

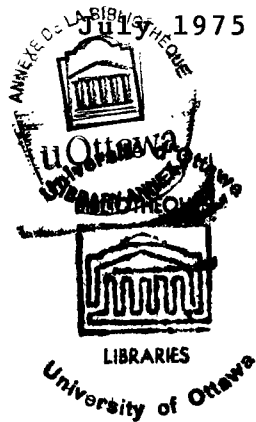
MODALS AND NON-FACTUAL CONDITIONALS

by

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for the Master of Arts degree in Applied Linguistics.

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to my advisor and friend, the late

Dr. José Pedro Rona

ABSTRACT

The patterning of modal phrases in non-factual conditional sentences shows that there are two classes of modal verbs. However, the formal criteria for the classification of auxiliaries and for the distinction of modals from other auxiliaries do not provide for the sub-classification of modals, nor do the definitions of modals found in most transformational grammars. Moreover, in the existing literature it is not recognized that only one class have a complete paradigm.

In order to sub-classify modals, the syntax of non-factual conditional sentences is analysed. Modals are studied as expressing modality and mood.

Modals are found to belong to two sub-classes, which differ syntactically. Members of both sub-classes express modality, a lexical feature. However, only one class are modal auxiliaries since they realize modal mood and have a complete paradigm. Furthermore, it is demonstrated that in English there are five finite and two non-finite verb paradigms, and that the realization of perfect/non-perfect and not tense is the obligatory choice for all verb forms. According to the present analysis, only indicative forms realize tense.

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PREFACE

The present thesis in descriptive linguistics draws on various linguistic theories.

Its main purpose is not to prove or disprove a theory or a hypothesis, but rather to arrive at a practical, detailed and accurate description of a part of the syntax of the English language.

This work should have wide application in the teaching of English as a second language and as an aid in translation.

PROSPECTUS

It is the object of this thesis to investigate the possibilities of a formal sub-classification of the verbs known as modal auxiliaries by studying their patterning in non-factual conditional sentences.

The main aspects examined are the following:

- 1) the criteria used for the classification of modals as auxiliaries and for distinguishing them from other auxiliaries;
- 2) the verb forms used in factual and non-factual conditional sentences;
- 3) the difference between modality and mood as they are expressed in modal verbs;
- 4) the system of English verb paradigms, as it relates to modals;
- 5) the different types of modal phrases;
- 6) other similar classifications and the correspondence between them and the present discussion.

CHAPTER I

THE CLASS OF MODAL AUXILIARIES

Introduction

If the existing criteria for the definition and classification of auxiliaries are applied to modal verbs, it is possible to prove that all modal verbs are auxiliaries. Furthermore, all modal verbs possess special properties that distinguish them from other auxiliaries and allow for their classification as 'modal auxiliaries'.

By examining three major contemporary classifications of modals, I shall point out two serious shortcomings; the first is an omission in their grammatical description: not all modals, in all their senses or meanings, have a complete paradigm of forms; the second problem is one of time and tense relations: the second form, sometimes called 'past', -ed, or oblique, of certain modals never refers to past time, unlike all other occurrences of past tense forms, which normally refer to past time.

Furthermore, it will be shown that expression of modality is not a function of the auxiliary constituent, as implied in early transformational studies; that, on the contrary,

it is a lexical feature, which is shared by modals, adverbials and non-modal verbs.

1. Formal Criteria for the Definition and Classification of Auxiliaries.

In this section it will be shown what formal criteria are used for the definition of auxiliaries by Firthians and structuralists, and how auxiliaries are distinguished from other verbs in transformational studies. If these criteria are applied to the group of verbs classified as modals, all modals are found to be auxiliaries.

In recent literature on English verbs, auxiliaries are said to have a number of formal characteristics.¹ The order, explanations and examples given in this paper do not follow any writer in particular. In each pair of examples below, the first illustrates the criterion for an undoubted auxiliary, and the second demonstrates that modals also have that property.

All auxiliaries are said to occur:

(1) in emphatic affirmation with nuclear stress on the auxiliary,

1a. But we are working hard.

1b. Oh, yes, it can be done.

(2) in "short answers",

2a. Have you got a book? -Yes, I have.

2b. May I leave now? -No, you may not.

(3) before not in negatives (not can be contracted),

3a. If you didn't like it,

3b. you shouldn't have bought it.

(4) before the subject in a) questions, b) question tags, c) statements beginning with negative adverbs, and d) in certain short clauses and short answers with:

so, nor, and neither,

4aa. Has he been here before?

4ab. Must you go now?

4ba. They are not from Ottawa, are they?

4bb. You'll come, won't you?

4ca. Seldom have I seen such beauty before.

4cb. Never will you hear her voice again.

4da. The guard was sleeping and so were the others.

4db. I could come tomorrow. -So could I.

By these criteria, the do, have and be, in the examples above, are auxiliary verbs. Since the modals will, shall, can, may, must and ought² also share these characteristics they are classified as auxiliaries.

In transformational studies, what distinguishes auxiliaries from other verbs is that they are introduced in a special base rule and are therefore dominated by the node Aux. After Chomsky (1957) the auxiliary phrase-structure

rule is:

Aux. \rightarrow Tns (M) (have + en) (be + ing)

and the formatives are:

Tense - Tns $\left\{ \begin{array}{l} -ed \\ \phi \end{array} \right\}$

Modal - (M): will, can, may, shall, must

Perfect - (have + en)

Progressive - (be + ing)

This rule remained unchanged in Chomsky (1965).

To conclude, all modals are classified as auxiliaries in pre-transformational and in transformational grammar.

2. Special Modal Properties.

Besides fulfilling the criteria for auxiliaries, modals are said to possess other special modal properties, which they do not share with other auxiliaries. They are defined by them as 'modal auxiliaries'. The following are the criteria found in contemporary literature:

- a) modals do not have a distinct form in -s for a 3rd person simple subject in the present indicative;
- b) they do not have non-finite forms; i.e. they do not occur after 'to', and do not have -ing and -en forms;
- c) they are always followed by an infinitive;³

- d) in a complex verbal phrase they may occur initially only;
- e) the modals, as pure modals, do not co-occur with each other.

Criteria a-d are given by Palmer (1965) and e is given by Twaddell (1963), who states that modals do not co-occur because there are elements of incompatibility in their meanings.⁴ Yet reference to meaning is not necessary since $b+c \Rightarrow e$ (b with c logically entails e).⁵ The following examples illustrate each of these criteria.

- a) NON-MODAL 5a. She writes fifty pages a day.
MODAL 5b. She can write fifty pages a day.
- b) NON-MODAL 6a. We haven't written any letters today.
MODAL 6b. *We haven't can write any letters today.
- c) NON-MODAL 7a. I want to buy a car. I like swimming.
7b. I want some paper. I like music.
MODAL 7c. They may buy a car. *They can swimming.
7d. *They may some paper. *They can music.
- d) NON-MODAL 8a. She is writing to learn English.
8b. She is learning to write English.
MODAL 8c. She must write in English.
8d. *She write must in English.

All modals, in all their 'meanings' can be defined by applying these criteria.

As mentioned before, in transformational studies,

the phrase structure rule introducing modals is:

Aux. → Tns (M) (have + en) (be + ing).

In this rule the symbol M is introduced only once, which means that in English only one modal may appear in a simple sentence. The other traditional properties listed above are expressed in that description in terms of the PS rule for properties (c, d) and for (a) in terms of the transformational rule of subject agreement. Thus Chomsky's description distinguishes only one class of modals and treats these as a special sub-class: the M-auxiliaries.

While modals are treated as one class of verbs by both structuralists and transformationalists, Hofmann (1969) and others who have followed that direction distinguish two sub-classes of 'modal auxiliaries'.

3. Modal Paradigms.

Several authorities on English verbs have set up modal paradigms and charts in order to classify modals formally. The three classifications examined in this section are significant because they are well-known examples of three main linguistic approaches in the English speaking world. Moreover, they have appeared in very extensive formal studies of the English verb system.

A - A Firthian approach.

In 'A Linguistic Study of the English Verb' (1966), F. R. Palmer, a follower of Firth's, distinguishes primary from secondary auxiliaries and gives two paradigms, a 'basic', containing only primary auxiliaries and a 'secondary' containing both primary and secondary (or modal) auxiliaries (*).

In the section on 'time and tense' Palmer states that

"the traditional statement of tense in terms of present, past and future, exemplified by I take, I took and I shall take, has no place in the analysis presented here"

and that

"other characteristics of the verb support the decision to separate future time reference from reference to past and present".

I conclude that for Palmer, 'tense' is used for 'reference to time', and he says that in the secondary or modal paradigm

"tense is still marked by the finite form, though this is now a modal auxiliary!"

However, in a later section on "The Function of Tense in the Modal Phrase", he states that

(*) See Chart AI

"it is the main function of the past tense forms to indicate past time"

which implies that 'past tense' forms have other functions besides indicating past time. He further states that

"some of the modals are used in a variety of senses" and that

"it is noted that both can and may in their sense of permission have tentative (**) past tense forms only in requests. In this use there are no tentative statements corresponding to 'You can go' and 'You may go'. This fact is one of the criteria for distinguishing the permission and possibility uses of the two auxiliaries (the main criterion being that for possibility alone do they have past tense forms with have)."

What Palmer omitted to note is the fact that only one subclass of modals, or in Palmer's terminology, only some 'senses' of modals indicate past time in their past tense forms, as in my example,

"He could swim well when he was four years old".

and that modals that belong to the other sub-class and

"have past tense forms with have"

never indicate past time in the so-called 'past tense' forms.

(**) Palmer often refers to forms could, would, might, etc. as 'tentative'.

Although Palmer deals with the auxiliaries be and have as four verbs be and five verbs have, he does not use the same descriptive technique in the case of modals. He treats each of them as one verb with more than one sense in spite of some rather obvious syntactic, morphological and semantic differences.

B - A Structural Approach.

In "The English Verb Auxiliaries" (1965), W. F. Twaddell, an American structuralist, also distinguishes "two sets of auxiliaries: the primary with subject agreement, -s and full 'past' syntax (have, be, do) and the modal auxiliaries without -s, and without full 'past' syntax."

Twaddell does not set up a chart or a paradigm for the modal auxiliary system as he does for the system of primary auxiliaries. He simply states that

"there are four paired and four unpaired modals:
 can may shall will dare must need ought
 could might should would

The paired modals provide for conditionality and sequence of tense with (could, might, should, would). In addition could accomplishes functions as an 'earlierness' partner of can!"

Unlike Palmer he does not see the so-called 'past

tense' forms as indicating past time and the case of could that

"accomplishes functions as an 'earlierness' partner of can"

is added as if it were an exception. Yet in a later section he explains that would has

"a somewhat special use ... to describe a predictable kind of behavior in earlier time."

In this chapter Twaddell does not even mention forms with have. Yet he does so in the chapter on 'The Semantics of the Four Modifications' and says that

"If an associated construction contains (could, might, should, would) then 'if' + 'past' modification signals uncertainty, unreality, improbability. The meaning contrary-to-fact is signaled by (could, might, should, would) + have + participle in an associated construction. In itself, the combined structure 'if' + 'past' modification ... (could, might, should, would) is void of time-signaling content, and is compatible with contextual or situational clues specifying future, present, or past chronology."

Twaddell gives a list of modals and their meanings - one to three meanings for each modal. There is no warning anywhere in the text that not all modals,

in all of their 'meanings', can be followed by have + participle.

C - A Transformational Approach.

In 'Grammatical Structures of English and Spanish' (1965), Stockwell uses an early transformational framework and says that

"in English as in Spanish the auxiliary is the vehicle of the tense system. In English... the tense system is based upon fundamental dichotomy between past and non-past ... all forms in the language fall into one or the other of these categories, in each of which five belong to a set of modals only one of which can be chosen in a given phrase."(*)

He defines 'past' as

"Anterior to the moment of speaking."⁶

Again there is no warning anywhere in the text that the forms:

would speak

might speak

ought to speak

should speak

do not refer to events "anterior to the moment of speaking",

(*) See Chart A II

or that some modals in some of their senses do not have all the forms included in the chart. In fact many of the described possibilities do not exist. The following examples cannot occur with the indicated meaning:

NON-PAST	(permission)	*You may be speaking.
	(obligation)	*You must have spoken.
PAST	(advisability)	*You should speak yesterday.
	(subsequence)	*You would be speaking yesterday.

An adequate grammatical description must exclude these impossibilities.

Although these three classifications differ in various ways, they are essentially formal in character. Palmer does not even attempt to classify 'modal auxiliaries' according to their lexical meanings. The order in which they are listed depends on "the formal criteria of the various uses". Twaddell, on the other hand, says that "the eight modals invite semantic analysis into a system of partial similarities and partial differences" and lists them accordingly. Stockwell's approach is not very clear. His 'modifications', which he treats as if they were formal characteristics, are not different from what logicians call modalities, and which will be dealt with in the following section.

4. Modality in English.

Several linguisticians have suggested a classification of modals according to the logician's notion of modality⁷, and, as pointed out in the previous section, in early transformational studies modality have been treated as if it were a function of the auxiliary verb.

However, there are several ways of expressing modality in English, and modals are only one of them.

Modality can be expressed by means of:

- a) phrases like
it is possible, it is necessary, it is probable
- b) words like
perhaps, maybe, necessarily
- c) non-modal verbs like
have to, be able to, have got to, be allowed to
- d) modals.

Each of the following group of examples (9 to 12) contains 3 sentences which are paraphrases. Each group exemplifies a different modality.

- ABILITY
- 9a. She did not manage to get the refund.
 - 9b. She was not able to get the refund.
 - 9c. She could not get the refund.

