language, of notions like 'finite verb', 'infinitive', 'indicative and subjunctive', etc.

4.6. COUNTERFACTUALS

4.6.1. General

In section 4.1.6. we noted the importance of two constructions, one in English, 'remote modal + Perfect infinitive', and one in French, 'Past Conditional tense (of -oir or other verbs)'. These constructions are especially important for the class of sentences known as 'counterfactuals'.

We shall discuss the notion 'counterfactual' only briefly here. For a fuller discussion see, for example, Jarvis (1971). We can explain the notion by considering two ways of interpreting the same sentence:
You might talk to her

This can be understood either as a polite suggestion made to someone who has asked for advice about a problem, or as an annoyed suggestion to someone who has been obstinately anti-social in 'not talking to her'. It is only the second interpretation that is counterfactual. The first interpretation is not counterfactual even though there, too, the hearer clearly has not yet 'talked to her'. The important point is that there has been no question of the hearer 'talking to her', or of following any course of action, whereas on the second interpretation the implication is clearly that the hearer should have understood that 'talking to her' is an expected course of action.

Counterfactuals therefore involve some kind of contradiction between what actually happens or has happened and some imaginary 'possible world' which the speaker contrasts with this reality - as being possible, expected, obligatory and, in any case, different.

There are, of course, negative counterfactuals, like:

(102) You might not play that record quite so often

Generally, the implication is negative when the sentence is positive and vice versa, so that (101) implies 'you do not talk to her' and (102) implies 'you play that record (too) often'. (I am using 'imply' here in a non-technical sense and without contrasting it with other terms like 'presuppose'.)

Normally, the proposition which is implied to be true or false in counterfactuals is present or past. This is quite easy to account for: we can only contrast what is
already the case with various 'possible worlds' - the future, by contrast, consists only of more or less likely 'possible worlds' which it is difficult to contrast with each other. Even apparently 'future time' examples can be seen to be rooted in present reality. If we look at:

(103) He would be going to help us if he had the money
The 'be going to' could mislead us into failing to notice that two facts are clearly already known: (i) he has not the requisite money (ii) his decision not to help us has been taken in the light of (i).

The following tables concentrate on the past time cases, i.e. those which in English consist of 'remote Modal + Perfect infinitive' and in French of 'Past Conditional' of -oir verb'. In some cases the implications can be different from those suggested in the tables. For instance, if we take:

(104) He could have helped you
the normal implication is that 'he did not help you'. But we could reverse this by using even if, as in:

(105) He could have helped you even if he had broken his arm

It is difficult, if not impossible, to change the positive-negative polarity of the implications in this way when dealing with the deontic cases.
4.62. Tables of counterfactuals involving past time

<table>
<thead>
<tr>
<th>Deontic</th>
<th>Epistemic</th>
<th>Non-modal</th>
</tr>
</thead>
<tbody>
<tr>
<td>Should have - obliged but</td>
<td>Shouldn't have - obliged not</td>
<td>Could have - was able to</td>
</tr>
<tr>
<td>didn't</td>
<td>but did</td>
<td>but didn't</td>
</tr>
<tr>
<td>Ought to have - obliged but</td>
<td>Ought not to have - obliged</td>
<td>- would have been</td>
</tr>
<tr>
<td>didn't</td>
<td>not but did</td>
<td>able to but wasn't</td>
</tr>
<tr>
<td>Need have? - obliged ? -</td>
<td>Needn't have - not obliged</td>
<td>- would have</td>
</tr>
<tr>
<td>did</td>
<td>but did</td>
<td>have been permitted but wasn't</td>
</tr>
<tr>
<td>Might have - suggested but</td>
<td>Might not have - suggested</td>
<td>Would have - most likely</td>
</tr>
<tr>
<td>didn't</td>
<td>not but did</td>
<td>would have but didn't</td>
</tr>
<tr>
<td>Could have - suggested but</td>
<td>? Couldn't have - (not</td>
<td>Wouldn't have - most likely</td>
</tr>
<tr>
<td>didn't</td>
<td>permitted and didn't)</td>
<td>would not have but did</td>
</tr>
<tr>
<td>didn't</td>
<td></td>
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</tbody>
</table>

As can be seen it is sometimes difficult to find a satisfactory gloss for these items; in particular, we have
glossed would with itself. The glosses in brackets are not counterfactual, everything counterfactual has a but in its analysis.

We remarked elsewhere that suggestion could seemed to have no negative, the parallel form might did. This means that in the following both are possible:

(106) You could/might try a bit harder!
but only might normally occurs in:

(107) You might not shout so loud, for a start!
This fact, naturally enough, affects the forms with Perfect infinitives. Couldn't is also defective in the deontic area; here we would expect to realise the formula 'not permitted - but did', but this is realised by shouldn't/oughtn't to have. A sentence like:

(108) You couldn't have left
if deontic, can only be interpreted as 'you would not have been allowed to leave'. Could therefore shows its status as a 'link' modal, (see 4.1.4.), since it is its original non-modal meaning for which the positive/negative pairing works best.

The French counterfactual forms are most interesting in the deontic area; these are presented in table IV. Aurait pu is also counterfactual in the non-modal area and, in the epistemic area, the Past Conditional tense of any French verb is commonly counterfactual.
### Summary of Points of Learning Difficulty

#### 4.7. French speakers learning English

As we have said at a number of points, the English system of modal verbs has more items in it than the French -oir group. This is in no way compensated for by French having, for instance, more items like avoir à which are linked to...
the group semantically. Once again, English has as many
if not more, and the same is true of the number of adjectives
and adverbs with epistemic uses. So the French speaking
learner has several items to master.

On the other hand, since the number of forms for any
English modal is, at most, two, this presents the French
learner with what seems like an easier task. But this is
not really the case, since it means that the forms outside
the system like have to, be able to, etc. need to be used
where French could just use the appropriate tense of devoir
or pouvoir.

This leads to the main problem, which is one of time
and tense, linked to questions like the implications of forms
like should have done. All these factors could perhaps
better be labelled as questions of aspect. It is reasonable
to view the tendency to 'performativization' of the English
modals as a question of aspect, since it is this that leads
to the restrictions on using the remote form for past time
that we have noted. This in turn leads to the need to use
other items when past or future time is involved. Aspect
is also involved in the question of the frequent use in
English of the Perfect infinitive, particularly when this
has implications about what did or did not occur, as with
forms like needn't have done. The term 'aspect' is a useful
one here; 'tense' tends to be associated with time and
'mood' with notions like indicative and subjunctive. It is
true that 'aspect' is often associated with the Progressive
and Perfect forms of the verb in English, but it remains the
most useful general term for different ways of viewing
events or reacting to them and to people. We could even posit a 'performative' aspect for English, the function of which involves 'speaker hic et nunc' in the issuing of mands and judgements of truth-value.

We can list the main areas of potential difficulty as follows:

(i) Learning a system with a large number of items
(ii) Learning how these items relate to one another, e.g. should/ought as remote equivalents of must
(iii) In a grammar-translation method of teaching, learning how far French and English items correspond or differ, for instance pouvoir and can are fairly close in meaning, devoir and must less so
(iv) Learning the effects of negation
(v) Learning the 'performative' nature of the English items
(vi) Learning the other forms like have to that need to be used because of (v)
(vii) Learning the effect of Progressive and, especially, Perfect infinitives on the meaning of the English items, particularly in counter-factuals.

4.7.2. English speakers learning French

The problem here is reversed from that of French speakers learning English. There are only two modal items, devoir and pouvoir, but these have a full range of forms. English speaking learners, whose own language tends to use all deontic items as epistemic ones as well, have to learn not to use falloir (or, for that matter, avoir à), as epistemic items.
The existence of *se pouvoir* is sometimes forgotten by English speakers, or perhaps neglected, since its use means using the subjunctive, of which a number of learners have a great fear. This somewhat extraneous problem, (extraneous to the meaning of the items concerned), also arises with other epistemic constructions, such as *il est possible que*, and with deontic constructions like *il faut que*, a number of which use the subjunctive.

Negative forms present something of a problem, not so much by their existence, as by what the whole system of French lacks, namely an equivalent for *needn't*. *On peut ne pas...* can be used, but is felt as heavy and inelegant. Errors arise from this, since English speakers sometimes use *ne doit pas* and *ne faut pas* to mean *needn't*, even though they also use them correctly to mean *mustn't/shouldn't*, etc.

Aspect is a problem for a number of reasons. The Perfect infinitive, though used, is rarer than in English and the same notion can often be better expressed in another way, usually by using a compound tense of the modal with a simple infinitive. In some cases, the counterfactual ones especially, the French Perfect infinitive is simply impossible and a Past Conditional is used. The truth implications of this tense (or mood), and of some others of the Past tenses in French present quite serious problems to some English learners, who find it difficult to tell the difference between *il devait* and *il a dû*. It is true that this is part of a larger problem: learning how to use the tenses of French with all verbs in the language and not just with the *-oir* group, but the distinction mentioned is
particularly important with that group.

The fact that the French items are not 'performative' in the way that the English ones are is not a real problem; English learners seem to realise quite quickly that *devoir*, for instance, handles all of *must*, *should/ought to*, *have to* and *be to*. This seems to follow from the general principle, expounded in section 4.1.2., that performative items cannot be used constatively, but that constative items can be used performatively.

The main areas of difficulty, then, partly overlap with the ones already detailed for French speaking learners of English. However, we shall detail all the areas again:

(i) Learning a system with a small number of items, but
(ii) Learning the complex uses of the different tenses of those items
(iii) Learning how closely French items correspond to English ones
(iv) Learning the effects of negation and the 'gaps' in the system
(v) Learning to avoid using items with only deontic senses epistemically
(vi) Learning forms like *censé*, *avoir à*, etc. that are used parallel to the *-oir* group
(vii) Learning how French handles tense/time and aspect, particularly when this affects implications, as in counterfactuals.

4.7.3. Comparing the learning difficulties in the two languages

The difficulties that arise do so partly, though not
wholly, because of the differences between the two languages; this does not mean that errors caused are necessarily interference errors. One error that we have mentioned that is not an interference error is the one in which English speakers use ne doit pas to mean needn't, even though in other circumstances they use the same form correctly to mean mustn't; this error arises because of a gap in the French system rather than from interference from English, since in English mustn't is unambiguous.

Particularly in a grammar-translation method of teaching, or in any method in which the teacher explains things in the native language, there is the problem of the different 'sizes' of the two systems, or rather of their different lay-out, the English system having a large number of items, but each item having at most two forms, and the French system having only two modal items, but these having the full range of tense forms, (though not, it is true, Imperatives, Passives, etc.)

Whatever the method of teaching used, some points always create problems. These particularly concern the effects of negation, partly tense/time matters, and particularly all the features which I have grouped under the heading of 'aspect', and which concern a combination of things, all of which have to do with whether something actually occurs (or occurred) or not, whether a man exists (or existed) or not, etc. This involves the learning of the difference, for example, between could and was able to, had to and should have, etc., or in French between devait, devrait, a du and aurait du.
It is interesting to note what things are NOT difficult. Since both French and English use items with both deontic and epistemic force, this can usually be taken for granted; the exception is that *faîloir* is not used epistemically. There are also dialect difficulties in that some varieties of English use *have to* epistemically while others do not. But generally, the link is made, not only within the group of items that we have concentrated on, but outside it with items like *meant to/censé*.

There is also no difficulty with the link between non-modal and deontic. In particular, both *can* and *pouvoir* have similar derivations. The overlap is not complete, of course, since there is *savoir* for the 'know how to' cases and *may* for epistemic uses. But the main point is that both items are used for both 'capability' and 'permission', which therefore does not need to be taught, since learners tend to assume that it is possible.

The distinction *performative/constative* deontic is not a problem for English speakers learning French, but it is a problem the other way round, because of the tendency of the English modals to become 'performativized'.

Questions of social usage are often handled similarly. For instance, both languages use forms like *Puis-je, can/may I?*, not only to ask for permission, but from a person in authority to get obedience or compliance in a situation where, despite his authority, he wishes to or has to remain polite. With the same forms, we find in both languages permission being given which is felt as obligation because of the authority of the speaker, so that *You may go/*
Vous pouvez disposer are felt as obliging rather than permitting. Similarly, both languages use the forms that we can analyse as 'modified obligation' to urge, advise, etc. This involves should/ought to and devrait. One final example; in both languages, it is culturally acceptable, indeed normal, to use forms with obligation meaning in invitations, since an invitation is felt to be to the hearer’s advantage and therefore he can be obliged to accept it! This leads to utterances like:

(109) You really must come and have dinner with us soon
(110) Il faut absolument que vous veniez nous voir

Interestingly, the 'modified obligation' forms should/ought to and devrait would be quite out of place here, since they sometimes have counterfactual force, which is inappropriate in a social situation in which refusal is unthinkable! The correct way to refuse such invitations, (apart from simply ignoring them subsequently, which is not the same thing), is to say something like:

(111) I'd love to but I'm not free/very busy/going away all of which plead incapacity rather than express unwillingness.

Restrictions on pronoun subjects are also very much the same in both languages; some of them, indeed, may well be universal. You do not give yourself permission, so that:

(112) Je peux partir
will be interpreted as meaning 'I have the permission from someone else to leave'.

(113) I may leave
if it is to receive a deontic reading, would have to be
reported speech, which becomes clear if we add it appears to (113). For similar reasons,
(114) Will you be quiet?
(115) Veux-tu te taire?
are both acceptable, but the same sentences with first or third person subjects would be nonsensical.

If we consider lexical full verbs, we find again that the two languages present a similar picture. If we take:
(116) Il doit rêver
then we have a verb meaning 'to dream', so that the deontic reading is almost impossible, unless we take the context of a theatre director deciding what an actor must appear to do. This is seen if we try to find an appropriate English translation, which will normally be:
(117) He must be dreaming
rather than:
(118) He must dream
unless we add a lot to (118). To take an example the other way round, an epistemic reading is almost impossible for:
(119) You must get out
(120) Tu dois partir
particularly if other items like at once or aussitôt are added. Again, facts like these do not present a teaching problem, since there are certain things which tend to be associated with deontic uses and others which are normally associated with epistemic ones.

This does not mean, of course, that the social usage of utterances with modal verbs is to be kept out of the teaching of these verbs; all teaching can be enlivened by
examples which are suitable to the normal, lively use of whatever is being taught: it is simply that the restrictions on and uses of the modal verbs are very similar in the two languages and do not constitute a major teaching problem.

4.8. JUSTIFICATION FOR MORE ABSTRACT ANALYSIS

4.8.1. General

There are two main justifications for the more abstract approach that we shall be following in the second part of this thesis. The first involves the use of notation and the second the independent nature of any abstract system.

4.8.2. Notation

So far, we have often used glosses when analysing the meaning of various forms. These glosses have the great disadvantage of being long, or at least longer than the forms they seek to analyse. Strings like: 'it is possible that he is able to come' or 'she is hereby obliged not to come', though useful at a certain stage in the analysis, are extremely unwieldy. It may be questioned whether changing 'it is possible' to the single sign 'M' will help matters since it has the result of simply replacing one meta-language by another. The justification for this is similar to that for all notational systems in any discipline. To take an example quoted by Lewis (1960), mathematics and, later, symbolic logic were simply not possible until ideographic symbols and their possible combinations had been invented. Symbols of any kind are useful because of their compactness and then processes (such as division in
mathematics) can be devised which manipulate them in various ways and this manipulation reveals, on many occasions, new facts about the items for which the symbols act as a meta-language. There is, of course, the risk that the introduction of a symbolic system will lead to that system being considered more important than that which it seeks to describe, but this risk has to be taken if any advantages are to be derived from the system.

4.8.3. Independent nature of abstract systems

Abstract symbolic systems are independent, as we have just remarked, of that which they seek to describe. The combination of symbols according to certain processes reveals as much about those symbols and processes as it does about the data which led to their devising. But we do need an abstract system if we are comparing data. In the preceding discussion we have, for instance, tended to express the French items in terms of the English ones; this has been partly because this thesis is being written in English, partly because I am a native speaker of English and not of French. But there would be no advantage in reversing the process and expressing the English items in terms of the French ones. Since we wish to compare the two, we will do well to use a system which is independent of both of them. This system, for the reasons mentioned above, had better be a symbolic one. This then has further advantages: the system will allow us to show what is the equivalent of one item in the other language; it will allow us to show which items have no equivalent in the other
system; finally, and most importantly, the system will produce formulae which are not realised in either of the two languages we are studying, but which might occur in some other natural language. In other words, the system can be applied universally, and any modifications needed to it in doing so would gradually produce a universal system. This, at least, is the theory. It may appear, or finally prove to be, fanciful. If so, we shall be in good company, since it was Leibnitz who posited a universal symbolic logic. Our task is more earthbound and, I believe, perfectly reasonable.

4.8.4. Formulae and teaching

What about teaching? Are we going to subject our longsuffering students to formulae? I think not, but I have found that teachers do often find it enlightening to be presented with some fairly abstract system which shows them how some area is organised. Our formulae, with such modifications as may be necessary to make them palatable, should be of interest to the teacher. This kind of adaptation of theory is one of the stages in the Applied Linguistic/Language Teaching process. See section 8 for justification of this.
PART B

SECTIONS FIVE, SIX AND SEVEN
SECTION 5
TRANSFORMATIONAL GRAMMAR AND THE "HIGHER VERBS" APPROACH
5.0. CONTENTS OF THE SECTION

This section studies the history, in recent linguistics, of certain analyses which are presented in a syntactic way, but which, we shall want to say, are more interesting for a semantic approach such as we shall be adopting in sections 6 and 7.

5.1. SYNTACTIC RE-WRITE RULES

5.2. PRO-ROSS

5.3. ANTI-ROSS

5.4. DISCUSSION OF ROSS'S ANALYSIS

5.5. CONCLUSION
5.1. SYNTACTIC RE-WRITE RULES

5.1.1. Chomsky

Although we are adopting a mainly semantic approach here, it is useful to look at how some of the semantic-type approaches developed from and are related to Chomsky's work on syntax. The aim, as is well known, of such work was (and is) to provide rules which will generate all and only the acceptable sentences of any natural language and, ideally, of all natural languages.

Chomsky (1957: 39) gives the following rules:

(i) \[ \text{Verb} \rightarrow \text{Aux} + \text{V} \]
(ii) \[ \text{V} \rightarrow \text{hit, take, walk, read, etc.} \]
(iii) \[ \text{Aux} \rightarrow \text{C(M)} (\text{have} + \text{en})(\text{be} + \text{ing})(\text{be} + \text{en}) \]
(iv) \[ \text{M} \rightarrow \text{will, can, may, shall, must} \]

There is also the following context-sensitive rule:

\[ \text{C} \rightarrow \begin{cases} \text{S in the context } \text{NP}_{\text{sing}} \\ \text{Ø in the context } \text{NP}_{\text{plur}} \\ \text{past} \end{cases} \]

Various transformations allow for the fact that most verbs in the language need 'do-support' in the negative and interrogative whereas modals do not, so that may I come? and do I come? are both correctly formulated. These rules are not totally satisfactory as they stand since the modal verbs do not have final 's' in the 3rd. person singular, nor is there a past tense form for must. This affects the sequence CM. However this is a morphophonemic problem that could easily be resolved by some adjustment to the rules so that, for instance, \( S + \text{can} \) would become \text{can} and not \text{can}s when the Affix transformation was applied.
The rules are somewhat different in Chomsky (1965). The basic rule (p. 43) is as follows:

\[ \text{Aux} \rightarrow \text{Tense (Modal) (Perfect) (Progressive)} \]

'Aux' itself is now placed outside the VP, (Chomsky 1965: 102).

The kind of difficulties that Chomsky's rules present is discussed at some length by Major (1974). She points out that practically every modal presents some exception to the application of the Chomsky-type rules, (Major, 1974: 27 ff.). However, it is only fair to say that Chomsky's rules are only a sample of a possible description of English and that he did not concern himself with the details of the rules concerning the generation of the modals. It has been suggested by, for instance, Hakutani & Hargis (1972), that Chomsky's approach needs to be adapted so as to handle items like have to and used to, which they label 'quasi-modals'. Their revised rule (p. 320) is:

\[ \text{Aux} \rightarrow \text{Tense (M) (Q)_n (have + en) (Q)_n (be + ing)(Q)_n} \]

However, it is not my intention to provide a complete set of revised syntactic re-write rules for the modal verbs; this would be out of place in a thesis which interests itself mainly in the semantic aspects of modals and, anyway, it would be a lengthy and complex task, partly because of the various anomalies within the group that Major notes.

5.1.2. Dubois & Dubois

Writers on the French items tend to separate their epistemic uses from the rest, even in the re-write rules; in other words, they allow semantic criteria to influence the way
they draw up syntactic rules. Dubois (1969: 113-127) discusses first of all the reasons for identifying two verbs aller rather than one, both of which occur in:

(1) Il va aller à Paris

For devoir and pouvoir, Dubois says that when they are auxiliaries, (i.e. used epistemically), they occur in simplex sentences; in other cases embedding is involved. The reasons for this are not only semantic; there are surface differences between the uses, so that in their epistemic uses devoir and pouvoir can be used impersonally but not in their other uses, or that when used epistemically, a sentence like:

(2) a. Pierre doit le faire

cannot be reduced to:

(2) b. Pierre le doit

which can only receive deontic or non-modal interpretation.

As a result of this approach which separates the auxiliary from the full verb, we find in Dubois & Dubois (1970: Chapter 10) the following rules:

\[\text{Aux} \rightarrow \text{Tps} + (\text{Parf}) + M + (\text{Parf})\]

\[\text{Tps} \rightarrow [\text{Subj.}] + \{\text{Pres}\} + \text{P}_e + \text{No}\]

\[\text{M} \rightarrow \{\text{Mod}\} + \text{Inf}\]

Mod = devoir, pouvoir (apparently only in their epistemic uses, RGW)

Asp = Aller, être en train de, venir de, être sur le point de

Other uses of the two modals will be considered as instances of V. So that both occur in the following example
Tu dois me devoir de l'argent

We shall return to the question of the division of the verbs in question into two items in a moment. First of all, it is important to note that the above rules generate a full range of tenses and infinitives by the double occurrence of 'Parf' (= Parfait) in the first rule. This means that the following example will be considered acceptable:

Les enfants auraient dû avoir mangé des fruits

Examples like this are perhaps rare, but they are certainly grammatical. The re-writing of the item 'Asp' is clearly imperfect since it includes two items beginning with être which could co-occur with 'Mod' as in:

Il doit être sur le point de partir

which the mutually exclusive choice in the rule re-writing 'M' does not allow for.

We now return to the question of there being two verbs devoir (or pouvoir). Dubois & Dubois (1970) discuss this on p. 110, where they say that there are two possible analyses for:

Il va devoir partir

Either (6) is a simplex surface sentence with va as the modal and with devoir in its 'full' sense of obligation or it is a complex surface sentence with va as the modal in the higher deep sentence and devoir (in its epistemic sense) as the modal in the lower deep sentence.

Clearly, an approach like that of Dubois & Dubois (1970) is one in which semantics are allowed to play a role in the formulation of the syntactic rules. In this case this leads to there being two homonyms, devoir₁ and devoir₂, in the
This kind of approach is rejected for English by Jenkins (1972: 36 ff.) who thinks it would counterintuitive to say that there are two items \( \text{may}_1 \) and \( \text{may}_2 \), simply because \( \text{may} \) has two senses, one for permission and one for logical possibility, and because these will have slightly different syntactic implications, (e.g. for the following infinitives).

A similar approach to Jenkins' can be found in Ruwet (1968: 186-7), where we find that the proposed rules:

\[
\text{Aux } \rightarrow \text{TPS (Modal) (Parfait)}
\]

\[
\text{Modal } \rightarrow \text{(Parfait)} \begin{cases} 
(\text{devoir} + \text{INF}) (\text{pouvoir} + \text{INF}) \\
(\text{pouvoir} + \text{INF}) (\text{devoir} + \text{INF})
\end{cases}
\]

are abandoned, partly in order to avoid double occurrences of negation in a simple sentence. As a result, the final rules (ibid.: 361-2) do not re-write \text{devoir} and \text{pouvoir} under 'Aux'. Since, as we have seen, \text{devoir} and \text{pouvoir} keep their original senses in French, including the power to take NP objects, this solution seems preferable to that of Dubois & Dubois (1970).

5.1.3. Robin Lakoff

We have spent a little time on re-write rules because they are important when we come to look at other work in this area which is syntactic in presentation, and in original motivation, even if we shall want to say that it is more semantic in its implications.

A good instance of this, right at the very outset of the attempt to find a more abstract system of grammar, is the work of Robin Lakoff (1968). Although this was based on Latin, it has implications for work in this area in
general. The main point of interest for us is R. Lakoff’s wish to explain both dependent and independent uses of the Latin subjunctive in one set of rules. In order to do this, she posits the need for Abstract Verbs (in Chapter 5, p. 157 ff.). On p. 158 she gives as an example the word:

(7) Venias

which can have two deontic and one epistemic readings as follows:

(a) (Imperative): 'Come; you should come'
(b) (Wish): 'May you come! If only you were to come!'
(c) (Logical possibility): 'You may come; perhaps you are coming'

These are distinguished by their negatives, so that the negative of (a) and (b) is ne venias and of (c) non venias.

In order to 'trigger off' the correct transformations, the verbs in the base must be more abstract - indeed, Lakoff says, (1968: 161):

'What is present in deep structure is a verb with semantic and syntactic properties similar to those found in real verbs but with no phonological form; ...'

R. Lakoff gives more details on the nature of such abstract verbs later in the chapter, (e.g. p. 165 ff.). Most importantly, such an approach would allow us to get closer to a universal grammar, at least for the Indo-European languages initially, (see R. Lakoff 1968: 168). Such verbs may be 'performative' verbs (p. 170). The distinction between the (a) and (b) examples on the one hand, and (c) on the other is explained by a difference in deep structure between object and subject complementation. This means that
deontic examples have object complementation, as in these instances from R. Lakoff (1968: 181 and 184):

(8) a. Utinam id faceret! ('I wish he were doing that!')
  b. (If it were a reasonable wish),
      I would wish it
            he do it

(9) a. Licet Marcus eat. ('It is permitted (allowed) that Marcus go')
  b. (Someone) allows it
            Marcus go

Negation will be with ne for (8) and (9) and with non for (10), which being an epistemic example, will have subject complementation:

(10) a. Certum affirmare non ausim. ('I wouldn't dare assert for certain')
  b. It
        S
            (Poss)
        It
            S
            is not so

I dare assert for certain

It is important to stress that R. Lakoff still considers herself to be concerned with syntax here, even though semantic features are essential in determining which abstract verb is which.

This approach of R. Lakoff's leads us to the idea that certain items, including modal verbs or items like them, should be analysed as 'higher verbs'. This idea seems to have developed at about the same time as R. Lakoff's notion of 'abstract verbs' and there is clear mutual influence. The 'higher verb' theory is usually linked with the name of Ross (1969). This theory has been supported by some and
attacked by others. First of all we shall consider some of the supporters.

5.2. PRO-ROSS

5.2.1. Ross

Ross (1969) is the seminal article in this area. In it, Ross proposes that a surface sentence containing an English modal verb and a following infinitive has a deep structure with two rather than one instances of 'S'. Analysing what many US writers call 'root' modals, (the term comes from Hofmann, 1966, and corresponds to what we call non-modal and deontic modals), Ross presents them as transitive verbs in underlying structures, so that (Ross, 1969: 88):

(11) a. Windows may be broken by rioters

in its deontic reading is to be analysed as follows:

(11) b.

The 'non-root' (i.e. epistemic) reading has subject complementation:
So far the only main difference from R. Lakoff's work is that Ross is dealing with English modal verbs, not with Latin subjunctives, and so he has no need to posit abstract verbs — *may* is *may*, even in the base. There are a number of reasons why Ross adopts this proposal. In particular, he wishes to group *have* and *be* and the modals under the complex symbol \[ [+V, +Aux] \].

In other words, such items are 'Verbs' as well as 'Auxiliaries', rather than only 'Auxiliaries', as in Chomsky (1965). This allows Ross to handle certain facts, such as sentences with *so* like:

(12) They said that Tom

\[ \begin{align*}
\text{likes ice cream} \\
\text{may be here} \\
\text{is working hard} \\
\text{had left} \\
\text{might have been singing}
\end{align*} \]

and so he

\[ \begin{align*}
\text{does} \\
\text{may} \\
\text{is} \\
\text{(has)} \\
\text{(had)} \\
\text{(might have been)} \\
\text{(might have)} \\
\text{(might)}
\end{align*} \]
It also allows him to analyse sentences with need in a similar way, independent of whether need is followed by to or not.

However, since Ross's article is short, and uses examples from other languages such as German, we will do best to look at the work of others who have expanded on his ideas.

5.2.2. Huddleston

Following in Ross's footsteps, Huddleston (1969) pleads the case for higher verbs because of their usefulness in sentences with complex tenses. He points out that in sentences like:

(13) John may have come

we have to have two tense elements in the analysis, 'present' for may and 'past' for have come. If we accept that there can only be one occurrence of 'Tense' in any simplex sentence, then examples like (13) create problems if we wish to avoid embedded structures in sentences with modals. We shall return to this point later. It is clear from Huddleston's article that he is avoiding too many surface structure notions like 'Tense', since he finds the traditional notions of 'past', 'present' and 'future' useful for 'deep' tense. From our earlier discussions (e.g. in section 3.15.4.) about the performative tendency of the English modals, it is clear that in (13) we have a rather special kind of 'present' underlying the may. If we take this as being part of the 'performative present' that every utterance must have, then only the have come includes 'real' tense. This would allow
us to keep a simplex structure. Huddleston clearly recognises that something of this kind is involved, since he analyses:

(14) He may leave tomorrow as being 'future in present'. Sentences with will in its predictive sense would have a similar analysis, (i.e. will is not a future tense marker but allows a 'future in present' interpretation). We may conclude from this discussion that the hic et nunc performative present should be considered separately from other candidates for membership of any time/tense system. This allows for sentences with the performative present and not more than one other time/tense element to be treated as simplex sentences.

Huddleston (1969: 788 ff.) has some other interesting remarks about time/tense. Where he makes wrong judgements, in my opinion, is where he fails to realise that the performative present is a special type of feature. He analyses:

(15) John might have been killed when the car went off the road in its counterfactual sense, as 'past + unreal + present'. Similarly he analyses (1969: 806):

(16) If he had stood up, he could have seen as 'present (see) in unreal past (can): it is thus one of the few cases remaining in contemporary English where the unreal feature may be associated with a past tense verb in the main clause.' This seems quite wrong; could is unreal, and have seen is past - the combination of them 'inviting' a counterfactual interpretation.
Huddleston continues to defend the 'auxiliaries as main verbs' analysis in a later article (1974). However, he does not follow the same line as Ross, since he prefers to treat auxiliaries as one-place predicates - that is intransitive predicates with sentential subjects triggering RAISING. However, our main concern here is to examine his further arguments for the 'main verb' approach.

Huddleston points out, first of all, that in passive sentences modals behave like such other verbs as happen and refuse, in that sometimes they are meaning-preserving and sometimes not. However, his examples need to be examined carefully. He says that the first pair are (more or less) meaning-preserving whereas the second pair are not:

(17) a. John may have noticed the error
    b. The error may have been noticed by John

(18) a. John wouldn't help Mary
    b. Mary wouldn't be helped by John

Notice that with the examples in (18) we have an example of an internal, non-modal sense of would, the sense of 'subject was willing'. The main senses of the modals, which make them a class apart and therefore different from the other verbs, are deontic and epistemic senses. If we separated the deontic and epistemic senses from the internal, non-modal ones, then we could allow a different analysis for both. The internal senses could indeed be viewed as main verbs, while the others would only occur in simplex sentences. This solution does not seem convincing to me, since it would mean, once again, that the lexicon would have to include, for instance, \textit{would}_1 and \textit{would}_2. Perhaps it needs to be
looked at further; certainly, it is a more acceptable division than that sometimes proposed between the deontic and epistemic modals.

Huddleston brings further evidence to support his proposal that the modals are like full verbs. Items like ought, used and be govern 'to + infinitive'. If we treat them as different syntactically then significant generalisations will be missed, especially in the case of the pair should/ought to. Also, dialectal didn't ought to will be handled differently from oughtn't to. (The same argument would presumably apply to need as well.) Huddleston also points out that IC analysis will differ, apparently without good reason, giving us, for instance:

(19) (They) ought to see/the film
(20) (They) want/to see the film

as the first constituent divisions respectively.

Now some other cases where, in my opinion, Huddleston is mistaken. Having (1974: 222) analysed the two following as near synonyms:

(21) Most of the students can't understand Smith's lectures
(22) Smith's lectures can't be understood by most of the students

he gives the following as the analysis for both:

(23) can't [understand x Smith's lectures]

He then goes on (p. 223) to say that for:

(24) John can swim

'...we infer that the possibility of John's swimming is due to his having learnt how to, but this doesn't mean that there must be an underlying grammatical relation between John and can.'
In other words, they occur in separate underlying clauses. Firstly, this is quite counterintuitive. Second, it is in examples like this that there is a small difference between the *scire* and *posse* senses of *can*, so that the 'know how to' instances like (24) cannot be passivized and therefore the analysis for (21) and (22) will not necessarily be applicable to them. Third, the synonymy between (21) and (22) is dubious; the fault is likely to lie in a different place in each instance, and, what we have here, once again, are examples of internal uses of the modals, which, as we said for examples (17) and (18), are not the crucial ones.

Huddleston treats *'permission'* *may* as either constative or performative. That means that he allows a reading for:

(25) He may come

in which the speaker simply informs the hearer, rather than gives permission and asks the hearer to pass it on. This notion re-appears for a later example, (p. 228):

(26) The cat must stay out of the living-room.

This, as Huddleston correctly says, is not an obligation on the cat, but, for instance, on its owner. The *receiver* of permission or obligation in sentences like (25) and (26) is therefore not specified. Again, this leads to a wrong appraisal of the situation. It is true that, in performative deontic sentences like these the surface subject is not necessarily the receiver of the mand, but this is not sufficient reason for a higher verbs analysis. First of all, the argument that the above examples are possibly constative is wrong, as can be seen if we insert *'is allowed to'* in (25)
or 'has to' in (26). Then we would indeed get sentences which were constative and informed the hearer. I insist that (25) and (26) do involve the hearer in the issuing of the mand rather than simply informing him that one exists. This means that either we need a much more complex analysis in which speaker and hearer are involved or we should abandon the approach altogether. The apparently simple analysis given in (23) is either too simple or too complex. The main point is that modals are NOT like other verbs, as we showed with (25) and (26).

This last point can be made more forcibly if we consider the implications of a higher verbs approach. Verbs other than auxiliaries can occur not only in the highest position (as finite verbs) but can also be embedded in various ways, e.g. in 'to + infinitive' constructions. This is not so for modal verbs which can only appear in finite position. The argument for modal verbs as higher verbs seems to be as follows:

'Modal verbs are like other verbs, so that the construction 'Modal + Verb-in-the-Infinitive' includes two occurrences of $S$ as it would with other verbs'.

The answer to this is quite simple: modals are not like other verbs since they have no infinitives or participial forms, so that any rules would have to specify that modals can only appear in the highest clause (except in reported speech). So the higher verbs approach, trying to treat modals like other verbs, is forced to treat them as special cases, nonetheless.

To return to Huddleston's examples, we note once again that there is a great difference between the non-modal
examples like (18), the deontic examples like (25) and the epistemic examples like (17). However, the problem of analysing these differences is not resolved by the higher verbs approach, which leads to the abandoning of a simple syntactic analysis and its replacement by a slightly more complex one which then fails to account for the differences between the three types of meaning.

Of course, if we deduce from these arguments that we should give a simple syntactic analysis, and deal with all the difficult problems under the heading of semantics, then we are simply 'unloading' problems from one component onto another. This is a fair objection. Our answer is this: any semantic analysis of the modals will have to consider all the details mentioned by Ross, Huddleston and others, since questions like the different meanings of the modals and the consequent ambiguity of certain sentences are semantic questions. If writers on the syntax of the modals also feel it necessary to discuss such questions, then so be it. But it should be noted, as we have shown, that the additional complications of the syntactic analysis do not actually solve the problems. Perhaps Marino (1973: 311) puts our attitude in the clearest possible way when he says: 'the mechanism of deep structure verbs is adequate to generate modals but hardly explains their special status'.

5.2.3. Palacas

Another writer who adopts the higher verbs analysis is Palacas (1971). He starts with the question of negation.
We have already remarked, (see, for instance, section 4.3.), on the fact that sometimes there is modal negation and sometimes propositional negation with the modals, (e.g. with epistemic can't and may not). Palacas points to the ambiguity of:

(27) You can buy nothing
which is confirmed by the occurrence of double negation in:

(28) You can't not vote in Greece and retain your civil liberties

However, as we said when commenting on Huddleston, examples with what we call the link modals (see section 4.1.4.) can/could and will/would are not conclusive, especially in their non-modal uses. Can is the only modal to allow a clear distinction, in this case between can't and can NOT. Palacas sees that there is a problem, since he quotes the example of mustn't in which the negation is of the following predication, so that: 'The contraction seems to indicate that 'must' and the negative originate in the same S.' (Palacas 1971: 34). However, he decides against this simplex analysis by saying that the following is unacceptable:

(29) * John mustn't smoke, and neither must Bill

It is unacceptable because its analysis would be:

(30) * It is necessary for John not to smoke, and neither is it necessary for Bill

This is simply not the case; (Palacas admits in a note on p. 44 that not all native-speakers agree with his analysis). The fact is that the modals are idiosyncratic with regard to negation, including contracted forms, and so it is insufficient to base a revised syntactic analysis on the facts in this area. It is certainly the case that we need
to handle modal versus propositional negation, but this is better handled by the notion of scope, (see sections 6 and 7).

Palacas' next argument is based on the existence of examples like (1971: 35):

(31) Alex may have fixed some supper for us, but don't count on it (namely, Alex's having fixed some supper for us)

Clearly, says Palacas, we want to have a sentential constituent in the underlying structure to which the it can refer. This involves placing the may as the verb in the highest sentence and embedding another sentence under the NP node. This then allows (31) to be parallel with, for example (p. 34):

(32) John kept the money to himself, but Mary refused to believe it

This appears to be sound reasoning, but sentences like (31) and (32) are not the only ones in which sentences show parallels. Consider:

(33) John kept some of the money and so did Mary

(34) John may have kept some of the money and so did Mary

If we take a higher verbs analysis for (34) there is no reason why it should be unacceptable, since the phrase kept some of the money would be under a separate S. There is no objection to do/did applying to an embedded sentence, since the following is acceptable:

(35) John wanted to keep some of the money and Mary actually did

Indeed, do/did can refer to any part of the surface sentence, given the right context, cp.

(36) John may have kept some of the money and Mary actually did
Once again, Palacas' evidence is inconclusive. There is a problem, but a higher verbs analysis creates other problems.

The conclusion of Palacas' paper relates to the status of modals in the lexicon (1971: 37 ff.). His higher predicate status for the modals means that he wishes to compare them to near synonymous items. This leads to an almost identical entry for, for example, *can* and *possible*. Palacas says (1971: 42 and 43):

'... the difference between modal verb, non-modal verb and adjective does not enter the grammar until lexicalization takes place'. '...this particular post-syntactic form of the lexicon obliterates the difference between the underlying categories of modal verb, verb and adjective'.

5.2.4. Rivero

Rivero (1972) also supports the higher verbs analysis. Some of her comments have to do with Seuren (1969) and we shall return to them in the relevant section (7.1.2.). At this point, I only wish to repeat an objection to Huddleston (1969), whom Rivero supports. She quotes (1972: 225) Huddleston's:

(37) John could speak ten languages

and says that this example shows that *can* is a true verb here since it takes tense; (she presumably means that the remote form *could* is used here for past time). As we have mentioned several times, only *could* and *would* are commonly used to refer to past time and it is only these uses of the modals which might possibly be candidates for the category 'Verb'. The interesting uses of the modals, the
performative deontic and epistemic ones, do not have past time equivalents and it is the fact that the English modals have specialised in those uses that makes them a group which has moved away from 'Verb' to 'M of Aux'. Once again, we see how important it is not to try to prove things about the modals from examples of their 'internal' uses.

5.2.5. Perlmutter

The higher verbs analysis is, of course, not restricted to the modal verbs. For instance Perlmutter (1970: 107-119) suggests, among other things, that the verb begin — or rather, as he puts it, the two verbs begin — can be distinguished as in R. Lakoff (1968) by their complementation. The impersonal verb takes subject complementation and the agentive one object complementation. So that the following sentences will be analysed as in the diagrams:

(38) a. There began to be a commotion
(39) a. Zeke began to work
(38) b. S
   NP
   it
   S
   NP
   VP
   began

   VP
   there
   be
   a
   commotion
The objections to this kind of approach are the same as to that of Ross (1969) which implies that the lexicon has to include \textit{may}_1 and \textit{may}_2.

5.2.6. Langendoen

If, now, we look at Langendoen (1969), we find him using a large number of embedded \textit{S}'s for an apparently simple sentence like (1969: 100-1):

\begin{itemize}
  \item \textbf{(40) a.} Claude is a man
  \textbf{This has the deep structure:}
\end{itemize}
(Note that two of the symbols used overleaf need to be explained: \( P \) stands for 'predicate', which includes verbs, adjectives and nouns, and \( IP \) stands for 'indefinite pronoun', i.e. in this case, 'one'.)

Later (1969: 115 ff.), Langendoen considers the question of modals and items like certain, necessary, etc. Must does not receive the same analysis as certain and necessary, though embedding is involved in both cases. The tree-diagram for:

(41) a. The student must know the answer

\[
\begin{array}{c}
\text{must} \\
\text{S} \\
\end{array}
\]

\[
\begin{array}{c}
P \ \\
\text{NP} \\
\end{array}
\]

\[
\begin{array}{c}
\text{know} \\
\text{to the} \\
\text{boy} \\
\text{the answer} \\
\end{array}
\]

(The word 'boy' in (b) is presumably a slip.) Langendoen recognises that (41.a) is ambiguous between deontic and epistemic readings, but does not give them different analyses. He also, unlike some of the other writers, avoids the problem of whether modals are to be classified as 'Verbs' or as 'M of Aux' since his category \( P \) includes a large number of different items. It is used for morphological items as well, so that the tree-diagram for:

(42) a. The student knows the answer now
'(Imp' for 'imperative' also comes under the category P. It would be interesting to see what Langendoen would do with forms like could and might; would the tense morpheme or the modal occur as the highest 'P', or would they occur at the same level?

This kind of approach, which handles not only modals, but elements like tenses and aspects as higher verbs, and which involves a considerable amount of embedding, can be seen in a number of works published in the late 60's and early 70's, for instance in McCawley (1971), who incidentally (p. 112) denies that the modals have common syntactic properties. (See also McCawley, 1975).

5.3. ANTI-ROSS

5.3.1. Newmeyer

After these examples of extreme complexity we move on to examine the arguments of those who wish to reject the idea that modals - and in some cases all modal predicates - are higher verbs in deep structure.

One of these is Newmeyer, (1970). He refers explicitly to Ross and Perlmutter's arguments in favour of analysing
root modals as transitive verbs in underlying structures.

Newmeyer gives three possible analyses of:

(43) a. Jack must go

The first two he bases on Ross, (see (b) and (c) below), and the third (d) he gives himself in an attempt to improve Ross's analysis and make it acceptable:

(43) b.

(43) c.

(43) d.
In (d), the highest occurrence of 'Jack' is in indirect object relationship to must.

Newmeyer rejects (b) because he says that the facts that it purports to handle are inaccurate. Ross had removed the subject of the surface sentence from the highest deep sentence in order to account for the shift in the person under obligation in:

(44) a. Harry must kiss Greta
    b. Greta must be kissed by Harry

Newmeyer points out that this does not help in cases where one of the NP's is inanimate, in which case there is a paraphrase relationship:

(45) a. Visitors may pick flowers
    b. Flowers may be picked by visitors

After a discussion of need, Newmeyer returns to the subject of the root modals which, he says, behave differently from verbs 'where a 'like-subject' underlying structure is secure' (1970: 193), since inanimate subjects are possible:

(46) An opening hand must contain 13 points

and lower verbs may be nonactive:

(47) The ink for my pen must be red

Whereas with full verbs like allow and require the surface subject in be + -ed structures is the logical object. It is for this reason that Newmeyer prefers (43.d) to (b) and (c) since the extra embedding allows all three NP's (the giver and receiver of permission or obligation, which may be pro-forms, and the surface subject of the active sentence.)

But Newmeyer's main objection to a Ross-type approach is a semantic one. He says (1970: 195):
'there is a certain semantic relationship between root and epistemic modals. ... The root modal can often be interpreted as the epistemic modal with an added causative or affective sense.'

Although there is not always a consistent pairing of an epistemic sense with a root one for every meaning of every modal, Newmeyer concludes (p. 196):

'The point is that this pairing cuts across the modal system, and any adequate grammar must take account of it.'

So Newmeyer is here objecting not so much to a higher verbs analysis as to the distinction between the epistemic and deontic modals as taking subject and object complementation respectively. He would prefer an analysis that allowed the same approximate structure to both. So we must look elsewhere for criticisms of the basic higher verbs analysis.

5.3.2. Jenkins

Jenkins in his comments (1972) follows Chomsky's (1972) proposals which allow for surface structure interpretation. As a result he is opposed to any approach that says that 'syntax is based on semantics'. He points out, correctly, that there are important points of difference between the modal verbs even of two related languages like English and German. It cannot be, therefore, that both systems are realisations of (1972: 10)

'a set of semantic features (universal features; e.g. possibility, necessity, permission, etc.) such that one can exhaustively characterize the modals by this set of features and then set about to explain the syntactic properties of the modals on the basis of their
One of the Ross-type assumptions is that the root modal occurs in a transitive structure and the epistemic modal in an intransitive one. Jenkins' objection to this is similar to Newmeyer's, i.e. that root modals do not necessarily change meaning under passivization, so that there is no particular reason to place one of the NP's in such a position in the base that it can be raised in a way that 'shows its origin'. So Jenkins proposes that another analysis than the Ross-type one is possible for:

(48) a. John may kill you

b. You may be killed by John

This analysis, which would place the *may* in an intransitive structure, is:

(48) c.

```
S
  /\NP
 /  \ VP
/    /
it   S
  \   /V
   \ /V
    John kill you
        may
```

We may adopt Jenkins general point, namely that there is no good reason for distinguishing between transitive and intransitive structures, since the root modal examples have more than one interpretation, one being a general issuing of a mand and the other being the addressing of a mand (via the hearer if necessary) to the *surface* subject. This is an important general point, which goes beyond the pro - or anti-Ross argument, namely that the obligation affects the referent of the surface subject, if it affects anyone specific. (A general interpretation with third-person
subjects is possible or, with inanimates, obligatory.

Jenkins also argues against any approach which would result in the lexicon containing two items, an epistemic and a deontic one, for the same morphological form. (See Jenkins 1972: 36 ff.)

Jenkins attacks two other ideas which are associated with the higher verbs analysis. These are the notions that modals should be analysed in the base as related syntactically to (i) cognate verbs such as allow to and (ii) semi-modals such as be able to. He points out that if may and allow to are equated this gives rise to difficulties, since the two following sentences are not equivalent (Jenkins 1972: 40):

(49) May I please have some salt?
(50) Will you please allow me to have some salt?

Even if we treat have as a special case, so that allow to have = give, we still have problems, since the next two sentences are not equivalent either, (except functionally in context):

(51) May I please have a massage, Miss Bardot?
(52) Will you please give me a massage, Miss Bardot?

Similarly for the semi-modals, (p. 41 ff.), Jenkins is able to show that the same underlying form cannot handle the modal and semi-modal examples. Quite apart from the restrictions on past time could, as instanced by:

(53) I was able to get there by 5.00 yesterday

and apart from the barely acceptable nature of:

(54) ? Are you able to open the bottle?
(to adapt one of Jenkins’ examples), we can see that there are further problems associated with the active/passive change between sentences. As Jenkins points out (1972: 49), the following are synonymous on one possible reading of each, (the general one):

(55) The doctor can examine John
(56) John can be examined by the doctor

whereas the same sentences with was able to (or, for that matter, was allowed to) are never synonymous. As we have said before, there is something special about the modals. Jenkins concludes, in my opinion rightly, that can is not derived from an item ABLE and that be able to already has the structure ‘be + adjective’ in the base. There are similar objections to trying to link will and be going to.

Jenkins therefore prefers, for:

(57) a. The doctor may examine John
b. John may be examined by the doctor

c. The same deep structure, differing only in the inclusion of by + Passive in (57.b). This gives, for (57.a):

```
S
   /\      \     /
  /  \    /  \   /
 NP   Aux VP
      the doctor may V NP
                  examine John
```

which has a remarkably familiar Chomskyan look to it!

Jenkins’ other ideas are often less acceptable. He is concerned to justify, with respect to modals, Chomsky’s (1970) presentation of the theory sometimes called the ‘revised standard theory’. This theory allows for
unacceptable sentences to be marked as unacceptable by surface rules. Jenkins gives as examples the following:

(58) * May you...? ('request' may)
(59) * Will I ...? ('imperative' will)

which would be acceptable if we exchanged the subject pronouns. For Jenkins, these are excluded by a surface rule that interprets the subject as addressee. He may be right in wishing to exclude from the base the need to place restrictions on the co-occurrence of certain items, in this case modals and their subjects in interrogatives, but this does not mean that the role of excluding such unacceptable co-occurrences should be left to a surface rule. The fact is that on quite general grounds we can view as impossible in any language any sentence (other than an echo question) in which the speaker addresses himself in order to effect certain speech acts or the hearer to effect others.

It seems to me that the unacceptability of (58) and (59) is based on very general pragmatic criteria and should not be the concern of a grammar. I am not even sure that it should be the concern of a one-language based semantics, though it is certainly part of general semantics. The essential question here is a very general one and concerns the relative scopes, and therefore the relationship to one another, of syntax and semantics. A full answer to this question would make a thesis just by itself. Our approach here is a practical one, and we have chosen a semantic approach. Sentences such as (58) and (59) are to be excluded on general pragmatic grounds as semantically unacceptable. If writers on syntax wish to exclude them by
special rules as syntactically unacceptable, then that is their affair. But I suggest that their unacceptability is semantic and that this fits very well with quite basic notions of what is unacceptable and why. If a foreigner says *I want go, he will be understood, since there is nothing semantically unacceptable about what he says, he simply has not mastered the rules of English. If, on the other hand, he produced: *Will I shut up! there would be some doubt as to whether he was a human being at all.

5.3.3. Chapin

Further evidence against a higher verbs analysis is brought by Chapin (1973). His case is presented in relation to what he calls 'quasi-modals', but, as he says (1973: 7), his arguments apply with equal force to the auxiliaries. By 'quasi-modals' is meant items like have to, be able to, be going to, etc.

Chapin's main argument is based on the question of NEG-raising. This will not concern us here. Of interest are certain arguments which he presents in the course of his paper. One of these concerns the order in which quasi-modals can occur. If we compare the two following (1973: 4):

(60) a. Joe has to be able to think
    b. *Joe is able to have to think

and other similar examples, we soon see that there are clear restrictions on the ordering of such items. Chapin's suggestion is that such sentences should be considered as simplex, which would make the rules easy to specify in a
way similar to Chomsky's (1957 or 1965) rules re-writing Aux or VP in a linear fashion. If embedding is used, by contrast, the rules would have to be far more complex, since they would have to specify the order (or 'depth') in which the various S's could or could not appear.

Chapin further discusses the fact that all quasi-modals appear only in like-subject constructions. This is shown by the unacceptability of (1973: 4):

(61) *Marvin is able for Hilda to leave

It is true that, for instance, try and condescend, to mention but two, also only occur only as like-subject verbs, but the description of the quasi-modals is simplified if they are treated as a group and, since they appear in simplex sentences, no further details need to be given, since a simplex sentence by definition has only one subject.

Chapin's arguments, as he says, apply to the modals, too. They are, in my opinion, even stronger with the modals. The English modals, except in reported speech, only occur once in an underlying string sentence. It is simpler to express this fact by analysing the surface sentence as only one deep sentence, rather than placing special restrictions on embedding.

5.4. DISCUSSION OF ROSS'S ANALYSIS, ETC.

5.4.1. The French items

Whether we should follow Chapin all the way is another question. He extends the use of simplex sentences even further than we need to for the English modals. But we need to look at the French modals as well. Before we do so,
a passage from the end of Chapin's paper is worth quoting in full, (1973: 8):

'The relationship expressed by a quasi-modal is one between an individual and a predicate. The sentence 'Joe has to go' is quite unlike the sentence 'Joe expects to go'. In the latter, the basic relationship is between Joe and a proposition, namely that Joe will go, which Joe expects to be true. In the former no subsidiary proposition can sensibly be said to be involved. 'Has to' does not relate Joe to some proposition; rather it describes a particular sort of relation between Joe and the act of going, a modality of the proposition. Hence it makes eminent sense to include 'has to' in the proposition to which it pertains. The same sorts of comments may be made about ordinary modals, have and be.'

This has implications for the initial IC cut to be made in sentences containing modals. It gives us good reasons for making the cuts in (19) and (20) (see above), in the way to which Huddleston objects.

We now return to the subject of the French modals. As we have seen at various points in this thesis, the tendency for French writers on devoir and pouvoir is to distinguish the epistemic uses, which they say can reasonably be considered as auxiliary uses, from the deontic and non-modal uses. We have rejected this approach for the English modals, since we do not wish to allow a situation in which the lexicon would contain must₁ and must₂. Since we have also preferred, following Chapin (1973) and others, a simplex sentence approach to the syntax of the modals, despite the existence of borderline cases like ought with its to complementation, and the problem of negation, the question
arises whether the French items ought not to be considered in the same light. Our analysis will be simpler if we refuse to allow there to be two verbs devoir or two verbs must. We shall now examine the French group with a view to deciding these various questions.

First, we must remind ourselves of what the syntactic differences are between the two groups. The French verbs can all take NP objects, (though pouvoir is restricted as to which ones). None of the English verbs can do this. This might allow an analysis in which the verbs concerned occurred always in the structure \( V + \{ NP \} \). Such an analysis would show the French group as taking obligatory object complementation.

Next, the French items, unlike the English ones, can appear other than in first position in the sentence. There are some restrictions, but by and large the only important one is that any epistemic uses must, by what we suggested (4.5.) is a general semantic principle, occur in first position. These facts suggest that the French verbs can be considered just like other \('V's'\) and can therefore be seen as taking embedded sentences. Whether or not we allow a Ross-type of approach, in which the epistemic examples are distinguished from the rest by taking subject complementation rather than object complementations, depends on our answer to the question: ‘do we allow the lexicon to contain two verbs devoir?’ which we would prefer to avoid.

The next point concerns tenses. The French items have a full range of tenses, whereas the English modals have at
most two forms, only two of which, could and would, are commonly used for past time. Again, this gives us grounds for considering the French items as 'V's'. This applies even to the epistemic uses, since epistemic devoir and pouvoir are only excluded in the various future tenses.

A related question is that of Perfect infinitives; these are commoner in English. However, there are only two cases in which time/tense/aspect can occur twice in an English surface sentence, and those involve, once again, the 'link-modal' forms could and would. In the following, we have both past time and perfected aspect:

(62) In those days, he { could have left the house before
would 8.00. }

If we take the meanings as 'characteristic' could and 'descriptive' would then (62) is acceptable. If, however, we look at the other remote form modals, then only the following Perfect infinitive is concerned with time:

(63) He { might have left the house before 8.00
needn't should
ought to }

This corresponds to what we have said about the English modals. They have tended to lose past time uses for their remote forms, and it is only the forms that are left still using remote form for past time that could possibly be considered as examples of 'V'. If we turn to the French items, then we find that forms involving a past tense of the -oir verb and a Perfect infinitive are acceptable. Certainly the rules given by Dubois & Dubois (1970) allow for them, and generate examples like (4), (see above).
This, of course, is not conclusive evidence for a higher verbs approach - Dubois & Dubois simply allow 'Parfait' to occur twice in a simplex sentence.

Another point, though an inconclusive one, concerns the placing of the pronoun object in sentences with -oir verbs. Modern French has examples like:

(64) Il doit le vendre

Auxiliaries like avoir and être, together with one or two other items like faire, take a preceding direct object, as in:

(65) Il l'a vendu
(66) Il le fait venir

This would seem to indicate an embedded structure for (64). At the very least, it would suggest that the first IC cut be made after doit. But French has hesitated about this kind of construction. The classical (17th century) language would have had, instead of (64):

(67) Il le doit vendre

This was still used in written French well into the 19th. Century. All we can say is that the evidence here is not conclusive.

Complementation with at least some of the French items shows greater variation than with the English ones, which can only take a direct infinitive. In French we have quite a number of 'que + clause' constructions. The impersonals falloir and valoir mieux both take 'que + subjunctive', as do vouloir and the reflexive and impersonal il se peut. Savoir takes 'que + indicative'. This leaves only devoir as an exception, but even this item has one different
complementation possibility, namely 'il se doit de + infinitive'. This again suggests that we might choose a 
'Vex + [NP]" obligatory structure for the group.

Our conclusions for the French items must be more tentative, because of all the differences from the English group that we have noted. Some of Chapin's arguments in favour of a simplex structure at least for the 'modal + infinitive' examples are still valid, particularly since he took his examples from items not inside the English modal group. If there is a personal subject then the 'like-subject' principle operates, and if the surface subject is impersonal il, then either there is no specified underlying subject or else there is an indirect object/underlying subject link, as in:

(68) Il lui faut partir

But impersonal verbs are special cases and need a separate analysis.

The difficulty with an analysis which places 'modal + infinitive' in a simplex structure of 'Aux + V' is that it brings us back to a lexicon with more than one entry for each surface form. If, on the other hand, we use a 'Ve + [NP]" analysis allowing embedding, then all meanings will have the same structure. We can show this if we take three sentences with vouloir:

(69) a. Il veut mon argent
(70) a. Il veut travailler
(71) a. Il veut que Marie l'épouse

The tree-diagrams for these will be as follows:
If, on the other hand, we insist on an 'Aux + V' analysis for examples with an infinitive, then this will have the effect of separating examples like (70) from the rest, and will result in at least two entries for vouloir in the lexicon. The alternative tree-diagram would be:

(70) c.

```
(69) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent

(70) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)

(71) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)
```

The alternative tree-diagram would be:

(70) c.

```
(69) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent

(70) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)

(71) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)
```

The alternative tree-diagram would be:

(70) c.

```
(69) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent

(70) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)

(71) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)
```

The alternative tree-diagram would be:

(70) c.

```
(69) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent

(70) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)

(71) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)
```

The alternative tree-diagram would be:

(70) c.

```
(69) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent

(70) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)

(71) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)
```

The alternative tree-diagram would be:

(70) c.

```
(69) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent

(70) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)

(71) b.
S
  /  
NP  VP
   /   
Il  V  
     /   
     V  
      /   
   V  NP
    /   /  
  veut Det N
   /   /  
mon argent travailler (or il travail-)

(70) c.

```

If, on the other hand, we insist on an 'Aux + V' analysis for examples with an infinitive, then this will have the effect of separating examples like (70) from the rest, and will result in at least two entries for vouloir in the lexicon. The alternative tree-diagram would be:
Generally, it seems preferable to consider that, even in their epistemic uses, *devoir* and *pouvoir* are not auxiliaries but rather instances of 'V'. The existence of an undoubted epistemic form, *il se peut*, which has different complementation is further justification for this, since it certainly would complicate the description if it had to be analysed as containing an instance of 'Aux'. And yet further justification comes from the fact that the French items are not like Chapin's (1973) quasi-modals in one important respect, namely, that they are able to co-occur fairly freely. Certainly there are some restrictions, but these do not affect the general picture, which allows pairs like *doit pouvoir, veut savoir, sait devoir*, etc.

5.4.2. The English items

This brings us back once again to the English modals. Should we not allow the status 'V' at least to *can/could* and *will/would* in cases where remote form corresponds to past time? This solution, while forcing an abandonment of the 'only one lexical entry' principle, would have certain advantages. We want to be able to specify two possible occurrences of time/tense in surface sentences with such items and only one in the rest. General rules could easily specify that 'Remote + M' can never have the 'Remote' signifying past time, whereas 'Remote + V' can, given the right circumstances. The analysis for (62), using *would*, then becomes:
By contrast, a sentence with a remote modal having non-actual meaning would receive an analysis which placed the modal under 'Aux'. If we draw the tree diagram for (63), using might, we get:

(72)

This, of course, involves recasting the rules of Chomsky (1965) to account for the occurrence of both 'remote' and 'past' under 'Aux'. This will be permitted provided there is only one occurrence of a morpheme involving time rather than non-actual. This may seem to be bringing back semantics into the syntax, from which we have tried to exclude it. This is not really so. It simply unites a
desire to keep to simplex structure as far as possible with the fact that a surface sentence can contain a morphological remote form at one point and a perfect infinitive at a later one.

Note, that this does not really involve us in a higher verbs approach. The word 'full' verb is more appropriate. The analysis in (71) simply seeks to express a certain fact, namely that the English modals, which originated as full verbs, have remained so in a few cases. As such, they ought to receive the same analysis as other full verbs.

However that may be, it is still preferable to reject (71) and other analyses like it. The reasons for this are, first, we want to avoid any double lexical entries; second, we want to keep simplex structure where possible; third, we have to recognise that even these uses of could and would do not make them like the French items, which can take 'real' NP objects; fourth, we do not want an analysis which would force us to separate performative and constative permission can.

In this way we have reached a position where the English modals are considered as examples of 'M of Aux' and where the French items are seen as instances of 'V'. This position has been reached with a certain amount of hesitation, since some facts are definitely 'squishy'. However, I think that the solution is a satisfactory one, since it achieves what is wanted, namely identifies the English group as a very individual one syntactically. It permits us to continue the neat analyses for, for example, interrogatives and negation, where true, 'full' verbs need the suppletive
dummy do but modals do not. The French items are far less separate from ordinary verbs. Other items, unconnected with the French group, take direct infinitive, such as penser and croire, whereas in English only a few expressions like 'd rather and 'd better do, and these are scarcely 'full' verbs.

The rules will need some readjusting; we have seen (5.1.) that writers on the French items felt the need for two occurrences of 'Parfait' - we shall need to do something similar for examples like (62). It may seem counter-intuitive to allow two occurrences of 'remote' in one sentence, but that is the result of other decisions, such as that not to allow double lexical entries and that to insist on simplex sentences where possible. What we are tending towards is an analysis rather like Chapin's (1973), in which quite long strings, such as, (1973: 3):

(73) Joe isn't going to have to be able to pay a red cent are considered as simplex sentences. However the rules are written, that is however they split up sentences into immediate constituents, they will have to allow the surface string of symbols:

\[
\{ \text{Remote} \} + \text{Modal} + \text{Perfect Infinitive} + \text{Verb}
\]

In a sense, this is already provided for in Chomsky-type rules, which apply Tense to the Modal, if there is one, and to another item, (another auxiliary or a full verb), if there is no Modal. There will still be problems, of course; for instance, shall we rewrite the string 'Remote + must' as 'should/ought to'? Or shall we block it? Now, in
that case, would ought be derived? Other problems that arise from a Chomsky-type approach can be found in Major (1974).

5.5. CONCLUSION

So our discussion on higher verbs has eventually led us back to a syntactic approach involving simplex sentences. It is now necessary to sum up the reasons which make the higher verbs analysis important, though, I feel, to be rejected.

The difficulty with the higher verbs analysis is that it can be used to do three things, at least two of which are involved in any article or book that I have come across. These are:

(i) Identifying modal verbs (and sometimes other items) as main verbs, and therefore saying that all other occurrences of 'Verb' in the same surface sentence must be embedded in deep structure.

(ii) Distinguishing between epistemic and deontic cases by saying that the first has the modal taking subject complementation and the second has the modal taking object complementation.

(iii) Proposing that the modals should not appear in deep structure as themselves, but as more abstract entities, either as bundles of features or as meaning-type items like ABLE. This kind of proposal involves a pre-lexical and a post-lexical stage.

Clearly, we can accept or refute these proposals in a number of different ways. The whole notion can be rejected, as we have done, by saying that the syntactic analysis of a
sentence containing an English modal must keep to a simplex structure. But we could, for instance, accept (i) only and reject (ii) and (iii).

Let us be clear that we are not rejecting the higher verbs analysis because it has invented a non-existent problem - or set of problems. There are clearly a number of points that need elucidation, such as those concerning negation and the perfect infinitive. One of the difficulties has always been, however, that allowing embedding to explain those facts opens the flood-gates to a whole host of other proposals for higher verbs. And there is no principled way of stopping this. Quite apart from this general question, however, we have shown that there is something special about the modal verbs of English, both in their morphology and their syntax, and that it is therefore reasonable to re-write them under a node 'Aux' rather than under a node 'V'. For the French verbs, matters are not so easily resolved, but since we found that they had, as it were, 'avoided', becoming true auxiliaries (5.4.1.), we decided that they were still to be regarded as full verbs, taking direct object NP or S.

But why is the higher verbs approach important? Mainly because it attracts our attention to a whole range of phenomena connected with the modals. All the discussion about what is or is not a candidate for the category 'higher verb' and about the depth of embedding of the various items and about the different types of complementation - all this will be relevant later to what we have decided to treat here as semantic problems. The fact that we have decided, as
much for practical reasons as for theoretical linguistic ones, to separate syntax and semantics, and to keep semantic criteria as far as possible out of decisions on syntax, does not mean that various notions which were originally presented in a syntactic framework are not transferable to a semantic approach. The opposite is true, since linguistic facts have to be explained somewhere, and those excluded from the syntax will have to be accounted for in the semantics.

So the higher verbs approach is essential in the recent history of linguistics, since it led, and still leads, to interesting facts, especially in the field of modal verbs and of modality. It is interesting because it points us towards an abstract approach which will allow us to present in a clear form all the various elements which play a role in the area we are studying.
SECTION 6

BACKGROUND TO THE NOTION OF OPERATORS, etc.
6.0. CONTENTS OF THE SECTION

This section presents a number of ideas relevant to the theoretical study of modality, etc., including a number of a (philosophical) logical origin. Many of them will be used in formulae presented in section 7.

6.1. BOYD & THORNE
6.2. LEECH
6.3. DAKIN
6.4. SEUREN
6.5. OTHER TYPES OF OPERATOR
6.6. SCALE
6.7. ARISTOTLE, etc.
6.8. THE THREE-WAY DISTINCTION
The article by Boyd & Thorne (1969) shows the kind of hesitancy among linguists which has led to confusion about the limits of syntax and semantics. The official title is 'The Semantics of Modal Verbs'. However, the title in the index, (presumably an earlier one that was rejected by the authors), is 'The Deep Grammar of Modal Verbs'. The article was written at a time when the ideas of Chomsky (1965) which led to a number of semantic facts about language being included in the syntax - or the 'grammar', to be precise - were very prevalent. The change of mind (if such it was) on the part of Boyd & Thorne shows a move away from this attitude.

Boyd & Thorne propose that each sentence should be divided into two parts, consisting of the 'illocutionary potential carrier' and the 'propositional content'. Straight away, with this terminology, we can see that we are into quite a different realm from that of the higher verbs approach with its basically syntactic terminology and concern, however distantly, with immediate constituents of sentences. The terms are philosophical. The notion of 'illocutionary potential' is based on Austin (1962) and that of 'proposition' on general philosophical (or logical) discussions. This is not the place to go into Austin's ideas in detail, but it is enough to say that 'illocution' has to do with the 'force' that an utterance has, or is intended to have. This term is matched by another, 'perlocution', which has to do with the actual effect of an utterance, though it has been denied that there is a
distinction between the two terms, e.g. by Cohen (1973). The ideas of Austin, as adapted and applied to language, start from the premise that, unless one is play-acting, quoting a text or indulging in any other kind of indirect language activity, the speaker and hearer are involved in a complex web of interactional relationships, of which traditional notions like the basic sentence types form a part. (See also Halliday, 1970, on the 'interpersonal' function of language.)

All this is best illustrated by giving examples from Boyd & Thorne's article. They select two basic 'speech acts' as being contained in the 'illocutionary potential carrier' slot, namely STATE and IMP, (for 'imperative'). We note a similar division, using only two terms, albeit somewhat differently, in Householder (1971) which has 'Assertion' and 'Will'. In Boyd & Thorne's article, interrogation is handled by a combination of the two basic items, and is analysed as ordering the hearer to state. The 'illocutionary potential carrier' involves other items, such as tense and negation, so that the propositional content is the 'rump' left after all other elements have been removed. Thus the propositional content of:

(1) He shouldn't have gone

is simply 'he - go'. This notion has a good deal of traditional logical history behind it and also seems intuitively acceptable, so we shall not need to discuss it in detail.