- PROBABILITY 10a. It is probably true.
 10b. Perhaps it is true.
 10c. It might be true.
- NECESSITY 11a. It is necessary for us to go now.
 11b. We have to go now.
 11c. We must go now.
- PERMISSION 12a. Is it allowed for children to come?
 12b. Are children allowed to come?
 12c. (May / Can) children come?

The above examples show that modality can be expressed by lexical means other than modal auxiliaries.

Nevertheless, all modals, in all their so-called 'senses' or 'meanings' express modality, except the empty modals will and shall, which will be discussed in later chapters on modal mood.

Most modals express two or more kinds of modality, as shown in the following examples:

- may - probability, permission, possibility
- can - possibility, ability, permission
- must - deduction, necessity, obligation
- will - prediction, willingness

Modals provide for both alethic and deontic types of modality⁸ as defined by Hughes & Cresswell,⁹ and as shown

in my examples¹⁰ below,

ALETHIC MODALITY

NECESSITY

All animals must eat in order to survive.

POSSIBILITY

Animals can survive only if they eat.

No animal can survive without eating.

DEONTIC MODALITY

OBLIGATION

You must eat your soup before eating dessert.

PROHIBITION

You mustn't eat dessert before eating your soup.

PERMISSION

You can eat dessert after eating your soup.

Besides expressing modality some modals realize tense and others mood.¹¹ This difference is often obscured, which results in ambiguous sentences. Yet this is not the case with all kinds of sentences, and one type of conditional sentences is never ambiguous and offers a very good framework for the study of modals. Conditional sentences will be studied in the next chapter.

FOOTNOTES TO CHAPTER I

1. Palmer (1966: 2.2) "there are clearly statable formal characteristics of the auxiliary verbs, their use in what I shall call 'negation', 'inversion', 'code' (i.e. echo construct.) and 'emphatic affirmation'.

Twaddell (1963: 5.0) "the auxiliaries have certain grammatical features qua auxiliaries, which are specifically peculiar to English grammar. The four important grammatical roles of the auxiliaries are:

- 5.1.1. Occurrence before n't (not) for sentence negation,
- 5.1.2. Occurrence before the subject,
- 5.1.3. Occurrence as the locus for the grammatical stress and pitch signals,
- 5.1.4.1. Occurrence as the 'echo' or substitute for the entire verb construction and its complements (predicate) in repetitions."

2. The reasons why a few other verbs often classified as modals have not been included in the above examples are the following:

dare and need are borderline cases since they exhibit some forms of both auxiliary and lexical verbs. They may be treated as doublets, e.g. a

verb dare and an auxiliary dare with certain restrictions on each.

used to is a doubtful auxiliary since it has only some characteristics of auxiliaries.

3. All modals are followed by an infinitive without the particle 'to' except ought.
4. In the "English Verb Auxiliaries" Twaddell says "The fact that the modals do not co-occur suggests that there are elements of incompatibility in their meanings."
5. This has been pointed out by T. R. Hofmann.
6. Stockwell (1966) writes "The term 'past' is obvious enough; it means 'anterior to the moment of speaking', or 'looked back on', 'recollected', 'recalled' from the moment of speaking... we would like the labels we put on the verb forms to make sense in terms of the semantic potential of the forms."
7. According to Hughes and Cresswell (1968) "modality in its semantic interpretation as well as its verbal usage involves consideration of states of affairs other than the ones which actually exist." Moreover modals as

expressions of modality are also said to be "what is quantifiable in other possible worlds." (Lakoff, 1972).

8. Halliday in "Functional Diversity in Language (1970) calls only alethic modality 'modality' and he calls deontic modality 'modulation'. He says "Modality is a system derived from the 'interpersonal' function of language expressing the speaker's assessment of probabilities ... The system which we have called 'modulation' is very different: it is ideational in function and expresses factual conditions on the process expressed in the clause."

9. Hughes & Cresswell (1968) say that: "Alethic modality is concerned with what must be the case in every possible state of affairs, necessity, or in some possible state of affairs, possibility, if not the actual one.

Deontic modality has to do with morally idealized states of affairs: what is obligatory is what happens in a morally governed universe. To say that something is obligatory is equivalent to saying that its opposite is not permissible.

10. The examples numbered (1) to (120), plus a few non-numbered ones in chapter I, are my own. They have all been tested and accepted by colleagues: native speakers of Canadian English. These fellow teachers represented a wide geographic background in Canada. There was no disagreement among them as to acceptability or unacceptability of the examples. The examples used represent a moderately formal register of Canadian English. Finally, all examples were approved by my thesis advisor, Mr. Th. R. Hofmann.

11. The terms mood, mode, modality and modulation are used by different grammarians and linguisticians in different ways (see Footnotes (1) and (3), Ch. III) and they are even used interchangeably (see Footnote 14, Ch. IV). In this work 'modality' is used to refer to lexical meanings of modal verbs, such as: possibility, ability, necessity, obligation, etc. On the other hand, 'mood' is used to refer to finite verb paradigms (see Ch. V). Finite verb paradigms consist of finite verb forms, i.e. verb forms that function as predicates in surface structures. The forms belonging to the five finite paradigms or 'moods' differ in terms of reference to time and in terms of reference to facts. Consequently it is not possible to establish the difference between

paradigms without using semantic criteria. The 'moods' realized by different verb forms cannot be paraphrased by different moods. However, 'modalities' can always be expressed by lexical means, i.e. they may be paraphrased by different moods. Consequently I consider that the property I call 'modality' is a lexical feature and that the category of 'mood' is a grammatical feature.

CHAPTER II

CONDITIONALS

Introduction

Although modal verbs are not restricted to particular types of sentences, certain kinds of conditional sentences, e.g. "If I had been well, I would have played tennis", provide the ideal framework for the study of their patterning. In this chapter, a general definition and classification of conditional sentences will be followed by the demonstration that non-factual conditional sentences fall into two groups, the hypothetical and the counter-factual conditionals.

Finally, as a preliminary step to a complete analysis of verb forms in antecedent clauses, it will be shown that time reference is an essential factor for the interpretation of conditional sentences. It will further be shown that a different analysis is inadequate to resolve certain ambiguities.

1. Definition of Conditional Sentences.

In this section a general definition of conditional sentences will be given, followed by examples. Furthermore,

conditional sentences will be contrasted with other sentences containing if-clauses in order to avoid confusion about ambiguities of their surface structures. For the purpose of this thesis conditional sentences are if-then sentences, that is, any sentence containing an adverbial clause beginning with if and a main clause introduced with then will be called conditional.

Examples of if-then sentences:

13a. If you are a member, then you can borrow any book.

14a. If he had come earlier, then he would have seen her.

15a. If I were a doctor, then I could help you.

The conjunction then is optionally omitted in conditionals.¹ All conditional if-clauses can precede or follow main clauses. The former are called antecedents and the latter consequents. In example 16a. the antecedent precedes and in 16b. it follows the consequent.

16a. If I get the tickets, I will phone you tonight.

16b. I will phone you tonight if I get the tickets.

Not all sentences containing if-clauses are conditionals.

Sentence 17a. is not a conditional sentence.

17a. I will ask her if she can lend me \$10.00.

In 17a. the if-clause is a noun clause. It functions as an object of the verb ask. Thus it cannot precede the main clause. Sentence 17b. is not a well-formed sentence.

17b. *If she could lend me \$10.00, I asked her.

Since the if-clause in 17a. cannot precede the main clause

17a. is not a conditional clause. Another difference between types of if-clauses is that the conjunction 'if' introducing a noun-clause is in free variation with whether as shown in example 17c.

17c. I will ask her whether she can lend me \$10.00

However, in conditional sentences if is not in free variation with whether, as shown in 16c. and 16d.

16c. *Whether I get tickets, then I'll phone you.

16d. *I'll phone you whether I get tickets.

It follows from the above discussion that some sentences containing if-clauses are ambiguous. Sentence 18a. has two semantic interpretations:

18a. She will write if they are coming.

This sentence can be paraphrased as 18b. and as 18c.

18b. She will write whether they are coming.

18c. If they are coming (then) she will write.

Sentence 18a. has two underlying sources where its antecedent or if-clause occurs either as an adverbial or as a noun-clause. Since only conditional sentences, i.e. sentences containing adverbial if-clauses are relevant to the present study, ambiguous sentences with if-clauses will be dealt with as if they did not have the noun-clause interpretation, that is, we shall treat them unambiguously as conditionals.

2. Classification of Conditional Sentences.

Both linguisticians and logicians have tried to

classify conditional sentences purely according to their meaning, and a satisfactory method has not yet been discovered to account for all the types of conditional sentences.² In this section the classification will be based exclusively on their syntactic characteristics with reference to time.

As stated above, for the purpose of this thesis, all conditional sentences, i.e. if/then-sentences, consist of an antecedent if-clause and a consequent then-clause. The combination of verb forms that occur in the two clauses of conditional sentences and their optional co-occurrence with different adverbials will here be taken as the basis for the general classification of conditional sentences.³ Two types of conditional sentences will be distinguished here. The first type will be called FACTUAL CONDITIONALS and will be subdivided into three groups labelled: past, present and future. The labels indicate the time reference in the antecedent clause.

The optional co-occurrence of certain adverbials, adverbial phrases or clauses with certain verb forms will be used for testing whether the time referred to in either clause is past, present or future.⁴ I will consider nine possible combinations of verb forms based on the time relations between the two clauses. The time relations between two clauses can be:

antecedent simultaneous (or =) with consequent,
 antecedent prior (or <) to consequent,
 antecedent ulterior (or >) to consequent.

The following sentences are examples of the nine types of
 factual conditional sentences:

TIME RELATIONS
 IN
 FACTUAL CONDITIONALS

TIME OF ANTECEDENT		TIME OF CONSEQUENT
PAST	{ 19a. If he came (yesterday), ⁼ he probably wanted to speak to you (before yesterday's meeting).	PAST
	{ 19b. If he came (yesterday), ^{<} he doesn't have a holiday (this week).	PRESENT
	{ 19c. If he came (yesterday), ^{<} he will not come again (tomorrow).	FUTURE
PRESENT	{ 20a. If he is here (now), ^{>} he didn't get our letter (last week).	PAST
	{ 20b. If he comes (now) every day, ⁼ he is (still) interested.	PRESENT
	{ 20c. If he comes (now) every day, ^{<} he will get tired (in a few weeks).	FUTURE

TIME RELATIONS
IN
FACTUAL CONDITIONALS
(Cont'd)

TIME OF ANTECEDENT		TIME OF CONSEQUENT
FUTURE	{ 21a. If he comes (tomorrow) ^{>} he didn't understand what you told him (yesterday).	PAST
	{ 21b. If he comes (tomorrow) ^{>} he does not have a holiday (this week).	PRESENT
	{ 21c. If he comes (tomorrow) ⁼ he will have a good time at the party (tomorrow night).	FUTURE

It has been observed that the time reference in the antecedents of (20) is present and of (21) future, yet the present indicative is used for both present and future time reference; it co-occurs with both present and future time adverbials. In addition, we may observe that in consequent clauses, reference to future must be made by means of modal verbs as in 19c., 20c., 21c. Sentence 21d. is not well formed.

21d. *If he comes tomorrow, then he has a good time.

Moreover, the occurrence of modals in antecedents is limited to certain specific modal forms which will be dealt with in later chapters.

There is still another difference between the two

clauses in factual conditional sentences in terms of co-occurrence of verb forms and adverbials. While consequent clauses allow adverbs and adverbials that express modality (21e), antecedents do not (21f).

21e. If he comes, he will probably have a good time.

but

21f. *If he probably comes, he will have a good time.

This fact will be seen to be important in later discussion.

In recent literature on the subject of English verb tenses it has been shown that English has no future tense;⁵ that is, there is no specific form to refer to future time. To refer to future, one may use a modal or a present. The difference between these two forms, in sentences with future time reference, has been discussed by Boyd and Thorne (1970:62-63), who have this to say about their examples ((19) - (21)).

((19)) He goes to London tomorrow.

((20)) He will go to London tomorrow.

((21)) He lives in England.

((22)) He will live in England.

"It seems to us that the essential fact is that ((19)) and ((21)) are statements and ((20)) and ((22)) are not statements but predictions or forecasts. Stating and predicting are different kinds of speech acts. It can be argued that we are more likely to say "He goes tomorrow", that is, to make a statement, when we are

"certain that the person in question is going, that it has been fixed, and more likely to say "He will go tomorrow", that is, to make a prediction, when there is some element of uncertainty present."

In fact, when we want to express that we are sure of a future event, we use the present indicative⁶ and not prediction. For example:

21) "Why don't we go to the beach tomorrow?"

"But we can't; we have a party. And we are supposed to bring the wine. Make sure you come."

"And who else is coming?"

The simple present and the present progressive are the obvious choice. Where this choice is possible, the will of prediction is not in free variation with the present tenses, as is shown in the modified version of the same dialogue:

22) *"Why won't we go to the beach tomorrow?"

"But we will not be able to. We will have a party. And we will be supposed to bring the wine. Make sure you will come."

"And who else will be coming?"