Boyd & Thorne see the modal verbs of English as
indicating, or helping to indicate, the illocutionary potential of a sentence. (The word 'potential' is used, since we are not dealing here with the kind of analysis that has enough in it of pragmatics to allow us to deal with utterances rather than sentences.) The modals are clearly involved with two types of meaning, the kinds we have called 'deontic' and 'epistemic', so that many sentences are ambiguous, such as:

(2) They must be married

One of the great advantages of Boyd & Thorne's approach is that they try to link the two areas, so that there is a maximal similarity between the analyses for the two interpretations of any ambiguous sentence. For instance, the analyses for (2) are:

(3) a. I state Some proform \[^{imp}_{nec}\] non-past They be married non-past

b. I \[^{state}_{nec}\] They be married non-past

So that, for instance, \[^{nec}\], relating to 'necessity', is contained in both analyses. (The first is deontic and the second epistemic.) This kind of linking of the two areas can be carried even further. For instance, Corder (1969) has suggested that the epistemic sense can be analysed as:

(3) c. Something (evidence) imp me/I state/They be married

This links the two readings very neatly. (See also Antinucci & Parisi (1971).)

There are some other interesting analyses in the Boyd & Thorne article. For instance, they analyse the epistemic sense of \[^{may}\] with a double negative, as in the following:

(4) a. He may go
(4) b. I state Neg I state non-past Neg He go non-past

Or, they make use of the traditional notion 'subjunctive' for the next example:

(5) a. We could be in Africa

b. I state Neg I state Neg We be non-past subjunctive in Africa

We shall not adopt these analyses in the form in which they stand. But their interest, and the light they cast on the semantics of the modals, are great. One thing that we shall wish to make clearer is the separation of the two parts of the sentence. In Boyd & Thorne's analyses, items like 'Neg' and 'non-past' appear at several points in the strings of symbols, and even items like 'state', which do not appear in the proposition part of the strings, can nevertheless appear more than once, (embedded, as it were, though the term is less suitable to this type of analysis).

Another point that is not clear is the status of the various items which do not appear in the proposition. In principle, (1969: 57-8), Boyd & Thorne identify only the two speech acts STATE and IMP, as already stated. What then is the status of all the other items like 'Nec', 'Neg', 'Subjunctive', etc.? This is the sort of question that will lead us later, following Seuren (1969), to prefer a three-part analysis. (See 6.3. and 7.1.). Clearly, if we are going to follow Boyd & Thorne in seeing the English modals, or for that matter the French verbs, as indicators of the illocutionary potential of the sentence, then the modals will be so as a result of a combination of features in the semantic analysis. One-to-one correspondence between
abstract analysis and morphological form is too much to hope for.

6.2. LEECH etc.

6.2.1. Downgrading and formators

Leech (1969) is an explicitly semantic approach, as the title indicates.

Like Boyd & Thorne, he makes a distinction between the propositional content and the part of the string containing the symbols which relate to modality. This is handled by the process of 'downgrading', (Leech 1969: 22 ff.) This is somewhat similar to the process of embedding, but Leech's account is quite clearly not syntactic, so that any direct comparison would be misleading. The system of downgrading is used for a number of linguistic features, including (1969: 27) 'adverbial modification, tense, aspect and modality'. Leech discusses the examples:

(6) John likes fish
(7) John may like fish

If we represent (6) by the string a·r·b, in which a stands for 'John', b for 'fish' and r for 'likes', then for (7) we need in addition the string < ∅ c · t · d >, in which ∅ c means something like 'this' or 'this fact', t stands for 'is' and d stands for 'possible' or 'possibly true'.

A possible gloss for the composite string of symbols is therefore: 'that John likes fish is possible' or 'John like fish — possibly true'. The symbol '∅' is the 'definite formator' and is used in relatives, for the definite article, etc. The whole string would look
something like this:

(8) \( a \cdot r' < \theta' c \cdot t \cdot d > \cdot b \)

6.2.2. Formators, Inverses

Before we comment on the whole approach, we need to introduce some others of Leech's 'formators'. 'Formators' are defined (Leech 1969: 44) as:

'those features whose meaning is wholly determined by the theory, in this sense: they are explicated by special conditions under which assertions in which they occur are classed as tautologous or contradictory, or by special relationships of implications and incompatibility into which they enter.'

Leech is concerned, as with the other areas he studies, to identify the ways in which the modal auxiliaries are related to one another, in order to establish which are the appropriate formators and to use them to describe formal relationships.

The first of these Leech (1969: 204 ff.) is that of inverses. The principle of these is (p. 205): 'if one term is substituted for the other and the position of the negative is changed, the utterance undergoes no change of meaning'. An example of this would be the pair 'possible' and 'necessary', since we can establish an inverse relation between them such that 'not possible' = 'necessarily not'. This notion is clearly very relevant to the analysis of the modal verbs, especially as far as negation is concerned. We saw in section 4.3. how complex the usage is for items like may not, can't, mustn't and needn't.

Leech then introduces the notions 'authority' and 'causation', which are not the same as can be seen by the fact
that the following is passivizable without change of cognitive meaning (p. 206):

(9) a. The damp weather caused rust to attack the metal parts  
    b. The damp weather caused the metal parts to be attacked by rust

whereas in the following example involving authority the 'compellee' changes:

(10) a. The boys compelled Mike to kiss Joan  
    b. The boys compelled Joan to be kissed by Mike

However, as we saw when discussing the ideas of Huddleston, (see 5.2.2.), the change from either general or non-animate subjects to animate, especially human, ones can introduce distinctions that were not made with the inanimate subjects. But it is clear that the modals and their linked items can only occur with the authority system, since we could not begin an equivalent of (9) with the words 'Rust had to attack...'.

6.2.3. Actuality

Next, (pp. 208-211), Leech discusses 'actuality', symbolised by $+$, contrasting the real and the hypothetical. This particular formator leads Leech into some problems. Whereas $+$ as 'real' is arguably valid in sentences like:

(p. 209):

(11) I saw him cross the street

which implies, 'he crossed the street', there is a great difference (for $-$) between what we may label 'counterfactual' and 'hypothetical'. Taking examples with modals:

(12) He could have done it if he'd tried
(13) He could have been telling the truth
we can see that (12) implies: 'he did not do it', hence it
is counterfactual, while (13) is simply hesitant as to the
truth value of the proposition: 'he was telling the truth'
and is therefore only hypothetical. Leech applies the
$+\psi$ formator to permission and obligation (p. 213), saying
that both the following contain it:
(14) You can leave your car here
(15) You have to leave your car here
In the latter case, the formator occurs because the sentence
'carries the supposition': and I fully count on your doing
so'. This is surely quite different from the implications
of (11). However Leech says (p. 214): 'the question of
whether to add $+\psi$ to the definition of can is a vacuous
one from the point of view of logical consequences'. This
is confusing, since $+\psi$ was originally presented as being
concerned with what is 'real', with (11) given as an example.
Leech continues, saying that since $+\psi$ is associated with
constructions containing finite verbs in the "indicative
mood", and because can is paraphrasable by such a
construction (has/have permission to) it must receive the
same semantic specification.' This again is confusing,
since the following sentence (p. 209) was said not to
contain the formator:
(16) I wanted him to help me
Admittedly, this does not carry the supposition: 'he helped
me', but then neither does (14) imply: 'and you do leave
your car here'. A lot would need to be said further to
justify this particular formator.
We do not meet examples of $\psi$ until section 9.7. in Leech, where the hypothetical uses of the modals are discussed. It appears that $\psi$ occurs not only in counterfactuals such as, (p. 233):

(17) I wish we were on holiday (= we are not)

but also in any sentences where what we have is (p. 234) 'contrary to expectation' rather than 'contrary to fact'. Thus (p. 235):

(18) Could/might I see your driving licence?

is to be defined as containing $-\psi$, whereas the same sentence with can or may would contain $+\psi$. So we have a formator which ranges from polite sentences to counterfactual ones. Beyond the examples already mentioned, we find that, for instance, should is specified for $-\psi$ while ought is left unspecified. This is decidedly strange, since most writers either consider them synonymous or else say that it is ought which is the more counterfactual of the two, (for instance, Wierzbicka, 1972).

For further criticisms of the $\psi$ formator, see Jarvis (1971). Leech seems to have failed to keep surface morphology and semantics separate and to show a tendency to ascribe $-\psi$ to most remote form verbs, whether or not they entail 'not real'. He also, (p. 222), analyses all four of can, may, must and have to as containing $+\psi$ in their definitions, presumably because they are non-remote forms.

6.2.4. Constraint

The main system set up by Leech (1969: 211 ff.) to handle the inverses is called the 'constraint' system,
represented by $1^\eta$ and $2^\eta$. In Leech's notation the following two strings are equivalent:

$$\alpha' \sim \rightarrow \text{AUT } 1^\eta \cdot (\theta' \cdot r \cdot b) = \alpha' \cdot \text{AUT } 2^\eta \cdot (\theta' \sim r \cdot b)$$

(An arrow appears to have been missed out before the second 'AUT'). If we take 'AUT 1$^\eta$' to be 'permission' and 'AUT 2$^\eta$' to be 'obligation', when we can see that this formula works well, since if you are not permitted to do something, then that is the same as being obliged not to do it. Leech is again confusing here about the $+\psi$ formator. He says (p. 211) that the following are deviant:

(20) He is compelled to work for a small wage, but he doesn't

(21) I insist on his staying here, but he doesn't

(22) It is necessarily the case that changes are being made, but they aren't

It seems to me that these three are all different from one another. In (20) there is certainly a direct contradiction. (21) is only marginally deviant if we interpret 'insist' as 'try to insist'. (22) is indeed contradictory, but only because speakers do not make truth-value judgements and then proceed to state that the proposition is true or false. (22) would also be strange if it ended 'and they are'.

Again, the vagueness of the $\psi$ formator is revealed. To say 'that must be my wife' is not to imply 'that is my wife'.

To return to $\eta$, this formator is not only used for the inverses 'permitted' and 'obliged' but also for 'possible'/'certain' and 'be willing'/'insist'. The third pair needs some discussion. At first sight it seems justified, since it seems reasonable to pair the following opposites:
(23) a. I insist on not doing it = I am not willing to do it
b. I do not insist on doing it = I am willing not to do it

But does this work for the modal will? As we saw in section 2.10.6., a form like I won't can be analysed both as 'I refuse to' and as 'I agree not to'. The fact is that the word will is involved both in 'willingness/insistence' and, in its negative form, in 'agreement/refusal'. Another point is that, since shall is rather archaic, even in such dialects where it exists, all the differences in (23) are not lexicalised in the way that they are in the other two inverse systems mentioned. We do not find in the 'willingness/insistence' system the rich interplay of can, may, must and need. Tonic stress can be used, of course, but this is rather restricted in its use; it is only really employed for the first person. It is difficult for me to accept examples like:

(24) You will go to London!
for 'I insist on...' or:

(25) He will give you the details!
for 'I insist on him giving you the details'. (25) and its negative could be read as 'he is (not) willing to ...' but (24) would need to receive strong stress before it could be read as 'you insist on ...' The facts in this area are unclear, so that while Leech has some justification for his system, this is not very relevant to the modal verb system, since shall is vestigial in most dialects I have seen described and will has only kept its original meaning in some contexts.
6.2.5. Theoretical/practical

It is difficult to be quite certain to what extent Leech is interested in the modal verbs as items and how far in more general questions. For instance, discussing the 'AUT' system (p. 212 ff.) he gives the same analysis for can and have permission to. This does not mean that they are exact equivalents, merely that they are 'componentially synonymous'. At this point the various formators are not being used to help us distinguish exactly between lexical items, but when we move on to the difference between can and may, we find Leech introducing a formator $T$, the 'theoretical/practical' formator, simply in order to separate the two.

This formator needs some discussion. Leech uses it to distinguish must from have to and may from can, his examples being mainly from the epistemic area. I find it impossible to comment sensibly on his use of this formator for the first pair, since have to is not used in my dialect epistemically. Americans to whom I have shown Leech's examples on page 221 do not find his glosses for them very satisfactory as a method of distinguishing the two items must and have to, however. I shall restrict my comments to the way Leech distinguishes between can and may, a distinction that he obviously thought acceptable on further reflection, since he includes it in his later, less theoretical, book (1971). The examples given are (1969: 220):

(26) The Monsoon can be dangerous = It is possible for the monsoon to be dangerous
(27) The Monsoon may be dangerous = It is possible that
the monsoon is/will be dangerous

Leech's comments on these are rather vague. He says
(1969: 221):
'It is difficult to explain what difference of meaning
is involved here. All that can be said is that in
the first pair of sentences (i.e. those of (26): RGW),
the notion of possibility is general and theoretical;
but in the second pair, (i.e. those in (27): RGW) it
is a more particular and practical kind of possibility,
often in the future. The second pair of sentences
seems to have a slightly stronger meaning: ...'

Leech goes on to suggest that the 'stronger' meaning implies
the 'weaker'. It is true he adds (1969: 222): 'However,
the difference is subtle enough to make intuition uncertain,
and only a tentative formulation will be suggested.' But
he still decides to introduce his formator $\mathcal{T}$, with can
specified for $+\mathcal{T}$ and may for $-\mathcal{T}$. Leech obviously thought
that the formator had some justification, since he used the
terms 'factual possibility' and 'theoretical possibility'
again in his later book, which is aimed at the non-specialist,
(1971: 74 ff.), and it also appears in a more recent

Now there is no reason in principle to object to the
notion that there might be 'stronger' and 'weaker' items.
This idea probably derives from Diver (1969) who ranked the
epistemic modals in what he called a 'scale of likelihood',
a term which the two more recent books by Leech adopt.
However, this has nothing to do with the 'factual/theoretical'
distinction. The fact is that Leech does not appear to
see that modals have three types of meaning and that the
possibility of (26) is that of 'characteristic'can, which we have categorised as 'non-modal' and with which remote form is used for past time, while the possibility of (27) is epistemic and past time would be marked by have -ed. In other words, the two meanings are not directly comparable. If we were to adopt a case grammar type of approach, we could say that with characteristic can the capacity to act (if monsoons can be said to 'act') lies in the subject, perhaps as a Dative case. At any rate the meaning is what Anderson (1971) calls 'internal' to the subject. With all the epistemic uses, on the other hand, including that of may, no case is involved; the speaker is simply making a judgement of the likelihood of some proposition being true. If we take examples with personal subjects the distinction becomes clearer. Compare:

(28) John can be stupid
(29) John may be stupid

Clearly, in (28) it is stated that John sometimes does or says stupid things because of some defect of character and intelligence, whereas in (29) the speaker is not certain whether John is stupid or not but admits the logical possibility of the idea. To return to (26) and (27), besides the difference just described between can and may, there is a difference between the two occurrences of the expression 'the monsoon'. In (26) 'the monsoon' is generic (on many occasions the monsoon is dangerous) whereas in (27) it is more likely to be particular, (the monsoon this Autumn or the monsoon in Burma).

Since Leech himself notes (1969: 222): 'The provisional solution given here is perforce ad hoc, since the distinction
just examined has not been noted anywhere else in the languages', we may reject it without too many qualms.

6.2.6. ABLE and EGO

Leech also has a special system ABLE. This does not really fit in with the other systems, which are epistemic or deontic in origin. For comments, see section 2.12.5.

Another formator system of Leech's is more justifiable, this is the item EGO, the purpose of which is to deal with the kind of facts which we called 'performative' in part A of this thesis. Leech uses EGO to distinguish may and must on the one hand from can and have to on the other. He points out, in my opinion rightly, that with the first two the speaker is closely involved with the issuing of permission or obligation, whereas the second pair are more used to describe or refer to existing permission or obligation. Things are not quite as simple as that, as we saw in sections 2.12.2. and 4.1.2., but Leech is certainly justified in stressing the role of the speaker. However, it is not quite clear how the system + EGO works, since Leech (1969: 225-229) only gives examples of + EGO and none of - EGO, since items like have to are simply unspecified with regard to EGO. Other interesting examples given by Leech relate to will and shall.

6.2.7. Antinucci & Parisi

The EGO formator is linked, as far as may and must are concerned, to another formator, CAU for 'causation'. We do not need to discuss the details of this formator, but it is interesting to note that the analysis of the performative
doontic modals as having in their analysis the ideas of authority and causation is an appropriate one. It is reasonable to see the issuing of a mand as involving the speaker (EGO) who uses his authority (AUT) to cause (CAU) the mand (1 or 2 \( \square \)) to exist. The idea of causation appears in another paper, namely in Antinucci & Parisi (1971). They, in turn, refer to Dakin (1970) as introducing the notion of causation. Their analysis is particularly interesting for the way in which they link the deontic and epistemic uses of the modals. By using, in addition to CAUSE, the further items BIND and BELIEVE, they obtain for the two readings of must:

(30) a. \( \text{CAUSE} \ldots \text{BIND} \)
    b. \( \text{CAUSE} \ldots \text{BIND} \ldots \text{BELIEVE} \)

May is analysed as related to must via a double negative. The analysis for epistemic may is then (1971: 32):

(31) \( \text{CAUSE} (X) (\text{NEG} (\text{BIND} (\text{NEG} (\text{BELIEVE} (Y)(Z)))))) \)

where X refers to the reasons, (evidence etc.), for making the truth-value judgement, Y refers to the speaker and Z to the proposition. We can gloss (31) as something like: 'Evidence that I have does not force me not to believe - that Z'.

For deontic examples, the notion of 'agent', represented by AG, is important. With it, Antinucci & Parisi are able to handle the sorts of examples which presented problems for the higher verbs approach. The difficulty arises in examples like (1971: 32):

(32) a. Harry must kiss Greta
(32) b. Greta must be kissed by Harry

These will be analysed as:

(33) a. CAUSE (X) (BIND ( AG (Harry) (Harry kisses Greta)))
    b. CAUSE (X) (BIND ( AG (Greta) (Harry kisses Greta)))

with an obligatory passive transformation for the (b) example. The agent is not always specified, as in:

(34) The table must leave my room

but it is important to keep the notion 'agent', otherwise there is no explanation why certain sentences with non-agentive verbs cannot receive a deontic interpretation, like:

(35) The sun must rise from behind those hills

(The exception would be, of course, those cases where a film-director, for instance, wished it to appear like that in his film.) Like Leech, Antinucci & Parisi note the difference between deontic must and have to, though they give no analysis for it. Clearly, we could adapt their notation so that 'Y', standing for the speaker, appeared after CAUSE for must, but not for have to. They also try to relate epistemic must and will. This they handle by omitting CAUSE from the analysis of will, though they keep it for the deontic reading, so that it is identical with deontic must, which seems strange. Although they see a difference between must and have to, they do not accept that the speaker should appear as issuing the man with must. This is because they find acceptable (1971: 37):

(36) You must go in this car, but it is not me who is asking you to

To start with, this is a typical linguists' sentence, unlikely in the extreme as an utterance, and it seems to me totally
unacceptable, unless it is made clear that reported speech, direct or indirect, is involved. (36) could be made slightly more acceptable by changing it to:

(37) The boss says you must go in this car
Though even here are to or have got to sound better to me.

6.3. DAKIN

Since Dakin has been mentioned for the idea of 'causation', it will be as well to consider his ideas here. Dakin's article (1970) is in a class by itself, since no one, except myself in my earlier (1969) paper, has made use of his notation, or indeed has made use of his examples and tried to find others. His approach is abstract, using as its main elements, the items 'state', 'deny', 'demand' and negation. The title of the article 'Explanations', shows the main idea behind it, which is to show how certain surface forms realise a complex set of notions, including what happened and what causation, or lack of it, was present at the time. Two examples of what is meant will suffice here:

(38) a. John had to stop

\[
\begin{align*}
&I \text{state } S_2 \\
&I \text{state } S_1 \text{ demanded } S_2
\end{align*}
\]

(39) a. John should have stopped

\[
\begin{align*}
&I \text{deny } S_2 \\
&I \text{state } S_1 \text{ demanded } S_2
\end{align*}
\]

What is referred to by 'S_1' will vary. We can imagine what it might be, and Dakin gives examples. For (38) it could be, for instance, a red traffic-light or a policeman that forced John to stop, and for (39) likewise. So we can
expand the analyses as follows:

(38) b. I state - John stopped

I state - a red traffic-light demanded that John stop

(39) b. I deny - John stopped

I state - a red traffic-light demanded that John stop

Dakin's work is directly relevant to the teaching problems of modals. (38) and (39) are not chosen by chance. French learners of English, even at an advanced stage, have problems with the correct use of had to and should have. Some of these ideas of Dakin's will be treated in fuller detail once we have developed our own formulation, based on Seuren (1969). See section 7.

6.4. SEUREN, etc.

6.4.1. General

I have said at a number of points in the thesis so far that the type of analysis that I personally find most useful is adapted from Seuren (1969). The time has now come to explain Seuren's approach, the logical background to it and the adaptations that are necessary in order to make it more suitable for our present purposes.

So far, most of the analyses that we have looked at have involved a division into two parts. The higher verbs approach, for instance, divides a sentence into the higher verb (modal verb or abstract verb) and the rest, which we can call the 'proposition'. Some of the other approaches are rather more complex, but all seem to involve elements from the proposition, such as Leech's (1969) a·r·b, and more abstract elements outside the proposition. With Seuren
we have a division into three.

The title of his book does not lead us to expect, at first, that a three-way distinction is involved in Seuren's analysis. Operators and Nucleus says the title - but the operators are themselves divided into sentence qualifiers and other qualifiers; the term 'nucleus' corresponds roughly to 'proposition' but this term has already been used for the combination of the ordinary qualifiers and the nucleus. Seuren's initial rules (i and iii, to be precise, Seuren, 1969: 213) give:

\[ i \text{ Sent} \rightarrow \text{SQL} + \text{Prop} \]

\[ iii \text{ Prop} \rightarrow \text{QL} + \text{Nucleus} \]

We shall be discussing both SQL and QL. Basically, SQL involves sentence types like affirmative and interrogative and QL involves a number of items, such as quantification, modal notions, tense and negation. What is the origin of these ideas?

First of all, Seuren starts with a long critique of the work of Chomsky, especially (1957) and (1965). So that, despite his criticisms and his feeling of a need for an approach which involves some semantic notions not included in Chomsky's work while avoiding (p. 51) the 'parasitic growth of deep structures', Seuren sees himself, (like those who advocate the higher verbs approach see themselves,) as being concerned fundamentally with 'grammar'. Indeed, the sub-title to Seuren (1969) is: 'a Contribution to the Theory of Grammar'. We shall not repeat here the discussions of section 5 but simply state that, whatever Seuren thinks he is doing, we are concerned with semantics and are using his
ideas for semantic purposes.

6.4.2. Operators and scope

Seuren, after his review of the literature, posits the category of operators, saying (1969: 89):

'This category provides a possible answer to a number of problems which have hitherto remained unsolved, including negation, quantification, modalities and certain adverbial adjuncts. Two main constituents are distinguished in deep structure, the operator constituent and the nucleus. It is shown that essentially the same distinction is drawn by some philosophers, sometimes for logical reasons, sometimes on purely speculative grounds.'

'Some philosophers' indeed! The pedigree of Seuren's operators goes back to Aristotle, or, it is sometimes put, 'at least to Aristotle'. Seuren, of course, recognises this, and refers to Aristotle as discussed by Prior (1955), (see Seuren 1969: 115). Most of the literature on the subject is, it is true, posterior to the 5th Century B.C. and Seuren mentions most of the important names.

At this stage I wish to introduce a caveat, or several caveats. From now on, we shall often be meeting with the names and work of eminent philosophers, including logicians, and shall eventually use a logical system ourselves. It should not be presumed for one moment that what will be presented is intended as a contribution to philosophy in general or to logic in particular. I shall borrow largely, as Seuren does, from logic, but only where it suits my purpose. My aims are rather different from those of logicians and no one should suppose otherwise. It simply happens that there is a convenient notation to hand, which
I propose to exploit.

It must be stressed that the above is not an excuse for doing bad logic, or for having improperly mastered it. I have, as I said, picked and chosen to suit my own purposes. Obviously the linguist's use of logical notation and ideas is connected to logic, just as the logician wishes at certain points to refer to real examples from actual languages; their paths are parallel and touch at some places but their aims are different and the final results of an analysis like Seuren's (1969) or the one in this thesis and of a logician's are distinct creatures, as distinct as dog and dolphin - warm-blooded both, but living in different environments. Sometimes one may wish to compare them, but that does not mean that their differences should be forgotten.

After these preliminaries, let us trace those ideas of logic which are useful to our purpose. Aristotle, as quoted by many writers, introduced ideas which developed later into a branch of logic known as 'modal logic'. The terms in Aristotle's system corresponded, in English-language logic, to 'possible', 'necessary' and 'contingent'. The third term, and sometimes one of the others, can be dropped, so that some writers have worked with one or two primitive terms. (See Feys, 1965, for a historical survey.) After the Ancients, the main people interested in modal logic have been the Schoolmen and the logicians of the present century, to which last we shall devote most of our attention.

Modal logic has been concerned traditionally with what
we have called 'epistemic' ideas, though, as we said at the outset, (see the initial definitions p. 14), the term 'alethic' also occurs and is distinct from 'epistemic'. I shall continue to use 'epistemic' so as not to confuse the reader. A number of different symbols have been used to represent the two basic notions of 'possible' and 'necessary', which, since epistemic, should be understood in the senses of 'possibly true' and 'certainly or necessarily true'. The most common of these are:

- $\Diamond$ or 'M' for 'possible'
- $\Box$ or 'L' for 'necessary'.

It is unfortunate that $P$ and $N$ cannot be used, but $P$ we shall need later for 'permitted' and $N$ is used in the Polish system of notation for negation. To avoid geometric symbols, we shall use $M$ and $L$.

In modal logic, as in other kinds, we need the notion of 'scope'. Seuren, referring principally to work by Carnap, deals with this (1969: 118-119). He says, 'one clearly feels that certain elements in the sentences of a language extend semantically over other elements, ...' We can illustrate this notion quite simply. It is clear that with epistemic modality the 'modal notion' extends over the whole sentence, so that we can analyse John may be coming as 'It is possible - that John is coming', where the idea of possibility extends over the whole of the rest of the sentence. We have also seen how scope works when talking about the modals and negation; there is a clear distinction between 'possibly not' and 'not possible'. We shall follow the same system of notation as Seuren, a system which leaves
out the brackets and in which the first item includes all
the rest in its scope, the second includes all except the
first, and so on. So, if we take three arbitrary symbols,
X, Y and Z, then the string:

(40) a. X Y Z

will be understood as a simplification of the bracketed
string:

(40) b. X ( Y ( Z ))
in which X 'commands' both Y and Z, and Y commands only Z,
which commands nothing.

The notion of scope is directly linked to the concept
of 'operator'. Indeed, it is in the very nature of an
operator to bind together other items in its scope, to
command them. This idea of 'binding together' leads us to
the main distinction amongst operators, that between monodic
and dyadic operators. This, in its turn, leads us to
discuss the traditional propositional calculus.

6.4.3. 'Wffs'

What Feys (1965) calls the APC (assertoric propositional
calculus) contains, as is well known, propositions
represented by lower case letters of the alphabet, such as
p, q, r, etc. These are to be thought of as variables. In
order to bind these variables together and make well-formed
formulae, (known as 'wffs'), we need operators; these are
constants, usually mutually interdefinable, and are dyadic.
The main, and often the sole, monodic operator is negation.
It is monodic because it does not have the power to bind
variables; the string p ~ q is not a 'wff.' (where ~
stands for negation). The main traditional dyadic operators are:

\&: 'and', conjunction
\lor: 'and/or', inclusive disjunction
\lor: 'or', exclusive disjunction
\equiv: 'is equivalent to', equivalence
\rightarrow or \supset: 'implies' (We will not discuss here the difference between strict and material implication.)

With these operators, together with negation if appropriate, we can make a host of wffs. Here are two examples:

\(41\) a. \(p \& q \rightarrow \sim (r \& s)\)
\[\sim (p \lor \sim q) \rightarrow \sim (\sim r \lor s)\)

The question now arises as to what is the minimum necessary to turn the above system into modal logic. Basically, the answer is that we need one more monadic operator. The one chosen is usually \(M\). The other basic modal operator is then defined in terms of \(M\) and double negation, giving:

\(42\) \(\sim M \sim = L.\)

This corresponds well to our natural language intuition, since what is not possibly not true is necessarily true, or, to use modals, what can't not be true, must be true. Although \(L\) is here defined in terms of \(M\), the opposite would also be possible, and again this would work with English modals, since what need not not be true, may be true.

In the above formula \((42)\) we used two negatives. We could re-arrange these, so that there is one in each half of the formula. This would give, for example:

\(43\) \(M \sim p \equiv \sim L p\)
(43) would also be acceptable if the two negatives were changed, giving:

\[(44) \quad \sim M p \iff L \sim p \]

Using modals, we would have: 'what may not be true, needn't be true' and 'what can't be true, mustn't (dialectically) be true', for (43) and (44) respectively. We can see that this corresponds very well to the sort of tables we presented in section 4.3. We also have here what Leech (1969) called 'inverses', (see 6.2.2.). So far, there is almost exact correspondence between what the logicians do and what linguists need to analyse.

There are certain areas, however, into which we shall not venture to follow the logicians. I shall mention briefly two of these, concerning the 'iteration' of operators, and truth-tables.

Clearly, there are occasions where we wish to iterate - or repeat - operators; double negation is a good case. Though it is true that it is only rarely that we would wish to say that, if something is not not true then it is true, or, using a formula:

\[(45) \quad \sim \sim p \rightarrow p \]

we can at least understand the point of such formulations from a linguistic point of view. We shall certainly wish to use strings later (see section 7.4.) in which negation occurs more than once. But what about the iteration of modal operators? Shall we allow strings which the logicians allow, such as:

\[(46) \quad MMp \]

Perhaps we can find natural examples which correspond to this,
like:

(47) She may possibly have made a mistake in which both 'may' and 'possibly' contain a similar if not identical idea. But this is intensification rather than iteration and we shall certainly not wish to go as far as logicians do in using strings of symbols like:

\[ LMKp NP \]  
(taken from Prior 1957: 140)

So, as far as we are concerned, iteration will only take place in a very restricted way, and we shall not be concerned with the theorems and elaborate proofs of logic.

6.4.4. Truth-tables

Truth-tables are commonly used in the propositional calculus. The simplest examples take a formula like:

\[ p \rightarrow q \]

and draw up a table in which the truth-value of the whole formula is determined by the respective truth-values of \( p \) and \( q \). Examples may be found in any text-book on logic. The question that concerns us here is whether it is reasonable to extend this kind of interest in truth-tables to modal notions. Logicians do this, but we shall not.

Examples of truth-tables as applied to modal logic can be found in a number of places for instance in Lewis & Langford (1959). The truth-tables for the systems S1 to S5 can be found there on pp. 493-494. These use a four-valued system. Lewis & Langford (1959: 229-230) also give a five-valued system, in which the natural language glosses would be roughly as follows:

1 certain
2 more probable than not
3 equally probable and improbable
4 less probable than not
5 false.
The full tables can then give the truth-values for both $p < q$ and $\Diamond p < q$, for each of the five values of $p$ and $q$.

We can see how far we are getting from matters of concern to linguists. I shall wish to say that such questions are best left out of a linguistic analysis, as are any attempts to justify formulae like:

(49) $L p \rightarrow p$

in which the idea is presented that something which is necessarily true is actually true. The reason for wishing to exclude these notions is quite simple. When we are concerned with ideas like possibility in natural language, we are not dealing only with abstractions, but with what people say. If a person chooses to utter it must be true then there is no question of his implying that it is true. Nor do people say it must be true when they have direct knowledge and could say it is true. Whatever the theoretical link may be, the pragmatic facts are that speakers do not confuse simple statements with modal ones. (See also 6.2.4.)

Natural languages also do things which logical formulae do not. For instance, they modify modal adverbs, so that we get expressions like quite possibly, absolutely certain, and so on.

So, as we said in our caveats in 6.4.2., the 'match' between logic and language is imperfect, and we shall use only those parts of logic which suit our purposes. This, of course, means that an operator like $M$ has quite a different force when used in our system from its normal, logical, one. This is partly because it itself is in the
scope of other items - of which more later.

6.5. OTHER TYPES OF OPERATOR

6.5.1. Links between operators

So far we have spoken only of the operators $\mathcal{M}$ and $\mathcal{L}$, that is of epistemic operators. It is important to note that all types of modal operator can, if desired, be related to one another. For instance Householder (1971: 91-92) refers to examples based on work by Aristotle, who pointed out the parallelism of sentences such as:

(50) a. This boy may be a murderer

b. Some such boys are murderers

(50) relates 'may' and 'some'. We could use other sentences to establish a similar parallelism between 'must' and 'all'. In other words, the epistemic notions are shown to be related to the quantifiers, $\mathcal{E}$ - the existential quantifier, corresponding roughly to 'some' and $\mathcal{A}$ - the universal quantifier, corresponding roughly to 'all'.

The clear link between quantification and the epistemic area was shown in a French film, in which a man says to a woman:

(51) a. Vous ne seriez pas autrichienne, des fois?

for which the English would be something like:

(51) b. You wouldn't be Austrian, by any chance?

However, the expression des fois means literally 'some times', (not to be confused with 'sometimes' which is normally 'quelquefois'). This expression is quite common in colloquial French meaning 'by chance', but it is difficult to explain its origin unless we take it as given that there
is a necessary link between epistemic notions and quantification. If we do accept this link, then it is easy to compare 'some times' with 'some possibility'. There is no question of interpreting (51.a) as meaning 'Are you Austrian some of the time'.

So here we see that the link between things that happen some of the time and things that are possibly true is made in surface forms in natural languages, and not just in philosophy. We can take this point further through English. The word perhaps, linked to older forms like perchance and peradventure, contains in it the root 'hap', linked to 'happen', 'happy' etc., and signifying 'chance'. There is, of course, a form 'mayhap' which links occurrence and possibility very nearly. Dialectally, we also find sentences like:

(52) Happen he does

which means 'maybe he does' and not 'he does sometimes' nor 'it happens that he does'. The link between such items and logical possibility is clearly via quantification.

6.5.2. Prior

Two other systems will concern us here. The first is that of time and tense logic, often associated with the name of Prior, (e.g. 1957 and 1968). This often uses the same symbols \( M \) and \( L \) as are used for the epistemic area. In this system one possible gloss for \( Mp \) would be 'p is true at some times' or 'p is true at at least one time', and \( Lp \) could be glossed as 'p is always true'. This system proves useful for some uses of the modal verbs, as we see
below, (7.2.5.). The second system will be more important for us and that is the deontic system.

6.5.3. Von Wright and 'deontic'

The notion 'deontic' is associated with the name of Von Wright, who is quoted by Seuren (1969) as one of his main sources. Von Wright (1957) includes the relevant paper, originally published in 1951, which introduced the term and the concept to logic.¹ The concerns of philosophers such as Von Wright are not quite the same as those of all other logicians, because of the very nature of deontic ideas. The titles of some of Von Wright's other works show that his interests do not stop at formulae. For instance, the title of Von Wright's 1963 book is Norm and Action and of his 1968 book An Essay in Deontic Logic and the General Theory of Action. It is action that is concerned here rather than truth-values and truth-tables.

Von Wright (1968: 14) presents three of the modal systems, the epistemic, the deontic and that of quantification. Here he uses the weaker operator in each case to define the stronger, which gives:

| E some | M possible | P permitted |
| ~E no | ~M impossible | ~P forbidden |
| ~E~ all | ~M~ necessary | ~P~ obligatory |

The stronger operators thus defined are A and L, which have already been mentioned, and 0 for the 'obligatory' of the

¹We should mention in passing that a German word 'Deontik' was used by a certain Ernst Mally in 1926 and that Von Wright himself actually thanks Professor Broad for the word, but the fact remains that Von Wright himself is usually considered to be the 'prime mover' in the field.
deontic system.

Von Wright is clearly aware of the imperfect match between logic and reality. He discusses, for instance, the relation between the two deontic operators, and the fact that in the formulation just given, \( P \) is defined in terms of \( O \) rather than vice versa. He concludes that the relation does indeed hold from a logical point of view, but that the problem is really an 'epistemic' one. (The term is used here in its original meaning, rather than the one we have been using, see the initial definitions p. 14.) Von Wright (1968: 85 ff.) says that it is easier, in human affairs, to talk of the existence or absence of obligation than it is to talk of the absence or presence of permission. So we might want to define \( P \) in terms of \( O \) rather than the other way round, (see also Lyons 1977: 845).

Whether or not we take up this suggestion, Von Wright's comments are interesting because they show him 'looking over his shoulder', as it were, not only at modal logic, from which the deontic system derives, but also at the everyday human sphere of action and the mands that seek to control it.

In fact, Von Wright's ideas in his 1968 book represent an advance from his earlier work, in which deontic notions were treated in much the same way as other modal formulae. The simpler, earlier system, as found in Von Wright (1963: especially 129-188) was criticized by, among others, Rescher (1966) who points out that in a normative system you must allow for conditional obligation and for commands that are tensed (or have tense). We shall not include a
discussion of Rescher's formulae, which relate mainly to
imperatives, but the consequences of these and similar
remarks were to lead Von Wright (1968: 23 ff.) to allow
deontic operators to be dyadic. As a result, the following
is a wff. in the revised system, (given with Von Wright's
comments, 1968: 23):

'For the symbol "P (p/q)" we suggest the following
reading: "it is permitted that p, given that q".
Instead of "given that" we can also say "on condition
that" or "in the circumstances when".'

This kind of formula, based on the principle that deontic
operators are dyadic, eliminates one of the differences
between natural language and logical formulae, since it makes
it impossible for P and Q to be iterated, since only monodic
operators can be iterated. Von Wright's discussion of this
is inconclusive, but he seems generally averse to importing
principles from, for example, Lewis and Langford (1959),
(see Von Wright 1968: 91-94).

6.5.4. George Lakoff and 'duals'

Whatever the differences between the deontic system
and the other modal systems, the logicians do make it clear
that all the systems are linked through that of quantification,
which we could perhaps consider as the most basic. Again,
we find here something that is reflected both in natural
language and in logic. G. Lakoff (1970) also refers to
the link between these notions, and says that it is no mere
chance that may, for instance, refers to both logical
possibility and permission. He goes further, saying
There will be no natural language in which the same lexical items will represent the two concepts of permission and certainty, or the two concepts of requirement and possibility.

This idea is intuitively appealing and is justified by the idea that the existential and universal quantifiers play a part in the meaning of many lexical items, so that the following are unacceptable because of a 'clash of quantifiers', (examples taken from G. Lakoff, 1970: 236):

(53) * Sam hates absolutely someone. (cp. 'everyone', 'no one')

(54) * That is absolutely possible. (cp. 'impossible', 'certain')

Halliday (1970: 347, 350) takes a similar line to G. Lakoff on the 'same but different' nature of the epistemic and deontic areas.

While on the subject of G. Lakoff's article, we can perhaps note what it has to say about what we have called, following Leech (1969), 'inverses', that is to say, pairs like 'possible/necessary' and 'permitted/obligatory' which can be related to each other by two occurrences of negation. G. Lakoff calls these pairs 'duals'. In the article, he is concerned to try and identify 'atomic predicates', that is, primitive concepts which cannot be defined in terms of other concepts, rather like Leech's (1969) 'formators'. Certain items in the area of modality are candidates for being considered atomic predicates, but this presents a problem, since these items occur in pairs as duals and we wish to know which of them is prior to the other. G. Lakoff gets round this neatly by the following principle (1970: 223): 'If there is a word for the dual of an atomic predicate, then that
dual exists as an atomic predicate.' In other words, neither 'possible' nor 'necessary' is to be thought of as prior to the other; they are both basic concepts, in dual on inverse relationship to one another with neither of them as the marked or unmarked term. Again, this is quite a neat and intuitively satisfying way of handling the problem. We shall adopt G. Lakoff's idea and say that, whichever item logicians may wish to consider as logically prior, we shall consider neither of them as prior - or both, which is the same.

6.5.5. Atomic predicates

Whether or not the traditional notions of modal logic are examples of 'atomic predicates' is another question. Wierzbicka (1972) would presumably say 'No'; she certainly questions whether Leech (1969) is justified in labelling some of his items as 'basic semantic features'. G. Lakoff recognises that items like REQUIRE may not be 'atomic', since he says (1970: 238):

'It may be the case that predicates on these scales are not to be represented in logical form as atomic predicates, but are rather to be decomposed into quantifier expressions which range over a scale and an atomic predicate which defines the scale.'

In effect, Leech (1969) has done this by decomposing items like obligation down into '2 \(\frac{1}{2}\) AUT', in which the '2 \(\frac{1}{2}\)' has the quantifier and the 'AUT' shows that deontic notions, or the deontic scale perhaps are involved.

The discussion on what is and what is not a primitive term is pursued in G. Lakoff (1970). He uses an analysis
of the type known as Montague semantics, after R. Montague. In this type of analysis we can give the following alternatives for the strong and weak epistemic operators, (G. Lakoff 1970: 230):

(55) $\square S$ is true in $w_o$ $\iff (\forall w)(w_o R w \supset S$ is true in $w)$

(56) $\diamond S$ is true in $w_o$ $\iff (\exists w)(w_o R w \supset S$ is true in $w)$

Without going into too much detail, we can say that G. Lakoff is here using the notion, well known from Voltaire’s *Candide* satirising Leibnitz, of ‘possible worlds’. The simplest gloss for (55) and (56) is ‘$S$ is true in all/some possible worlds’. We have already discussed the relation between the epistemic operators and quantification; here we have G. Lakoff making use of the same idea. Such analyses, despite their relevance, are rather too complex for our purposes, but this kind of analysis gives further evidence for not considering our items $M$ and $L$ as primitives.

This linking of all of the modal notions to quantification has further advantages. In the history of logic, epistemic logic predated deontic logic by centuries. But, as we saw when looking at French and English, the verbs known as ‘modal’ acquired their deontic senses first and their epistemic ones at a later date. Which of these approaches, epistemic leading to deontic or deontic leading to epistemic, is the more accurate? We can safely say ‘Neither’, since both are linked in their own special ways to quantification. Epistemic notions can then be seen as involving the quantification of truth and deontic notions as involving the quantification of mands. The logic of time and tense involves splitting time into discrete units,
which can then be quantified. We could add a modal logic of place, for which the two main quantification operators would give 'somewhere' and 'everywhere', see Kalinowski (1976: 12).

However, we shall continue to use symbols like $M$ and $Q$, though acknowledging that they are not necessarily primitives and could be further decomposed, maybe in a way similar to Leech's (1969) '1 or 2 $\uparrow$ AUT'.

6.6. SCALE

6.6.1. Diver

We mentioned above the idea of 'conditional obligation'. In that context, 'conditional' meant the conditions under which the action was or was not to be carried out. There is another sort of 'conditional', namely that represented by remote surface forms like should and devrait. This leads us on to the notion of 'scale'. So far we have only used two terms inside each system, the inverse or dual pairs like 'possible/necessary' and so on. It is important to note that we can easily imagine — and find a use for — a more subtle system, with more items than the two basic ones. Logicians have generally kept to their two terms, but linguists have often tried to 'break things up', since they find themselves having to deal with more terms than two in any given language. There are three points here, all interrelated, namely: (i) the establishment of a scale for surface items, (ii) the attempt to quantify the various terms used on different types of numerical scale, (iii) the study of the effects of remote or conditional form on the
surface items.

We start with (i), the establishment of a scale. This idea derives principally from Diver (1964) and appears also in Quirk, Greenbaum, Leech & Svartvik (1972) and in Leech & Svartvik (1975). Diver sets up two scales, a 'scale of likelihood', corresponding to the epistemic area and a 'scale of imperativeness', corresponding to the deontic area. In both scales Diver includes items other than modal forms.

The two scales are:

<table>
<thead>
<tr>
<th>Likelihood</th>
<th>Imperativeness</th>
</tr>
</thead>
<tbody>
<tr>
<td>do</td>
<td>Close the door</td>
</tr>
<tr>
<td>must</td>
<td>Do close the door</td>
</tr>
<tr>
<td>should</td>
<td>You must ...</td>
</tr>
<tr>
<td>may</td>
<td>should</td>
</tr>
<tr>
<td>can</td>
<td>might</td>
</tr>
<tr>
<td></td>
<td>could</td>
</tr>
</tbody>
</table>

(Cp. also Halliday's, 1970: 329, over - and undertake.)

We shall not go into Diver's glosses for the various forms, which are not especially interesting for our purposes, but we can see considerable usefulness in the above tables.

There are, of course, a number of gaps, since only a restricted number of the modal verbs appear in each table, but this need not concern us, since our interest is in the general principle. The interesting thing is the inclusion of ordinary, unmodalised, 'do' in the first scale and of ordinary and stressed imperative forms in the second. We have preferred to keep these forms and the modals apart. This is particularly important in the case of the 'likelihood' scale. Here, we do not wish to link the plain statement that something is true or false with any modalised statement.
of the same proposition, (see also above, 6.2.4.) With the scale of 'imperativeness' the link between mands issued with surface imperative and those issued with modal verbs is fairly close. For instance, imperatives can be used, like modals, to permit as well as to command, as can be seen from their use in sentences like:

(57) Yes, of course, take two (cp. 'you can take two')

(58) By all means, leave whenever you like (cp. 'you can leave ...')

Nevertheless, once again we need to exclude imperatives from the scale including modals, partly because they have no interrogative form, unlike at least some deontic modals, and partly because there is no 'performative/constative' distinction within the imperatives as there is with the modals and their linked items.

But Diver's general idea is interesting, largely because he casts himself loose from traditional linguistic approaches, which simply give lists of meanings, without adopting an approach too directly based on some other discipline, such as logic. His scales show that he has understood the importance of the basic 'epistemic/deontic' distinction and also that he has seen the need to place the modal verbs in some system in which they relate to one another in some way. Surface forms can be illuminated by a framework.

6.6.2. Caton

Caton (1966) adopts a somewhat similar approach to that of Diver, though in a rather different context. Where Diver has a scale, Caton has a 'strength relation' between his various elements. He uses three, relating to epistemic
notions - 'epistemic' being taken here in its more correct sense, see initial definitions p. 144; these are the K-Group (I know that P), the T-Group (I think that P) and the P-Group (Possibly P), going from 'strong' to 'weak'.

6.6.3. Mathematical representation

These ideas of Diver and Caton lead us to consider our second question, namely the possible quantification of the items on any scale. Let us assume that likelihood is on a scale from 0 percent to 100 percent, on which scale zero corresponds to 'false' or 'not true' and 100 corresponds to 'true'. How can we arrange either abstract notions or actual surface items along this scale?

Abstract items are fairly easy to place on such a scale, since all we need to do is to select arbitrary points, or, if we wish, a set of arbitrary ranges of 10 or 20 points along the scale and say that these are the primitive terms of our theory, and that all other terms, abstract or real, will be related to them. (The Cardinal Vowels in Phonetics are used for a somewhat similar purpose, though it would be wrong to say that the analogy was very close.) The most obvious points to select would involve the extremes, 0 and 100, and three others, which we will place, for the sake of argument, at 25, 50 and 75. This then gives us a five-point system very similar to that offered by Lewis & Langford (1959: 229-230) which glosses the three intermediate points as 'less probable than not', 'equally probable and improbable' and 'more probable than not'. (See also 6.4.4. above.)
Let us now take items from English and see how well they match up to what we posited for the abstract system. The three I shall take are 'certain', 'probable' and 'possible', (we shall avoid 'likely' since we are already using it in its nominalised form for the scale). These three items are among the most commonly used epistemic adjectives in English, just as their adverbial forms are among the most commonly used epistemic adverbs. The first question is: in what way is 'certain' distinct from 'true', i.e. from 100 percent? Here we encounter the sort of difficulty that we were trying to avoid when saying that the modals were to be distinguished from statements of 'true/false'. Perhaps the best solution is to say that the likelihood of 'certain' approximates to 100 percent. This is represented mathematically as
\[ X = 100 \% - \epsilon \]
where \( \epsilon \) is a very small number\(^1\).

'Probable' is an easier item to discuss since it is clearly used to mean 'more probable than not'. This comes out on our scale as 'more than 50 percent', represented mathematically as \( X > 50 \% \). As for 'possible', this simply means that whatever is referred to is not necessarily false, that it has a likelihood of more than zero, shown mathematically as \( X > 0 \% \). This seems to allow 'possible' to be in some instances as strong as 'probable'. This is not unreasonable, as can be seen from the existence of items like 'distinctly possible', 'very possibly', etc.

\(^1\) \( \epsilon \), the Greek letter epsilon, is used in mathematics to mean 'a small, positive number'. I have to thank Dr. Rosemary Bailey of the Open University for suggesting this formulation to me. She explained that \( \epsilon \) is used, for instance, in topology in studies of nearness, so that, in a series of numbers, all numbers after a certain point in the series would be within \( \epsilon \) of another given number.
The main restriction on the use of 'possible' would seem to come from Grice's (1975) principle of conversational implicature, so that a speaker would not justifiably use 'possible' if his evidence was such as to allow 'probable'. However, we shall not here restrict 'possible' to 'less than 50 percent'.

So we see how real language items lead us to modify our abstract items. The static 25, 50 and 75 have become the more dynamic or fluid \( x = 100 - \epsilon, x > 50 \) and \( x > 0 \).

6.6.4. 'Conditional' and other terms

We shall now apply these ideas to the modal verbs, which leads us on to our third question, concerning the effects of remote or conditional form on the modal verbs and on the position ascribed to them in any scale we may wish to use. For English and French we identified as the main items realising possibility and logical necessity may/can, pouvoir and must, devoir. If we put these in a table that includes their remote or conditional forms as well, we have:

<table>
<thead>
<tr>
<th>Non-remote</th>
<th>Remote</th>
</tr>
</thead>
<tbody>
<tr>
<td>may/can</td>
<td>might/could</td>
</tr>
<tr>
<td>peut</td>
<td>pourraient</td>
</tr>
<tr>
<td>must</td>
<td>should/ought to</td>
</tr>
<tr>
<td>doit</td>
<td>devrait</td>
</tr>
</tbody>
</table>

We notice at once here an imbalance between the items for possibility and those for logical necessity. With the former, there is little difference in the speaker's estimation of truth-value as between the remote and non-remote items, but with the second, the difference is quite marked. For the 'possibility' items, the main distinction
is that only the remote ones can be used in counterfactual sentences. In these cases, we could analyse the surface forms as realising the idea of likelihood 'tending to zero', shown as \( X \rightarrow 0 \) percent. But in general there is little difference between may and might, since both can co-occur with phrases like 'just possibly' and 'quite likely'. As a result, the formula \( X > 0 \) percent can be applied to both.

With the items for the 'stronger' notion of logical necessity matters are quite different. Must approximates more nearly to 'certain' and should to 'probable'. 'Must surely' and 'should probably' are acceptable combinations, while the opposite combinations are considerably less acceptable. The modal verbs, while not corresponding exactly to the adjectival/adverbial items (and this should be stressed), nevertheless seem to belong within the same approximate ranges of \( X = 100 \) percent - € , \( X > 50 \) percent and \( X > 0 \) percent. The same is true for the French items.

It is more difficult to quantify the deontic area. This is especially because the difference between, for instance, may and might is that the former is used to issue permission and the second to make suggestions. The relevant speech acts are therefore not easy to put on a scale. The 'stronger' pair are distinct as in the epistemic area, so that must is mainly used to issue obligation, while should and ought to are used to advise and urge. For these last two we could perhaps quantify in a way similar to that used for the epistemic senses, but this is really impossible for the may/might pair. Can we really say that permission is a
mand analysed as 'X > 0 percent', whereas suggestion should be analysed as 'X \rightarrow 0 percent'? I think not, or not usefully. With tense/time logic matters are easier, as we can imagine a system consisting of 'at some time(s)', 'at most times' and 'at practically all times'.

These problems lead us to another question, related to that of 'extreme' terms. If we take the classic pairs of 'possible/necessary' and 'permitted/obligatory' as containing extreme terms, then we should also examine their negatives, to see where they come on the scale. Starting with the epistemic items, we have 'not possible' and 'not necessarily'. Now there is clearly a difference between these two. The first is closer to 'necessary' in its force as an absolute term and the second is closer to 'possible'. This leads us to want to modify the terminology. The term 'extreme' seems to apply best to 'necessary' and 'not possible'. Perhaps we can then attach the label 'middle' to all other terms. We then get a three-way distinction between the 'weak/strong' pair, which are in inverse or dual relationship, between 'extreme' and 'middle' items and between 'non-remote' and 'remote' items. This gives us a fairly full categorization which we could apply to other languages. There follows a table representing the surface forms of English and French in terms of the above distinctions.
Strong, non-remote, extreme. must, doit
Weak, non-remote, middle. may/can, peut
Strong, non-remote, middle ?
Weak, non-remote, extreme. can't, ne peut pas
Strong, remote, extreme. ?
Weak, remote, middle. could/might, pourraït
Strong, remote, middle. should, devrait
Weak, remote, extreme. ?

Where in the above can we fit 'needn't necessarily' or 'pas certain'? Need is both remote and non-remote as occasion demands. Both these terms are certainly middle ones, but are they strong or weak? Perhaps the empty slot of 'Strong, non-remote, middle' is the most suitable. Here the system, or, better, the sub-categorization, appears to break down. However some interesting principles appear from it, namely:

The negative of a strong extreme term is not extreme.
The negative of a weak, middle term is often extreme.
Remote when applied to strong makes more difference than when applied to weak. Remote terms cannot be extreme.

We can add an interesting footnote to our discussion of extreme terms, one which relates them to quantifiers; I shall introduce this by means of a story.

In a copy of Punch, published during the First World War, there is a cartoon of a group of high-ranking German officers puzzling over a message which has just been brought in by a spy. (You can tell he is a spy since he has a Prussian head and haircut and a monocle but is wearing Highland dress.) The message over which the Germans are puzzling is:

(59) We gave them what 4 not 1/2
something that the spy had overheard in a British trench. The phrase 'not half', often transcribed for Cockneys as 'not 'arf', appears in quite a few contexts, such as not half expensive, not half dangerous, and so on. Thus used, it is clearly an extreme term, more or less equivalent to extremely. We can compare this use to that of the negative impossible, where the im- has the effect of converting a middle term into an extreme one. So the not of not half has the same effect, changing half from a middle term (as in half full) into an extreme one, though it took some extra process to produce the required effect of extremely.

A further question arises here, which we have unfortunately no space to discuss, and that is the fact that both the following two expressions mean the same, though they must be uttered with quite distinct intonation patterns:

(60) Not half good
(61) Not half bad

Both of these mean 'very good', though it is true that (61) is often said grudgingly. (61) should mean 'very bad', but it seems as though the 'dialectal quirk' which produced this kind of negative/positive system of not half in the first place, continues to work here.

It would be interesting to explore this notion of middle and extreme terms further, and to find out whether other languages have any item like not half.
6.7. ARISTOTLE etc.

All of this leads us back to Aristotle. The system used by philosophers based on Aristotle has four terms. Fuller details can be found, for instance, in Lewis & Langford (1959: 63-64). Rivero (1974: 138) says: 'All Schoolmen agreed on the existence of at least four modalities in their modal logic: necessary, possible, contingent and impossible.' These can all be interrelated by means of negation starting with only one primitive term, usually possible. This gives us:

Possible  M  ~ L ~
Impossible  ~ M  L ~
Contingent  M ~  OR  ~ L
Necessary  ~ M ~  L

The neatness of this system explains why the Schoolmen were able to agree at least on this much! If we compare this schema with our own, taking only non-remote examples, the 'match' is quite good. We simply need to add the notion 'remote' to the abstract system, thus introducing entities like 'Rem-L', and the 'match' becomes even better.

The advantages of an abstract system appear clearly here. Terms like 'strong' and 'extreme' are perhaps nearer to our everyday linguistic experience, but the abstract system gains in neatness and succinctness and can easily be modified and manipulated. For further remarks on this, and on the inability of the Ancient Greeks to do long-division, see Lewis (1960: 2).

So the use of an abstract system has certain definite advantages, even though it has the disadvantage of taking us
away from real language items. The main advantages are that it is succinct and can be manipulated, and that, being abstract, it can be used to compare different items within languages and between languages.

6.8. THE THREE-WAY DISTINCTION

6.8.1. Hare and Lyons

Seuren (1969) presents us with a three-way distinction, rather than simply a two-way one. This idea also occurs in theoretical philosophical writing and is mainly associated with the name of Hare (1952, 1971, etc.). Hare's terms for the three parts of a sentence are:

- **Neustic**, based on the Greek νεύς 'to nod or beckon, bow, promise, confirm by a nod'. Refers to the fact that each sentence involves a speech act such as assertion, putting forward for consideration, etc.

- **Tropic**, based on the Greek τρόπο 'a way, manner, fashion, mode' hence used for 'mood' such as indicative, subjunctive, etc.

- **Phrastic**, corresponding to the 'phrase', or part of the sentence Seuren (1969) calls the 'nucleus'.

We can illustrate these three notions by means of a simple example. In:

(62) John arrived yesterday

we have the following elements:

- the neustic, here 'I state',
- the tropic, here Indicative,
- the phrastic, corresponding to the whole of (62).

Lyons (1977: 750) comments on these notions, suggesting that illocutionary force is a product of tropic and neustic.
This would allow us to link, among other things, statements and commands. Both would have 'I - say - so' in the neustic, but they would differ in their tropics, statements having 'it is so' and commands having 'so be it'. We would also distinguish between two types of 'possible', one being analysed as:

(63) a. I say uncertainly - it is so - that p

and the other as:

(63) b. I say - it is possibly so - that p

Lyons also suggests (1977: 802-3) that corresponding statements and factual questions, on the one hand, and corresponding mands and deliberative questions, on the other, can be said to have the same phrastic and tropic, but to differ in their neustic. This gives us the following analyses:

(64) a. Statement  I say so - it is so - that p

b. Question  I wonder - it is so - that p

c. Mand  I say so - so be it - that p

d. Deliberative question  I wonder - so be it - that p

By 'deliberative question' is meant items like:

(65) Shall I wash my hair tonight, I wonder?

that is, a question addressed by the speaker to himself.

6.8.2. Negation

A more important point deriving from Lyons' work which derives from Hare's approach concerns negation. This is also relevant to Seuren's (1969) analysis. If we have three parts to our analysis of each sentence, then there are at least three possible occurrences of negation, ('at least'
since there may be a case for allowing negation to be iterated in some circumstances, especially in the phrastic). Lyons (1977: 802 ff.) allows for all three possibilities, since his basic structure for assertions, which is:

(66) a. • ¬ P
can be negated in any of the three following ways, (allowing only one occurrence of negation for the time being):

(66) b. ¬ • ¬ P
c. • ¬ • ¬ P
d. • • ¬ ¬ P

In more complex structures we can obtain up to three occurrences of negation, as in:

(66) e. ¬ • ¬ • ¬ • ¬ P

There is only one occurrence of 'Neg' that need concern us here, and that is the first, the one within the neustic. We shall see later that Seuren's (1969) analysis does not allow for any occurrence of negation within the rewriting of SQL. It seems to me that we should attempt to do without this first occurrence of 'Neg' since it would imply, if accepted, that there were such things as negative speech-acts or negative illocutionary forces, something that is totally unacceptable. This is important, and needs at least brief justification.

6.8.3. Negative speech acts?

Why are there no negative speech-acts? R. Lakoff has suggested the sort of restrictions that occur on performatives (1968: 170). She says:

'Lying is impossible with a performative. A speaker can say "I am not hungry" when he is hungry, but he
cannot say "I am not ordering you to leave" at the same time as he is ordering someone to leave.*

This seems, at first sight, to be contradicted by the examples of denials. There is clearly a difference between stating that something is not the case, and denying that it is the case. Lyons in fact allows for three types of 'saying--not'. The glosses for (66.b) to (d) are:

(67) a. I do not say - it is so - that p
b. I say - it is not so - that p
c. I say - it is so - that not p

Personally, I cannot see the need for this type of analysis. Quite apart from the fact that speakers find it difficult to process three negatives (since Lyons' rules could give us up to three in the same string), there is the fact that all normal occurrences can be handled satisfactorily with two, (can't not would be an example). As a result, we shall wish to handle examples like:

(68) I am not saying that the Government is dishonest, simply that ... with an analysis that shows the speaker stating that he is not stating (i.e. disclaiming). Since the term 'speech-act' refers to action, it is right that the restrictions which apply to other actions should apply to performatives, too. There is no such thing as a negative action. There is inaction, and there is denial that one has acted or intends to act, but there is no negative action. A denial is a kind of speech-act and so the same restrictions apply to it as to other acts. (See further below, 7.2. on 'negative modality').
We shall prefer Seuren's (1969) approach which restricts the marker of 'entertainment' to the beginning of the analysis and does not allow it to be negated. While Lyons is clearly correct in suggesting that the total force of a sentence, when uttered, is a combination of a range of features, the simple approach which puts all the 'performative essentials' into one 'slot' in the analysis is to be preferred. This does not mean that we shall not consider the items included in the tropic to be essential - they will be some of the most important things we have to deal with - but, though contributing to the total force of the sentence, they will not all be of the same kind as Hare's 'it is so'.

We could also question whether it is necessary to distinguish, as Lyons does, between 'possible' as uncertainty and 'possible' as itself. If it is necessary, this could be done by handling the first through mood and the second through an item 'M'. This is part of Lyons' general division of epistemic notions into objective ones and subjective ones, a distinction that most writers only make for the deontic area. It seems to be rather less useful in the epistemic area and we have not discussed it, (but, see, for instance, Lyons, 1977: especially 804 ff.).
SECTION 7

THE ABSTRACT SYSTEM INCLUDING TABLES AND
COMMENTS ON THEM
7.0. CONTENTS OF THE SECTION

This is a key section in that it presents formulae which allow us to bring together facts from part A and theories from part B.

7.1. SENTENCE QUALIFIERS
7.2. QUALIFIERS
7.3. TABLES, GENERAL
7.4. FACTUALS AND COUNTERFACTUALS
7.5. GENERAL COMMENTS ON THE TABLES
7.6. FINAL REMARKS
7.1. SENTENCE QUALIFIERS

7.1.1. General

It is now time to look more closely at Seuren's (1969) ideas and to see to what extent and in what way they need adapting in order to suit our purposes. Seuren's analysis has three parts:

- SQL is the 'performative' element,
- QL's include negation, tense, quantifiers and modal operators,
- the Nucleus corresponds roughly to the p's and q's of logic.

The question of the ordering of these elements within the string of symbols is critical, since placing them earlier or later affects their 'scope'.

To start with the various sentence qualifiers, we note that Seuren has four of them. These are:

- ASS for assertions
- QU for questions
- IMP for commands
- SUGG for suggestions

'Suggestions' are, in English, often negative questions, of the sort, (Seuren 1969: 124):

1. Didn't you publish some poetry back in 1916?
   It is true that negative questions behave in a rather special way. To take examples from the modals:

2. May he own a car? (in the epistemic sense)
   is barely acceptable in my dialect, whereas;

3. Mayn't he own a car?
   is much more acceptable. However, we shall not need to concern ourselves with this part of Seuren's description.

The other three sentence qualifiers are all very well known, and correspond to the traditional sentence types of affirmative, interrogative and imperative, so there is nothing
particularly surprising or original in this part of Seuren's analysis. He is simply bringing in to an analysis of sentences the kind of essential details that will allow them to be correctly interpreted as to their force when they become utterances — though it should be stressed that this is not a performance grammar, since that would involve far greater detail than is implied by this simple division into sentence types.

7.1.2. Rivero

Rivero (1972) criticizes Seuren for, among other things, his SQL 'ASS'. As a supporter of the higher verbs approach she says that a Ross-type analysis, which has in the highest position an 'S' which has as its main element I say to you, is to be preferred to 'ASS'. This is linked to a more general attitude according to which (Rivero 1972: 225):

'There are not two components but only one, where all the relationships dealing with scope and related problems are treated through degrees of embedding'. There is no need here to repeat all the arguments which we gave against this kind of approach in section 5. Suffice it to say that such an approach creates more problems, since there are restrictions on what can appear in the different S's, so that each re-writing of the symbol S involves new restrictions. At any rate, Rivero's criticism partly misses its mark, since Seuren (1969: 138-139) explicitly states that items like 'ASS' are performative and that:

'their semantic interpretation is formulated as a phrase beginning with the first person singular 'I', followed by a 'performative' verb in the present
It is true that Seuren does not mention 'you' (the hearer), but this could easily be added. The main point is that Seuren clearly does not consider his SQL's as primitive terms - they can be further decomposed.

7.1.3. 'to'

One thing does need to be made clear about these SQL's - their tense. Seuren clearly recognises that performatives must be present tense, but we said earlier that this was a special kind of present tense, (see 4.2.2. and 5.2.2.). This we called the 'performative present' and we said that it was timed at the moment of utterance and belonged to the 'speaker hic et nunc'. We need a neater formulation for this moment in time. Fortunately, one has already been used in other work, for instance, in G. Lakoff (1970) who proposes an item 'to' for this performative present moment. We shall adopt this symbol and shall say that the SQL's in Seuren's analysis are to be considered as including 'to'. This would make the total analysis for 'ASS' something like: 'Speaker - at to - asserts to hearer(s) - '. Lyons (1977) also recognises the need for an element like 'to'.

From now on we shall assume the facts concerning the SQL's to be given, (though see below 7.2.8. on 'deny'). We shall mainly be working with 'ASS' and shall later need to exploit the fact that it and the other SQL's include 'to', a fact that means that everything else in the analysis is in the scope of this element.
7.2. QUALIFIERS

7.2.1. General

We now move on to consider the elements which we need to include in the slot 'QL'. The qualifiers, other than the sentence ones just examined, are essentially negation, tense, and the various types of modal operator, whether epistemic, deontic or other. Seuren (1969: 160-161) gives six different possibilities as follows:

i. Tense
ii. Neg - Tense
iii. Tense - Modal - Tense
iv. Neg - Tense - Modal - Tense
v. Tense - Modal - Neg - Tense
vi. Neg - Tense - Modal - Neg - Tense

Since we are only concerned here with examples in which 'Modal' does occur, the first two of these possibilities do not interest us. The main point is that Seuren always has an occurrence of 'Tense' both before and after the element 'Modal', and that he allows for 'Neg' also to occur both before and after 'Modal'. We shall not then need all the re-write rules that Seuren needs to expand 'QL' (Seuren 1969: 214). Assuming that for our purposes 'Modal' is always present, we can 'collapse' Seuren's rules (iv) to (vi), giving:

(4) \text{QL} \rightarrow (\text{Neg}) \text{Tense Modal (Neg) Tense}

We have already discussed the need for allowing two occurrences of negation. Seuren in a later rule (1969: 214 no. viii) actually allows his first occurrence of 'NEG' to be expanded by up to three instances of 'Neg'. We shall not need this.
The various elements which we shall use to re-write 'Modal' are not the same as Seuren's, but the main thing we need to discuss here is the element 'Tense'.

7.2.2. Tense, general

Seuren (1969: 214) has quite a complicated rule for the re-writing of 'T'. Rule vii says; (leaving out the possibilities in imperatives):

\[
(5) \quad T \rightarrow \begin{cases} 
\text{Pres} \\
\text{Fut} \\
\text{Perf} \\
\text{Past} \\
\text{U} 
\end{cases}
\]

where 'U' stands for 'universal' tense. First of all, we can eliminate 'Fut' for 'future'. Quite apart from the fact that it is difficult to identify any future tense in English, there are no future modals, and forms like \text{will have to do} will involve embedding of the \text{do}, and place the \text{have to} in the Nucleus. We also have no space to discuss whether or not it is reasonable to identify an element 'Perf' for 'perfect' or whether such an item is in fact composite and to be analysed as 'present + past', as suggested by, among others, McCawley (1971: 105). What we are really concerned with is the restrictions on the various occurrences of 'Tense' before the element 'Modal'.

Looking at the frame 'Tense + Modal', we have to deal with a number of questions. First of all, as we noted in part A of this thesis, there is a considerable difference between the English and French items in this respect, the French items being fairly free as to what tenses they can adopt, while the English modals have at most two forms.
7.2.3. Epistemic tense

We shall start by looking at the epistemic area. The symbols here, we said, are M and L. What we want to discover is what different types of tense are possible in the analysis before these two symbols. The answer is simple: 'None'. This seemingly sweeping statement is in fact quite easy to justify. We have said on a number of occasions (for example, 4.2.2. and 3.), that in epistemic judgements the tense is always performative present, which we are symbolising as $t_0$. We said that this was not affected by French examples like:

(6) Il a du se tromper

which are to be analysed with the tense occurring after the modal notion, thus:

(7) a. Speaker states - it is necessarily true - he (has) made a mistake

As we also pointed out the remote modals, when used epistemically, never refer to past time in English. The analysis for (6) will therefore be:

(7) b. ASS - L - Past (or 'Perfect') - he make mistake

So we have immediately found one important way in which Seuren's rules need to be modified. No 'Tense' will occur before an epistemic modal symbol, only after it.

This decision leads us to look at one idea of Seuren's, that connected with his symbol 'U'. Seuren discusses the need for this kind of tense operator in relation to may and can/could. The discussion (Seuren 1969: 144 ff.) is confused, largely because the different meanings of the word possible are not distinguished. However, Seuren seems to
suggest that *may* used for epistemic possibility is of 'indeterminate' tense, whereas *could* used for capability is subject to the normal 'present/past' distinctions.