The second type of conditional sentences will here be called NON-FACTUAL CONDITIONALS. In these sentences the time reference of the antecedent clause can also be past, present or future, as shown in the following examples:

TIME RELATIONS
IN
NON-FACTUAL CONDITIONALS

TIME OF ANTECEDENT		TIME OF CONSEQUENT
PAST	22a. If he had come (yesterday), he would have wanted to speak to you (before yesterday's meeting).	PAST
	22b. If he had come (yesterday), he would be free (today).	PRESENT
	22c. If he had come (yesterday), he would not come again (tomorrow).	FUTURE
PRESENT	23a. If he came every day (this semester), he would have received our letter (last week).	PAST
	23b. If he came every day (this semester), he would (still) be interested.	PRESENT
	23c. If he came every day (this semester), he would get tired (in a few weeks).	FUTURE
FUTURE	24a. If he should come (tomorrow), then he would have received our letter (yesterday). (?)	PAST
	24b. If he were to come (tomorrow), he would be in Calgary today.	PRESENT
	24c. If he came (tomorrow), he would have a good time.	FUTURE

Sentences (22-24) are non-factual conditionals and their antecedents refer to events that are seen as not being facts. However there is a difference between (22) and (23) on one hand and (24) on the other. In (22) and (23) the events referred to in their antecedents are 'negated'⁷, or interpreted as contrary to the facts. Such sentences will here be called counterfactual conditionals. In the antecedents of (24) the events are seen as suppositions. Such sentences will here be called hypothetical conditionals. Since counterfactual conditionals have factual counterparts, in sentences (22) and (23), it is possible to comment on the corresponding factual events, as shown in the following examples (22ba) and (23aa):

22ba. If he had come yesterday, he would be free today;
but he did not come yesterday, and so he will not
be free today.

23aa. If he came every day, he would have received our
letter yesterday; but he does not come every day,
and so he did not receive our letter.

The events referred to in the antecedents of sentences (24) are not contrary to facts, i.e. they do not have factual counterparts. Therefore sentences (24b) and (24c) do not allow factual additions (a). The examples below are not acceptable sentences:

24b. *If he were to come tomorrow, he would be in Calgary today,
(a) but he does not come tomorrow and will not be in
Calgary today.

- 24c. * If he came tomorrow, he would have a good time;
 (a) but he does not come tomorrow and will not have a
 good time.

As stated before, the events referred to in the antecedents of hypothetical conditionals are suppositions. In these examples conditionals are followed by possible additions. Sentences (24bb) and (24cb) are well formed:

- 24b. If he were to come tomorrow, he would be in Calgary today;
 (b) but he will not come tomorrow and so he is not in
 Calgary today.
- 24c. If he came tomorrow, he would have a good time;
 (b) but he will not come tomorrow and so he will not
 have a good time.

Additions (b) are predictions and are the corresponding counterparts of hypothetical conditionals.

In the present thesis time reference and the possible co-occurrence of verb forms and time adverbials have been used as a principle for the classification of conditional sentences. Time is always relevant, but it is not always easy to identify. It has been stated before that verb forms (tenses) and time adverbials are not the only environment for time reference within a sentence. Moreover, a reference to the time of an event is not necessarily made in the same sentence. Sometimes it is found elsewhere in the context.⁸

In 'Presupposition and Counterfactual Conditional Sentences' (1971) Schachter has classified conditional sentences on semantic grounds and has encountered difficulties when she tried to separate counterfactual from hypothetical conditionals. In her opinion there are ambiguous sentences that can be interpreted as either hypothetical or counterfactual. She states that "in the counterfactual cases, the semantic time is 'present' ... time seems irrelevant in hypothetical sentences even though time adverbs can occur."

Schachter gives the following examples, and says that A and B have a counterfactual semantic interpretation:

A - If Leslie were singing in the bathroom, we'd hear her.

B - If you knew her, you'd love her.

that C and D have a hypothetical interpretation:

C - If they came to power, they'd clean out the state-house.

D - If John performed tomorrow, he might get a chance to study at the conservatory.

and that E and F are ambiguous with both hypothetical and counterfactual interpretations possible:

E - If he were aware of having a cavity, he'd have it filled.

F - If you understood Hebrew, you'd be able to go to Israeli schools.

Schachter's interpretation of examples A - D is clear. As for E and F, they can only be counterfactual since there is no reference to future time in their antecedents nor anywhere else in the context.

That E and F are counterfactual conditionals can be proved by adding comments on their factual counterparts.

E - If he were aware of having a cavity he would have it filled; but he is not aware of it, and so he will not have it filled.

F - If you understood Hebrew, you would be able to go to Israeli schools; but you do not understand Hebrew, and so you cannot go to Israeli schools.

The hypothetical example C does not contain a future time adverbial either, yet it does not allow a similar addition:

C - *If they came to power, they would clean out the state-house; but they do not come to power, and so they will not clean out the state-house.

In example C, reference to future time is made by the verb itself.⁹ It would be possible to have a future time adverbial but it is not necessary.

C₁ - If they came to power next year, they'd clean out the state-house.

Sometimes the time reference made by the verb form¹⁰ is so strong that it modifies the time reference of the adverbial.

A₁ - If Leslie were singing in the bathroom now, we'd hear her.

C₁ If they came to power now, they'd clean out the state-house.

In A₁ the time adverbial 'now' indicates present time, but in C₁ it indicates immediate future.

The apparent ambiguity of sentences E and F is due to the fact that they can have either a present or a future time reference. Once it is decided whether the time is present or future their interpretation becomes clearly either counterfactual or hypothetical. I conclude that time is not irrelevant in hypothetical sentences, that on the contrary, time reference is an essential factor for the interpretation of all conditional sentences.

The three diagrams below show: A - the main classes of conditional sentences; B - their time references, and C - the reference to facts in their antecedent clauses.

Diagram A - Main Classes of Conditional Sentences

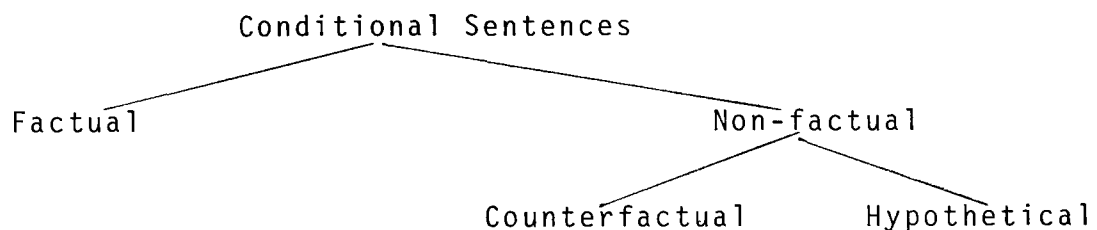
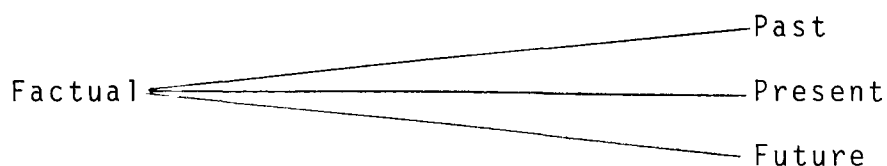


Diagram B - Time Reference in Conditional Sentences

Conditional Sentences:

Time Reference in
Antecedent Clauses:



Conditional Sentences:

Time Reference in
Antecedent Clauses:

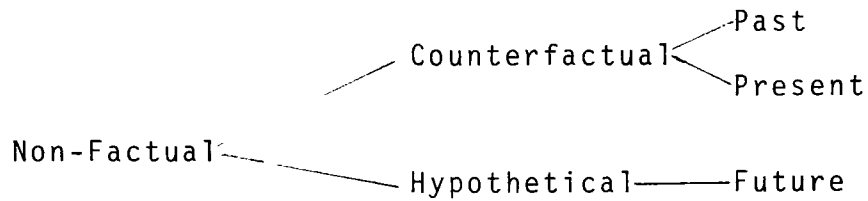
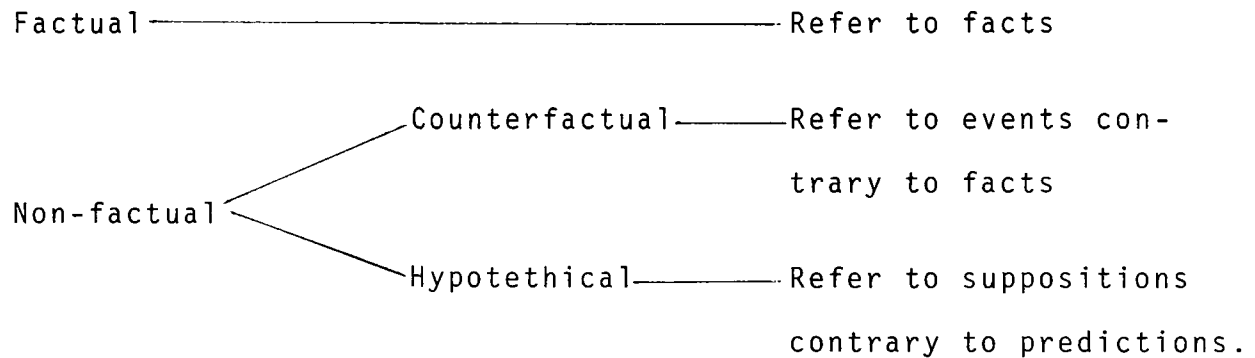


Diagram C - Reference to Facts in Antecedent Clauses

Conditional Sentences

Antecedent Clauses:



The classification of verb forms in both antecedent and consequent clauses of conditional sentences will be the subject of the remaining chapters.

FOOTNOTES TO CHAPTER II

1. Examples of sentences where then has been omitted:

If you are a member, you can borrow any book.

If he had come earlier, he would have seen her.

If I were a doctor, I could help you.

The conjunction if is sometimes omitted in certain types of conditional sentences. Note that in these cases the inversion of subject and auxiliary takes place:

Had he come earlier, he would have seen her.

Other conditional conjunctions (i.e. provided, suppose, unless) are not included since their inclusion is not necessary or useful to the present thesis.

2. W. Settekorn (1974) has studied a number of works dealing with the semantics of conditional sentences and has reached the following conclusions:

- "- indicative conditional sentences can be described by means of the quasi-implication. (see (1) below),
- subjunctive conditional sentences can be described by means of selecting elements in a list,
- the arrangement of the list, together with the

efficiency of the descriptive process depend on elements in the context of situation. Since it is necessary to consider the context of situation, as stated in (a) and (b) (see 2 and 3 below), it follows that a theory of grammar powerful enough to describe conditional sentences must include units at the textual level and must comprise a pragmatic component." (Translation from German by the writer of the present thesis).

1) Reichenbach's quasi-implication truth table:

p	q	if p then q
T	T	T
T	F	F
F	T	0
F	F	0

2) (a) the role of tense and time relations should be considered.

3) (b) the diachronic method may have a heuristic value even if it does not contribute to a theory.

3. In "Specification and English Tenses", D. Crystal (1965) says that " it is clearly the case that there are restrictions and (from the positive point of view) possibilities of co-occurrence between the tense system of English and temporal adverbials, which, when stated explicitly and systematically,

are of such an order as to suggest the need for rethinking the general approach to the study of English time-relationships.

4. I accept that time reference can be divided into past, present, and future.

5. Palmer (1966) has this to say on the subject:
 "There is clearly an over-riding case for handling will and shall with the other modal auxiliaries in the secondary pattern and not together with the past and present distinction of tense that belongs to the primary pattern."

6. According to Hofmann (personal communication) it is possible to use the present tense to refer to future time if the event referred to by the verb in question can be scheduled. On the other hand, Palmer (1969) says that "The non-progressives are not all used with future reference. The simple present certainly is:
 I start work tomorrow.
 He goes to Paris next week.
 Exams begin on Monday.
 There is again a restriction on the type of verb most commonly used - verbs of motion and those indicating commencement."

7. Schachter (1971) "... two kinds of non-factuality that we find in conditionals. In one kind, which I call counterfactual, I interpret the antecedent as being strongly negated:

8) If Hitler had won the war, we'd all be eating
limburger cheese.

9) If I were you, I wouldn't talk like that.

In the other kind, which I call hypothetical, I interpret the antecedent as describing a hypothetical situation, but not as being strongly negated:

10) If the King of Siam were to come to dinner
tonight, I wouldn't serve him Chinese noodles.

11) If I saw a winged horse, I'd faint."

8. Lyons (1969) says that "One must distinguish between contextual completeness and grammatical completeness. There are many utterances of normal, everyday conversation which are dependent for their internal form on the preceding utterances of the same speaker or the person with whom he is conversing." The importance of contextual completeness is demonstrated by John E. Taplin in the "Interpretation of Abstract Conditional Sentences in Deductive Reasoning" (1973).

9. In "Specification and English Tense", David Crystal (1966) says "One interprets a given tense-form (i.e. my 'verb form') in a particular way either because the key to the interpretation is given in the form of an adverbial specifier, or because the absence of such a key is itself equally clear as a pointer to which time is being referred to."
10. Certain classes of verbs do not cooccur with specific time adverbials and others lack certain tenses.
- Examples:
- a. I know Mr. Smith. I have known him for years.
- b. *I am knowing Mr. Smith today.
- _____
- a. He has just died.
- b. *He has died since last year.
- _____
- a. John has lived here since last year.
- b. *John has just lived here.

CHAPTER III

VERB FORMS

IN

ANTECEDENT CLAUSES OF CONDITIONAL SENTENCES

Introduction

The method of analysis of verb forms used in this chapter shows that English verbs realize the subjunctive mood. To demonstrate this, the verb forms found in antecedent clauses of conditional sentences are examined. It is argued that a separate paradigm must be established to account for these forms. That is, they cannot be dealt with as if they were additional 'uses' of verb forms belonging to the indicative paradigm, as most contemporary analyses have done.

First the verb forms in the antecedents of factual and non-factual conditional sentences will be analyzed and compared. Then the subjunctive mood will be identified and described, and it will be demonstrated that it is necessary to establish a separate paradigm for the subjunctive forms.

1. Formal Differences between Verb Forms in Antecedents of Factual and Non-factual Sentences.

The division of conditional sentences into factual and non-factual will be maintained throughout this work since it is based on formal differences between the two groups of sentences.

In factual sentences the verb of the antecedent clause is either in a present tense or in a past tense form. The past tense forms cooccur with past time adverbials (27a) and the present tense forms cooccur with present (28a) and with future time adverbials (29a).