Seuren suggests the following solution, (1969: 147):

'First, one may think that the possibility expressed in *may* is taken to be true for the time expressed in the preceding operator. It would then not differ, in this respect, from *Neg* or from the quantifiers, which are all said to be true for the time expressed in the preceding operator. If the preceding operator is a sentence qualifier, such as *ASS*, then the time referred to by *Neg* and the quantifiers is the time referred to by the sentence qualifier, which, being a performative expression of the speaker's attitude as to the truth value of the proposition following, always refers to the present time. *May* would thus represent a tenseless Poss.'

However, Seuren rejects this solution, saying (ibid):

'There is, however, reason to assume an indeterminate, or universal tense, to be found in universal statements such as *snow is white, whales are mammals, people do not live to be two hundred years*. From a semantic point of view, such sentences cannot properly be said to be in the present tense.'

Personally, I find this attitude of Seuren's unacceptable. The main point is that the verbs in his examples do have remote (= past time) forms *was, were, did not live.*

Epistemic *may* is in quite a different category, having no such form. So without necessarily rejecting Seuren's 'U' tense operator for all purposes, I reject its use for epistemic modals and prefer the suggestion that he himself made but rejected.
7.2.4. Deontic tense

We now move on to the deontic modals. Here matters are somewhat different. If we take examples from French, we have sentences like:

(8) Il a dû le faire tout de suite
(9) Il pouvait sortir quand il voulait

where there is no question but that the past tenses are used to refer to obligation or permission existing in the past. The same is true in English at least of the item could which in the right context is to be read as 'had the permission to'. In contrast to these instances we have the other English modals like must and may, which are used performatively, except in reported speech, and also the performative uses of the French items in the Present and Conditional tenses. We have two possibilities here: either we can analyse the performative items in one way and the tensed ones in another, or we can analyse them all in a way that links them, while showing their differences.

At this point we should recall our decisions in the syntactic area, which appear in section 5.4.2. There we decided to analyse all occurrences of English modals in one way and all the French instances in another. But we said at the time that one of our aims with the more abstract, semantic analysis that we are attempting here would be to use a system that would allow us to compare things. So that is one proviso: any semantic system should ideally be language independent.

Now we want to examine what the implications of the two different approaches would be. If we take an analysis
in which the performative examples are kept quite distinct from the tensed ones, we can have the deontic operators \( \mathcal{D} \) and \( \mathcal{O} \) appearing, like the epistemic ones, directly within the scope of the 'to' which is a necessary element of the SQL. In other words, we would exclude any occurrence of 'Tense' before a performative deontic operator. The other deontic examples, the tensed ones, would then have to be handled quite differently. In fact, it would be impossible to use the deontic operators at all, since the previous decision would have precluded them occurring after tense. We would then have to use other elements, so that the analysis of (9) might be:

(10) a. ASS - Past (Imperfect) - he have Perm he go out in which 'Perm' is borrowed from Seuren (1969). While this system would have certain advantages in making a clear parallel between epistemic and performative deontic cases, it splits up the analysis of the deontic instances in an unfortunate and clumsy way. There are further reasons for abandoning this approach: first, it is not necessary to make the deontic examples 'look like' the epistemic ones. Epistemic examples are performative by nature, whereas deontic ones are only performative in the right circumstances. Second, this type of analysis attaches too much importance to the English items. We said that the English modals have shown a historical tendency to 'performativize', which the French verbs have not shown. Not only have the French verbs not shown it, but neither have the items of most other languages known to me, (in fact only Cashibo as discussed by Shell, 1975, has anything similar as far as I
know). So, since we want a system which will not only analyse English and French but also, if possible, other languages, we must reject the analysis which would split the deontic area.

This means that the kind of strings we shall use will include a slot for tense, so that the analysis of (9) will be:

\[(10) \ b. \ ASS - \text{Past (Imperfect)} P - \text{he go out}\]

However, we do not need to make the occurrence of tense obligatory. For performative instances we do not need an occurrence of tense since the 't₀' included in ASS is enough. The ambiguity of a sentence like:

\[(11) \text{Il peut s'en aller}\]

will be handled quite simply by having 'Pres(emphasis)' in one case and no tense-marker at all in the other. Thus:

\[(12) \ a. \ ASS - \text{Pres P - he go away}\]
\[b. \ ASS - P - \text{he go away}\]

This corresponds very well to our intuition about deontic modals and shows the difference between their performative and constative instances as minimal. This system has other advantages: it allows us to include in our analysis items from English like have to and be allowed to. These, as well as constative examples of can/could will normally occur with a preceding marker of tense. I say 'normally' since we saw in the principle quoted above (p. 4.1.2.) that constative items - at least present tense ones - can be interpreted contextually as having performative force (issuing a mand rather than describing it) though the converse is not true.
This system does have one rather serious disadvantage in that it does not allow us easily to show the link that exists between the 'permission' and 'capability' senses of can and pouvoir. There is no way in which we can give a capability meaning to the operator P. If we did, the question would arise as to what the parallel interpretation for Q should be. As we saw in section 2.12.5., there is none. The only way round this difficulty is to do what Leech (1969) does, namely introduce an element ('formator' for him, 'operator' for us) to analyse this one idea. This would give for the capability reading of (11):

(13) ASS - Pres Able - he go away

This is not at all satisfactory, since the main point about ability is that it is internal to the subject, whereas permission is given by someone else. (13) simply 'looks wrong' since the 'Able' appears where it should not be. I am forced to abandon the link between capability and permission in this type of analysis.

7.2.5. Time/tense logic

We shall return to a fuller account of the deontic system later. Before we look at the details of it, and of the epistemic system, we need to look briefly at time/tense logic as applied to this analysis. We mentioned above (6.5.2.) that weak and strong operators have been devised for this kind of logic. We shall not use the same symbols as those used by Prior in his various writings, but rather two composite symbols of our own, namely:
Et for 'at some time', 'sometimes', 'at least one time'

At for 'at all times', 'always'.

Now the items which we wish to handle by means of these symbols are 'characteristic' can and 'sometimes' may, plus occurrences from French like that discussed in 4.5.4.

Since both could and might occur with past time meaning we shall have to allow for our two operators to be tensed. In this case 'Pres' will mean 'for the time being' and no occurrence of 'Tense' will indicate that there is no time limit. Thus for:

(14) He can be very polite
(15) It could be very hot there. (With past time reading)
we have the analysis:

(16) ASS - Et - he very polite. (or 'Pres Et' if this is likely to change)

(17) ASS - Past Et - it be very hot there

Occurrences of 'At' do not seem to be realised by a modal, but this approach has the advantage of including these particular uses of can and may in a system of analysis which employs operators and the notion of scope. We shall not, however, explore this particular sub-system any further.

We can, however, note in passing that there is another item that allows us to link modal notions to quantifiers is the English word 'never' as used in sentences like:

(18) (You tried to kick that dog.)
I never!

(19) (John left his job last week.)
He never! (Said with disbelief)

I have heard a similar use quoted for the Russian equivalent
The context was that someone suggested to a Russian (correctly) that the name 'Stalin' was based on the Russian word for 'steel', to which the Russian replied: 'Never!' The sense of such uses of these items seems to be either 'that is impossible' or 'that is certainly not true', (both of which could be realised by can't). It is as though speakers were making use of the notion of 'possible worlds' and saying that there never has been nor will be a 'world' in which such a fact could be true. Or we could link these uses to Prior's tense logic in which, as in the 'possible worlds' approach, they would be interpreted as 'not true at any time', 'no time at which true', etc.

7.2.6. 'Nac'

We now return to the two areas which are our principal interests, the epistemic and the deontic. One thing has not yet been allowed for, and that is remote form in English and the Conditional in French. We have only so far allowed for the remote form in the deontic area where it refers to past time, and we need to allow for it in its non-actual sense. We could suggest a symbol 'Rem-L' for this but it would perhaps be better if we reserved the term 'remote' and the symbol Rem for the surface form. The symbol Nac seems to be mnemonically suitable. General conditions, which we shall not go into in detail here, will show that this operator affects different items in different ways. For instance, in the epistemic area, Nac–M will not be as different from unmarked M as Nac–L is from L, (see 6.6.4. for the reasons). Or, to take an example from the deontic area,
Nac-P will be read as having the force of a suggestion, whereas Nac-Q will be used for advice and to urge.

7.2.7. Types of 'Past'

Another question arises with respect to time/tense. We saw the difference between could and was able to/allowed to. As a result, we cannot allow a simple co-occurrence of 'Past + modal operator' to handle such cases. We shall also need to distinguish in French between, say, devait and a dut. It would be simplest if we could adopt the French terms 'Parfait' and 'Imparfait' for both languages, but this would be wrong, since there is only partial overlap between French and English. We will therefore be forced to abandon the idea of producing an analysis that would be applicable without modification to both English and French. We can use 'Parf' and 'Imparf' for French, but for English we shall use 'Past', which can be sub-divided into 'Past Indef' for could etc. and 'Past Def' for was able/allowed to, etc. (Nac will be used for both languages.) Just how best we can represent semantically the different ways English and French have of talking about past time events, and whether, for instance, the term 'past indefinite' could be usefully applied to the English 'Present Perfect', is something that we have, unfortunately, no space to discuss here.

7.2.8. Rules

At this point we should sum up the rules as used so far. We are mainly interested in the first part of the re-writing of QL up to and including the modal operators. These operators will also be followed by others intervening between them and the Nucleus. The first part of the
re-writing of QL will be as follows for English:

\[(20) \quad QL \rightarrow (\text{Neg}) \quad \left\{ \text{Nac} \quad \left\{ M \right\} \right. \]
\[\left. \quad \left\{ \text{Nac} \quad \left\{ \text{Tense (Aspect)} \right\} \right. \right\} \quad \left\{ P \quad 0 \right\} \]

\[\text{Tense} \rightarrow \left\{ \text{Pres} \quad \text{Past} \quad \left\{ \text{Def} \quad \text{Indef} \right\} \right\} \]

\[\text{Aspect} \rightarrow (\text{Perfect}) (\text{Continuous}) \]

(Certain combinations are unusual, such as 'Past Indef + continuous + P* = used to be being allowed or 'Perfect + continuous + 0* = has been being obliged, etc.)

At this point we should remark on the occurrence of \text{Neg} before the epistemic operators M and L. Halliday (1970: 333, 341, etc.) says that there are no negative modalities; i.e. one can deny possibility but there is something strange about 'negative possibility'. Dakin (1970) also uses 'deny' as an essential element of his analyses. It might be found necessary to modify the SQL's of our description so as to account for this, giving \text{DENY} - M - \text{P} rather than \text{ASS} - \text{Neg} - M - \text{P}. For the time being we shall keep the same analysis both for epistemic and deontic cases, the main point being that we need to distinguish between can't and may not, however this may best be done. The later elements following the modal operators are another occurrence of \text{Neg} and a tense slot which will handle the form of the various following infinitives. For English, these are three in number: simple infinitive, have -ed and be -ing. However, the Perfect infinitive actually includes both the English Present Perfect and the English Preterite, since both:
(21) It is possible that he left
and:

(22) It is possible that he has left
can be expressed by:

(23) He may have left.

So we shall keep the same tense operators. This allows us
to express the full rule as:

\[(24) \text{QL} \rightarrow (\text{Neg}) \left\{ \begin{array}{c}
\text{(Nac)} \{ M \}
\text{L} \\
\text{(Nac)} \\
\text{(Tense (Aspect))} \{ P \}
\end{array} \right\} (\text{Neg) Tense (Aspect)}\]

The second occurrence of tense is obligatory, since the
performative tense ('\(t_o\)') can only relate to the modal
operators.

For French we shall have to modify the rule re-writing
'Tense' and omit 'Aspect'. This will give us:

\[(25) \text{Tense} \rightarrow \left\{ \begin{array}{c}
\text{Pres}
\text{Fut}
\text{Parf}
\text{Imparf}
\end{array} \right\}\]

This omits the Past Historic and also allows for some rather
unusual combinations, such as '\(\text{Parf} + P + \text{Fut} = \text{was permitted}\)
to do at a later time, or '\(\text{Imparf} + O + \text{Imparf} = \text{used to be}\)
obliged to have been doing, (to give English glosses). In
both languages it may be necessary to restrict the
coc-currents of the operators from the first and second
instances of 'Tense', but we shall not complicate the
description at this stage.

We could, of course, extend the notion of the modal
operators being in the direct scope of the '\(t_o\) to other
verbs. All verbs which are performatively used, such as
'promise', could also be placed in the same slot. This would give, for:

(26) I promise to pay you £10

the analysis 'ASS - Promise - pay you £10', where the word 'I' need not be mentioned since it occurs as part of ASS so that 'Promise' is in its direct scope. We shall not have the space to pursue this idea here, but the rules for allowing this will be simple. It will just be necessary to specify in the lexicon that certain verbs can be used performatively in the right circumstances as well as constatively. This specification will then allow them to be placed in the analysis immediately after the SQL without any preceding tense-marker.

Returning to the re-writing of QL, we now have a symbolism that will allow us to handle all the simple examples in the two languages and also to include items like have to which are semantically related to the modal verbs of English. The only items for which are more complex analysis is needed are the past time counterfactuals like should have done/aurait du faire. We shall discuss them in a later section, 7.4.

The following tables give the main examples in English and French for each of the relevant strings of symbols.
7.3. TABLES, GENERAL

Table 1, M - Assume ASS as the SQL throughout.

M Pres - p  It is possibly the case that he takes the bus
    Perhaps/possibly/maybe he takes the bus
    He may take the bus
    Il peut prendre le bus
    Il se peut qu'il prenne le bus
    Il prend peut-être le bus

Neg M Pres - p  It is not possible that it is the case that
    he takes the bus
    He can't possibly take the bus
    Il ne peut pas prendre le bus
    Il ne se peut pas qu'il prenne le bus

M Neg Pres - p  It is possibly the case that he does not
    take the bus
    Perhaps/possibly/maybe he does not take the bus
    He may not take the bus
    Il ne prend peut-être pas le bus
    Il se peut qu'il ne prenne pas le bus

Nac M Pres - p  It is remotely possible that he takes the bus
    He might/could take the bus
    It's just possible he takes the bus
    Il pourrait prendre le bus
    Il se pourrait qu'il prenne le bus

Neg Nac M Pres - p  It is not (even) remotely possible that
    he takes the bus
    He couldn't (possibly) take the bus
    Il ne pourrait pas prendre le bus
    Il ne se pourrait pas qu'il prenne le bus

Nac M Neg Pres - p  It is remotely possible that he does
    not take the bus
    He might (possibly) not take the bus
    Il se pourrait qu'il ne prenne pas le bus

Cases of 'Neg M Neg' will be treated as cases of 'L'.
We shall not give examples of Continuous infinitive, like
he may be catching the bus.
TABLE 1, M (Cont'd.)

M Past or Parf - p  It is possibly the case that he caught the bus
                 Maybe/perhaps/possibly he caught the bus
                 He may have caught the bus
                 / Il a pu prendre le bus
                 / Il peut avoir pris le bus
                 Il se peut qu'il ait pris le bus

And so on, similarly to the examples with Pres. The analysis allows us to link the two French examples marked / semantically.
TABLE II, Λ

As with Μ, assume ΑΣΣ throughout. 'Neg Λ Neg' is assumed to be equivalent to Μ. Examples of continuous infinitive are not given.

<table>
<thead>
<tr>
<th>L Pres - p</th>
<th>It is necessarily the case that he takes the bus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>He certainly/definitely takes the bus</td>
</tr>
<tr>
<td></td>
<td>He must take the bus</td>
</tr>
<tr>
<td></td>
<td>(Dialectally) He has to take the bus</td>
</tr>
<tr>
<td></td>
<td>Il prend sans doute le bus</td>
</tr>
<tr>
<td></td>
<td>Il doit prendre le bus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Neg L Pres - p</th>
<th>It is not necessarily the case that he takes the bus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>He needn't (necessarily) take the bus</td>
</tr>
<tr>
<td></td>
<td>He may not take the bus</td>
</tr>
<tr>
<td></td>
<td>? Il peut ne pas prendre le bus</td>
</tr>
<tr>
<td></td>
<td>Il se peut qu'il ne prenne pas le bus</td>
</tr>
<tr>
<td></td>
<td>Il ne prend peut-être pas le bus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>L Neg Pres - p</th>
<th>It is necessarily the case that he does not take the bus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>He can't (possibly) take the bus</td>
</tr>
<tr>
<td></td>
<td>(Dialectally) He mustn't take the bus</td>
</tr>
<tr>
<td></td>
<td>Il ne peut pas prendre le bus</td>
</tr>
<tr>
<td></td>
<td>Il ne se peut pas qu'il prenne le bus</td>
</tr>
<tr>
<td></td>
<td>Il ne doit pas prendre le bus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Nac L Pres - p</th>
<th>It is probably the case that he takes the bus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>He should/ought to take the bus</td>
</tr>
<tr>
<td></td>
<td>He is likely to take the bus</td>
</tr>
<tr>
<td></td>
<td>Il est probable qu'il prend le bus</td>
</tr>
<tr>
<td></td>
<td>Il devrait prendre le bus</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Neg Nac L Pres - p</th>
<th>It is not probably the case (improbable), that he takes the bus</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>He shouldn't/oughtn't to take the bus</td>
</tr>
<tr>
<td></td>
<td>He probably doesn't take the bus</td>
</tr>
<tr>
<td></td>
<td>He is unlikely to take the bus</td>
</tr>
<tr>
<td></td>
<td>Il est peu probable qu'il prenne le bus</td>
</tr>
<tr>
<td></td>
<td>?? Il ne devrait pas prendre le bus</td>
</tr>
</tbody>
</table>
TABLE II, L (Cont'd.)

Nac L Neg Pres - p  It is probably the case that he does not take the bus

This frame seems not to be distinct from the preceding one. Perhaps we could add:

??  Il devrait ne pas prendre le bus

L Past or Parf - p  It is necessarily the case that he took the bus

He is certain to have taken the bus
(Dialectally) He has to have taken the bus
Il a sans doute pris le bus
Il a dû prendre le bus

?  Il doit avoir pris le bus

Neg L Past or Parf - p  It is not necessarily the case that he took the bus

He needn't necessarily have taken the bus
He may not have taken the bus
Il a pu ne pas prendre le bus
Il peut ne pas avoir pris le bus
Il se peut qu'il n'ait pas pris le bus
Il n'a peut-être pas pris le bus

L Neg Past or Parf - p  It is necessarily the case that he did not take the bus

He can't have taken the bus
Il n'a pas pu prendre le bus
Il n'a pas dû prendre le bus

etc.

Nac L Perf or Parf - p  It is probably the case that he has taken the bus. (took is unlikely, see 2.8.4.)

He should/ought to have taken the bus
He is likely to have taken the bus
Il a très probablement pris le bus

?  Il devrait avoir pris le bus
TABLE II, L (Cont'd.)

Neg Nac L Perf or Parf - P It is not probable that it is the case that he has taken the bus
  He shouldn't/oughtn't to have taken the bus
  He probably hasn't taken the bus
  Il est peu probable qu'il ait pris le bus
  ? Il ne devrait pas avoir pris le bus

Nac L Neg Parf - P Like the preceding frame.

We see here clearly how the modal items are only used here in a very restricted way to realise all the frames which include Nac. These items are much more common in their deontic uses. See below for the table with 0.
Table III, P

Assume ASS throughout. 'Neg P Neg' is assumed to be equivalent to Q. Examples of continuous infinitive are not given.

P Pres - P
You are hereby permitted to take the bus
You may take the bus
You can take the bus
By all means, take the bus
Tu peux prendre le bus
Mais, oui. Prends le bus, si tu veux

Neg P Pres - P
You are hereby not permitted to take the bus
You may not take the bus. (mayn't)
You can't take the bus
Tu ne peux pas prendre le bus

P Neg Pres - P
You are hereby permitted not to take the bus
You needn't take the bus
You can NOT take the bus
Tu peux ne pas prendre le bus
?Tu n'es pas obligé de prendre le bus

Nac P Pres - P
I hereby suggest that you take the bus
You could/might take the bus
Why don't you take the bus?
What about taking the bus?
Tu pourrais prendre le bus

Neg Nac P Pres - P
I do not hereby suggest that you take the bus

It is difficult to find convincing examples here, no doubt because the phrase do not suggest sounds like a negative speech act. Perhaps the following are possible.

You could NOT take the bus
There's no special reason why you should take the bus
Tu pourrais ne pas prendre le bus
TABLE III, \( P \) (Cont'd.)

Nac P Neg Pres \( - \ P \) I hereby suggest that you do not take
the bus
You could NOT take the bus
You might not take the bus. (usually counter-factual)
I shouldn't take the bus, if I were you
I'd advise you not to take the bus
Tu pourrais ne pas prendre le bus
Je te conseillerais de ne pas prendre le bus

P Past or Parf \( - \ P \) You are hereby permitted to have taken
the bus
This frame should be excluded since retrospective permission
is not possible. Even if we interpret the Perfect
infinitive as referring to future time, as we have to with
direct, performative permission, we will find it difficult
to interpret this string. If we change the VP and attempt
sentences like you may have finished it by the time I get back,
we still have a very odd sentence.

However, there do seem to be surface realisations for
some of the following frames. In this case, however, the
elements Past and Parf must be interpreted as referring to
past time. There is clearly a feeling of tension here.

Nac P Past or Parf \( - \ P \) It is hereby suggested that - you
took the bus
I suggest that you would have been permitted
to take the bus
You could/might have taken the bus. (May be
said with annoyance)
Tu aurais pu prendre le bus

Neg Nac P Past or Parf \( - \ P \) I do not hereby suggest that -
you took the bus
? There is no real reason why you should have
taken the bus

Again, as with Neg Nac P Pres \( - \ P \), this appears to be a
negative speech act.
TABLE III, \( P \) (Cont'd.)

Nac \( P \) Neg Past or Parf \( - P \) I hereby suggest that - you did not take the bus
You might not have taken the bus. (Said with annoyance)
Tu aurais pu ne pas prendre le bus
Tu n’aurais pas dû prendre le bus

There is clearly something unacceptable about many of these formulae which needs further discussion, see below 7.4.1.

The above examples have all been performative, in the sense that the operator \( P \) has always been in the scope of the element \( t_0 \) included in the SQL. We now move on to tensed examples.

Pres \( P \) Pres \( - P \) He is permitted to take the bus. (3rd. person subject is better than 2nd. so as to avoid any confusion between giving and reporting permission.)
He can take the bus
He is allowed to take the bus
Il peut prendre le bus
Il a le droit de prendre le bus
Il a la permission de prendre le bus

Neg Pres \( P \) Pres \( - P \) He is not permitted to take the bus
He can’t take the bus
He is not allowed to take the bus
Il ne peut pas prendre le bus
Il n’a pas le droit/la permission de prendre le bus

Pres \( P \) Neg Pres \( - P \) He is permitted not to take the bus
He doesn’t have to take the bus
He doesn’t need to take the bus
Il peut ne pas prendre le bus
Il n’est pas obligé de prendre le bus
TABLE III, $P$ (Cont'd.)

Past or Parf $P$ Pres $- P$  He was permitted to take the bus
He was able/allowed to take the bus
Il a pu prendre le bus
Il a eu le droit/la permission de prendre le bus

Neg Past or Parf $P$ Pres $- P$  He was not permitted to take the bus
He wasn't able/allowed to take the bus
Il n'a pas pu prendre le bus
Il n'a pas eu le droit/la permission de prendre le bus

Past or Parf $P$ Neg Pres $- P$  He was permitted not to take the bus
He didn't have to take the bus
He didn't need to take the bus
Il a pu ne pas prendre le bus
Il n'a pas été obligé de prendre le bus

Past or Parf $P$ Past or Parf $- P$  He was permitted to have taken the bus

As with the parallel frame with no tense element in the first slot, this frame seems to be non-existent, because there is no such thing as retrospective permission.

Past Indef or Imparf $P$ Pres $- P$  He used to be permitted to take the bus
He could take the bus
Il pouvait prendre le bus
Il avait le droit/la permission de prendre le bus

Neg Past Indef or Imparf $P$ Pres $- P$  He used not to be permitted to take the bus
He couldn't take the bus
He wasn't allowed to take the bus
Il ne pouvait pas prendre le bus

Past Indef or Imparf $P$ Neg Pres $- P$  He used to be permitted not to take the bus
He could NOT take the bus
He didn't have to take the bus
TABLE III, P (Cont'd.)

Past Indef or Imparf P Parf - p

This seems to be another nonsensical slot, for the same reasons as those given for previous slots. P appears not to allow a past tense nucleus.
Assume $\textsc{ass}$ throughout. ‘Neg 0 Neg’ is assumed to be equivalent to $P$. No examples of continuous infinitive are given.

0 Pres - $P$  You are hereby obliged to take the bus
You must take the bus
Tu dois prendre le bus
Il faut que tu prennes le bus

Neg 0 Pres $- P$ You are not hereby obliged to take the bus
You needn’t take the bus
You don’t have/need to take the bus if you don’t want to
Tu peux ne pas prendre le bus
Je ne t’oblige pas à prendre le bus
Tu n’a pas besoin de prendre le bus

0 Neg Pres - $P$ You are hereby obliged not to take the bus
You mustn’t take the bus
You’re not to take the bus
Tu ne dois pas prendre le bus
Il ne faut pas que tu prennes le bus

Nac 0 Pres - $P$ You are hereby advised to take the bus
You should/ought to take the bus
You’d better take the bus
You’d do well to take the bus
Tu devrais prendre le bus
Tu ferais bien de prendre le bus
Il faudrait que tu prennes le bus

Neg Nac 0 Pres - $P$ You are not hereby advised to take the bus

Again this is a dubious structure, looking like a negative speech act.

?? You needn’t take the bus

?? There’s no special reason why you should take the bus
TABLE IV, O (Cont'd.)

Nac 0 Neg Pres - p You are hereby advised not to take the bus
You shouldn't/oughtn't to take the bus. (often counterfactual)
You'd do well not to take the bus
You'd better not take the bus
Tu ne devrais pas prendre le bus. (often counterfactual)
?? Il ne faudrait pas que tu prennes le bus
Tu ferais bien de ne pas prendre le bus

0 Past or Parf - p You are hereby obliged to have finished it (by a future time)
You must have finished it
You are to have finished it
Tu dois l'avoir terminé
Il faut que tu l'aies terminé

Neg 0 Past or Parf - p You are not hereby obliged to have finished it
You needn't have finished it
? There'll be no need to have finished it
Tu n'es pas obligé de l'avoir terminé
Tu n'as pas besoin de l'avoir terminé
?? Tu peux ne pas l'avoir terminé

0 Neg Past or Parf - p You are hereby obliged not to have finished it
You mustn't have finished it.
You are not to have finished it
Tu ne dois pas l'avoir terminé
Il ne faut pas l'avoir terminé

Nac 0 or Past Parf - p You are hereby advised to have taken the bus.

Again there is something problematic here, as in the parallel frame with P.
You should/ought to have taken the bus
? You were supposed to take the bus, you know
Tu aurais du prendre le bus
Il fallait prendre le bus. (given the right context)
Il aurait fallu prendre le bus
TABLE IV, O (Cont'd.)

Neg Nac 0 Past or Parf - p  (A negative speech act?)
   You are hereby not advised to have taken the bus
   You needn't have taken the bus
   Tu aurais pu ne pas prendre le bus
   Tu n'etais pas obligé de prendre le bus

Nac 0 Neg Past or Parf - p  You are hereby advised not to have taken the bus
   You shouldn't/oughtn't to have taken the bus
   Tu n'aurais pas dû prendre le bus
   Il n'aurait pas fallu prendre le bus
   Il ne fallait pas prendre le bus

These frames involving both Nac and Parf are further discussed below in 7.4.1.

We now move on to the tensed frames.

Pres 0 Pres - p  He is obliged to take the bus
   He has to take the bus
   ? He is supposed to take the bus
   Il doit prendre le bus
   Il est obligé de prendre le bus
   ? Il est censé prendre le bus

Neg Pres 0 Pres - p  He is not obliged to take the bus
   He doesn't have to take the bus
   He hasn't got to take the bus. (If the 2nd. Pres is future time.)
   Il n'est pas obligé de prendre le bus
   Il n'a pas à prendre le bus
   Il n'a pas besoin de prendre le bus

Pres 0 Neg Pres - p  He is obliged not to take the bus
   He can't take the bus
   He's not allowed to take the bus
   (In some dialects) He hasn't to take the bus
   Il ne doit pas prendre le bus
   Il ne peut pas prendre le bus
   Il n'a pas le droit/la permission de prendre le bus
<table>
<thead>
<tr>
<th>Type of Verb</th>
<th>Verb Form</th>
<th>Translation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Past Def or Parf</td>
<td>He was obliged to take the bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>He had to take the bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>He was made to take the bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>He had no choice but to take the bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>Il a dû prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>Il a été obligé de prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>Il a eu à prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Def or Parf</td>
<td>He was not obliged to take the bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Def or Parf</td>
<td>He didn’t have to take the bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Def or Parf</td>
<td>He didn’t need to take the bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Def or Parf</td>
<td>Il a pu ne pas prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Def or Parf</td>
<td>Il n’a pas été obligé de prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Def or Parf</td>
<td>Il n’a pas eu à prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>He was obliged not to take the bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>He wasn’t able/allowed to take the bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>(? Dialectically) He hadn’t to take the bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>Il n’a pas dû prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>Il n’a pas pu prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Past Def or Parf</td>
<td>Il n’a pas eu le droit/la permission de prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Past or Parf</td>
<td>He was obliged to have taken the bus</td>
<td></td>
</tr>
<tr>
<td>This frame sounds nonsensical, since retrospective obligation does not exist.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Past Indef or Imparf</td>
<td>He used to be obliged to take the bus</td>
<td></td>
</tr>
<tr>
<td>Past Indef or Imparf</td>
<td>He had to take the bus</td>
<td></td>
</tr>
<tr>
<td>Past Indef or Imparf</td>
<td>Il devait prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Indef or Imparf</td>
<td>He used not to be obliged to take the bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Indef or Imparf</td>
<td>He didn’t have to take the bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Indef or Imparf</td>
<td>He could NOT take the bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Indef or Imparf</td>
<td>Il pouvait ne pas prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Indef or Imparf</td>
<td>Il n’était pas obligé de prendre le bus</td>
<td></td>
</tr>
<tr>
<td>Neg Past Indef or Imparf</td>
<td>Il n’avait pas à prendre le bus</td>
<td></td>
</tr>
</tbody>
</table>
Past Indef or Imparf 0 Neg Pres - p
  He used to be obliged not to take the bus
  He couldn't take the bus
  He wasn't allowed to take the bus
  Il ne pouvait pas prendre le bus
  Il était obligé de ne pas prendre le bus
  Il n'avait pas le droit/la permission de prendre le bus
  Il ne devait pas prendre le bus
  Il ne fallait pas qu'il prenne (prît) le bus

Past Indef or Imparf 0 Parf - p

Once again, as far as I can tell, a nonsensical frame.
7.4. FACTUALS AND COUNTERFACTUALS

7.4.1. Introductory

We now proceed to discuss the cases which caused us some problems while trying to exemplify the various frames in the analysis we were using. The examples were of the type of:

(27) You should have taken the bus
(28) You might have taken the bus

In other words, they involved remote modals and Perfect infinitives in English, and Past Conditional forms of *devoir* or *pouvoir* in French.

The analysis that we gave for (27) was: 'Nac O Past - p'. This seems, at first sight, to be quite a good analysis. The Nac explains why a remote form modal is used and the Past explains why there is a Perfect infinitive. However, this account is not very satisfactory from a semantic point of view.

At this point, we need to have a closer look at the analysis proposed for these and similar sentences in Dakin (1970). These sorts of sentences also formed the basis for my original project on this subject, (Wakely, 1969). The analysis proposed by Dakin, it will be recalled (see 6.3.), involved two Ss in the analysis of each surface sentence. The reason for this was that sentences like (27) have certain implications, and that therefore a full semantic analysis needs to show these implications.

Let us look first at a few examples, taken directly from Dakin's (1970) article:
(29) John should have stopped
   \{ I deny S_2
     I state S_1 demanded S_2
   \}

(30) John needn't have stopped
   \{ I state S_2
     I deny S_1 demanded S_2
   \}

(29) and (30) use modal verbs. Here are two examples with other items:

(31) John had to stop
   \{ I state S_2
     I state S_1 demanded S_2
   \}

(32) John was able to stop
   \{ I state S_2
     I deny S_1 demanded not S_2
   \}

In these examples 'S_2' corresponds to the proposition 'John stop(ped)' and 'S_1' to some relevant fact like 'The lights were red' for (29) and (31).

We can see the appropriateness of this type of analysis. In particular, Dakin is surely right in analysing examples like (29) and (30) with an item 'demanded' in the analysis. Our analysis, which places the NAC before the Q, but placed the Past AFTER it, is clearly defective (see also Halliday, 1970: 342). While the analyses we used are simpler than those we are about to propose, it is the more complex ones that give a fuller and more satisfying account of the facts. We are therefore going to analyse examples like (29) and (31) with a tense feature before the Q. This decision will need some explaining, since it will make us depart from the
principle that the modal verbs are normally to be analysed as being in the scope of the performative present 'to'. We shall discuss this question after the analyses have been presented.

The method we shall use involves, as with Dakin, two sentences, or, in our case, two propositions in the scope of the same SQL. The tense will always involve past time, so we shall omit the element Past (or Perf) from the tables so as to simplify the strings of symbols. This gives us:

\[(33) \text{SQL} - (\text{Neg}) \text{Modal} (\text{Neg}) - P_1 & (\text{Neg}) - P_2\]

In this string we have, as can be seen, three possible occurrences of Neg. This has important effects, as we shall see. The propositions $P_1$ and $P_2$ correspond to Dakin's (1970) '$S_1$' and '$S_2$', though I have placed the $P_2$ in the second position, rather than first as Dakin does.