FACTUAL

27a. If it started to snow yesterday, then several inches must have fallen.

28a. If the Queensway is slippery today, take Baseline Road.

29a. If we get more snow tomorrow, there will be enough snow for skiing.

Antecedents in (27a) and (28a) have the same underlying structures as their corresponding factual statements (27b) and (28b).

27b. It started to snow yesterday.

28b. The Queensway is slippery today.

Antecedent (29a) does not have a corresponding factual statement (29b) but a prediction (29c).

29b. *We get more snow tomorrow.

is not acceptable although it contains the same verb form as antecedent (29a). Prediction (29c) appears to correspond to antecedent (29a) although it contains a modal form.

29c. We will get more snow tomorrow.

Consequently a prediction (29c) is turned into a statement (29b) in order to condition another prediction on it. I conclude that predictions expressed in consequent clauses of factual conditionals are conditioned on statements and not on other predictions. Thus factual antecedents with a future time reference correspond to predictions. In the previous chapter it was demonstrated that antecedents of non-factual hypothetical conditionals also correspond to predictions. However, whether the time reference of factual antecedents is past, present or future and whether their corresponding sentences are factual statements or predictions, they share an important characteristic: if the verb in the antecedent of a factual conditional is affirmative the verb in the corresponding statement is affirmative too and vice-versa. Factual antecedents are not contrary to either facts or predictions; their consequents are conditioned on the facts referred to by the antecedents and the verbs in the antecedent clause are in a present indicative form.

NON-FACTUAL

COUNTERFACTUAL

30a. If it had started to snow yesterday, we would not have come.

31a. If the Queensway were slippery today, you could take Baseline Road.

HYPOTHETICAL

32a. If we were to get more snow tomorrow, there would be enough snow for skiing.

The antecedents (30a), (31a) and (32a) do not have the same underlying structures as their corresponding statements. Statements (30b), (31b) and (32b) have the same underlying structures as antecedents (30a), (31a) and (32a), and are not well-formed sentences:

30b. *It had started to snow yesterday.

31b. *The Queensway were slippery today.

32b. *We were to get more snow tomorrow.

The following statements (30c) and (31c) correspond to antecedents (30a) and (31a):

30c. but it did not start to snow yesterday.

31c. but the Queensway is not slippery today.

The factual statement (30c) that corresponds to the counterfactual antecedent (30a) is in the simple past tense and is negative, and the factual statement (31c) that corresponds to the counterfactual antecedent (31a) is in the present tense and is also negative. Thus, when a counterfactual antecedent is affirmative, the corresponding factual statement is negative and vice versa as in (33a) and (33b):

33a. Peter is sick today.

33b. If Peter were not sick today, we could go skiing.

The statement that corresponds to a hypothetical antecedent is also negative when the antecedent is affirmative and vice versa (32a) and (32b):

32a. If we were to get more snow tomorrow, there would be enough snow for skiing;

32b. but we will not get more snow tomorrow.

As stated in the previous chapter, hypothetical conditionals are contrary to predictions.

From this demonstration it is possible to draw the conclusion that all non-factual conditionals contradict or negate their counterparts since their affirmative verb forms are opposite to the negative verb forms in the corresponding statements and predictions and vice versa. This is one of the differences between factual and non-factual conditionals. The other is in terms of the use of verb forms.

While most linguisticians agree that in non-factual antecedents the 'past' and the 'past perfect' express a formative called *irreality*¹, or that they signal a focus on non-reality², they give little importance to the fact that the time reference is different in sentences where these forms express reality from the time reference in sentences where they express irreality. Another

important difference between the verb forms used in the two types of conditional sentences is the large proportion of non-modal verb forms used in factual antecedents as compared to a much smaller number of forms that occur in non-factual antecedents.

In the next section it will be argued that there are two paradigms of non-modal finite verb forms in English: the indicative and the subjunctive and in the last section of this chapter the two paradigms will be set up and compared.

2. Subjunctive Mood.

In this section it will be demonstrated that the non-modal verb forms used in non-factual sentences are not additional uses of indicative non-modal forms called 'past tense' and 'past perfect', which realize tense, but a set of forms that belong to a separate paradigm, which will here be called subjunctive. Furthermore, the opposition between the indicative and the subjunctive paradigms will be called mood.

Except for similarities in their external forms there seems to be no other good reason for treating indicatives and subjunctives as different 'uses' of the same forms³. On the other hand, there is one more reason why subjunctive forms should be distinguished from indicative

forms: there is at least one verb, the verb be, that has a separate form peculiar to non-factual antecedents (34a) and other non-factual sentences (35a). It is the form were with first and third person singular subjects.

34a. If I were you, I wouldn't go.

35a. I wish father were here to see you.

This form does not occur in factual sentences (34b) and (35b):

34b. *I were here yesterday.

35b. *Your father were here yesterday to see you.

The arguments against distinguishing subjunctive from indicative verb forms in English are based on the similarity of their external appearance, and the syntactic differences are either minimized or ignored altogether. Yet other homonymous⁵ forms in the English verb system are not dealt with as if they were different 'uses' of the same form, but are classified as separate items according to their syntactic differences. Consider three dissimilar senses, A, B and C, of have got in (36a):

36a. I have^A just got a letter from Mary and
I have^B got to read it even if I have not got^C any time.

This sentence can be paraphrased as (36b):

36b. I have^A just received a letter from Mary and I must^B
read it even if I do not have^C any time.

but not as (36c):

36c. I just have^C a letter from Mary and I have^A received
to read it even if I must^B no time.

because have got A is the 'present perfect' of the verb get,
 a synonym of receive,
have got B is an alternative of have expressing
 obligation and a synonym of must,
have got C is an alternative of have expressing
 possession.

The occurrences of going to, called A and B in the following sentence (37) are another example of homonymous verb forms:

37. "Bob is ^Agoing to the store and I'm ^Bgoing to post a letter."
 These two forms are considered to be two verbs and not two 'uses' of the same verb, since all kinds of words can follow A (home, back, early, alone, etc.) yet only to can follow B.

While linguisticians agree that arrived in (38a) is a 'past tense', and in (38b) a 'past participle', that is that they are two different forms, they claim that arrived in (38a) and in (38c) are both 'past tense' forms.

38a. The train arrived two hours ago.

38b. The train has not arrived yet.

38c. If the train arrived in half an hour, we would take it.

However, according to Jespersen and Lyons⁴ tense has to do with time relations insofar as these are expressed by systematic grammatical contrasts. Since the indicative

'past tense' forms (38a) cooccur with past time adverbials and the other 'past tense' forms cooccur with present and future time adverbials (38c) they cannot be the same 'past' forms. The form arrived in (38c) is subjunctive and is one of the four subjunctive forms, which occur in non-factual sentences. The following are examples of sentences with verbs in the four subjunctive forms (39 - 42):

39. If he were in trouble, we would help him.
40. If he were drowning, we would help him.
41. If he had been in trouble, we would have helped him.
42. If he had been drowning, we would have helped him.

These forms will here be labelled: simple, progressive, perfect and perfect progressive. The following table shows the subjunctive paradigm of the verb give:

SUBJUNCTIVE MOOD

SIMPLE	gave
PROGRESSIVE	were giving
PERFECT	had given
PERFECT PROGRESSIVE	had been giving

The four subjunctive forms show two kinds of contrast, progressive/non-progressive and perfect/non-perfect. The simple form is un-marked, i.e. non-progressive and non-perfect. The contrast progressive/non-progressive is usually called aspect and is an optional formative. The

time reference of a subjunctive form is either before, "B", or not before, "-B", the time of utterance. Thus (39) and (40) are -B and (41) and (42) are B. If a speech is reported and the time of the utterance is changed to past a 'past tense' changes to 'past perfect' (38aa), but a simple subjunctive does not change (38ca).

38aa. He said that the train had arrived two hours ago.

38ca. He said that if the train arrived in half an hour, they would take it.

Since the time reference of a perfect subjunctive is relative to the time of the utterance and does not refer to absolute time, it remains unchanged even if the time of the utterance changes. In this respect this paradigm of finite forms is like non-finites, infinitives and gerunds, which also refer to relative time only. Examples of infinitives occurring independently (43-45):

43. To ^{-B}break a window is bad enough, but to have ^Bbroken it yesterday is unforgivable.

44. Moses was believed to have ^Bworked miracles.

45. His party is reported to be ^{-B}receiving support from abroad.

Examples of gerunds showing relative time reference (46 and 47):

46. He is feared for knowing ^{-B} too much.

47. After having ^Bworked all day, we were too tired to go to the party.

In later chapters it will be shown that modal auxiliaries also refer to relative time, and that only indicatives realize tense.

In the next section the two non-modal paradigms will be compared and the non-modal verb chart will be set up.

3. Non-Modal Verb Paradigms.

Since there are only four subjunctive forms and twice as many indicative forms, there must be certain restrictions with respect to their correlation.

The following examples show that while the simple subjunctive corresponds to the 'present tense', the perfect subjunctive corresponds to three indicative forms. (48 - 50).

48a. We haven't received a confirmation yet.

48b. If we had received a confirmation, we would have written to you.

49a. Luckily the children didn't see the bear yesterday.

49b. If they had seen it yesterday, they wouldn't have slept all night.

50a. The play had not started when we arrived.

50b. If it had already started when we arrived, we would have missed the whole first act.

In (48) the form had received corresponds to the 'present

perfect' haven't received and the relative time reference is B time of utterance. In (49) the form had seen corresponds to the 'simple past' didn't see and the relative time reference is B time of utterance. In (50) the form had started corresponds to the 'past perfect' had not started and the relative time reference is B the time of utterance and before another event in the past. Chart II in Chapter V shows the correspondence between indicative forms, that realize tense and perfect, and subjunctive forms, that realize only perfect.

To sum up the main points made in this chapter; the main difference between factual and non-factual conditionals is this: in factual conditionals, whose antecedents correspond to statements of facts or predictions, if the verb in the antecedent is in the affirmative, then the verb in the corresponding statement or prediction is also in the affirmative and vice versa; in non-factual conditionals the antecedents always 'negate', or contradict, corresponding statements or predictions, i.e. if the verb in the antecedent is in the affirmative, then the verb in the corresponding statement or prediction is in the negative and vice versa. The second difference is in terms of verb forms that occur in antecedent clauses. In factual conditionals the non-modal verb forms are in the indicative mood and in non-factual

conditionals they are in the subjunctive mood. Although the 'past' indicative and the simple subjunctive are homonymous they differ syntactically. While the 'past' indicative forms cannot cooccur with present or future time adverbials, and consequently have a present or future time reference, the simple subjunctive cannot cooccur with past time adverbials and have a past time reference. However, this is not the only difference in time reference. Only one subjunctive form, the perfect subjunctive, corresponds to three indicative forms, the present perfect, the simple past and the past perfect. This form, like all perfect forms in the English verb system, refers to relative time. In the case of perfect subjunctives the relative time is B or -B the time of the utterance.

This chapter would not be complete without noting that modal forms occur in both factual and non-factual antecedents but it is impossible to deal with them separately, i.e. outside the complete complex modal system, which is the subject of the next chapter.

FOOTNOTES TO CHAPTER III

1. In his paper on "Past in English", T. R. Hofmann (1971) says "The other deep formative, Irr (afactual subjunctive) will be found to occur either in both or neither of the clauses of an if-then sentence, and in certain other multiple clause structures. The main advantage of this analysis is its separation of 2 independent and significant dimensions of English sentences, tense (past/non-past) and mood (irreal/non-irreal)."
2. Twaddell (1963) B.1.4. "thus, this feature of English verb inflection called 'Past' has three apparently unrelated syntactic functions. Its function inherited from Germanic and earlier English grammar is to signal a focus on the chronological past; hence its conventional label 'Past'. But in modern English it also signals a focus on non-reality, in conditional clauses. And it also occurs, apparently automatically, in 'sequence of tenses'."
3. Jespersen (1960: 27.2.2.) writes "Originally this use (imaginative) was restricted to a separate mood-form of the preterit, the preterit subjunctive, and the

unreality was denoted by the mood rather than by the tense. But in the course of time the distinction between the forms of the subjunctive and those of indicative came to be blotted out and now in 99 per cent of cases it is impossible from the form to tell which of the two moods is used, thus, e.g. if he came, drank, held, sent, ended, etc. The only forms in which the distinction survives are 'was' (indicative) and 'were' (subjunctive) and even here it should be noted that the plural form 'were' belongs to both moods."

4. According to Jespersen (1960) tense is "the linguistic expression of time-relations as far as these are indicated in verb forms" and Lyons (1969) writes that "the category of tense has to do with time-relations insofar as these are expressed by systematic grammatical contrasts."
5. Godel, R. (1948) "Homonymie et Identité "... contraste net dans la perspective diachronique. Le fait synchronique résulte d'un événement diachronique particulier: la convergence phonétique des signifiants, Ex.: pois, poids, pox.

Mais on sait que l'événement inverse, soit la divergence et la dissociation des signifiés, engendre aussi des homonymes. Ex.: dessin/dessein, voler/voler,

qu'on peut appeler avec Bally des "homonymes sémantiques".
Au point de vue synchronique rien ne distingue ces deux
classes d'homonymes."

CHAPTER IV

VERB FORMS IN CONSEQUENT CLAUSES OF CONDITIONAL SENTENCES

Introduction.

Verb forms that occur in the consequent clauses of conditional sentences will be analysed, and the distinction between factual and non-factual conditionals, made in the previous chapter, will be maintained.

It will be shown that the second forms of certain modal verbs are the only forms that occur in non-factual consequents, and do not allow substitution by non-modal verbs. It can be argued from this that they are a separate modal paradigm.

It will further be demonstrated that only these modals have a full paradigm and derive from different deep structures than the other modals.

Finally, two classes of modals will be established: modal auxiliaries, that realize mood and are only capable of relative time reference, and their homonyms, modal verbs that realize tense and whose lacking forms are supplemented by synonymous non-modal verbs.

1. Verb Forms in Consequent Clauses of Factual Conditionals.

In this section it will be demonstrated that while all non-modal finite forms as well as imperatives and modal forms occur in consequent clauses of factual conditionals when the time reference is present or past, a limited number of modal verbs do not occur when the time reference is future.

As shown in the previous chapter, in consequent clauses of factual conditionals it is possible to refer to past, present, and future time. Furthermore, it was shown that this is true no matter whether the time reference in the antecedent clause is past, present or future. When the time reference of the consequent clause is past or present, besides simple indicative forms (see examples 19 and 20), perfect and progressive indicative forms also occur in both antecedent and consequent clauses of factual conditionals. The examples below (51 - 55) show a few of the numerous possibilities:

51. If that is what he told you, he was telling lies.
52. If you have been travelling all night, you probably need a rest.
53. If he has finished his work, he has nothing to do.
54. If he does not phone tomorrow, he has probably lost your number.
55. If he had not left any message when you called, he probably intends to be back before you leave.

56. If you were sick last week, do not go skating.

Sequence of tense rules apply to factual conditional sentences in the same way as they do to other sentences containing adverbial clauses (57)

57. When the police arrived, the bomb had already exploded.
and the following examples are not well-formed sentences (58a, 58b, 58c).

58a. *When the police arrived, the bomb already exploded.

58b. *If he waited for two hours, he had been very tired.

58c. *If she lost her job last week, she has not worked well.

Modal forms also occur in both antecedent and consequent clauses of factual conditionals when the time reference in the consequent clause is past (59) or present (60).

59. If Robinson Crusoe could not do a job without a tool, he would make one.

60. If he must live in Paris, at least he can speak French.

When the time reference in the consequent clause is future either will of prediction¹ (61) or a few other modals² (62 and 63) are possible.

61. If he had not phoned when you arrived, he will come to see you tomorrow.

62. If you will help me, we can finish by tomorrow.

63. If you hurry, we may be ready before next week.

Yet there are restrictions on the occurrence of modal verbs (64 - 69) in factual conditional sentences due to the fact that there are two sub-classes of modals.

64. If you practice for a month, you will speak French.
65. *If you practice for a month, you can speak French.
66. If you go to Quebec tomorrow, you will speak French.
67. If you go to Quebec tomorrow, you can speak French.
68. *If you will go to Quebec tomorrow, you can speak French.
69. If you will help me, you can speak French.

The subsequent sections deal with the sub-classification of modal verbs.

2. Two Sub-Classes of Modals.

As shown in the first chapter, modals are regarded as one class in most pre-transformational and transformational grammars. However, during the last decade several attempts have been made to classify modals on semantic grounds. Ehrmann, Diver, Joos, Halliday, Boyd and Thorne have all offered different criteria for a semantic classification of modals, and Halliday and Boyd and Thorne have sub-classified them into two groups. Boyd and Thorne (1970) recognize as modal verbs only those modals that "mark the illocutionary potential of the sentence"³, and Halliday (1970) examined modals "from a functional point of view" and found that only some modals expressed 'modality' while others expressed 'modulation'.

Only Hofmann (1966) has sub-classified modals on

syntactic grounds, and recent transformational work has generally accepted this classification: McCawley, Ross, Perlmutter, Newmeyer. Hofmann has pointed out that besides several 'meanings' or 'senses' modal verbs also display certain systematic syntactic differences. He has grouped modals into two classes which he has termed 'root' and 'epistemic'. Some transformationalists consider that while homonymous modals differ syntactically, there is a certain semantic relationship between homonymous groups.⁴ This semantic relationship has also been noted by some structuralists.⁵

The table below (as it appears in F. J. Newmeyer's paper on "English Aspectual Verbs") "illustrates the meaning and use of four modals in their typical epistemic and root senses."

	Epistemic	Root
MAY	(possibility)	(permission)
	a) It may rain tomorrow.	b) John may go if he wishes.
MUST	(truth by necessity)	(imperative requirement)
	a) The theory must then hold.	b) You must behave yourself.
CAN	(possibility)	(ability)
	a) How can you be so dumb?	b) I can dance the rumba.
		(permission)
		c) John can go if he wishes.

- | | |
|-----------------------------|------------------------------|
| WILL (future) | (determination) |
| a) Tomorrow will be Monday. | b) I will go if I choose to. |
| | (refusal) |
| | c) I won't do that. |

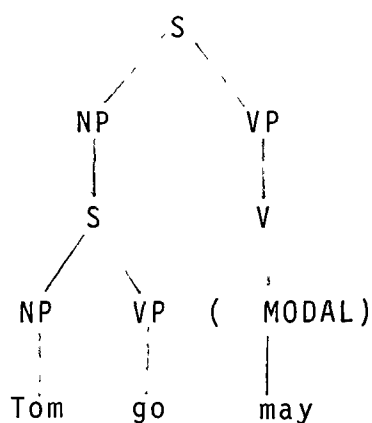
They differ syntactically in many ways, and Hofmann draws the following general conclusions (R-root and E-epistemic):

- a) R usually require animate surface subjects,
E do not.
- b) R have past tense forms some of which are used in reported speech only, and are often supplemented by other verbs, yet are always used in sentences where the past tense is usually found,
E show the past tense by 'perfect replacement' in the following verb.
- c) R require the next verb down to be active⁶
E allow both active and passive.
- d) R cannot have a paraphrastic 'it' as subject,
E may have a paraphrastic 'it' as subject.
- e) R are not followed by a progressive except under particular conditions,
E show no such restrictions.
- f) R predicate on the subject of the sentence,
E function as predicators of entire prepositions.

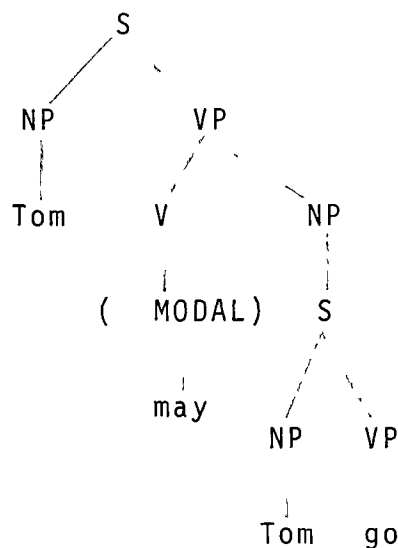
The last point is illustrated by the following deep structures that have been proposed by Ross and Perlmutter and discussed by Newmeyer:

"Tom may go"

Epistemic
(He is the sort of person who
would)



Root
(I gave him permission myself)



Not all relevant information about a construction is obtained by analysing the surface structure. In order to account for syntactic ambiguity it is necessary to refer to the level of deep structure. According to Chomsky, syntactic ambiguity in the surface structure is due to the fact that the ambiguous sentence has more than one possible derivation. Since the sentence "Tom may go" is syntactically ambiguous, i.e. it can be paraphrased as either "Tom is the sort of person who would go" or "I gave Tom permission to go", it follows that this sentence has two derivations, from two different underlying structures. In the sentence containing

the epistemic modal the subject of the sentence is not Tom but rather the whole sentence is dominated by NP. In the sentence containing the root modal the subject of the sentence is Tom and the root modal predicates on the subject of the sentence.

Hofmann's division of modals into two syntactically different sub-classes invalidates the classification of all modals as secondary or modal auxiliaries. Moreover, it poses a problem for transformational analysis. According to Chomsky all modals are an optional expansion of the auxiliary. Yet the features shared by homonymous modals are shades of modality and the two sub-classes of modal verbs differ on syntactic grounds.

The division of modals into epistemic and root is parallel to the distinction made in modal logic⁷ between modality de dicto and modality de re.⁸ (M-modality, F-predicate)

DE DICTO	$M \bar{\square} x F x$
DE RE	$\bar{\square} x MF x$

3. Verb Forms in Consequent Clauses of Non-Factual Conditionals.

In this section it will be demonstrated that besides the two non-modal moods: indicative and subjunctive, defined in Chapter III, there are also two modal moods, which will

be called: positive and hypothetic. It will further be shown that only epistemic modals realize modal mood, an underlying formative, not realized by any other auxiliary.

The syntactic differences discovered by Hofmann are necessary but not sufficient to prove that only one group of modals are modal auxiliaries. The criterion of "substitution by a non-modal" is introduced in this study as sufficient proof that only one group of modals realize mood and modality, while the other realize only modality and hence are not auxiliaries but lexical verbs.

As demonstrated by Hofmann the two groups of modals have different 'past tense' forms and epistemic modals show 'past tense' by 'perfect replacement' in the following verb. I shall return to the question of time reference in sentences containing epistemic modals in later sections. At this point in the present study it is essential to have a well defined surface structure distinction between the two groups on which to base further analysis. Since only epistemic modals have forms like: would have come, could have gone, should have been, sentences containing such forms are not syntactically ambiguous (70).

70. If the temperature had dropped below zero, we would have gone skating.

The modal form would in (70) can only be an epistemic form, since root modals do not have forms with have.⁹

On the other hand, sentences where forms without have occur are syntactically ambiguous, as shown in the previous section. The conditional sentence

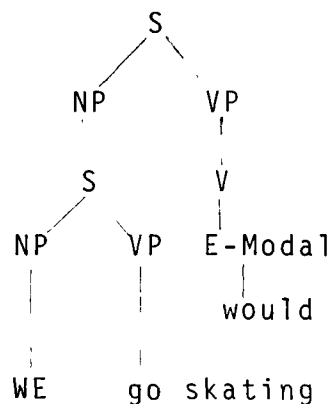
70a. If the temperature dropped below zero, we would go skating. is syntactically ambiguous. It has two readings, and the time reference can be present or past. If contextual or adverbial time reference is added, (70a) becomes clearly factual, (70b), and (70c), non-factual.

70b. Last winter, if the temperature dropped below zero, we would go skating.

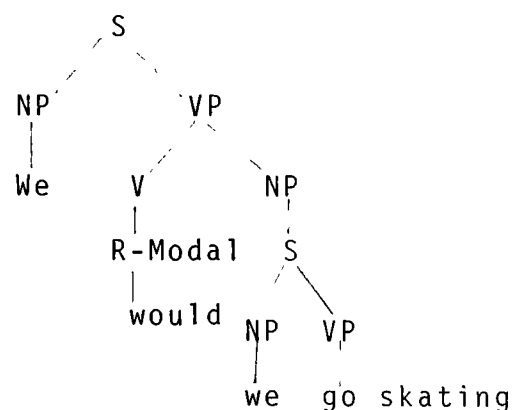
70c. If the temperature dropped below zero, we would go skating tonight.

In the above cases adverbials do not act as specifiers (*). They simply help to disambiguate the sentence. It is possible to draw two different tree diagrams for the consequent "we would go skating", A and B:

A - EPISTEMIC
(HYPOTHESIS)



B - ROOT
(HABITUAL PAST)



(*) See footnote 7, Chapter II

The following modal verbs have forms with have, or, in Hofmann's terminology, "show past tense by perfect replacement" and are called 'epistemic modals',

will have / would have

may have / might have

can have / could have

must have

should have

ought to have

The simple forms of epistemic modals are:

will / would (*)

may / might

can / could

must (**)

should (***)

ought to.

The second forms of these modals in the case of should and ought to their only forms - with have or without have (70d), (70e), occur in consequent clauses of non-factual conditionals:

(*) In some types of English (and sometimes only in certain registers) will/would and shall/should are in complementary distribution.

(**) The epistemic modal must will be discussed in subsequent sections.

(***) This is the epistemic should that has only one form.

70d. If the temperature had dropped below zero yesterday,

we { would
might
could
should
ought to } have gone skating.

70e. If the temperature dropped below zero tomorrow,

we { would
might
could
should
ought to } go skating.

Furthermore, these epistemic modal forms are obligatory in consequent clauses of non-factual conditional (*) sentences. They will here be called hypothetical forms and their pairs: will, can and may will be called positive. The hypothetical forms of epistemic modals cannot be paraphrased by verb phrases not containing one of them. If an attempt is made to paraphrase example (70) substituting modals by non-modal verbs, the result is a well formed factual (70f) and a non-acceptable counterfactual sentence (70g).

70f. FACTUAL

Last winter, if the temperature dropped below zero, we usually went skating.

70g. COUNTERFACTUAL

*If the temperature dropped below zero, we went skating tonight.

While root modals allow substitution by non-modal verbs (70f)

(*) These forms, and especially the form would, are often called 'conditionals'.

epistemic modals do not. The lexical meaning of the 'habitual' would is expressed by the adverbial usually. Yet there is no possible substitution for the hypothetical form of the epistemic modal would.

Epistemic modals necessarily realize a special formative since they cannot be paraphrased by non-epistemic verb phrases. In the following section it will be demonstrated that epistemic modals realize hypothesis and not tense.

4. Modal Mood.

In this section it will be demonstrated that the contrast will/would in epistemic modals is not tense but mood.

The hypothetical forms of epistemic modals occur in sentences with both present (71a) and past time reference (71b). In spite of the fact that these forms have traditionally been called 'past forms' they do not refer to time.¹⁰

71a. If you had saved part of your salary, you would have enough money to buy a car this year.

71b. If you had had enough money, you would have bought a car last year.

The positive forms also occur in sentences with either present (72a and 73) or past time (72b and 74) reference; thus they do not refer to time either.

- 72a. He must be one of the hold-up men. Why don't you immediately call the police?
- 72b. He must have been one of the hold-up men. Why didn't you call the police two hours ago?
73. He may get here any moment.
74. He can't have forgotten to phone.