Since there are three possible Neg's, this gives us, for each modal operator, a possible EIGHT sentences:

- one with no Neg
- three with one Neg
- three with two Neg's
- one with three Neg's

The tables that follow give the various surface forms that can be used, in the two languages, to realise the various configurations we are proposing.
7.4.2. Tables

Table I, P
Assume ASS and Past or Parf for both halves of the analysis throughout.

\[ P - P_1 & -P_2 \] John was permitted to take the bus and he took it
John was allowed/able to take the bus
Jean a pu prendre le bus

\[ Neg P - P_1 & -P_2 \] John was not permitted to take the bus but he took it
John shouldn't/oughtn't to have taken the bus
Jean n'aurait pas dû prendre le bus
?Il aurait fallu que Jean ne prenne pas le bus

\[ P Neg - P_1 & -P_2 \] John was permitted not to take the bus but he still took it
John needn't have taken the bus
Jean aurait pu ne pas prendre le bus
? Jean n'était pas obligé de prendre le bus

\[ P - P_1 & Neg - P_2 \] John was permitted to take the bus but he did not take it
John could have taken the bus \{ can be said
John might have taken the bus. \} with
Jean aurait pu prendre le bus \{ annoyance

\[ Neg P Neg - P_1 & P_2 \] John was not permitted not to take the bus and he took it
See sentence (4.2.8) below, since Neg P Neg = 0.

\[ Neg P - P_1 & Neg - P_2 \] John was not permitted to take the bus and he did not take it
John wasn't allowed to take the bus
John couldn't have taken the bus, anyway!
Jean n'a pas pu prendre le bus
De toute façon, Jean n'aurait pas pu prendre le bus
TABLE I, \( \exists \) (Cont’d.)

\( \neg P \) Neg \( \neg \exists_1 \) & \( \neg \exists_2 \)  John was permitted not to take the bus and he did not take it

John was allowed not to take the bus

John didn’t need to take the bus

John didn’t have to take the bus \} (anyway)

There was no need for John to take the bus, anyway

Jean a pu ne pas prendre le bus

Jean n’a pas été obligé de prendre le bus

Jean n’a pas eu besoin de prendre le bus

\( \neg \neg P \) Neg \( \neg \exists_1 \) & \( \neg \exists_2 \)  John was not permitted not to take the bus but he did not take it

See ‘0 \( \exists_1 \) & \( \neg \exists_2 \)’ below.
TABLE II, O

0 - $E_1$ & - $E_2$  
John was obliged to take the bus and he took it  
John had to take the bus  
Jean a dû prendre le bus  
Il a fallu que Jean prenne le bus

Neg 0 - $E_1$ & - $E_2$  
John was not obliged to take the bus but he took it  
John needn't have taken the bus  
John didn't actually need to take the bus (or with really)  
Jean aurait pu ne pas prendre le bus  
? Jean n'était pas obligé de prendre le bus, en réalité

0 Neg - $E_1$ & - $E_2$  
John was obliged not to take the bus but he took it  
John shouldn't/oughtn't to have taken the bus  
John wasn't really supposed to take the bus  
Jean n'aurait pas dû prendre le bus  
? Il n'aurait pas fallu que Jean prenne (prêt) le bus

0 - $E_1$ & Neg - $E_2$  
John was obliged to take the bus but he didn't take it  
John should/ought to have taken the bus  
John was really supposed to take the bus  
En principe, Jean était censé prendre le bus

Neg 0 Neg - $E_1$ & - $E_2$  
John was not obliged not to take the bus and he did not take it

Since Neg 0 Neg = $P$, see 'P - $E_1$ & - $E_2$' above.

Neg 0 - $E_1$ & Neg - $E_2$  
John was not obliged to take the bus and he did not take it  
John didn't have to take the bus, anyway  
John didn't need to take the bus, anyway  
Jean a pu ne pas prendre le bus  
Jean n'a pas été obligé de prendre le bus  
Jean n'a pas eu à prendre le bus
John was obliged not to take the bus and he did not take it.

John wasn’t allowed to take the bus.

John couldn’t have taken the bus, anyway.

John was made not to take the bus.

Jean n’a pas dû prendre le bus.

Jean n’a pas pu prendre le bus.

Jean n’aurait pas pu prendre le bus, de toute façon.

John was not obliged not to take the bus but he did not take it.

Since $\neg \neg \neg \neg = P$, see ‘$P - P_1 & \neg \neg P_2$’ above.
SUMMARY TABLES III & IV

Formulae collapsed to the minimum. Assume ASS and Past or Parf for both parts of the analysis and $\&$ between $p_1$ and $p_2$.

### TABLE III, $P$

<table>
<thead>
<tr>
<th>$p_1p_2$</th>
<th>$\neg p\neg p_1p_2$</th>
<th>$\neg p_1\neg p_2$</th>
<th>$\neg \neg p_1\neg p_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>was able to a pu</td>
<td>had to a $\ddot{u}$</td>
<td>wasn't able to n'a pas pu</td>
<td>didn't have to a pu-ne pas</td>
</tr>
<tr>
<td>$\neg p_1p_2$</td>
<td>$\neg p_1p_2$</td>
<td>$p_1\neg p_2$</td>
<td>$\neg p_1\neg p_2$</td>
</tr>
<tr>
<td>shouldn't have n'aurait pas $\ddot{u}$</td>
<td>needn't have aurait pu-ne pas</td>
<td>could have aurait pu</td>
<td>should have aurait $\ddot{u}$</td>
</tr>
</tbody>
</table>

### TABLE IV, $O$

<table>
<thead>
<tr>
<th>$o_1p_2$</th>
<th>$\neg o\neg o_1p_2$</th>
<th>$\neg o_1\neg p_2$</th>
<th>$\neg \neg o_1\neg p_2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>had to a $\ddot{u}$</td>
<td>was able to a pu</td>
<td>didn't have to a pu-ne pas</td>
<td>wasn't able to n'a pas pu</td>
</tr>
<tr>
<td>$\neg o_1p_2$</td>
<td>$\neg o_1p_2$</td>
<td>$o_1\neg p_2$</td>
<td>$\neg o_1\neg p_2$</td>
</tr>
<tr>
<td>needn't have aurait pu-ne pas</td>
<td>shouldn't have n'aurait pas $\ddot{u}$</td>
<td>should have aurait $\ddot{u}$</td>
<td>could have aurait pu</td>
</tr>
</tbody>
</table>

These tables place the 'no negative tension' items first and the 'negative tension' ones second, so that the first four and the last four in each table form a group. (See 7.4. for explanation of 'negative tension').
We can also group the items in pairs, and a comparison of any pair from either table with the pair below it, shows that the same items are used, but in the opposite order. This is so because of the general principle of inverse or dual relationships. Since P and Q are duals they are the double negation equivalents of each other.

The following table proceeds from the surface items, (only English given), and gives the analysis for Q above each item, and for P below it.

**TABLE V, Surface items**

<table>
<thead>
<tr>
<th>P1P2</th>
<th>NegONegP1P2</th>
<th>NegOp1Negp2</th>
<th>ONegP1Negp2</th>
</tr>
</thead>
<tbody>
<tr>
<td>had to</td>
<td>was able to</td>
<td>didn't have to</td>
<td>wasn't able to</td>
</tr>
<tr>
<td>NegP</td>
<td>P1P2</td>
<td>P Neg1Negp2</td>
<td>NegP1Negp2</td>
</tr>
<tr>
<td>P1P2</td>
<td>NegONegP1P2</td>
<td>NegOP1Negp2</td>
<td>NegPNegp1Negp2</td>
</tr>
<tr>
<td>needn't have</td>
<td>shouldn't have</td>
<td>should have</td>
<td>could have</td>
</tr>
<tr>
<td>P1P2</td>
<td>NegP1P2</td>
<td>P1Negp2</td>
<td>NegOnegp1Negp2</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>P1P2</th>
<th>NegONegP1P2</th>
<th>NegOp1Negp2</th>
<th>ONegP1Negp2</th>
</tr>
</thead>
<tbody>
<tr>
<td>P1P2</td>
<td>NegPNegP1P2</td>
<td>NegP1P2</td>
<td>P1Negp2</td>
</tr>
</tbody>
</table>
7.4.3. 'Negative tension'

I now wish to comment on the previous tables. To start with, I think it is clear that the analysis which involves two occurrences of p and allows a tense marker before the modal operator is more satisfying that the previous one we used, which involved 'Nac + modal operator + Past or Parf + -p'. It is more satisfying both intuitively as giving a better account of the facts, and theoretically, in that it allows us to compare in one and the same system items like had to and items like should have. That is, it enables us to compare full members of the modal verb system with items outside that system. Since it also allows us to compare the two languages we are interested in, this confirms its usefulness.

I said before presenting the tables that one thing we should want them to explain would be why modal verbs appeared in some cases, while other items like had to appeared in others; or, to take examples from French, why the Past Conditional occurs in some cases and the Perfect in others. An examination of the tables allows us to see how this works, and to establish a principle which I shall call the principle of

NEGATIVE TENSION.

The principle of negative tension is quite easily explained. There is negative tension in the formulae presented in the table when there is an odd number of Neg's, in this case one or three. When there is an even number of Neg's, that is none or two, then there is no negative
tension. Examining these two classes or groups of items, we notice at once that:

where there is negative tension, English uses a remote modal + Perfect infinitive, and French a Past Conditional,

where there is no negative tension, English uses the remote form of a non-modal item with past time force, French uses the Perfect tense of a modal item.

Besides the above facts about French and English, I noted in my earlier project (Wakely, 1969) that an odd number of negatives in the analysis corresponds to but and although, while an even number of negatives corresponds to and and because. These facts are very relevant to Dakin’s (1970) analysis, with its title ‘Explanations’. These further details provide independent evidence for the relevance of the number of negatives in the analysis. (For other analyses which use ‘+’, ‘-‘, ‘0’ and similar items, see for instance G. Lakoff, 1970: 175 ff. and Jarvis, 1971: 155 ff.)

We have suggested on a number of occasions that the modal verbs of English have shown a ‘performativizing’ tendency. The main exceptions to this are the ‘link’ modals can/could and will/would. We see here something a little different. In cases like should have done, the speaker cannot be said to be issuing a mand – one cannot order or advise someone to do something in the past. Nor was the speaker necessarily involved in the issuing to a mand in the past, though he may have been. Dakin’s (1970) examples show this clearly. If I say:

(34) John did not stop although the lights were red. He should have stopped
then there is no question of its having been myself who made the law saying that drivers should stop at red lights, nor that I told John to stop, pointing out the red light to him. Of course, I may have done so, but this is not a necessary factor to allow the correct use of should have in English. Rather, the use of should have results here from the speaker's reaction to the negative tension in the situation.

So we can modify our original position, and say that, except in the non-modal cases, and except for reported speech, the modal verbs of English are used either performatively in epistemic judgements and to issue mands, or in deontic 'negative tension' situations. If we wish, we can link these two main cases, and say that speakers use their authority in two ways (as far as deontic modality is concerned), namely to issue mands which will involve future action and to react to past action which is in some way inconsistent with mands. We could borrow the notion of authority from Leech (1969) and say that, when there is negative tension, an item AUTH can be inserted in the analysis, so that the string of symbols for John should have taken the bus will be:

\[(35) \text{ASS - Auth Past 0 - } E_1 \& \text{ Neg Past - } E_2\]

We shall not pursue this particular item AUTH here, but it would be quite simple to include it in this type of analysis where suitable.

The speaker's reaction to the 'negative tension', as our examples show, can be expressed by other means, such as really, anyway, etc. But it is only the negative tension
items that show clearly what the implications are. Some of the 'no negative tension' items are not so clear in their implications, for instance didn't have to. We could say quite correctly both of the following:

(36) He didn't have to leave, but he did
(37) He didn't have to leave, so he didn't

(37) is the one we have used in our tables, but its place there is not as well assured as that of, for instance, should have.

7.4.4. French Past Conditional items

There are a few remarks to be made about the French items. Here again we see that the French group are far less 'special' in their behaviour than the English modals are. The French factual items use the Perfect tense, which is normally factual anyway, especially with the verbs of the -oir group, as we saw in section 3.11.3. The English factuals, by contrast, use mainly non-modal items in the remote form, which can normally be both factual and non-actual, (as in if I had to). The French counterfactuals use the Past Conditional tense, which is commonly counterfactual with all the verbs in the French language. The interesting thing in the tables is therefore the special behaviour of the string 'remote modal + Perfect infinitive' in English. Let us then look again at this particular structure.

7.4.5. The two analyses

We gave two analyses for each item of the counterfactual set. For instance, for should have taken we had both the
following:

(38)  
a.  Nac 0 Parf - P  
b.  Parf 0 - P₁ & Neg - P₂

(38,a) corresponds most nearly to the surface form, since Nac - 0 is normally realised as should and Parf - P is normally realised as a Perfect infinitive. The second analysis (b) is more abstract, but allows a clearer exposition of the full facts, including the implications. For the French items, things are not at first sight as clear in the surface forms as with the English ones. This is because a form like aurait pu has the aurait playing a double role; first it is a Conditional form which allows for the sentence being counterfactual, and second it combines with the Past Participle pu to express past time.

7.4.6. Epistemic constructions

Since we have found the English structure 'remote modal + Perfect infinitive' an interesting one, let us now look at items with this form in the epistemic area.

The items should have and ought to have, besides being fairly rare in their epistemic uses, do not appear to have any counterfactual uses. A sentence like:

(39) They should/ought to have arrived by now

will only be counterfactual in its deontic reading. In its epistemic one it is to be read as 'it is probable that ...'

Needn't have also seems to have no counterfactual epistemic readings. A sentence like:

(40) He needn't necessarily have forgotten

cannot be used to imply that he has or has not forgotten.
If, on the other hand, we look at this structure with could, might and would, things are different. All these can occur, for instance in sentences beginning with *if*, in a way that allows their potential force as counterfactual items to be used.

(41) If it hadn't been for his father, he could/might/would have married Anne

In (41) there is a certain amount of ambiguity. For instance, with *could* the reading 'would have been able/allowed to' is possible. I am not sure whether a willingness reading is possible with *would*, but it is perhaps not to be excluded out of hand. However, the readings that we are concerned with are:

(42) a. I judge - it possible - Past - he marry Anne
    for *could* and *might*, which we can analyze in the system already used as:

(42) b. ASS - Nac M Past - he marry Anne

and, for *would*:

(43) a. I judge - it predictable - Past - he marry Anne
    which, if we introduce a symbol *WP* for prediction (*will* and *would*), gives us:

(43) b. ASS - Nac WP Past - he marry Anne

We shall now look at the negatives of these items, a procedure which has interesting results.

We shall start with *would*:

(44) Even if his father had paid him, he wouldn't have married Anne

The analysis for (44), using our symbolism, will be:

(45) a. ASS - Nac WP Neg Past - he marry Anne

When discussing the right place to put the *Neg* in the analysis
of won’t and wouldn’t, we said (section 2.10.6.) that 'predict - not' was on the whole to be preferred to 'not predict'. But the alternative analysis is not impossible, and makes sense in cases where the speaker is answering a suggestion from someone else. If we take (44) as being the answer to:

(46) Don’t you think he would have married Anne?
then the alternative analysis seems reasonable:

(45) b. ASS - Neg Nac WP Past - he marry Anne

Passing on to might, we have

(47) He might not have married Anne

which, on one reading, means he did marry her. This will be analysed as:

(48) ASS - Nac M Neg Past - he marry Anne

We shall return to this in a moment. But first of all, we consider:

(49) Even if his father had paid him, he couldn’t have married Anne

It seems to me that it is impossible to force an epistemic reading here, and that the only possible readings are 'would not have been able' or 'would not have been allowed'. This is interesting, since normally couldn't and mightn't form a pair with readings, respectively, of 'not possible' and 'possible - not'. This can be seen by comparing:

(50) He might not earn that much
(51) He couldn’t (possibly) earn that much

If the epistemic reading for (49) did exist, the analysis would be:

(52) ASS - Neg Nac M Past - he marry Anne
It seems as if the language 'does not choose' to have a simple item realising the idea 'it is impossible that he would have married Anne'. The same is true of the dual of this idea, so that there is no simple realisation for 'it is certain that he would not have married Anne'.

We now return to look at (47) which, we suggested, had more than one reading. The two readings are:

(53) a. It is possible that he would not have married Anne
    (counterfactual)

    b. It is (remotely) possible that he did not marry Anne

The question is: which of these does the analysis in (48) refer to? I think that the answer we must give is (53.b). This shows once again how the simple structure with only one occurrence of p fails to handle the counterfactuals with their special implications. For (a) we shall need to make use of the analysis we used with the deontic items, which will give us:

(54) ASS - M Neg Past - he marry Anne & Past - he marry Anne

Once again there is 'negative tension' which explains the special 'remote modal + Perfect infinitive' structure.

However, because of the fact that should, ought to and could seem not to be used in epistemic counterfactuals widely, we cannot set up a full system like that for the deontic area.

We should, however, look again at (41) with would. Can we find negative tension here? That is, should we modify the analysis presented in (43.b)? This would give us:

(55) ASS - WP Past - he marry Anne & Neg Past - he marry Anne

But it is more difficult to produce such a modified structure
Passing on to cases with 'willingness' would, we find the same phenomenon. Taking an example like:

(56) I would have helped you if you had asked me to we can find negative tension, whether we interpret this as willingness or insistence (to take Leech's, 1969, dual or inverse pair). The simple analysis for (56) is:

(57) \text{ASS - Nac WD Past} - \text{I help you}

where WD stands for the decision meanings of will and would. But looking at the more complex analysis we have:

(58) a. \text{ASS - Past WD - I help you} & \text{Neg Past - I help you}

which we can gloss as:

(58) b. I was willing to help you but I didn't help you

So, though we have not given full details for will and would, we can see that they fit into this part of the modal system in the same way as the other verbs. It should also be pointed out that French would use a Past Conditional in all the cases examined, something that we have also been led to expect by previous analyses.

7.4.7. Non-past (deontic) constructions

In the tables we looked at examples involving past time. This was in order to show clearly that the remote modals are often used in counterfactuals. But we could look at non-past cases and find similar results. If we take:

(59) You should tell the truth

we can see that this is ambiguous and that the ambiguity is linked to the time reference. Here it is reasonable to
recognise a distinction between the present and the future. In one case (59) is a general statement of advice or obligation to tell the truth and in this case is likely to be counterfactual, the hearer having been shown to be a liar. In the other case, the hearer may have asked for advice as to what to do in a future case, for instance when questioned by the police about the activities of a criminal friend or relative. In the first case we have counterfactual obligation and in the second advice. Once again, the analysis:

(60) ASS - Nac 0 - you tell the truth
is possible for both interpretations, but the first reading (the counterfactual one) could be analysed in a way similar to that used for the past time examples, giving us:

(61) ASS - 0 - you tell the truth & Neg - you tell the truth
We could, if desired, specify a time difference between (60) and (61) but this is hardly necessary, since it is clear that the string following the & in (61) must be tensed as Pres or Past, and the tense/time in (60) is best left unspecified, since we also have general statements of the sort:

(62) People should always tell the truth

7.4.8. Summary

I shall not trouble the reader with further elaborate tables illustrating the analyses for counterfactuals which are not past time. The analyses differ little from those already given, since it is only the time markers that need to be changed. My main point in this discussion has been
to show the double derivation of the remote modals in English and the Past Conditional forms in French. These forms derive:

**EITHER** from a modified force applying to the non-remote equivalent, so that advice, realised by *should* and *ought to*, is to be viewed as modified obligation,

**OR** from 'negative tension', as presented in this section.

The English items are different from the French ones in that verbs other than modal verbs and, perhaps, the verb *to be*, have lost in the course of time their remote = subjunctive uses, except in cases like *if*-clauses, after *I wish*, etc. This has led to the following sounding archaic:

(63) Another step and I had fallen

We would now say:

(64) Another step and I would have fallen

In French the Past Conditional is quite separate from the other compound tenses in form and sense.

7.5. GENERAL COMMENTS ON THE TABLES

7.5.1. 'QU'

*So far*

These tables only use the SQL 'ASS'. On the whole, the same items are used in questions as in statements, so that we do not need to give the full tables for 'QU'. But some points do need to be treated.

First, we should look at the pair *can* and *may* in their epistemic senses. We saw in section 2.12.4. that if we take the positive rather than the negative forms of these two modals then there is a case for saying that they are almost in complementary distribution, *can* being used in
questions and **may** in statements, so that the two following sentences are not as acceptable if one modal verb is substituted for the other:

(65) He **may** be lying  
(66) Can he be lying?

It follows from this that occurrences of the symbols QU - M - p will normally be realised in English as **can**. Unfortunately, things are not as simple as that. The frame we have used in the tables is - **take the bus**. Is it possible to interpret:

(67) Can he take the bus?  
as meaning 'is it possible/conceivable that he takes the bus'?  
It sounds better as:

(68) Can he really/actually take the bus?

but even here the logical possibility reading is somewhat forced. This sense of **can** only occurs more easily with Continuous or Perfect infinitive. Certainly, none of the following sound very easy to read as having a logical possibility rather than a capability or permission sense:

(69) Can she work in the centre of town? (op. can it be that ...)

(70) Can they live in a large house?  
If anything, **may** sounds slightly better here. Clearly our system does not and cannot aim to handle this kind of restriction. All the examples used sound acceptable, if a little heavy, with phrases like **Is it possible?** or **Is it conceivable?** Similar restrictions appear to work in French, where a straight **peut-il?** is barely acceptable, but where **se peut-il que?** is a great deal more so.
These facts may be part of a wider phenomenon. Examples like:

(71) Must he be lying? (cp. Must it be that ...)
(72) Doit-il mentir?
are difficult to interpret in an epistemic sense. (71) is quite acceptable if we begin it with why?, but that would imply a previous statement from the hearer. By contrast:

(73) Need he necessarily be lying?
is quite acceptable. So is:

(74) Should they be here soon?
in the sense of 'do you think it probable?' Clearly, there are some rather specific distinctions to be made between epistemic statements and their parallel questions, the second being rather restricted. I do not pretend to understand what these restrictions are, I would only like to speculate that such restrictions are likely to be part of a general set of phenomena, not only applying to English and French, which lead to a position in which a speaker can make any kind of modalised statement that he likes, but in which questions are more likely to be of the form:

(75) Is it the case?
or:

(76) Do you think it is the case?
rather than any question using a modal item of any kind. Until this is made clearer, there is little point in restricting the formulae that our system produces.

7.5.2. Enough distinctions?

We noted (7.2.4.) that one disadvantage of our system
is that it does not allow us to link the 'capability' and 'permission' senses of can/could. This is a natural result of our decision to make no distinction in the syntax between epistemic, deontic and non-modal uses, but to insist on them in the semantics. This particular decision is further justified by the fact that there is no strong equivalent to any abstract element ABLE which would allow us to set up a system with a pair of dual or inverse items in it like the pairs M/L and P/O.

In fact, rather than deplore our decision to separate these distinct senses of can/could, we should rather ask ourselves whether the system proposed makes enough distinctions, in particular between the two main areas of interest, namely the deontic and epistemic. If we take the well-known Boyd & Thorne (1969) example:

(77) They must be married

we can see that there is a clear distinction to be made between the kind of gloss we can give for each interpretation. The deontic reading can be glossed as:

(78) a. I (or society) oblige them - they (actively) become married

while the epistemic reading gives us:

(78) b. Evidence obliges me - I state - they (already) be married

Quite apart from the time differences between (a) and (b) which are typical of deontic/epistemic ambiguous sentences, there is a clear difference between the role which the surface subject they plays in the two readings. In the epistemic reading, the surface subject is not involved in any way in
the obligation, which is on the speaker to state something. In the deontic reading, by contrast, the surface subject is involved. This brings us back to the kind of examples we discussed when treating the higher verbs approach (see sections 5.2. to 5.4.). One of the objections to this approach used by its critics was that, in passive sentences, as in some others, the person who is obliged to do x is not specified. As a result, an analysis which insists on specifying the 'obligee' in deep structure runs into difficulties. If we analyse the deontic reading of (77) in the way that Newmeyer (1970) proposes and then rejects, that is:

(79)

```
S
   /\           VP
  /  \         /
NP   VP       /
   /   \      /
[+ pro] V    NP NP
   /  \    / \
must  they S
   /  \      /
   NP      VP
     /    /
   they  be married
```

there is no particular problem. But if we try to do the same for:

(80) Dogs must be carried (Notice on an elevator)
(81) Medals and orders should be worn
(82) Highland dress may be worn

There are problems. This is not just because of the passive form, since, as Huddleston points out (see 5.2.2.), cases like:

(83) The cat must stay out of the living room
also leave it unspecified who is to carry out the action.

This lack of specificity is actually systematic, since (80),
for instance, does not mean that everyone using the elevator must carry a dog! Nor does (81) entitle me to award myself the V.C. It seems as though we must leave it unspecified, even in our semantic analysis, who is to carry out the action, since it would be impossible to give a consistent account which suited all cases. There is perhaps a way to distinguish the deontic and epistemic cases, nonetheless. This was suggested by Professor Lyons in his seminars (1974). He pointed out that since the deontic area was concerned with actions, it would be reasonable to make this clear by using the symbol $\times$, rather than $p$, for the propositional part of the analysis of a deontic sentence, (or of the deontic reading of an ambiguous sentence). This symbol $\times$, standing mnemonically for 'action', is intuitively acceptable. It means that the 'real' subject of the verb, even if left unspecified, must be a human agent. This would also allow us to account for the fact, noted in section 2.14., that infinitives other than the simple one are rare in deontic sentences, whereas they are fairly free in epistemic examples. This would be explained by general restrictions resulting from a theory of action.

So we shall accept the suggestion of the element $\times$, and say that deontic items like $p$ and $q$ 'bind', or 'have in their scope' actions, while epistemic items 'bind' propositions. The tables can then be modified quite simply by replacing $p$ by $\times$ where appropriate. (For the time being we shall keep our $p$'s, simply because they are familiar.) Given this modification, there is no need to change the analysis of the deontic items. The extra
notions which involve agency (see Antinucci & Parisi, 1971) and which Anderson (1971) labels 'complex' will then be a function of the fact that only an agent (human) can execute an \( \alpha \). (See also Halliday, 1970: 338, on the 'tenseless'-ness of the 'process' in modulation (i.e. deontic) cases.)

7.5.3. Epistemic/alethic

A large number of points deserve comment which relate to our abstract analysis, as realised in the various tables we have been looking at. I shall remark on the most important of these.

First of all, there is a theoretical point to be discussed further. This concerns the notions 'epistemic' and 'alethic' which were originally discussed in the initial definitions (p. 14) and which have been remarked on in the course of our study of the background to various abstract analyses, (see, for instance, 6.4.2.). We have said in our various discussions that we were using symbols borrowed from logic in a way different from logicians. We can show that this is so quite simply through the notion of scope. Normally, in logic, a symbol like \( M \) or \( L \) would only appear in the scope of other items in cases like these:

\[(84) \quad \sim M p\]
\[(85) \quad M M p\]

that is to say, in cases where the preceding operator is either that of negation or another modal operator. Our use of these symbols is different in that it allows them, in fact wishes them, to occur after the SQL's. There is a clear distinction to be made between the logician's \( M p \) and our \( ASS - M - p \). When a speaker asserts something
he does so because of his knowledge of the world. In the
case of modal notions this knowledge is imperfect, which
leads to the use of a modal verb or semantically related
item in the surface. It is this which justifies the use
of the term 'epistemic' which has to do with 'knowledge'.

Karttunen (1972) suggested using items like $K_a p$ rather
than the traditional modal operators. This would be
glossed as something like: 'there is knowledge in $a$ that $p$'
where $a$ refers to a human being. $K$ would then replace $L$
as the stronger of the two main modal operators when dealing
with human affairs and knowledge rather than with abstract
logical systems. Karttunen is criticized by Groenendijk &
Stokhof (1975) for these ideas. They say that 'A knows
that $p$' implies that $p$ is true, since know is a factive
verb, and that this is inappropriate to the use of modal
ideas which are never factive. Their definition goes as
follows (1975: 88): 'may $p$ is true iff there is a possible
world in which the conversational information is true and
in which $p$ is true'. They have a similar analysis for
must $p$.

Just what the best definition for ideas like logical
and practical possibility is, is a question for which a
whole thesis would barely suffice. I shall not dwell on
this, but simply say that my use of $M$ and $L$ is such as to
allow them to be the abstract representations of real
language items like may, devoir, etc. Any other inter-
pretation involves us in a different kind of system from the
natural language one.
7.5.4. Link between verbs and other items

One question should be dealt with, however, and that is the lack of 'match' between items similar to may/pouvoir and those similar to must/devoir. Native speakers can easily see that there is case of near-synonymity between:

(86) a. It is possible that John likes Mary
and:

(86) b. John may like Mary

and similarly for parallel examples in French. But where is the adjective which is the near-synonym for must or devoir? A number of candidates present themselves, among them certain, highly likely, highly probable, éventuel and so on. None of these fits very well. Casual questioning of native-speakers for English has so far produced a mild preference for 'as far as I can tell' or 'to my best knowledge'. I am not sure just how far even these can be considered as paraphrases for must. In French the notion of 'éventualité' has been mentioned by my informants, but seems to be a general term, not relating specifically to devoir, but rather to the whole meaning area of epistemic notions. Huot (1974) uses two terms, often conjoined, 'probabilité/futur'. As we mentioned above in section 6.6.3, the term 'probable' and also the term 'likely' are best used for the range on the scale which we represented by

\[ x > 50 \text{ percent, when they are not used to refer to the scale itself, as in 'scale of likelihood'}. \]  

So it seems that there is no good near-synonym for must and devoir, only a number of terms which can be used to explain what one is talking about, like 'certainty' must used to mean
'epistemic' must. Why this should be is a mystery to me. It does, however, fit in quite well with what seems to be a general fact about this area (see Lyons 1977: 801), namely:

the weaker terms among the epistemic modal items are more easily linked to other items in their respective languages than the stronger terms.

We can see this easily by looking at can and pouvoir. To start with, we have already called can a 'link' modal (see section 4.1.4.) because it is clearly 'linked' to its historical senses which are in the non-modal area. The same is true of pouvoir, which can be used epistemically, deontically, (both performatively and constatively) and non-modally. If we look at the word possible in either language the same result emerges, and possible is easily recognised by native speakers as being a near-synonym to can and pouvoir. But if we take the stronger items it is more difficult to link them to other items in their respective languages. Devoir, at least, is still linked to the clearly non-modal sense of 'owe money'. But it has no equivalent to 'capability' pouvoir in which the structure would be with a following infinitive. Must, however, is completely isolated, since it has no derivatives, nor even a remote form, as it is historically one itself. It is the 'most modal of all the modals'. It would be interesting to see whether the principle enunciated on this page works for other languages outside the I,E. group.
7.5.5. Case relations

We have not referred to case grammar in our discussions, but clearly the distinction between deontic, epistemic and non-modal cases can be discussed in such a context.

The main distinction to be made here would be between the epistemic cases and the rest. Since we interpret:

(87) You may be making a big mistake

as:

(88) It is possible - that you are making a big mistake there is no case relationship between the surface subject you and the modal may. Any case relation that you enters into in such cases will be that of the clause where it occurs in an analysis like (88). If we analyse the it is possible so as to include the speaker, giving something like:

(89) Evidence permits me - I say - ...

then we could, no doubt, discuss the appropriate cases in which I (the speaker) is to occur in such sentences as (87). It appears twice in (89), once as object and once as subject. However, we will leave the epistemic cases and concentrate on the others, since (89) already includes the word 'permit' which is relevant to the deontic area.

In this deontic area we have two main types of sentence, the performative and the constative. The constative deontic sentences, in their turn, are closely related to the non-modal cases like 'capability' can and pouvoir and 'willingness' will. For the performative cases we can make use of the words 'empower' and 'enable', and also 'oblige', which we have already used as the label for must and devoir.
When a mand is issued, what happens is rather like a moral laying-on-of-hands. In the case of empowering, the moral effect is like that of the removal of a physical obstacle, expressed by the word 'enable'. In the case of obligation, moral power is used in a similar way to that expressed by the word 'enforce'. With these notions, the physical and the moral are linked. So, in the performative cases, it is as though something passes from the issuer of the mand to the receiver of it, whether the receiver is specified or not.

In the constative cases, on the other hand, the power or obligation has already 'passed over', and the person or persons concerned are already 'enabled', 'empowered' or 'obliged'.

So, in the one instance we need a case which involves movement and in the other one which involves a static relationship. The only question then left to be decided is whether mands are to be thought of as 'moving to/up to' their receiver, or as 'moving into' him. Perhaps we cannot decide this question. Certainly, other items in English appear to justify both points of view, since we have the notion of 'laying on of duty' and of 'having the power', the first of which sounds as though the obligation remains outside the person and the second of which sounds as though the power resides in him. Leaving aside this problem, we need a case frame which expresses the idea of authority passing from a mand-issuer to a mand-receiver. This will presumably include the notions 'causative' and 'direction' among others. Unfortunately the seminal work in this field,
Anderson (1971b), does not give us any indications of how modals are to be treated.

The notion of case is important for the distinction between may and can. These are the two which lead to long discussions by a number of writers, including Leech (1969), largely because of the ambiguity of the word 'possible'. We have already discussed this question elsewhere, (see, for example, section 2.12.4.), so here we only need to stress that can has kept many of its original uses, unlike may, and so is often concerned with the notion of 'enabled'. This even extends to 'characteristic' can, which, means not only 'characteristically does' but also 'has the character of'. This sense of some power, ability or characteristic 'residing in' the surface subject goes right through all the senses of can, so much so that it even affects the epistemic sense, hence possibly the restrictions on epistemic can discussed elsewhere, (see section 7.5.1.). Once this is made clear, and once it is seen that may is only involved with case in its permission sense, many of the problems involving can and may cease to appear problematic.

To return briefly to the epistemic senses, we gave in (89) an example of the sort of gloss that links these senses to the deontic ones, since it uses the word 'permit'. For must and devoir we would have 'oblige'. If this analysis is accepted, then we could give the same case frames for the link between evidence and the speaker as we would in the deontic cases for the link between the issuer and receiver of the mind.
7.6. FINAL REMARKS

The tables given in this section, based on an approach developed from Seuren (1969), are effective in the way intended. That is, they use abstract items, ordered in certain ways, to present certain facts about English and French. They allow us to compare things both between the two languages and inside each of them, which a purely syntactic approach does not allow us to do. In this way, may is compared not only to pouvoir, but also to perhaps, maybe, be allowed to, etc.

Furthermore, being abstract, the tables' usefulness does not stop here; they could also be used to study other languages, and it would be interesting to see to what extent languages outside the Indo-European group have items which fit into this system, or to what extent the system would need to be modified in order to accommodate them.

To be more specific, we can say that the tables allow us to present in symbolic form most of the important facts about the two languages that we noted in part A of this thesis. Examples of this are as follows:

(i) the absence or presence of time-markers before the modal operators permit us to show the wide range of tenses used for the French forms, compared with the limited nature of the English forms and the need to use suppletive items,

(ii) the positioning of the negative operator before or after the modal operator permits us to demonstrate a number of points, including the difference between the two main meanings of may not and the lack, in the French system, of a real equivalent for needn't.
(iii) the introduction of the modifying operator $\text{Nac}$ allows us to handle certain uses of the remote form in English and of the Conditional in French,

(iv) $\text{Nac}$ also gives us further justification for considering should and ought to to be the remote equivalents of must,

(v) the placing of Past or Parf before p and after the modal operator in epistemic cases allows us to show how French prefers to use tenses of the modals where English uses a Perfect infinitive,

(vi) the notions 'performative' and 'constative' are handled in an intuitively satisfying manner by allowing for the item 't0' in the SQL to 'bind' the modal operators directly in performative cases, but not in constative cases,

(vii) the use of SQL's allows us to express neatly the notion that there is no such thing as 'negative modality' while still allowing for the different positions of negation, as required in (ii) above, (but see 7.2.8.).

It is important to stress what the tables given do not handle. The items used in the tables are in dual or inverse pairs and are organised in such a way that 'Negative + Modal Operator' is usually realised differently in the surface from 'Modal Operator + Negative'. Therefore they cannot be applied to surface phenomena for which such inverses are difficult to find or for which a change in the placing of the negative operator makes little or no difference.

Examples of such phenomena are not hard to find. We have already mentioned, (see 2.12.5.), that for 'capability' can there is no inverse, so that a system involving an item
ABLE has little point to it. The other main area concerns will and would. Though it is true, as Leech (1969) points out, that there is a way of finding an inverse relationship here, so that 'not willing' is equivalent to 'insist not', there is little use in establishing a system, for a number of reasons. First, as we showed in section 2.10.6., the decision as to which of two analyses is appropriate, (e.g. 'willing not to' or 'not willing to'), depends on the context, and is therefore a question of the illocutionary force of utterances containing won't and wouldn't rather than of any basic meaning that these forms have. Second, the distinction between the 'strong' and 'weak' pair of 'insistence' and 'willingness' is not lexicalised in the verb system, either in English or French, and there is little point in setting up a system to explain non-existent surface distinctions. (There would be a point in doing so if we were analysing a language which did lexicalise the difference). Third, though there is a difference in the deontic area between the nouns and adjectives 'insistence/insistent' and 'willingness/willing', there is no such distinction in the epistemic area, since we cannot find a 'strong' equivalent for 'predict', for example.

But this very restriction on our system, the fact that it does not lend itself easily to use for the modals will and would, or their French equivalents, or shall, points more forcibly to its great utility in those areas it does cover. It also points to another distinction to be made within the area of the modal verbs in English, namely that
between **will**, **would** and **shall** and all the rest (Halliday (1970: 329, 332 and 340) also distinguishes **will**/**would** from the rest.) For the French verbs, we had already (see section 3.7.) made the distinction between **devoir** and **pouvoir**, the main verbs used in the tables, and the rest. To be general for a moment, it does seem as though there is something 'special', at least for the Indo-European languages, about the items 'logically possible/necessary' and 'permitted/obligatory'. It is not through pure chance that philosophers and logicians have explored this area, rather than one involving willingness, prediction and so on. The languages concerned have lexicalised the differences in this area, both as between 'strong' and 'weak' items, and, to a large extent, as regards the two main types of negation.

All this leads to a general conclusion about the tables. Being abstract, they cannot, and were never intended to handle matters which are in the domain of context and of illocutionary force. This is why we cannot usefully set up a system for **will** and **would**, where any distinctions we might wish to make are not lexicalised, whereas we can set up such a system for **can**, **may**, **must**, **need**, **ought to** and **should**, where the differences are lexicalised. For French, the same reasons are also valid, since there too **devoir** and **pouvoir** can be fitted into an abstract system, while the other items, including the Future and Conditional tenses, cannot.
PART C

SECTIONS EIGHT AND NINE
SECTION 8

DISCUSSION OF THE FORM AND CONTENT OF A PEDAGOGIC GRAMMAR OF THE ENGLISH MODAL VERBS
8.0. CONTENTS OF THE SECTION

This section discusses both general and particular questions relevant to the writing of a pedagogic grammar.

8.1. GENERAL

8.2. LIMITATION OF CONTENT, SELECTION

8.3. DESIGN OF THE PEDAGOGIC GRAMMAR

8.4. TERMINOLOGY, METALANGUAGE, THE MAIN DISTINCTIONS

8.5. ILLOCUTIONARY FORCES

8.6. THE TERM 'FUTURE'

8.7. THE USE OF ABSTRACT FORMULAE
We shall here discuss the kind of criteria that are relevant in establishing the form and content of a pedagogic (or pedagogical) grammar of the modal verbs of English. But first we need to discuss the term 'pedagogic grammar' itself.

The principle sources for the term ‘pedagogic grammar’ are Corder (1973) and Allen (1974). It is clear from discussion in those sources that there is more than one kind of pedagogic grammar. Such a grammar normally involves (Corder, 1973: 154): *the presentation of information about language for teaching purposes.* However, we still have to decide whether our 'audience', the people whom such a grammar is aimed at, are native speakers of the language being taught, non-native speakers, and whether they are teachers or learners. We shall assume here that our 'audience' consists of native or near-native speakers of English who teach it (or are training to teach it) as a foreign language. As such, a pedagogic grammar is still a 'first-order application' of linguistic theory in the sense in which Corder (1973: 145) uses the term. Such a grammar differs from a 'linguistic' or 'scholarly' grammar in both presentation and scope, as Corder points out (op. cit: 330-1), quoting Sweet as having been one of the first to see that such a distinction had to be made.

Allen (1974) adds further details to the above picture of what a pedagogic grammar is. At a first stage one has to evaluate scientific grammars and extract from them features which are potentially useful for language teaching. The pedagogic grammar presents these features in an
appropriate form and therefore occurs at (Allen, 1974: 61) an *interlevel between scientific grammars and language teaching textbooks, an area of applied linguistics where we aim to establish a pedagogically oriented statement of the linguistic facts as a preliminary to the construction of actual teaching materials (Jarvis 1971).* The writing of pedagogic grammars is therefore part of *methodics* rather than of *methodology*, as these terms are used in Halliday, McIntosh & Strevens (1964).

A pedagogic grammar is therefore not a set of teaching materials, though one hopes that a good one would help in the writing of such materials. It is neutral on the question of how learners form mental grammars from teaching materials (by listening to the language, written exercises or by other means).

We can perhaps best describe a pedagogic grammar by identifying one. If we compare Leech (1969) with Leech (1971), we see that the second, while containing many insights from the theoretical studies of the first, is clearly a pedagogic grammar. It presents a selection of relevant facts rather than all possible facts; it *pre-supposes no specialist interest in linguistics* (Leech, 1971: v, vi). Therefore it is not a theoretical linguistic work. On the other hand, it includes no exercises or suggestions for teaching materials, so that it cannot be considered in any sense a textbook. We have mentioned in earlier sections (e.g. section 2) that we do not always agree with Leech, but the outline plan of a pedagogic grammar of the modals which we shall present in section 9
clearly owes much to the parts of Leech (1971) which deal with
the modal verbs, (especially his chapter 5).

In contrasting Leech's two works, we are contrasting,
as we said, a theoretical grammar with a pedagogic one.
The difference between a pedagogic grammar and a textbook
can be also seen by looking at one of the latter, for
instance at Wakely & McArthur (1974), which also owes much
to theoretical linguistic studies, but which is different in
form from a pedagogic grammar; not only does it include
exercises, but also it presents the 'facts' in a way that
assumes even less initial knowledge than does a pedagogic
grammar of the kind we are describing, which is aimed at
teachers and trainee teachers who already have a command of
English and a good level (one hopes) of general education.

The pedagogic grammar therefore makes information
available to teachers. It does so in what Sharwood-Smith
(1977) calls a 'concentrated' form, rather than the 'extended'
form which is aimed at the learner and includes practice.

8.2. LIMITATION OF CONTENT, SELECTION

For a pedagogic grammar a certain amount of selection
takes place. The writer has to decide what it is important
to include, to leave out, to mention in passing, in footnotes,
etc. First of all, he has to decide what variety of the
language he is describing. In my case, this will be the
variety used by educated speakers of British English,
particularly the southern English ones. Uses common
elsewhere will be mentioned in passing, if important, such as
the epistemic use of have to in American English.
Certain other decisions result, more or less automatically, from the decision on the question of which variety is to be described. Since we have chosen educated British English, the rule \textit{I/we shall vs. you/he etc. will} has to be mentioned, since it is certainly observed in written English, and also to a lesser extent in spoken English in that variety. A similar grammar for American English might possibly decide to give smaller importance to such a rule.

Questions of frequency are important, too. The work at present being done at the University of Lancaster, as expounded in Leech & Coates (1977a and b), is producing interesting results. One finding is that, in the American (Brown University) corpus, \textit{ought} is very rare, while it is quite common in the British corpus. Again, this might lead to different weight being given to \textit{ought} in a pedagogic grammar of American, as opposed to British, English.

A rather more difficult question concerns the role of historical facts about the modals. Though we are aiming to describe the situation in the modern language, we have to remember that actual or prospective teachers of English have usually read texts from different periods as part of their undergraduate courses and may well be involved in the teaching of such texts to their own students and pupils. Should some historical account be given? I propose only to include such facts as relate to fairly recent changes, and then only to treat them in footnotes; an example of such a fact would be the use of \textit{must have} where the modern language would prefer \textit{would certainly have}, as in 'Another
step and she must have fallen'.

Questions of indirect speech have been dealt with only summarily in this thesis and will not be mentioned here, though they do present a teaching problem. But, this teaching problem is part of a wider one concerning reported speech in general.

Further, we shall not concern ourselves with questions of basic morphology or of syntax. It will be assumed that these questions are satisfactorily dealt with elsewhere.

Of course, the membership of the group of modal verbs, discussed in section 1, does pose a problem. As a result, teachers may be uncertain as to what should appropriately be included in a syllabus. However, our purpose here is not to make suggestions for the construction of syllabuses but to present the main points of the whole area. As a result, questions like 'Should we teach have to in an epistemic sense?' are not within the scope of this part of the thesis, though remarks like 'have to is used in an epistemic sense in some, but not all, varieties of English, but is understood when so used in all varieties' are relevant here.

8.3. DESIGN OF THE PEDAGOGICAL GRAMMAR

8.3.1. Decisions to be taken

It is difficult to know what design exactly a pedagogical grammar of the modals should take (its lay-out, the order of items, etc.), since this to a large extent depends on more general decisions. Normally, we would expect such a grammar to be part of a larger one, for instance of the verb, as with Leech (1971), or of the whole of the grammar of English, as
with Leech & Svartvik (1975). The aims and manner of presentation of the whole volume will then to a considerable degree determine the 'shape' of the description of the modals. There are also, of course, questions of length. The two works just cited are good examples of varied approaches. Leech (1971) tends to proceed from form to meaning, and then to make more general comments at a later stage, whereas Leech & Svartvik (1975) prefers on the whole to proceed from some functional, communicative heading and then to discuss the forms which are used to realise the various ideas or emotions which fall under that heading. Naturally, a large number of the facts mentioned are the same in both works, but they are given a rather different angle.

8.3.2. Proposed order

We propose (see section 9) to present the general meaning-types at the outset. This would have a particular advantage in a grammar which was functionally based, or which took communicative ideas into account in that it would allow the main divisions to be linked to more general facts. This is what is done in Leech & Svartvik (1975), where the epistemic cases are linked to the notions of truth and falsehood.

A large part of our pedagogic grammar will do what other works do, namely present the most important meanings of the individual modals. However, since the notion of the basic meaning divisions is constantly borne in mind, the arrangement of the items will be such as to allow the divisions to be
clearly pointed. Thus, for instance, besides giving the main senses of *must* we will group *must* with *should* and *ought to* and also with *need*. A similar pattern will be used in contrasting *can/could* and *may/might*.

8.3.3. Main points

In this way we shall attempt to bear three points in mind:

(i) the need to group the meanings of the modals under the main headings

(ii) the need to present the main meanings of individual modals in a fairly small space, though not necessarily all at once for each modal

(iii) the need to group the modals together; for instance the 'strong' modals, (*must, should, ought to* and *need*) could be separated from the 'weak' modals, (*can/could* and *may/might*).

We should exclude the discussion to be found in section 5, which traces the development of the higher verbs approach from a Chomskyan syntactic approach. This merely serves as background to the later discussions of part B, to be found in sections 6 and 7.

The main points to be used from part B of the thesis will involve the combination of a number of facts as presented in our formalisation in section 7. These facts concern mainly the use of more abstract ideas, such as obligation, logical possibility, etc. as combined with various time markers and with negation to give a whole range of surface forms, including those which have truth value implications of one sort or another, in particular those using the Perfect infinitive in English.
This procedure is a progressive one, in that it implies the presentation of a number of separate points followed by their linking in a more systematic way that attempts to connect them. Such an approach should, if successful, also allow us to show the link between items we have chosen to study, in this case the modals, and those other items, such as sentence adverbs, etc. which have similar meanings.

(See 9.1. for a fuller outline plan.)

8.4. TERMINOLOGY, METALANGUAGE, THE MAIN DISTINCTIONS

 Having said what we are NOT dealing with, we can move on to the positive side of our list of relevant items.

8.4.1. Metalanguage

Although, as Leech (1971) says, a pedagogic grammar does not presuppose a knowledge of linguistics, we need some technical terms, a metalanguage, as in any other grammar book. Even if we decide that a term like 'epistemic' is too technical for the average consumer, we shall need some term to replace it if we are to present the 'deontic/epistemic' distinction in our grammar. (See also Sharwood-Smith, 1977.)

8.4.2. Non-modal, deontic, epistemic

It is important to make the distinction between the three main meaning types, since it gives the teacher or advanced student a method for dividing up the whole area; it makes the whole subject less amorphous, and allows it to be intellectually grasped with more ease, just as with any other subject which seems at first too vast ever to be comprehended.
However, the actual terms used cause some difficulty. The terms 'non-modal', 'deontic' and 'epistemic' in an account of the modals for the non-linguist might seem too technical. If they were used they would have to be carefully defined. There are other possible terms. For 'deontic' I suggest 'authority'; all our notions like 'permission', 'obligation' and so on, involve authority in one way or another. Another possible candidate is 'influence', since the illocutionary forces of deontic modals are often things like 'urge', 'advise', 'suggest' and so on. Which of the two terms 'authority' or 'influence' we choose will depend on how much we wish to stress the various illocutionary forces rather than basic meanings. I prefer 'authority', particularly since it will allow us to distinguish between 'speaker's authority' and other kinds when we come to discuss the 'performative/constative' distinction.

With 'epistemic' it is more difficult to find a satisfactory candidate for our pedagogical grammar. 'Estimate (or estimation) of how true something is' is accurate but unwieldy. Perhaps 'truth-value' is not too technical. Alternatively, we could use 'confidence-level'. It will have to be made clear that it is normally the speaker's estimation of truth value that is involved, (or, in questions, the hearer's that is requested). But this problem also arises with the 'performative/constative' distinction.

For the third meaning type we can perhaps keep the term 'non-modal'. It will be made clear that the meanings that make modal verbs (or 'modal items') special are the deontic
and epistemic ones. Other meanings are then not special and can be labelled 'non-modal'. This assumes that the term 'modal verb' is being used in the description. If, for any reason, we wish to avoid this term, some other innocuous term, such as 'descriptive', will be needed.

If we proceed in accordance with the terminology described above, we shall talk of 'authority' uses, 'truth-value' or 'confidence-level' uses and 'non-modal' uses of 'modal verbs'.

8.4.3. Performative and constative

We now move on to the important distinction to be made between 'performative' and 'constative'. It is essential to remember here that:

(i) deontic uses can be either
(ii) epistemic uses are always performative
(iii) non-modal uses are always constative.

Depending on the detail our account goes into, we may give all these facts, or else simply insist on the distinction inside the deontic area; it is certainly this particular distinction which needs to be stressed.

For the performative cases, the term 'speaker's authority' is appropriate in the deontic area. The word 'speaker' expresses the notion 'performative' and the word 'authority' has already been used for the deontic notions. It is slightly more difficult to find a satisfactory term for the constative deontic cases. 'Reported authority' or 'general authority' or 'unspecified authority' would all be possible candidates. In cases like:

(1) We have to be in by 12.00. The headmaster said so this morning.
the person who made something obligatory is clearly specified so that 'unspecified' is unsuitable. 'General' is no better, since it also implies a rather vague, unidentified authority. I propose 'outside' authority; it could then be stated that 'outside' refers to someone or some group outside the speaker-hearer pair.

This gives us: 'speaker authority' uses and 'outside authority' uses for the deontic area. It should also be explained that the performative uses are tied to the moment of utterance, whereas the constative ones are not.

8.4.4. Internal and external

This leads us to the 'internal/external' distinction. This is important for verbs like can and will which have uses of both kinds. To take an example, 'capability' can has internal meaning since

(2) Harry can run the mile in 4 minutes
means that Harry has the capability in himself, through innate ability, training, etc. By contrast, 'permission' can has external meaning, since

(3) Harry can use the firm's car
means that someone other than Harry has given him permission to use the car. So the terms 'internal' and 'external' are satisfactory terms for our purposes. The word 'external' might seem a good expression to refer to what we have just decided to call 'outside authority'. It is true that there is some risk of confusion between these terms, but this will be avoided if the word 'outside' always co-occurs with 'authority' and if 'external' is defined at the same time
as 'internal'.

8.4.5. Preterite

The last important distinction that we wish to introduce is that between the past time and non-actual uses of the remote form. But first we have to deal with the expression 'remote' itself. If, as is possible, the idea that this term covers both remote in time and remote in reality seems a little obscure to some readers, we shall have to find something more acceptable. What we wish to avoid, of course, is the word 'past' as in 'past tense'. Again we can find more than one candidate. The terms 'preterite', 'non-present' and 'oblique' all suggest themselves. 'Oblique' has, for me at least, overtones of the Subjunctive. 'Non-present' is still rather close to notions of time. As a result, my choice is 'preterite'. The disadvantage of this is that it takes us back to the notion of 'past' which we have been trying so hard to avoid, since 'preterite' (or 'preterit') comes from praeteritus = 'gone by', 'past'. However, I think it likely that teachers and advanced students are quite aware that historically the past tense forms and the subjunctive forms have come together in English, so that, once they have been reminded of this, the term 'preterite' may be used without any overtones of the sense of 'past time' necessarily interfering with the presentation of the facts about modals.

Once the above label has been agreed upon, we can proceed to use 'past' to refer to time only, though it is best if we always say 'past time' and not just 'past', so that any residue of confusion is dispelled afresh each time.
As for 'non-actual', we can find other candidates for the idea, such as 'hypothetical' and 'unreal'. Both of these would serve. The disadvantage with 'hypothetical' is that it tends to be associated with sentences with if. The term 'unreal' is also often found in this area, since many writers, including Leech (1971:111), use this term in the combination 'unreal conditions'. Since we want a term that covers notions like politeness as well, we would do better to adopt some term not already widely used. As a result, we shall use 'non-actual'. We can then say, for instance, that the 'non-actual use' is employed in 'unreal conditions', thus making a clear difference between the general and the particular. We shall also have to make it clear that 'non-actual' does not mean 'untrue'. Leech (1971: 111 ff.) seems to use the term 'hypothetical' in something like this sense, since he talks of 'negative truth-commitment'. It must be stressed that our 'non-actual' does not have any such implications, though it is employed in sentences with such a truth-commitment, among others.

So here we have the 'preterite' form, which has two main uses, for 'past time' and for 'non-actual' cases. The 'non-actual' use includes polite uses, use in unreal conditions, in hypothetical cases, (like I wish I were clever), and in various other 'less-than-certain' circumstances.

8.5. ILLOCUTIONARY FORCES

8.5.1. General

With illocutionary forces the difficulty is to know how
much to include in our description. A complete account would have to include the illocutionary forces in every context of every modal verb. I shall restrict myself here to a number of cases which I think to be of major importance.

Before beginning, I wish to point out that there are certain pedagogical advantages resulting from the inclusion of illocutionary force in our pedagogical grammar. To take an example, if we say that should and ought to are used, among other things, to urge and to advise, then this involves the teaching, or at least the revision, of lexical items like 'urge' and 'advise', albeit indirectly. This means that a complete account would include, as a by-product, most of the important terms used to denote essential speech acts. This account would not be a systematic one, since this part of the description would take the modals as its starting point, but it would be quite a straightforward task to present a systematic account at a later stage in the description, with cross-references to the modals. Alternatively, the opposite approach could be adopted, with the lexical items first, and the modals later.

I propose only to look at deontic cases, not because the illocutionary forces of epistemic cases are uninteresting; it is reasonable to look at:

(4) It might bite

as a warning, or at the range of forces possible with might from just possible to quite likely, but it is necessary to limit the range of our discussions, and the deontic area seems to me the more important of the two.

I propose to discuss the items concerned under the
following headings:

(i) declarative positive
(ii) interrogative positive.

(Negative items are treated fairly fully in section 9.)

8.5.2. Declarative positive

8.5.2.1. **Must**

My own observations, which may, it is true, be biased by my intuition of what is normal in my own dialect, lead me to believe that **must** is used mainly in the following ways.

First, it is used in notices and official documents issued by some authoritative body to give instructions to the public. These instructions are often general in character, in the sense that they are not directed at anyone in particular, and are often couched in the passive.

Examples are:

(5) **Visitors must first call at the Guard-room**

(6) **Applications must be lodged with the Principal by June 30th**

Second, **must** is used to urge a course of action which is in the hearer's interest or which the speaker thinks to be so. We could call this the 'social' use of **must**, because of its use in polite society in sentences like:

(7) You must call round some time (said to a chance-met acquaintance who turns out to live near the speaker; the invitation may or may not be sincere)

(8) **You must have a slice of this cake**

(9) **You must tell me about it. It does sound interesting**!

In these cases the subject is nearly always **you**, and the force here is very different from that of examples like (5) and (6).
Third, there is a use common in the home between parent and child, in which the child is briskly incited to do what he or she ought to do, as in:

(10) Now you know you must wash your hands before meals

(11) You must get on with your homework, so turn that television off

(12) You must tell me if any buttons come off your shirts. I'm not having you going to school looking like a lout

All this means that what one might consider the central meaning, that of direct obligation from the speaker to the hearer, is in my estimation rare. In the world outside the home, must is only used from speaker to hearer when the speaker feels justified in speaking strongly to the hearer - for instance, when the hearer has omitted to do something. Here we can make use of the notion of 'scale', originating from Diver (1964) and used in Leech & Svartvik (1975). The boss would normally ask a subordinate for a report in ways that did not use must, and must would only appear fairly 'high up' on the scale. We could imagine a graded scale from mitigated to un-mitigated something like this:

(13) a. I wonder if you would let me have that report tomorrow

b. Could you let me have that report tomorrow?

c. I'd like that report tomorrow, please

d. I really must have that report tomorrow

e. You must let me have that report tomorrow

f. You're to let me have that report tomorrow

g. Let me have that report tomorrow, or else!

etc.

Of course, this list is by no means exhaustive, but I think
it is correct to say that must is often avoided as too abrupt. Even when it does appear, it tends to be used in an indirect way, so that (13d) is weaker than (13.e) since the word you is not used.

8.5.2.2. Should/ought to

As we have noted several times, one important function of these words is to advise and urge, as in:

(14) You really should see a doctor
(15) I think you should try and find out more

Another important force of these words is that involved in the expression of opinion. This is closely linked to the 'advise and urge' use, but typically involves subjects other than the hearer. Examples are;

(16) People like that should be shot
(17) The Government ought to do something about it
(18) He should have his head examined

Should and ought to, like must, are also used in notices to the public, though the authority here is weaker. It is difficult to think of (5) being changed to:

(19) Visitors should first call at the Guard-room since this is excessively polite, and the Army would only have itself to blame if the visitors failed to comply.

More likely examples are:

(20) Passengers should proceed through Gate number 20
(21) The hat should first be grasped, firmly but not tightly, in the left hand

But generally, on notices for instance, other formulae are used, as in:

(22) Visitors are requested not to smoke (or 'to refrain from smoking!')
(23) Silence, please!

So the normal forces of *should* and *ought to* concern advice and urging when addressed to the hearer or when concerning things that are in someone's interest, and the expression of the speaker's opinion as to 'world states' that are to be sought after in other cases.

As oblique forms, *should* and *ought to* are used in counterfactuals. Leaving out the cases with Perfect infinitive we can find a number of others:

(24) You ought to eat more
(25) You should at least try to behave politely
(26) She ought to look after herself better

A linked use is that of:

(27) He/you etc. ought to be ashamed of himself/yourselves etc.

8.5.2.3. **Can**

Here is perhaps the best point to stress that *can* is used, among other things, to give permission and that it is distinct from *may* stylistically - or in register - by being less formal and hence warmer. The term 'warmer' is an appropriate one, since it includes the idea of speaking 'with warmth', that is, with something less than anger (or heat). As such, the range of *can* from simple permission to something 'warmer' is easily understood. Thus we have both the following:

(28) Yes, you can take another one if you want
(29) You can go to the devil!

In addition, there is the fact that *can* is used as a mild way of giving orders. In this use it falls somewhere
between the uses exemplified in (28) and (29). Here, besides
the cold use, shown in:

(30) You can go now

(where may with its greater formality might be even more
effective), we can find 'gentler' examples, like:

(31) You can leave that on the table, I'll see to it later

(32) You can forget the details, just give me the broad
outlines

In these last two, may would not be suitable, since too formal
and cold.

The above examples involve performative permission,
etc. We need to stress that can is also used constativelv,
that is, to talk about permission. Although sometimes the
longer form he allowed to is more appropriate, can is also
common, as in:

(33) Yes, I can use the library. They gave me a card

(34) Anyone can go on the beach, not like in some countries
where you have to pay

It is important with can to stress the various uses it has
in the modern varieties of English, since a certain number
of text-books still say that it is unacceptable, or, at the
very least, that may is 'more correct'. Teachers and
advanced students need to know that can is commonly used
and that it is now the normal colloquial informal form.

8.5.2.4. May

Part of the illocutionary force of may comes from the
fact, already noted, that it is often used coldly. The
user, who often says that he is being 'correct', is in fact
insisting on his authority and thereby his distance from the
hearer.
To start with, *may* is used in formal writing and spoken prose with first person subjects to say what the speaker (or writer) feels justified in doing, as in:

(35) We **may** call this use the 'suggestion' use of **could**

(36) I **may** say, in passing, that I find this difficult to comprehend.

*Can* is also possible here, and *may* for once is used constatively rather than performatively in these cases. This is a use linked to others, like *if I may say so*, etc.

Since it is mainly cold or formal, *may* does not have the 'warm' uses that we noted with *can*, like (29), nor the 'gentle' ones like (31) and (32). By contrast, examples like (30) are quite common. Other examples would be:

(37) You **may** go for lunch now, but be back at 2.00

(38) You **may** kiss me

Any woman saying (38) as an initiating statement and not getting immediate compliance would feel justified in expressing annoyance!

8.5.2.5. **Could** and **might**

We identified a 'suggestion' sense for these two items. The main point to note here is that, being remote forms, *could* and *might* are available for use in counterfactuals, though they do not necessarily always have counterfactual force. As a result, the force of a sentence may differ according to the intonation pattern used. This allows a difference between:

(39) a. You **might** tell him? (uttered with rising tone)

and:

(39) b. You **might** tell him, for God's sake!
Of course, this use of various locutions with both strong and weak suggestive force is not confined to these two modals; a similar effect is produced if we vary the intonation in sentences beginning Why don't you...?

8.5.2.6. **Will**

The use of *will* in positive affirmative sentences with performative force is limited to rather special circumstances. Hare (1971: 55) gives as an example of a military (written?) order:

(40) Hare will go to Rome

(40) is a formal order, rather distant, which assumes that compliance will be forthcoming because of the disciplinary structure of armies. *Will* therefore lacks the warmer feeling of instructions issued with items like *must*, *are to*, *you'd better* - or else, etc.

When used with a first person subject, *will* is used to promise, guarantee, etc. This use is not restricted to special contexts like the first. (For differences between *will* and *be going to*, see section 2.12.7.). Whether the promise or guarantee is given willingly or not depends on circumstances, so that we can have both of the following:

(41) Don't worry, I'll see to it

(42) Oh, all right, I'll see to it

It is difficult in some cases to know whether what we have is an example of a deontic or an epistemic *will*. Is it too fanciful to speak of 'assuming responsibility' for truth? Something like this occurs in elaborate instructions like the following:
(43) Go to the bathroom. You'll find yourself facing two wall cupboards. Open the one on the left with the key that you'll find on the window-sill. You'll see a bottle labelled 'Arsenic' on the middle shelf. Could you bring it to me?

The overall function of this is as an instruction, but the individual occurrences of will within it seem to me epistemic.

8.5.2.7. Would

Again, as with will, we have an item here used in promises etc., though this time conditional ones, as in:

(44) I'd help you, if you let me

The 'army directive' use of will exemplified by (40) has no counterpart with would, as we might expect with a remote form which cannot be used in an unmitigated order.

The very common expression I'd like, along with the rather distant I would think so, does not really involve a deontic use of would, whatever the force of the whole locution, but rather an epistemic use. I'd like presumably derives historically from I would like that if I were offered it, though it is difficult to think of this as the origin for I'd imagine. These forms are best treated as set expressions.

8.5.3. Interrogative positive

8.5.3.1. Must

(45) Must you talk with your mouth full?

The force here would be nearly identical if do you have to were used instead. The 'suggestion' is that the hearer's behaviour is unnecessary.

8.5.3.2. Should/ought to

There is no special new point concerning illocutionary
force to be made here, merely one concerning the usage of
the two modals. For a number of native speakers whom I
have consulted, it is difficult to use ought in questions,
since sentences like:

(46) Ought I to report that?

are felt to be awkward, though quite correct. There is
therefore a difference of register in the interrogative which
does not exist in the declarative. Since register is
concerned, even if only slightly, in the question of the
total illocutionary force of any item or set of items, this
point could usefully be included in a pedagogic grammar.

8.5.3.3. Can/could, may/might

All of these modals are involved in sentences like:

(47) Can/could/may/might I see your driving-licence?

As in the case of should and ought to, treated in the
previous paragraph, there are questions of register here.
All of the forms are perfectly polite, but beyond that there
are differences. Can is the most direct form; could is
more tentative; may is rather formal and distant; might
involves both the 'distance' of may with tentativeness
added, making it sometimes sound rather precious.

These modals are also found in other contexts. For
instance, in formal meetings with a Chairman (Chairperson),
we find questions like:

(48) Can/could/may/might I ask if the Committee have
considered this matter before?

However, only the more formal pair seem to me possible if
the phrase with the modal is postposed, so that:

(49) Have the Committee considered this matter before,
may/might I ask?
is correct, but the same sentence with can or could sounds very odd to me. Can, being direct and 'warm' is most appropriate in offers like:

(50) Can I help you?

No doubt we could explain this by saying that the 'capacity' sense is uppermost here, so that may would not be appropriate.

May is quite suitable in cases where the speaker wishes to be formal, which is why we find it in expressions like:

(51) May I say right away that I shall only be touching on one side of this question?

and if I may say so, (though this last is not a question).

8.5.3.4. Will

Here it is important to distinguish between the examples with insistent force and those which are simply requests. This distinction is also made clear in the intonation.

(52) Will you be quiet?

(53) Will you give me a hand?

The punctuation with exclamation or question marks makes it clear which kind of intonation pattern is suitable in any one case.

8.5.3.5. Would

It could be argued that in:

(54) Would you pass the salt?

we have an epistemic use of would, since (54) could be glossed as 'would you pass the salt if I were to ask you to do so?' But this is simply a historical explanation and the force here is clearly deontic, as (53) also shows.

Both will and would also occur in postposed phrases, as in:
(55) Lend us a hand, will/would you?
Here, will can also be used to express annoyance and would can be used to plead, though (55) can be uttered with neutral intonation simply as a request with both items.

8.5.4. Postposition

Some modals can be postposed while others cannot. To start with, we can only postpose modals if what is left can be in the imperative form. Thus, the following are impossible:

(56) *Be so rude, must you?
(57) *Write a report, should you?
(58) *Come and see you, may/might he?

The only cases where postposing takes place are those which are used with the force of requests, peremptory or otherwise. This gives us:

(59) a. Will you be quiet?
    b. Be quiet, will you? (or '!!')
(60) a. Won't you be quiet?
    b. Be quiet, won't you?
(61) a. Would you be quiet?
    b. Be quiet, would you?
(62) a. Can you be quiet?
    b. Be quiet, can you?
(63) a. Can't you be quiet?
    b. Be quiet, can't you?
(64) a. Could you be quiet?
    b. Be quiet, could you?

Postposition is not possible with couldn't and wouldn't.
8.6. THE TERM 'FUTURE'

We now discuss the term 'future', in its different uses. Just how this term is best treated depends on how the pedagogical grammar treats time and tense in general, independently from their connection with modals. We shall assume here that the notion 'future' is discussed elsewhere, perhaps with discussion on will being anticipated, and that there has been some appropriate discussion of forms like about to, going to, on the point of, etc., as well as of the use of the Simple Present, the Continuous Present and other forms to refer to events in future time.

The discussion of the label 'future' as it relates to the English modal verbs will involve three things:

(i) discussion of cases where shall is used rather than will and in what varieties of English

(ii) discussion of the uses of will, pointing out that for some of these reference to future time is not involved

(iii) contrasting will, when it is used for future time, with other items which involve different aspects of the events referred to by the speaker.

Examples would be of the essence here, and discussion would cover the differences between:

(65) a. I think it's going to rain soon
    b. I think it'll rain soon

(66) a. I think I'm going to have a bath
    b. I think I'll have a bath

(67) a. I think I'm going to organise a party
    b. I think I'll organise a party

(68) a. I think I'm going to have a baby
    b. I think I'll have a baby
The main purposes of this section of the pedagogical grammar will be:

(i) discuss the suitability or otherwise for English of the label 'future tense'

(ii) to discuss in some detail actual examples referring in different ways to future events

Clearly (i) is of only minor use without (ii), there is little point in suggesting that labels are unsuitable unless you have something constructive to put in their place. The problem here is that there is not really a 'future tense' in English, but the teacher or advanced learner who reads a pedagogical grammar has not learnt very much if he knows merely that fact; he needs to have some guidance as to how English talks about future events using an appropriate form.

8.7. USE OF ABSTRACT FORMULAE

8.7.1. Complexity of formulae

When we move on to an attempt to make use of some of the formulae presented in part B for the purposes of a pedagogical grammar we run into difficulties. These difficulties arise mainly because of the complexity of some of the formulae.