Since these forms do not refer to time, according to the present analysis they do not realize tense but modal mood. The opposition between will/would is not one of present/past, i.e. tense, but what I call positive/hypothetic, i.e. mood.

The positive forms of the two-form modals and the three one-form modals occur in factual sentences. They are used in consequent clauses (75)

POSITIVE FORMS OF
EPISTEMIC MODALS

75. If it rains, { we will
we may
we can
we must
we should
we ought to } stay at home.

and all except will and may are also used in antecedent clauses of factual conditionals (76a)

The reason for the non-occurrence of the hypothetical forms would and might in antecedents was given indirectly in Chapter III, where it was argued that suppositions negate predictions, and not other suppositions. Thus it appears that the forms would and might are stronger realizations of hypothesis than the other epistemic hypothetical forms, which are stronger expressions of modality. The latter claim was made by Hermann (1964) and Diver (1964), who have classified modals semantically. In the following section it will be demonstrated that the hypothetical form would does not express any modality and that it realizes only mood.

5. Empty Modal Form Would.

The form would can be used in any clause that requires the hypothetical mood (77 - 80).

77. If he had a car, he $\left\{ \begin{array}{l} \text{could} \\ \text{would} \end{array} \right\}$ go to the country.

78. If he had a car, he $\left\{ \begin{array}{l} \text{might} \\ \text{would} \end{array} \right\}$ take up racing.

79. If he had a car, he $\left\{ \begin{array}{l} \text{should} \\ \text{would} \end{array} \right\}$ have a driver's licence.

80. If he had a car, he $\left\{ \begin{array}{l} \text{ought to} \\ \text{would} \end{array} \right\}$ buy a garage.

This is not the case with other hypothetical modal forms. There are cases where one or more modal forms are not possible because of their modality (81 - 84).

81. If he had a car, he $\left\{ \begin{array}{l} \text{would} \\ \text{ought to} \end{array} \right\}$ be a danger on the road.

82. If he had a car, he $\left\{ \begin{array}{l} \text{would} \\ \text{could} \end{array} \right\}$ get hundreds of parking tickets.

83. If he had a car, he $\left\{ \begin{array}{l} \text{would} \\ \text{might} \end{array} \right\}$ need a driver's licence.

84. If he had a car, he $\left\{ \begin{array}{l} \text{would} \\ \text{should} \end{array} \right\}$ have an accident.

The above examples become either improbable or incongruous sentences when other modals are used. This supports the view that modality is a lexical feature expressed by all epistemic modals except would.

It appears that the epistemic form would is an empty auxiliary, void of any lexical sense, in the sense that do, be and have are empty auxiliaries in (85 - 87).

85. Do you have a car?

86. Is it raining?

87. I have brought my umbrella.

The hypothetic form would realizes only hypothesis¹¹ and is a modal auxiliary. The other mood-realizing modals, i.e. epistemic modals, express a modality which has been shown to be a lexical feature, besides realizing hypothesis, which is a special formative:

<u>would</u>	Hypothesis
<u>might</u>	Hypothesis + probability
<u>could</u>	Hypothesis + possibility
<u>should</u>	Hypothesis + advisability
<u>ought to</u>	Hypothesis + advisability

Long's example (1965) illustrates this point very well:

" Could you move over a little? "

contrasts with

"Can you move over a little?"

in the same way that

"Would you mind moving over a little?"

contrasts with

"Do you mind moving over a little?"

Once hypothesis is removed there remains nothing of the hypothetic form would. It has already been shown that epistemic modals do not realize tense. In the following section it will be shown that they are only capable of relative time reference.

6. Epistemic Modals and Relative Time Reference.

As shown in Chapter III, while indicative verb forms refer to absolute time, subjunctive forms and non-finites are only capable of relative time reference. It remains to be shown that epistemic modal forms also refer to relative time only.

In the previous section it was demonstrated that the two forms of epistemic modals, the hypothetic and the positive forms, cannot show time and that their two forms realize mood. On the other hand, modals are always followed by infinitives,¹² and infinitives are capable of relative time reference only. Furthermore, infinitives have progressive and passive forms, which can all follow either form of an epistemic modal (88 - 91).

88. He can do something about it.
 89. You should be doing something about it right now.
 90. Tom must have done something about it.
 91. Something might have been done.

In sentence (88) a positive modal form is followed by a simple infinitive. In sentence (89) a one-form modal is followed by a progressive infinitive. In sentence (90) a one-form modal is followed by a perfect infinitive. In sentence (91) a hypothetical form is followed by a perfect infinitive in the passive voice.

The following is the paradigm of epistemic modal forms followed by infinitives, in the active voice. In the example the modal is will and the infinitive give.

	MODAL MOODS	
	POSITIVE	HYPOTHETIC
SIMPLE (or UNMARKED)	will give	would give
PROGRESSIVE	will be giving	would be giving
PERFECT	will have given	would have given
PERFECT PROGRESSIVE	will have been giving	would have been giving

There are similarities between the two modal paradigms and the subjunctive paradigm. The three consist of four forms: one is simple or unmarked for either aspect,

progressive/non-progressive, or relative time reference, perfect/non-perfect; one is perfect; one is progressive; and one is perfect and progressive. The time referred to by the perfect forms is relative to another point of time.

There is a difference between the time reference of perfect subjunctives, which refer to time relative to the time of utterance, and the perfect modal forms, which refer to time relative to any point of time: past, present, or future. Sentences (92-94) are examples of positive perfect forms that refer to:

FUTURE TIME

92. If you don't hurry, the train will have left before you get there.

PRE-PRESENT TIME

93. If there are no taxis at the station, the train will just have arrived.

PAST TIME

94. If they are already here, the train must have arrived on time yesterday.

Sentences (95 - 98) are examples of hypothetic perfect forms that refer to:

FUTURE TIME

95. If you hadn't come, we would have waited till next week.

PRE-PRESENT TIME

96. If he isn't in his office, he might have gone home.

PAST TIME

97. I wonder who helped her yesterday, she couldn't possibly

have done it alone.

PRE-PAST TIME

98. You shouldn't have opened the parcel before he came in.

Although the time reference of forms like will have arrived can be past as well as present and future, they are usually called 'future perfect'. On the other hand forms like would arrive and would have arrived are called 'conditional' even though they occur in non-conditional sentences. In examples (99) and (100) hypothetical would forms occur in non-conditional sentences. (*) According to the present analysis the following relative time relations are indicated in Jespersen's (1960) and S. Allen's (1955) examples ((99)):

RELATIVE TO TIME OF UTTERANCE	RELATIVE TO TIME OF VERB 'LIKE'
99. a. -B I'd <u>like</u>	to <u>go</u> today. -B
b. -B I'd <u>like</u>	to <u>have gone</u> yesterday. B
c. B Yesterday I'd <u>have</u> <u>liked</u>	to <u>go</u> right away. -B
d. B Yesterday, I'd <u>have</u> <u>liked</u>	to <u>have gone</u> the day before. B

For native speakers who, according to Jespersen, see b), c) and d) as synonymous, another more convincing example would be ((100)):

(*) For more examples see Section 9.

100. a. $\begin{matrix} -B & & -B \\ I'd & \underline{\text{like}} & \text{to } \underline{\text{be}} \end{matrix}$ good to her now that she is ill.
- b. $\begin{matrix} -B & & B \\ I'd & \underline{\text{like}} & \text{to } \underline{\text{have been}} \end{matrix}$ good to her, but it is too late now.
- c. $\begin{matrix} B & & -B \\ I'd & \underline{\text{have liked}} & \text{to } \underline{\text{be}} \end{matrix}$ good to her while she was ill.
- d. $\begin{matrix} B & & B \\ I'd & \underline{\text{have liked}} & \text{to } \underline{\text{have been}} \end{matrix}$ good to her, but it was too late.

The perfect forms of epistemic modals always show a relative time, which is more general than the relative time shown in subjunctive perfect. Furthermore, it was pointed out that the traditional labels are incorrect.

In the following section it will be shown that there are more similarities between subjunctive and modal forms.

7. Modal Mood in Reported Speech.

The behaviour of epistemic modal forms in reported speech will be studied and it will be shown that there are similarities between these forms and subjunctives since both groups refer to relative time.

When factual conditionals are reported epistemic modals change from positive to hypothetical (101).

- 101a. If it can happen to anyone, it may have happened to him yesterday.
- 101b. She said that if it could happen to anyone, it might have happened to him yesterday.

The so-called 'future in the past' is again the hypothetical form and the time reference of a simple form is -B and of a perfect form is B time of reporting. The time of would in (102b) and (102c) is relative to the time of the reporting verb, and the hypothetical event may be seen as future or past with respect to the time of reporting, i.e. as 'future in the past' in (102b) or 'future in the future' in (102c).

102a. I promise it won't hurt.

102b. He promised it wouldn't hurt and it didn't.

102c. He promised it wouldn't hurt and I hope it won't.

However, the form wouldn't hurt is neither future nor past but hypothetical. It is not facts but anticipation of events that the speaker is reporting.¹³

I conclude that the contrast between the two forms of mood-realizing modals is never present/past, it is always positive/hypothetic, even in reported speech.

When a non-factual conditional sentence is reported neither the subjunctive nor the hypothetical verb forms change. The simple forms referring to -B relative time do not become B forms (103, 104 and 105):

103a. "If you ^{-B}lost your money, you ^{-B}would have to borrow some
for the ticket."

is reported as:

103b. He said that if I ^{-B}lost my money, I ^{-B}would have to borrow

some for the ticket.

104a. "It could be fixed^{-B}, if I had^{-B} the proper tools."

is reported as

104b. He said it could be fixed^{-B}, if he had^{-B} the proper tools.

105a. "If you had worked^B in the summer, you wouldn't be begging^{-B}
in the winter."

is reported as

105b. The ant answered that if he had worked^B in the summer, he
wouldn't be begging^{-B} in the winter.

The -B forms are -B the time of utterance and the time of reporting, and the B or perfect forms are B the time of utterance and also B the time of reporting, so that the forms do not change. In this respect hypothetical modal forms are like subjunctive forms.

In subsequent sections it will be shown that of the three one-form modals one has only a positive form and the other two have only hypothetical forms.

8. One-Form Epistemic Modals.

In this section it will be shown that must is a positive and should and ought to are hypothetical forms.

The epistemic modals must, ought to and should have only one form. Their simple forms occur in factual sentences. (106a - 108a) are factual and the verb forms in the antecedents are indicative:

106a. It must work if it is new.

107a. It should be easy if you follow the instructions.

108a. It ought to work if it is plugged in.

However, only ought to and should occur in non-factual sentences. Examples (107b) and (108b) are non-factual and the verb forms in the antecedent are subjunctive.

106b. *It must work if it were new, but it is at least ten years old.

107b. It should be easy if you followed instructions. Why don't you read them?

108b. It ought to work if it were plugged in. Is there a socket in this room?

These three one-form modals have perfect forms, which are used for B time reference. The modals in (106c - 108c) refer to B past time and the sentences are factual.

106c. It must have worked if it was new. They say it was new.

107c. It should have been easy if you followed the instructions, and you say you have.

108c. It ought to have worked if it was plugged in. He says he plugged it in himself.

Examples (106d - 108d) are non-factual. The relative time reference is again B past time.

106d. *It must have worked if it had been new, but it was at least ten years old.

107d. It should have been easy if you had followed the instructions. Why didn't you study them?

108d. It ought to have worked if it had been plugged in. Did you check the plug?

Since must does not occur in non-factual sentences it follows that its only form is positive, whereas ought to and should are hypothetical. That hypothetical forms are not restricted to any particular sentences and clauses will be shown in the next section.

9. Tentative Uses of Hypothetic Forms.

It will here be demonstrated that hypothetical forms are not restricted to conditional sentences.¹⁴

In all the following sentences, there are hypothetical forms which, as stated by Palmer, have a tentative or less positive effect,¹⁵ or as Ehrman states "are employed in a polite use."¹⁶ (109 - 114)

109. I wonder if this could be my umbrella?

110. Should I come earlier?

111. One would think that the public understands the impact.

112. I don't know where he is. He might have gone home.

113. You ought to take care of yourself.

114. We would expect them to shed some light on the problem.

Examples (109 - 114) support the statement made in the previous section concerning the occurrence of the modals should and ought to in non-conditional sentences.

I conclude that the occurrence of hypothetic forms is not limited to any particular type of sentence.

The following section deals with root modals and the differences between the two types of modal verbs, epistemic modals or modal auxiliaries and root modals or defective modal verbs.

10. Root Modals and Absolute Time Reference.

In this section root modals will be studied and contrasted with epistemic modals. It will be demonstrated that they do not realize mood and express only modality.

According to Hofmann root modals do not show 'past tense' by perfect replacement in the following verb, i.e. they cannot be followed by perfect infinitives. Since only modals that can be followed by perfect infinitives occur in consequent clauses of non-factual conditionals, it follows that root modals never occur in non-factual conditionals. On the other hand, Hofmann claims that this group have past tense forms (115)

- | | |
|--|---------|
| 115. Peter is bilingual. He <u>can</u> speak | PRESENT |
| English and Spanish now. He <u>could</u> speak | PAST |
| some Spanish when he was four years old. | |

In the present analysis modal mood has been established as a separate function of the auxiliary: a modal verb form

either realizes mood or tense. It follows that if can is the present form and could the past, i.e. that they realize tense, then they cannot simultaneously realize mood.

So far, root modals have been defined negatively: they do not occur in consequent clauses of non-factual conditionals because they cannot be followed by perfect infinitives, and they do not realize mood because they realize tense. Since root modals do not realize mood, they are not modal auxiliaries. Realization of tense is not a specific modal function; it is taken care of by other non-modal auxiliaries. In this respect root modals are just like lexical verbs except for the fact that they lack non-finite forms and do not have a form in -s for the third person simple subject in the present indicative. In contrast with the epistemic modals, which cannot be paraphrased outside of their small group, modals that express only modality have synonymous pairs with complete paradigms, often referred to as their substitutes or equivalents. Each root modal expresses two or three modalities. The following are examples of root modals in one of their senses with synonymous pairs:

<u>will</u>	-	willingness	-	<u>be willing to</u>
<u>may</u>	-	permission	-	<u>be allowed to</u>
<u>can</u>	-	ability	-	<u>be able to</u>
<u>must</u>	-	obligation	-	<u>be obliged to</u> , <u>have to</u>

While epistemic modals, whose infinitive complements show relative time, correspond to several indicative forms (see examples 91 - 95), the two forms of root modals realize present and past tense and only occur in sentences where either tense is required. Their lacking forms are supplied by their substitutes (116) and (117).

116. You may go to the movies today, although you have not been allowed to go before.

117. I know I can ski this winter, but I'd like to be able to race. In (116) the root modal may occurs in the first clause, where the 'present tense' is required. In the second clause, where the 'present perfect' is required, may is substituted by its equivalent be allowed. Since root modals lack non-finite forms, in this case the -en, they cannot realize perfect. In (117) the lacking infinitive form of can is supplied by the infinitive of be able.

Root modals occur in both antecedent and consequent clauses of factual conditionals (118a) and (119a).

118a. If Peter is bilingual, then he can speak English and Spanish.

119a. If Peter can speak English and Spanish, then he is bilingual.

In reported speech root modals behave like other lexical verbs and follow the sequence of tense rule: when the reporting verb is in the past form, their present forms change to past forms too. (118b), (118c), (119b) and (119c).

- 118b. DIRECT Paul said, "If Peter is bilingual, then he can speak English and Spanish."
- 118c. REPORTED Paul said if Peter was bilingual then he could speak English and Spanish.
- 119b. DIRECT Paul said, "If Peter can speak English and Spanish then he is bilingual."
- 119c. REPORTED Paul said that if Peter could speak English and Spanish then he was bilingual.

To summarize, root modals are defective verbs, which have only two forms: the present and the past. Since they lack non-finite forms they cannot have a complete indicative paradigm. Their lacking forms are supplied by synonymous non-modal verb forms. Each root modal expresses several modalities which are lexical features shared by modal and non-modal verbs. Thus the two groups of modal verbs differ in terms of their number of forms, in terms of time reference and in terms of their function. To the syntactic differences discovered by Hofmann I have added the difference in time reference by demonstrating that epistemic modals realize mood and not tense. Furthermore, I have shown that all modals, except the modal auxiliary will/would, express modality, which is a lexical feature.

FOOTNOTES TO CHAPTER IV

1. Ehrman (1964) "The basic meaning of will is a statement that the occurrence of the prediction in which will is an auxiliary is guaranteed ... I have given this meaning of will the name PREDICTION, hoping that it will be understood that will does NOT always express futurity."

2. Palmer (1965) says "It is, moreover, characteristic of the other modal auxiliaries that they may refer to the future (though with additional reference to ability, probability, etc) as in:

I can/may/must/ought to come tomorrow.

3. They say "In fact, 'can' is a modal verb, that is, marks the illocutionary potential of the sentence, only when it is an alternative form for 'may' (or in the case of 'cannot', 'must'). There are at least three non-modal 'cans'. The first is the 'can' that is paraphrasable by 'be able to' as in

95. He can swim over a mile.

the second ... (96) I can hear music.

the third non-modal... (100) Cocktail parties can be boring."

4. Newmeyer (1969) says "there is a certain semantic relationship between root and epistemic modals which it would be difficult to capture ... by any other analysis of the modals which has been proposed. The root modal can often be interpreted as the epistemic modal with an added causative or affective sense."

5. Ehrman says that "For each modal I have tried to discover the most general meaning or meanings that will apply to all its occurrences. This has been termed the BASIC MEANING, and it may be described as the semantic lowest denominator. Practically all modals also have what I am calling OVERTONES.

No overtone is present in all the occurrences of a modal."

6. Newmeyer points out that "there are cases where sentences containing root modals can be passivized with no change of meaning.

For example: Visitors may pick the flowers in the garden.

The flowers in the garden may be picked by visitors."

7. A. Paul Snyder in "Modal Logic and its Application" says that modality DE DICTO is modality as attached to statements as in (a) "It is possible that Susie is a

freshman". Modality DE RE has to do with "manner of predication", the way in which an individual does or does not have a property. It is generally phrased in such a way that the individual is named outside the modal qualifier.

(b) "Susan is possibly a freshman."

8. M. A. Rivero in her paper on "Antecedents of Contemporary Linguistic Analyses in Scholastic Logic" (appeared in Cahiers Linguistiques d'Ottawa, VII 1973) points out the parallelism between certain recent linguistic analyses dealing with problems of scope and scholastic texts which discuss the distinction SENSU DIVISO (or DE RE) and SENSU COMPOSITO (or DE DICTO).
9. Palmer (1965 - 7.2.1) "... the criteria for distinguishing the permission and possibility uses of the two auxiliaries (the main criterion being that for possibility alone do they have past time forms with 'have')."
10. Palmer (1965) "The analysis of the modal auxiliaries is made difficult by two factors. First, the past tense forms do not often refer to past time."
11. Diver (1964) "... the oppositions of the scale are

- neutralized and the archi-number appears with the indifferentiated meaning 'hypothetical'."
12. Palmer (1965) "The forms in the secondary pattern are not wholes in the way in which those of the primary pattern are. Their initial elements, the secondary auxiliaries, can be treated separately both in their syntax (always followed by an infinitive) and in their use (though there are special problems of tense)."
 13. Bull (1968) says the following of the 'future in the past': "The Retro-future has been so badly named and its functions so frequently misinterpreted that it requires a special introduction. The most important point to be kept in mind is that the speaker does not recall the event represented by the Retro-future (i.e. future in the past). What he recalls is that he anticipated the event at R.P. (in the past). This is a fundamental distinction since an event anticipated at RP (in the past) may not actually happen until long after PP (actual present). However, the fact that an event anticipated at RP (in the past) may be achieved in PP (actual present) is irrelevant."
 14. Lyons (1968) says "... there are other sentences with would, should, etc. which have no reference to past

time: e.g. That would be a good place for a picnic, you should see a doctor, it could be true, etc. In such sentences the 'tense' distinction of non-past v. past would seem to subcategorize the modality in question in such a way that 'past' combines with mood to introduce a more 'tentative', 'remote' or 'polite' sense. In other words, 'tense' is here 'converted' into a secondary modality."

15. Palmer (1965: 129) "Each of the forms WOULD, COULD or MIGHT is found in one of the uses of the verb in a tentative sense, making either less positive statements, or more polite requests."
16. Ehrman (1964) "Remoteness from immediately perceptible reality may be seen as hypothesis. Hypothetical remote tense is often employed in a polite use."

CHAPTER V

THE SYSTEM OF ENGLISH VERB PARADIGMS

Introduction

Throughout the present study non-indicative finite verb forms have been analysed and classified. As a result separate subjunctive and modal paradigms have been established and incorporated into the system of English verb forms. In order to bring out different characteristics of the system several charts have been set up.

1. The System.

The indicative forms have not been analysed. Except for their few occurrences in factual conditionals (120b) and in statements (120a) corresponding to antecedents of factual and non-factual conditionals (120c), the study of their patterns was not needed to support my argument.

STATEMENT 120a. John has a car.

CORRESPONDING TO

1 - FACTUAL CONDITIONAL

120b. If John has a car, he will not come by train.

2 - COUNTERFACTUAL CONDITIONAL

120c. If John did not have a car, he would come by train.

The indicative paradigm has been accepted as it is presented

in literature and the non-indicative paradigms have been added in the order in which they were studied.

The first non-indicative paradigm is another non-modal paradigm, which has been called subjunctive. It was shown that its forms are homonymous with the 'past tense' forms of the indicative, yet that they have different time references. It was also shown that this paradigm does not have a separate set of forms that refer to past time and that its four forms, two perfect and two non-perfect, refer to relative time: B or -B the time of utterance. It was also shown that each perfect form corresponds to three indicative forms: present perfect, past and past perfect.

The remaining two finite paradigms are modal. It was found that the two forms of epistemic modals do not refer to time at all. Their patterning in consequent clauses of conditional sentences shows that they realize mood and that the contrast between their two forms is positive/hypothetic. Like all modals they are always followed by infinitives and it is the infinitives that refer to time. Infinitives are non-finite forms and are capable of relative time reference only. Unlike the subjunctive forms, they refer to time relative to any point of time in the past, present or future.

2. The Charts.

In order to present the system as a whole I have tried to tabulate it. Owing to the important differences in time reference it is impossible to include all paradigms in a single chart showing the correlation between the different time references. Stockwell has tried to do this rather unsuccessfully, and Palmer has kept the two paradigms apart. Two separate charts are necessary, one for the non-modal and one for the modal paradigms if confusion with respect to time reference is to be avoided.

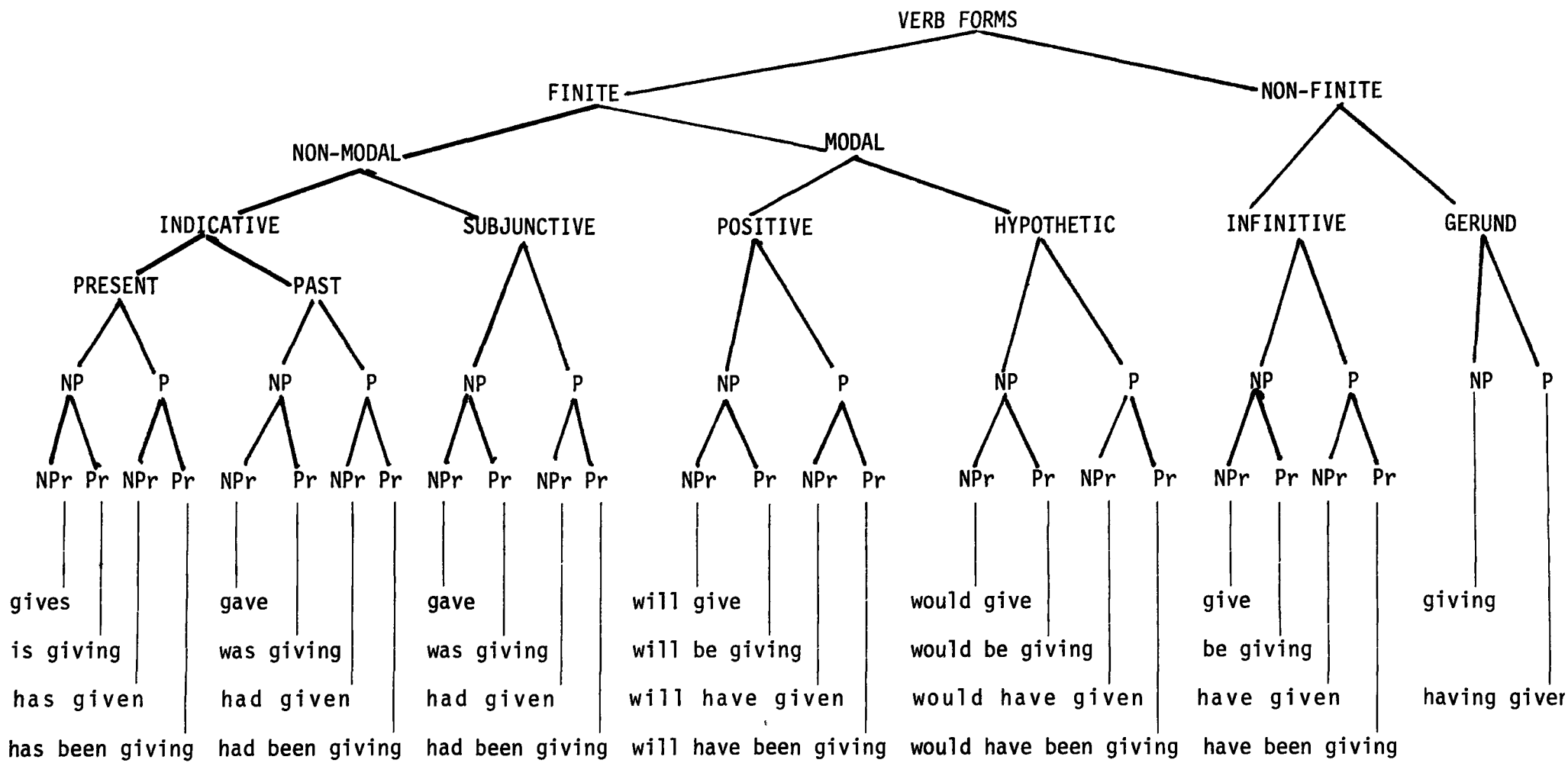
Chart I provides for all forms, non-modal and modal but it does not show time references. It consists of five columns, three non-modal and two modal. What is brought out is the fact that each paradigm consists of an equal number of forms if the indicative is separated into 'present' and 'past'. The regularity of the patterns is perfect since each paradigm has: a simple form, a progressive form, a perfect form and a perfect progressive form. However, that is all this kind of chart shows.

Chart II provides for non-modal paradigms only and shows the correspondence between indicative and subjunctive forms. It is also intended that it should point out the difference in time reference.

Chart III provides for the two modal paradigms and shows the time reference of the different forms.

Chart IV brings out the fact that the verb forms in all finite and non-finite paradigms show the contrast of perfect and non-perfect, and all except gerunds also show the contrast between progressive and non-progressive. The contrast perfect/non-perfect is one of relative time, B/-B a point of time, and as demonstrated in previous chapters, not necessarily the time of the utterance or present.