To give an example: when trying to elicit responses from native speakers of English or French, I often had occasion to ask questions like: 'How do you express "it is not possible that it is not the case that..."?' Such questions usually have the same effect on everyone: they shut or screw up their eyes and repeat the phrase to themselves several times in order to work out what it means; they
then give an answer, often very hesitantly. Clearly strings of words with two negatives are difficult to process. Strings with three negatives seem to be quite impossible to process, and necessitate the use of pencil and paper to work out the meaning by using cancellation: (two 'minuses' equal a 'plus'). Even one negative sometimes creates problems if one asks French speakers to decide whether:

(69) Il n'est pas censé le faire

has as part of its meaning 'on lui a dit de le faire', 'on ne lui a pas dit de le faire' or 'on lui a dit de ne pas le faire', one tends to get confused answers or none at all. It could be argued that this particular question is unfair since n'est pas censé is rather like not supposed to in being extremely difficult to 'pin down' one way or the other, but the fact remains that even one negation seems to cause problems of interpretation or processing in some cases.

If in addition we add all the possible time variations and then move on to the cases with truth-value like should have or a du, we have even greater problems.

Nevertheless, we have to find some system if we are to show the readers of our hypothetical pedagogical grammar how the system works.

We should also perhaps not exaggerate the difficulties of using a metalanguage in a pedagogic grammar. Sharwood-Smith (1977), discussing the use of algorithms, mentions formulae (1977: 16) which have been successfully used in teaching modal verbs.
8.7.2. Suggested simplifications

Let us begin with the first and the last items from the analyses in section 7, that is with the sentence qualifiers and the proposition. The sentence qualifiers can be omitted from any string of items that we present in our grammar, and therefore notions like 'performative links' can be omitted, too, provided that it is made clear (with the deontic examples) when performative cases are involved, and when constative ones. This will mean that in the performative examples no time element will occur, whereas it will for cases like had to. As for the proposition, symbolised in our analyses in section 7 as \( p \), that could be rather too abstract, and is best replaced by actual \( VP \)'s such as arrive soon, pay the bill, tell the truth and so on. It is also best if the same \( VP \) is used for a whole string of examples.

Dakin (1970), while not being a pedagogical account, is a good example of the way in which symbolism and examples can be linked. I shall just give one example here:

(70) John had to stop

\[
\begin{align*}
&\text{I state } S_2 \\
&\text{I state } S_1 \text{ demanded } S_2
\end{align*}
\]

Note that here a number of things are taken for granted. The context of John being a motorist who for various reasons has his 'stopping' demanded or not has been clearly established for a number of examples, not just for one. Also, the time context is past throughout, so that both \( S_1 \) and \( S_2 \) will be understood as containing verbs in the past. We could simplify things even further by omitting 'I state'
for all cases which are governed by ASS, (to use our notation).

If we adopt various ideas taken from Dakin's presentation, we can simplify our description so as to make it digestible as well as understandable. Let us take one string from our analysis in section 7 and show how it can be adapted to our purposes:

(71) ASS – Past or Parf P Pres-p

He was able/allowed to take the bus
Il a pu prendre le bus

We have already said that the SQL (in this case ASS) can be omitted, once it has been made clear that statements are involved rather than questions. The element Past or Parf can also be omitted, once it has been explained that for a certain set of examples we shall be dealing only with (constative) past time cases. The second time marker Pres can be discounted until such time as we may wish to handle cases with be -ing or have -ed infinitives. This leaves us with P and p; the modal operator can be expanded to Perm for the sake of mnemonic clarity and p can be kept constant as 'take the bus' or 'prendre le bus'. The only other item we need for examples similar to (71) is the negative operator, which can be Neg or NOT as preferred. I shall use Neg since it is language independent.

We can now change (71) for the purposes of our pedagogical grammar, giving us:

(72) Perm – he take the bus

He was able/allowed to take the bus

and also, for example, in the same set of sentences:
(73) Neg Perm - he take the bus
    He wasn't able/allowed to take the bus
    He was forbidden to take the bus

(74) Perm Neg - he take the bus
    He didn't have to take the bus

The omitted items, such as *Ab* and the time markers, will only have to be used when the sentences of one sort are being contrasted with those of another, e.g. when contrasting constative and performative permission.

8.7.3. Cases with two occurrences of \( p \)

If, now, we move on to the cases in which we needed two occurrences of \( p \), as when analysing shouldn't have done, for example, we can perhaps continue to borrow from Dakin (1970) the method of presenting the analysis on two separate lines, for the sake of clarity. It might be better if the order were changed, so that, instead of:

\[
\begin{align*}
\text{(75) } & \text{I state } S_2, \\
& \text{I state } S_1 \text{ demanded not } S_2 \\
\end{align*}
\]

we have:

\[
\begin{align*}
\text{(76) } & \text{He shouldn't have taken the bus} \\
\end{align*}
\]

This can be made even clearer if we wish to introduce into our pedagogical grammar the notion of 'negative tension' introduced in section 7. Cases with 'negative tension' can be recognised by the presence of a 'but' before the second sentence, while cases without such tension have an 'and'. Thus, for example:
(77) b. Oblig Neg - he take the bus
    But he took the bus
    (He shouldn't have taken the bus)

(78) Oblig - he take the bus
    AND he took the bus
    (He had to take the bus)

(Once again, we are assuming here that the past time context has been specified before the examples are given.)

8.7.4. Arrangement of analyses

I propose to present the analyses in four groups, arranged as follows:

A. Epistemic: e.g.: Poss - he take the bus
   (He may take the bus)

B. Deontic:
   (i) Performative: e.g.: Perm - you take the bus
       (You may take the bus)

   (ii) Constative, Present or Past: e.g.
       (Pres) Perm - he take the bus
       (He can take the bus)
       (He is allowed to take the bus)

   (iii) Involving two get's: e.g.
       Perm - he take the bus
       AND he took the bus
       (He was able/allowed to take the bus)

Within A it will be necessary to distinguish the various infinitives. Besides these schemata we need various diagrams and tables, especially when summing up a set of facts for a certain area, for instance when relating the various elements like obliged and permitted one to the other via their negatives or when summarising the ways of referring to past time in sentences which include modal verbs and also the various uses of the remote form.
SECTION 9

DRAFT PLAN OF A PEDAGOGIC GRAMMAR OF THE ENGLISH MODAL VERBS WITH ONE SECTION IN FULL
9.0. CONTENTS OF THE SECTION

This section can easily be divided into two parts:

9.1. gives an OUTLINE PLAN of a pedagogic grammar

9.2. is one section, that on negation, in full.

In 9.2. the style etc. is different from that of the rest of the thesis, since we are here talking to a different audience, one not necessarily interested in theoretical linguistics.
9.1. THE OUTLINE PLAN

Introduction

1. The principal meaning-types:

   Authority: this can be linked to other items in English, such as the Imperative and lexical items like order, permit, etc.

   Truth-value or confidence level: this can be linked to the notions of truth and falsehood, and also items like possibly, probably, etc.

Non-modal

2. Here we revise the notion, almost certainly already treated elsewhere in the grammar, that tense and time involve separate concepts. List the main uses of the preterite (polite, counterfactual, etc.) and point out that the Perfect infinitive can be used to refer to past time. This should be brief, since the whole question will be dealt with at length later.

3. Here we point out that certain facts about the modals are handled elsewhere in the grammar, in particular under reported speech, future time, 'subjunctive' should, etc. (But these can be included in any tables which give lists of the uses of the modals.)

Section A

1. The meanings of the individual modals.

   How these are arranged depends to a certain extent on the form of the grammar as a whole, but I propose that the presentation should be by meaning-types and that the modals could usefully be grouped thus:

   must, should/ought to, need, can, could, may, might, will, would, shall
There is no risk of confusion by 'splitting up' the meanings of each modal into meaning-types provided there are tables which give a complete list at a later point.

Negation for each meaning of each modal should be included as and when appropriate. Some preliminary introduction to the essential contrasts should be included, e.g. truth-value cannot (or can’t) versus may not and authority must not versus needn’t.

2. The meaning-types

The facts relating to the three meaning types presented in 1. should be summarised. The notion of 'scales of intensity' can be introduced here and tables drawn up to illustrate them.

Section B

Negation

This question should be summarised:
- for each modal
- for each meaning type
- for the relevant contrasts, e.g. 'possibly not'/‘not possible', including the notion 'internal' versus 'external' negation

Section C

1. The effects of the be - ing infinitive.
2. The effects of change of person, e.g. for shall and will or comparing 'possibility' may and can in affirmative versus interrogative contexts.
3. The effects of change of lexical verb.

All these should be correlated to the three meaning-types, i.e. it should be pointed out how likelihood of interpretation is affected by a change from you must work hard to you must be working hard.

Section D

Uses of the preterite form. The main distinction here
is between:
  past time uses and
  non-actual uses.

The non-actual uses can be further divided in a number of ways, e.g. into hypothetical, counterfactual and polite. Some of these, particularly the counterfactual uses, will be treated again below.

Section E

Talking about past time events, etc.

1. Using the preterite of modals, referring back to D.
2. Using the Perfect (have-ed) infinitive form.
3. Using other lexical items like had to, was able to, etc.
4. A comparison, including any necessary formulae, of the cases with truth implication in the authority (deontic) area, e.g. had to, should have, etc. (If necessary for the sake of clarity this could become a separate section F.)

I have not included above any discussion of how many items other than the small group of modals should be included and where, items such as used to, managed to or sentence adverbs like probably, not necessarily and so on. Whether these are included or referred to in cross-references to other chapters depends on the form of the whole grammar.

9.2. SECTION B OF THE PEDAGOGICAL GRAMMAR IN FULL

(Note that the numbering of sub-sections becomes rather complex from here on, since we are in section 9.2. of this thesis but also have to number in a way suitable to the proposed pedagogical grammar.)
9.2.0. Preamble

In this chapter we shall study various problems of negation as it relates to the modal verbs of English. The chapter will be divided into two main sections: first, we shall look at the individual modals and their negative forms, saying how each is used — this will be to a certain extent a revision of facts mentioned in earlier chapters when we were dealing with the modals individually; second, we shall examine the negatives of the modals systematically from the point of view of a more abstract system, showing how the whole area of negation is covered by the modal verbs of English in their 'authority' and 'truth-value' senses.

9.2.1. The negatives of the individual modal verbs

9.2.1.1. Can

In everyday speech the shortened form can't is most commonly used.

(i) logical possibility

(1) He can't still be living there = it is not (logically, conceivably) possible that he is still living there

(2) She can't have forgotten us = it is not possible that she has forgotten us

When giving the meanings of the modals in Section A.1, we noted that can in its 'logical possibility' meaning normally only occurred in questions. This is not the case for the negative form can't, which is commonly used in affirmative sentences as well.

(ii) permission

Can't is used both for 'speaker's authority' and for
'outside authority', as these examples show:

(3) No, you can't borrow my pen = I do not permit you to borrow my pen

(4) I can't use the official car-park = I am not permitted (have not been granted permission) to use the official car-park

The form can NOT is also heard, uttered with strong stress on the 'not', and meaning 'permitted not to'. It is used when NOT doing something is significant or important. The form needn't has similar meaning, without the same contrastive effect.

(iii) capability

(5) I can't swim = I am unable to swim, I do not know how to swim

(6) He can't lift weights = he is unable to lift, incapable of lifting weights

(iv) sense

(7) I can't hear anything = I do not hear, am unable to hear anything

Here, the sense of can't is often very similar to that of 'capability' can't, as the word 'unable' in the explanation shows.

(v) characteristic

(8) He can NOT be rude = he is sometimes not rude

It is difficult, if not impossible, to find examples of can't here. This particular use of can seems only to be used in 'NOT' stressed the positive.

9.2.1.2. Could

Short negative form couldn't, which is normally used in informal speech.
(1) **logical possibility**

(9) That couldn't (possibly) be correct = It is not (even remotely) possible that that is correct

We noted in section A.1. that there is no 'past time' meaning here. This also applies to the negative, which therefore can only mean 'is not possible', not 'was not possible'

except in indirect speech.

(ii) **permission**

(10) I couldn't park my car there, even after I offered to pay

(11) I couldn't park my car there, even if I offered to pay

The first of these two examples has 'past time' meaning (= I was not permitted to park my car) and the second has 'non-actual' meaning (= I would not be allowed to park my car).

(iii) **capability**

(12) I couldn't lift heavy weights, because I was too weak

(13) I couldn't lift weights that heavy, even if I trained for years

Here the meanings are:

(for 12) was not able to (past time), and

(for 13) would not be able to (non-actual).

(iv) **sense**

The 'past time' meaning is quite acceptable:

(14) I couldn't smell anything

But if we take the 'non-actual' meaning, it is difficult to distinguish this meaning from number (ii), as in:

(15) I couldn't smell anything, even if I hadn't got a cold = I would not be able to smell anything

(v) **characteristic**

As we saw with can't, it is difficult to think of any
examples for the short form in this meaning. Sentences are perhaps possible if we take a stressed 'not', as in:

(16) She could NOT be late = she was sometimes not late
(17) She could NOT be rude = she would perhaps not be rude (act rudely)

Summary for can't and couldn't

Generally, both these items mean 'not possible/able/capable'. Only when the 'not' is stressed can we interpret the phrase as meaning 'possible/able not ...

9.2.1.3. May not/mayn't

(1) logical possibility
(18) He may not be late = it is possible that he is/will not be late
(19) He may not have left yet = it is possible that he has not left yet

In most people's speech, the full form may not is used, rather than mayn't. When mayn't is used, the pronunciation is often [meɪ̯nt] rather than [meɪnt].

(ii) permission
(20) You may not leave until I say so = I do not allow you to leave until I say so

Here, shortening to mayn't is common.

(iii) sometimes

Since the purpose of this meaning is to say what people do, rather than what they do NOT do, this is rare, unless it occurs at the same time as the corresponding positive, as in:

(21) In the evenings, he may go to the pub or he may not = sometimes he goes to the pub and sometimes not

The short form mayn't is not normally used here.
9.2.1.4. **Might not/mightn't**

(1) *logical possibility*

(22) He might not live there any more = it is possible that he does not live there any more

(23) He might not like it = it is possible that he does not/ would not like it

The short form *mightn't* would be equally likely here, at least in British English.

(11) **suggestion**

(24) You might not shout so loudly!

(25) You might not have told him the whole story!

The meaning here is 'I suggest that you do not shout so loudly', 'that you should not have told him the whole story'.

(iii) **sometimes**

See *may* (iii) for comment.

(26) In the mornings he might go for a run before breakfast or he might not = sometimes he went for a run and sometimes not

**Summary for may not and might not**

The important thing to note here is the difference between *may* (i) and (ii). Compare:

permission: not permit
logical possibility: possible that...not

The 'not' affects the possibility in one case and what follows the permission in the other.

We can also compare *may* (ii) with *might* (ii):

*may* (ii): not permit
*might* (ii): suggest that...not

See below (9.2.2.) for a discussion of 'modal' and 'propositional' negation.
9.2.1.5. Must

In informal English the short form mustn't is the one usually used.

(i) (logically) necessarily true

In standard English there is no form mustn't for this meaning. For 'not necessarily' we have needn't or may not, and for 'necessarily not' we have can't, (see 9.2.3.1.).

(ii) obligation

(27) You mustn't speak like that = I require you not to speak like that

(28) You really mustn't leave until I say so = I require you not to leave

9.2.1.6. Needn't and don't need to

(i) not necessarily

(29) He needn't necessarily be rich at all = it is not necessarily the case that he is rich

(30) They needn't have left London yet = they have not necessarily left London yet

(ii) not obliged

(31) You needn't wait = I do not require you to wait

(32) He needn't have paid so much = There was no need for him to pay so much

(33) I don't need to have a licence to own a cat = I am not obliged/forced to have a licence

9.2.1.7. Shall

The weak form shan't is commonly used.

(i) prediction

(34) I shan't be seeing her for another week = I predict that - I not see her for another week

(35) We shan't get much money for it = I predict that - we not get much money for it
(ii) guarantee

(36) I shan't help/hurt you = EITHER I say - I not help/hurt you (I refuse) OR I do not promise to help/hurt you OR I promise not to help/hurt you

(37) He shan't have a penny of my money = I refuse to let him have a penny/I am not willing that he should have (even) a penny/I promise not to let him have a penny

For further comments see 9.2.1.10 below.

9.2.1.8. **Should** and **ought to** (omitting 'subjunctive' uses of **should**)

The short forms shouldn't and oughtn't to are commonly used.

(i) **conditional** (logical) **necessity**

(38) They shouldn't be here for some time yet = It is likely that they will not be here for some time

(39) He oughtn't to have arrived in Paris yet = It is likely that he has not arrived in Paris yet

(ii) **conditional** **obligation**

(40) I shouldn't eat so much = It would be advisable for me not to eat so much

(41) She oughtn't to have trusted them = She would have done better not to trust them

9.2.1.9. **Will**

The short form won't is normally used except when the speaker wishes to stress unwillingness, as in 'I will NOT'.

(i) **inference** or **prediction**

(42) They won't have eaten yet = I predict that they have not eaten yet

(43) She won't pass the exam = I predict that she will not pass the exam

(ii) **willingness**

(44) I won't breathe a word about it = I am willing not to breathe a word about it

(45) She won't tell us where he is = She is not willing to tell us where he is
(iii) habitual
(46) He will often not appear at the office for days on end = he often does not appear, he is in the habit of not appearing
(47) They sometimes won't change their clothes for weeks on end = they habitually do not change their clothes for weeks on end

9.2.1.10 Would
The short form wouldn't is normally used in informal speech.

(i) inference
(48) He wouldn't still be living there, I don't think = I infer (uncertainly) that he is not still living there
(49) That wouldn't have been until 1957, if I remember rightly = I infer (uncertainly) that that was not until 1957

(ii) willingness
(50) She wouldn't speak to me = She was not willing to/refused to speak to me (past time)
(51) I wouldn't do that even if you paid me = I would not be willing to do that even if you paid me (non-actual)
(52) I wouldn't reveal the facts if you paid me = I would be willing not to reveal the facts (non-actual)

(iii) habitual
(53) They would often not eat for several days = They habitually did not eat for several days
(54) She sometimes wouldn't sleep more than a couple of hours = she habitually did not sleep

Summary for shall, will and would
I am concerned here to discuss the 'authority' meanings, that is to say shall (ii), will (ii) and would (ii). With all of these, two interpretations are possible:
not willing to (refuse)
willing not to (agree not to)

Which of these interpretations is appropriate in any given case depends on the context, as is shown by these two
occurrences of 'I won't':

(55) Please don't go yet
     All right, I won't. (I agree not to go)

(56) Please go at once!
     No, I won't. (I refuse to go)

This double analysis is not possible for all the modal verbs.

9.2.1.11. Have (got) to

There are three possible negative forms here: haven't to, don't have to and haven't got to. All three are used, though with considerable regional variation, in British English. In standard educated speech all three mean 'not obliged to', as in:

(57) a. I haven't to leave until 8.00
     b. I don't have to leave until 8.00
     c. I haven't got to leave until 8.00

In some non-standard varieties, the meaning can be 'obliged not to'. Here are one or two examples:

(58) You haven't got to vote twice (You are not allowed to, by law)

(59) His wife hasn't to nag him (He has told her not to)

9.2.1.12. Be able to

(60) He wasn't able to be at the party = He was unable to be at the party

9.2.1.13. Be going to

(61) He isn't going to help us = It is decided (or 'I predict') - he not help us

9.2.1.14. Used to

The form usedn't is quite acceptable but probably less common in everyday speech than the full form used not.
They used not to get up before 10.00 = They habitually did not get up before 10.00

The form didn't use(d) to is also common, though considered 'incorrect' by some people.

9.2.1.15. Be to

I'm not to get any more details for another week = It has been decided that I shall not get any more details

You're not to speak like that! = I require you not/ forbid you to speak like that

She wasn't to get promotion for ten years = It so happened that she did not get promotion

This last example is like a "future in the past" tense.

9.2.1.16. Supposed to

He's not supposed to live at number 46 any more = it is reported/people say that he does not live there any more

You're not supposed to talk about it = You are required/have been told not to talk about it

The form 'supposed not to' is also quite acceptable, but has the same meaning as 'not supposed to'; it simply serves to stress that something is forbidden, (or socially unacceptable).

9.2.2. Modal and propositional negation

Before we move on to discuss the negative forms of the modal verbs from a more abstract point of view, we need to look at certain facts which we shall want to include in our analysis. In order to clarify matters, we shall need to look at the negative forms of different modals, comparing them one to another, and we shall also need to do this for the three main meaning types.

First, there is an important distinction to be made
between 'modal negation' and 'propositional negation'.

9.2.2.1. Modal negation

By modal negation we mean negation of the notion expressed by the modal verb. If we take the term 'possible' as being the notion expressed by may, can, etc., then 'it is not possible that', is an example of modal negation, but 'it is possible that...not' is not such an example, since the 'not' follows the 'possible'. (This is not a complete definition, but will act as a guide.)

9.2.2.2. Propositional negation

By 'propositional negation' we mean negation of the proposition which follows the modal verb. 'Possibly he has not arrived' is an example of propositional negation since the 'not' applies to the proposition 'he has arrived' rather than to the element 'possibly'.

This distinction between modal and propositional negation allows us to differentiate between, for example, may not and can't. Compare the following two sentences:

(68) He may not have arrived
(69) He can't have arrived

(68) means 'it is possible that he has not arrived', an instance of propositional negation, whereas (69) means 'it is not possible that he has arrived', an instance of modal negation.

We shall now tabulate the modal verbs according to whether their negative forms are instances of modal or propositional negation.
9.2.2.3. Table

<table>
<thead>
<tr>
<th>Modal negation</th>
<th>Propositional negation</th>
</tr>
</thead>
<tbody>
<tr>
<td>can't (i) not possible</td>
<td>can NOT (v) sometimes not</td>
</tr>
<tr>
<td>couldn't (i) that...</td>
<td>could NOT (v)</td>
</tr>
<tr>
<td>can't (ii) not permitted</td>
<td>can NOT (ii) permitted not to</td>
</tr>
<tr>
<td>couldn't (ii)</td>
<td>can NOT (ii)</td>
</tr>
<tr>
<td>can't (iii) not capable/</td>
<td>can NOT (iii) permitted not to</td>
</tr>
<tr>
<td>couldn't (iii) able</td>
<td>could NOT (iii) able</td>
</tr>
<tr>
<td>may not (ii) not permitted</td>
<td>may not (i)</td>
</tr>
<tr>
<td></td>
<td>might not (i) not</td>
</tr>
<tr>
<td></td>
<td>might not (ii) suggest</td>
</tr>
<tr>
<td></td>
<td>sometimes not</td>
</tr>
<tr>
<td>neeedn't (i) not necessarily</td>
<td>mustn't (ii) obliged not to</td>
</tr>
<tr>
<td>neeedn't (ii)</td>
<td>shouldn't/</td>
</tr>
<tr>
<td>don't have to (etc.)</td>
<td>oughtn't to (i) likely</td>
</tr>
<tr>
<td></td>
<td>not</td>
</tr>
<tr>
<td></td>
<td>shouldn't/</td>
</tr>
<tr>
<td></td>
<td>oughtn't to (ii) advised</td>
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<tr>
<td></td>
<td>shan't (i)</td>
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<td>won't (i)</td>
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<td>wouldn't (i)</td>
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<td>won't (iii)</td>
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<td>used not to</td>
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<td>not</td>
</tr>
<tr>
<td></td>
<td>(shan't (ii)) willing/agree</td>
</tr>
<tr>
<td></td>
<td>(wouldn't (ii)) not to</td>
</tr>
</tbody>
</table>

(These not to and not supposed to are other examples of propositional negation.)
9.2.2.4. Discussion

There are a number of remarks we can make about this table. Some of them have already been made elsewhere. For instance we noted the difference between may not (i) and (ii), one being an instance of modal, the other of propositional, negation, and also the way in which 'not possible' is expressed by can't and 'possible that ... not' by may not. The other main point of interest lies in the existence of certain 'gaps'; there is no form realising 'permitted not to' except the rather rare can NOT;\(^1\) there is no form expressing 'it is necessarily not the case that ...'. We shall remark on these 'gaps' shortly. But before we do so we need to introduce a further term: 'inverses'.

'Inverses' are defined as pairs of terms in such a relationship that the double negation of one is synonymous with the positive (un-negated) form of the other. Here is an example: 'some' and 'all' are inverses because we can draw up the following equivalences:

(70) a. Not all people are not tall = Some people are tall
    b. No (not some) mammals do not have lungs = All mammals have lungs

Another property of inverses is that we can find equivalences like those just given by changing the position of the negative and changing the term from one inverse to the other. For example:

(71) a. Not all people are tall = Some people are not tall
    b. No people have three eyes = All people do not have three eyes

---

\(^1\)Of course, this 'gap', and others, can be handled by antonymy, so that 'you are permitted not to leave' can be expressed by 'you can stay'.

With this notion of 'inverses' we can proceed to look at the two meaning areas of 'truth-value' and 'authority'.

9.2.3.1. Truth-value

The main notions we shall want to discuss here are those of 'possibly true' and 'certainly' or 'necessarily true'. We can easily show that there are inverses here since the following equivalences hold:

(72) it is possible that he is not clever = he is not necessarily clever

(73) he is certainly/necessarily not tall = it is not possible that he is tall

These two examples contain the four main terms that we wish to examine. If we add to them the two inverses in their positive forms, namely 'possibly' and 'necessarily true', we have a set of six terms which we can represent in a diagram in a way that 'pairs off' the equivalent terms, thus; (using 'certain' rather than 'necessarily true'):

Fig. A

![](\text{\begin{tabular}{c|c|c|c|}
& \text{certain} & \text{certainly not} & \\
\hline
\text{not certain} & & & \\
\text{possibly not} & & & \\
\text{possible} & & & \\
\end{tabular}})

If we now replace the items in this diagram by the modal verb forms normally used to express them, we have:

Fig. B

![](\text{\begin{tabular}{c|c|c|c|}
& \text{must} & \text{can't} & \\
\hline
\text{needn't} & & & \\
\text{may not} & & & \\
\text{may} & & & \\
\end{tabular}})

Alternatively, we can draw the same diagram using the 'less certain' ('mitigated') forms, giving:
Figure B is the one we shall look at here. There are three things to note here: (i) the similarity between *needn’t* and *may not*, (ii) the fact that *can’t* seems to be able to express two ‘ideas’, (iii) the absence of *can* alongside *may* at the bottom of the diagram.

(i) If someone says to you:

(74) Frank is certain to be in the pub
you can equally well reply with either of the following two answers, if you wish to express doubt about (74):

(75) a. Oh, I don’t know. He *needn’t* (necessarily) be there
b. Oh, I don’t know. He *may not* be there

Both sentences express very much the same idea. This fact has some importance for our next point.

(ii) Since, as we have just seen, *needn’t* and *may not* express very similar ideas, one or other of them could be eliminated without making it impossible for us to say what we wanted. In the case of *can’t* on the other side of the diagram there is only one term, without any apparent lack of expressiveness.

(iii) *Can* could be included alongside *may* at the bottom of the diagram, provided that we remember that *can* occurs mainly in questions, especially with *be* -ing or *have* -ed infinitive forms.

Moving on now to Figure C we can see that the ‘fit’
between the various forms is not as good as in Figure B, in the case of shouldn't/oughtn't to and couldn't. Here there is no equivalence between the two following sentences:

(76) a. He shouldn't have arrived yet
b. He couldn't have arrived yet

Again, the main reason for this is that there is no inverse for the terms like 'likely', 'probable', etc. which are the nearest equivalents for should. There is little difference between

(77) It is not likely that he will come

and:

(78) It is likely that he will not come

9.2.3.2. Authority

In this sub-section we shall concentrate on the terms 'oblige' and 'permit'.

'Oblige' and 'permit' are inverses. This can be understood if we look at two examples:

(79) I am obliged not to be late = I am not permitted to be late

(80) I am permitted not to arrive early = I am not obliged to arrive early

Having identified our pair of inverse terms, we can draw a diagram like that we drew for the 'truth-value' cases:

Fig. D

\[
\begin{array}{ccc}
\text{not obliged} & \text{obliged not to} \\
\text{permitted not to} & \text{not permitted} \\
\text{permitted} \\
\end{array}
\]

Now we can replace the abstract items by modal verbs, giving:
Once again, we can draw a similar diagram for the 'less certain' ('mitigated') forms:

Fig. F

should/ought to

(needn't)                     shouldn't/oughtn't to
could NOT                      might not

could/might

In Figure E we have included some forms which involve 'outside' authority rather than 'speaker's authority', such as have to. We shall not talk about these for the moment but concentrate on the forms which are modal verbs in the full sense of the term.

Let us look at the 'paired' items, needn't and can NOT, and mustn't and may not/can't. Again we can see that the pairings are appropriate, since in the following conversations either of the two responses, (a) and (b), would be correct and have a similar effect:

(81) -I don't want to work any more today
   a. -All right, you needn't work any more today
   b. -All right, you can NOT work any more today

Can NOT is felt to be an awkward and stilted form, and so needn't can be used for both 'not obliged' and 'permitted not to'. Now compare:
(82) -I want to take a month's holiday
   a. -Well you mustn't take a month's holiday
   b. -Well you can't take a month's holiday

Again, though there is a difference, the two responses can be seen to be equivalent in attempting to prevent a course of action.

If we look at these two pairs together, and compare them with the parallel items with 'truth-value' meaning, we note the effect of the various facts that we have described regarding mustn't, may not and can't. With the truth-value cases, a 'gap' occurs because there is no form mustn't in this area, (at least, not in standard English), so that can't has to serve two functions. By contrast, with the authority cases, the 'gap' occurs, at least partially, on the other side of the diagram, in that can NOT sounds rather awkward, so that here it is needn't that has to serve two functions. This is also because, with the authority cases, there is no differentiation between can't and may not, as there is with the truth-value cases. Among the truth-value cases can't is an example of modal negation and may not of propositional negation, but with authority meaning both items are instances of modal negation.

Let us look now at Figure F. We noted that the equivalences were less exact here than in the second. It is true that both shouldn't/oughtn't to and might not can be used to object to a course of action, as in:

(83) You shouldn't shout like that
(84) You might not shout like that!

but the overtones - and the appropriate contexts - are
rather different.

Both here and in the sub-section on the truth-value cases we placed needn't in brackets in Figure F (and Figure C); this was because it had already been used in the second diagram in each case (Figures B and E). It is still, however, the only item that really serves the precise function.

We shall now return to the 'outside authority' items. The only difficult 'slot' here is the 'obliged not to' one, in which we have placed be not to. The problem is that an example with 2nd or 3rd person subject is likely, if not certain, to be interpreted as a case of 'speaker's authority', as in:

(85) He/you are not to speak to me like that

In some regional varieties of English haven't to and haven't got to are used in this sense, but not in the standard language. The forms from the 'slot' below ('not permitted'), especially not supposed to, are quite suitable for this sense.

Further uses of some of the negative forms, when they are used in past time contexts, will be discussed in a later section (E.4). This will look at forms like had to, shouldn't have, needn't have, etc.

9.2.4. The forms shan't, won't and wouldn't

In 9.2.2. and 3. we discussed mainly the modals must, need, can/could, may/might and should/ought to. This was because it was possible to present them systematically in diagrams. We shall now make a few brief remarks on the
9.2.4.1. **No inverses?**

In their number (i) meanings (prediction or inference) we analysed the negative forms *shan't, won't* and *wouldn't* as instances of propositional negation. That is, we gave analyses like 'I predict/infer that ... not'. The question that we wish to discuss is whether it would make any major difference if we changed the analysis to 'I do not predict/infer that ...'.

Consider the following dialogues, in which we use only *won't* as an example:

(86) -Do you think he'll tell the truth?  
    -I'm sure he won't!

(87) -But surely he'll tell the truth!  
    -On the contrary, I'm sure he won't!

For (86) the original analysis (predict that ... not) is appropriate, but for (87) an alternative analysis of 'not predict that' seems possible if not the only correct one. However, we should note that what this amounts to is a refusal to predict (rather than a negative prediction, which does not exist). Nevertheless, we can see that *won't* (and in similar examples *shan't* and *wouldn't*) is used to realise two different abstract analyses. There is no way of establishing a system, as we did in 9.2.3.1. and 2., which is based on 'inverses'. The terms 'predict' and 'infer' do not have inverses.

The same is true if we move away from our rather abstract terms, like 'predict', and look at items such as *likely* or *expect*. Even here there is little difference between
'likely to happen' and 'unlikely to happen' or 'I don't expect he will' and 'I expect he won't'. There is some difference of course, and these items are among those which involve 'raising' (see elsewhere in this grammar), but the main point is that likely and expect have no inverses.

9.2.4.2. Conclusion

A study of the negative forms allows us to divide the modal verbs of English into two groups: one includes shan't, won't and wouldn't and the other all the other modals. These other modals are analysable in a much more systematic way, as we showed in 9.2.3., than are the other three, discussed in this section (9.2.4.).

So the essential points to retain from this section are:

(i) the difference between modal and propositional negation

(ii) the notion of inverses

(iii) how (i) and (ii) apply to individual modal verbs and, more importantly, to the notions 'certain' and 'possible', 'oblige' and 'permit'.

ADDENDA

A.

Aguirre & Goossens (1977) has recently come to hand. This includes a number of interesting points. In particular, the authors put clearly something that I felt at several points in my own research and that I mention in this thesis, namely that (p. 1): 'absolute synchrony obstructs insight into the nature of language. Historical analysis is a necessary component for our understanding of synchrony itself.' This explains their title: 'Dynamic Synchrony'.

Aguirre & Goossens add a point to the history of must. They say (p. 13) that in early Old English motan already had both permissive and obligational meanings. If this is correct, then we shall have to modify the picture contained in Traugott (1972).

Finally, Aguirre & Goossens wish to prove that there is no distinction to be made between semantics and pragmatics. They say (p. 23): "'Pragmatics' is to be built into semantics if we want to understand the uses that these modals (i.e. may, must and can, RGW) are put to." If this attitude were to be proved correct on further study, it would mean the abandonment of the distinction that we have drawn in this thesis between 'meaning' and 'use'.

B.

At a recent Linguistics Association of Great Britain meeting at University College, London, a workshop on modals was organised by Chris Butler. A number of interesting points were made. I only have space for two here.
Professor F.R. Palmer said in his talk that the modals seemed to be, at least to a great extent, 'performative' items, in the sense that they are tied to the 'speaker hic et nunc', as we have called it. This agrees well with what is suggested at several points in this thesis.

Gordon Wells, who has been conducting research into child-language acquisition at the University of Bristol presented a paper entitled 'The Acquisition and Use of Auxiliary Verbs by Children and Parents' in which he suggested that the order of acquisition proceeded roughly as follows, (using our terms): 'non-modal', 'deontic', 'epistemic'. If this is the case, then children follow the same order as English followed in developing the various meanings of the modal verbs.

Another paper from this workshop is referred to in the text as Leech & Coates (1977b).
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