Consequently the assumption of transformational and some pre-transformational grammars that tense is an obligatory formative is false if we interpret tense as reference to time. On the contrary, once tense is understood to refer to time, only indicative forms realize tense and all finite and non-finite forms, including indicatives, can realize perfect.



Pr Progressive NPr Non-Progressive
P Perfect NP Non-Perfect

CHART I

For the modal will and the verb give the paradigm is:

THE SYSTEM OF FINITE VERB PARADIGMS

VERB FORMS	NON-MODAL MOODS			MODAL MOODS	
	INDICATIVE		SUBJUNCTIVE	POSITIVE	HYPOTHETIC
	PRESENT	PAST			
SIMPLE	gives	gave	gave	will give	would give
PROGRESSIVE	is giving	was giving	was giving	will be giving	would be giving
PERFECT	has given	had given	had given	will have given	would have given
PERFECT PROGRESSIVE	has been giving	had been giving	had been giving	will have been giving	would have been giving

This chart is simply an inventory of English finite verb forms. Besides showing the formation and the regular systems, it relates the forms and corresponding labels used in this thesis.

CHART II

For the verb give the paradigm is:

NON-MODAL MOODS

T I M E		INDICATIVE		SUBJUNCTIVE		TIME RELATIVE TO UTTE- RANCE OR REPORTING	
		SIMPLE	PROGRESSIVE	SIMPLE	PROGRESSIVE		
P R E S E N T	NON- P E R- F E C T	gives	is giving	gave	was giving	NON- P E R- F E C T	-B
	P E R- F E C T	has given	has been giving			had given	had been giving
P A S T	NON- P E R- F E C T	gave	was giving	had given	had been giving		
	P E R- F E C T	had given	had been giving				

The purpose of this chart is to show the time reference of the two non-modal moods. Indicative forms refer to absolute and relative time and subjunctive forms only to relative time. It also shows that the perfect subjunctive corresponds to three indicative forms.

CHART III

For the modal will and the verb give the paradigm is:

MODAL MOODS

RELATIVE TO ANY GIVEN TIME		POSITIVE		HYPOTHETIC	
		SIMPLE	PROGRESSIVE	SIMPLE	PROGRESSIVE
-B	NON- PER- FECT	will give	will be giving	would give	would be giving
B	PER- FECT	will have given	will have been giving	would have given	would have been giving

The purpose of this chart is to show the time reference of modal forms. Both types of modal forms, the positive and the hypothetical refer to time relative to any given time, past, present or future.

CHART IV

THE SYSTEM OF ENGLISH VERB FORMS

R E L A T I V E	A S P E C T	FINITE					NON-FINITE	
		NON-MODAL			MODAL		INFINITIVE	GERUND
		INDICATIVE		SUBJUNCTIVE	POSITIVE	HYPOTHETIC		
		PRESENT	PAST					
NON- PERFECT	NON-PRO- GRESSIVE	gives	gave	gave	will give	would give	give	giving
-B	PRO- GRESSIVE	is giving	was giving	was giving	will be giving	would be giving	be giving	
PERFECT	NON-PRO- GRESSIVE	has given	had given	had given	will have given	would have given	have given	having given
B	PRO- GRESSIVE	has been giving	had been giving	had been giving	will have been giving	would have been given	have been giving	

This chart shows all finite and non-finite verb forms. It shows that all six paradigms contain one unmarked form, i.e. one non-perfect and non-progressive form and one form marked for perfect only. It further shows that all paradigms except gerunds have a form marked for progressive and one marked for perfect and progressive.

CHAPTER VI

CONCLUSION

The conclusions arrived at in the present study corroborate my thesis and show that it was justified to question the descriptions that treat modals as one class of auxiliaries. I suspect that the incompleteness of most descriptions is due to the methods of analysis rather than to insufficient investigation.

As already mentioned, the method applied in this investigation is the one discussed and recommended by D. Crystal in "Specification and English Tenses", and it consists in analysing and classifying verb forms in terms of their co-occurrence with adverbials. Its application reveals that in the verb system there are a number of complexities that cannot be accounted for by the limited number of categories recognized by transformational grammar. It is even more difficult to describe them if one tries to conform to the restricted terminology of structuralist and Firthian grammars. During the research it became imperative to revise the meta language and to redefine some terms and introduce others in order to identify all the verb forms distinguishable in the verb system. Conditional sentences were singled out as the ideal framework for the study of the syntactic and functional differences between the two

sub-classes of modals, and were defined as if-then sentences containing adverbial if-clauses. The following conclusions were arrived at:

a) there are two types of conditional sentences, factual, whose antecedents do not contradict corresponding factual statements or predictions, and non-factual, whose antecedents contradict factual statements and predictions;

b) non-factual conditional sentences were further subdivided into counter-factual conditionals, whose antecedents contradict corresponding factual statements, and hypothetical conditionals, whose antecedents contradict predictions;

c) the interpretation of conditional sentences as factual or non-factual depends on the verb forms used in the antecedent clause and the possible co-occurrence of the verb forms and specific adverbials;

d) indicative forms and positive modal forms, except may and will, occur in antecedents of factual conditionals; and subjunctive forms and hypothetic modal forms, except might and would, occur in antecedents of non-factual conditionals;

e) while indicatives and positive modal forms occur in consequent clauses of factual conditionals, only hypothetic modal forms occur in consequent clauses of non-factual conditionals;

f) only one sub-class of modal verbs, Hofmann's epistemic modals, have two complete paradigms: the positive and the hypothetic.

g) only epistemic modals realize modal moods and do not realize either tense or subjunctive; they are therefore modal auxiliaries;

h) the other modal sub-class, Hofmann's root modals, realize tense and subjunctive, and do not realize modal moods; they are not auxiliaries but defective verbs, whose lacking forms are supplemented by synonymous non-modal verbs;

i) all modals, except the epistemic will/would, express modality, a lexical feature;

j) the epistemic modal will/would is an empty auxiliary;

k) there are five finite and two non-finite verb paradigms, each of which consists of four forms, except the gerund paradigm which has only two forms;

l) the two non-finite paradigms are the infinitive and the gerund; and the five finite paradigms are: the three non-modal paradigms, the present and the past indicative and the subjunctive; and the two modal paradigms, the positive and the hypothetical;

m) the forms in all paradigms show parallel contrasts and perfect/non-perfect is the obligatory choice for all forms in the system;

n) only indicative forms realize tense and have a present and a past paradigm;

o) the forms of the subjunctive paradigm are homonymous

with past indicative forms, yet the two paradigms differ in terms of time reference and reference to facts.

The verb system that emerges through the present analysis is regular and as complete as other Indo-European verb systems. This similarity and regularity of the system should simplify translation and processing. On the other hand, the regularity of the system and the fact that the classifications are based on patterning in the surface should make learning and teaching of the system easier.

Since the main purpose of this investigation was to re-classify modals and to describe their syntactic properties, hardly any attention was paid to their individual lexical senses or separate expressions of modality. Moreover, the terms referring to modalities have not been changed although in some cases a new label would have contributed to clearer description. The term 'prediction' presents a different problem. According to the present analysis the epistemic modal will/would is an empty auxiliary, whose two forms show the contrast positive/hypothetic. For reasons of consistency, the term 'prediction' should have been changed to 'positiveness'. However, a change in terminology at such an advanced stage in the discussion might have caused confusion. Although modals can be classified syntactically, there are clear

indications that the non-occurrence of some modal forms in certain types of clauses and the non-existence of others are due to semantic incompatibility. The reason why would and might do not occur in antecedents of non-factual conditionals seems to be the incompatibility between the meaning of their formatives and the semantic restraint that operates in a specific environment. On the other hand, the non-existence of the hypothetical forms of must appears to be due to the incompatibility between the modality expressed by must and the meaning of the formative 'hypothesis'.

The correlations of modal moods and separate modalities, and the patterning of epistemic modal verbs in different types of sentences would constitute a large enough subject for a separate investigation, the results of which would be of great significance to all concerned with the subject of the present thesis.

APPENDIX A

Chart A I - Palmer (1965)

Chart A II - Stockwell (1965)

CHART A I

by Palmer (1965)

THE SECONDARY PATTERN

The forms that include the secondary or
modal auxiliaries

For the modal WILL the paradigm is:

1)	will	take			
2)	would	take			
3)	will	be	taking		
4)	would	be	taking		
5)	will	have	taken		
6)	would	have	taken		
7)	will	have	been	taking	
8)	would	have	been	taking	
9)	will	be		taken	
10)	would	be		taken	
11)	will	be	being	taken	
12)	would	be	being	taken	
13)	will	have	been	taken	
14)	would	have	been	taken	
15)	will	have	been	being	taken
16)	would	have	been	being	taken

CHART A II

from Stockwell (1965)

THE ENGLISH AUXILIARY

PRIMARY		SECONDARY	
NON-PAST	MODAL 1,2,3,4,5.	RELEVANT ANTERIORITY	CURRENCY
speaks		has spoken	is speaking
		has been speaking	
	will speak	will have spoken	will be speaking
	may speak		
	can speak	etc.	etc.
	shall speak		
	must speak	will have been speaking	etc.
<hr/>			
PAST			
<hr/>			
spoke		had spoken	was speaking
		had been speaking	
	would speak	would have spoken	would be speaking
	might speak	etc.	etc.
	could speak		
	should speak	would have been speaking	
		etc.	
<hr/>			
Modal 1	Subsequence		
Modal 2	Contingency-Permission		
Modal 3	Potentiality		
Modal 4	Obligation-Advisability		
Modal 5	Obligation-Probability		

APPENDIX B

SPANISH AND SERBO-CROATIAN FORMAL CORRESPONDENTS
OF
ENGLISH CONDITIONALS

In this age of international cooperation there is a great demand for precise translation and a growing interest in machine translation. Consequently, it is essential to establish formal correspondences between the linguistic categories of different languages. For such comparative studies to be carried out successfully, it is necessary to have complete and detailed descriptions of the languages in question. Some methods of analysis, besides showing some aspects of the structure of one language reveal similarities between systems of different languages. In the case of genetically unrelated languages, all one can achieve in terms of formal correspondence are approximations. However, there are strong lexical similarities and numerous resemblances of grammatical structure between languages belonging to the same linguistic family.

It will here be shown that the formal divisions between all types of conditional sentences, established by the

present analysis of English, have formal correspondents in at least some other Indo-European languages as dissimilar as, for instance, Serbo-Croatian and Spanish.

In English, the difference between factual and non-factual conditionals is made formally by the use of specific verb forms. Indicative forms do not occur in antecedents of non-factual conditionals (B) and subjunctive forms do not occur in antecedents of factual conditionals (A). The same restrictions are found in Spanish.

(A) FACTUAL

- English - If John speaks English, he will find a good job.
 *If John spoke English, he will find a good job.
- Spanish - Si Juan habla inglés, encontrará un buen empleo.
 *Si Juan hablara inglés, encontrará un buen empleo.

(B) NON-FACTUAL

- English - If John spoke English, he would find a good job.
 *If John speaks English, he would find a good job.
- Spanish - Si Juan hablara inglés, encontraría un buen empleo.
 *Si Juan habla inglés, encontraría un buen empleo.

The English indicative form speaks corresponds to the Spanish indicative form habla and the English subjunctive form spoke

corresponds to the Spanish subjunctive form hablara.

On the other hand, English positive modal forms do not occur in consequent clauses of non-factual conditionals while hypothetical modal forms do not occur in consequent clauses of factual conditionals. The same restrictions operate in consequent clauses in Spanish. The Spanish future in -á for third person singular: encontrará corresponds to the English will find, and the Spanish conditional in -fa for third person singular: encontraría corresponds to the English would find. Sentences (B) may be interpreted as either counterfactual if the time reference of the antecedent is present, or as hypothetical if the time reference is future. The same applies to both English and Spanish.

In Serbo-Croatian the formal difference between factual and non-factual conditionals is not made by verb forms alone but by a combination of verb forms and conjunctions. The same device is used to distinguish between counterfactual and hypothetical conditionals.

Serbo-Croatian Conditional Sentences:

- (A) FACTUAL - Ako govori engleski, naći će dobro namješ[✓]tenje.
- (B) COUNTER-FACTUAL - Da govori engleski, našao bi dobro namješ[✓]tenje.
- (C) HYPOTHETICAL - Ako bi govorio engleski, našao bi dobro namješ[✓]tenje.

There is no subjunctive mood in Serbo-Croatian. The same verb forms with the same time reference, i.e. present tense for present time and past tense for past time, are used in factual and counter-factual sentences; and the difference is made formally by the use of different conjunctions, da in counter-factual (B) and ako in factual sentences (A). In consequent clauses, the future tense, consisting of an infinitive + će (for third person singular): naći će, corresponds to the English will find and the Spanish encontrará, and the conditional, consisting of a participle + bi (for third person singular): našao bi, corresponds to the English would find and the Spanish conditional encontraría.

The difference between counter-factual and hypothetical conditionals is again made by a different combination of a conjunction and a verb form, i.e. the conjunction ako and the conditional.

The formal correspondence between English and Spanish surface structures seems to be greater than between English and Serbo-Croatian, except for the formation of the future tense in Serbo-Croatian, which consists of the auxiliary htjeti, translated into English as will or want, plus an infinitive, and which therefore resembles the English epistemic will plus infinitive.

In spite of these differences, the three languages

possess grammatical devices to distinguish between the different types of conditional sentences formally. As Bull (1968) remarked: it is not necessary for languages to use the same syntactic or lexical devices in order to express identical concepts. An analysis like the present, which reveals resemblances between different systems and facilitates the establishment of formal correspondents, has obvious advantages in terms of application in language teaching and translation.

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