 CHAPTER II

 MODALITY AND MOOD: A CONCEPTUAL FRAMEWORK

1. Introduction

We wish to present here a conceptual framework that underlies the modal elements in a language. It is widely recognized now that although a grammatical category may have a number of semantic functions, one of them is likely to be more basic than others. For example, the distinct functions that are assigned to tense by Palmer (1974:43-49) are temporal reference, reported speech and unreality, but it is the first that is more basic than the other two. Similarly, in sentences like 'The college will/may reopen on Monday', modals like 'will' and 'may' have a temporal function also besides their modal functions like prediction, willingness, intention, insistence etc., but every one will perhaps recognize the modal function more basic than the temporal one. It is on this basis that many linguists, such as Lyons (1974), Huddleston (1976) etc., prefer to retain the traditional nomenclature of grammatical categories which staunch structuralists like Fries (1952) had completely rejected. But it should be noticed that the implication of this is not at all to determine formal categories by means of notional criteria, but only to recognize the obvious connections that exist between formal and conceptual
categories. Even those who name formal categories after their basic semantic function acknowledge that such categories have to be determined surely on formal grounds, (Lyons, 1974:317-22). Semantic criteria may only provide additional support to formal (morphological, syntactic etc.) criteria. The main reason why traditional grammar is so much criticized by modern linguists is that besides mixing up different kinds of criteria, traditional grammarians sometimes attached primacy to semantic criteria in the determination of grammatical categories.

Following the above line of thinking we can say that moods and modal elements of other kinds have a basic semantic function of representing different types of modality and illocutionary force in a language. In other words, moods and modal elements are only grammaticalization of various types of modality and illocutionary force that are intimately related to the interpersonal function of language. (Searle, 1969; Halliday, 1970; Lyons, 1977; Palmer, 1977). Besides descriptive function, which Halliday calls ideational function, language is also used for various kinds of social function where the speaker takes a variety of roles and attitudes. Modality and illocutionary force directly relate to these roles and attitudes, and enable the speaker to modify the propositional content of his message in various ways suiting his communicative intention.
we have introduced the terms 'modality' and 'illocutionary force', let us say a bit more about them.

2. Modality

The term 'modality' has been defined as the name given by logicians to a certain way of classifying propositions. "These are usually classed as problematic (S may be P), assertoric (S is P), and apodictic or necessary (S must be P). It would generally be admitted that the distinction between at least problematic and assertoric relates to the state of our knowledge than to an objective difference of fact." (Chambers's Encyclopaedia, Vol. 9: 456). To make proper sense of the above definition we will have to refer to modal logic which was initiated by Aristotle along with his syllogistic of universal and particular propositions. Aristotle discussed modal propositions in De Interpretatione and modal syllogisms in the Prior Analytics. Since then modal logic has continuously developed. From the end of the thirteenth century Aristotle's doctrine of modal syllogisms started receiving more systematic treatment, and in the fourteenth century logicians came to recognize six standard modes, 'possible', 'impossible', 'contingent', 'necessary', 'true', and 'false'. They also considered a proposition containing words like 'know', 'believe', 'doubt' etc., modal and discussed the validity of arguments containing such propositions. They
defined a modal proposition as the one that contained a modal term. (The Encyclopaedia of Philosophy, Vol. 3 & 4: 533).

Modal logic was designed to express some general principles involving the modalities of necessity, possibility, impossibility, contingency etc. These principles are such as:

1) A proposition is necessary if and only if its negation is not possible, i.e.

\[ \text{nee } p \equiv \sim \text{poss } \sim p \]

2) A proposition is possible if and only if its negation is not necessary, i.e.

\[ \text{poss } p \equiv \sim \text{nec } \sim p \]

3) A proposition is contingent if and only if it is neither necessary nor impossible.

Modal logic, in fact, adds to a non-modal system a new primitive operator representing one of the modalities mentioned above. Other modalities are sought to be defined in terms of that, possibility in terms of necessity, or necessity in terms of possibility. It extends the system based upon the two-valued propositional calculus by adding one or more modal operators to the truth-functional connectives. The modalities of necessity and possibility are specially
relevant to the distinction that philosophers make between analytic propositions, i.e., the propositions that are necessarily true in all possible worlds, or world-states, and synthetic propositions, i.e., the propositions that are only contingently true, which means true at least in one possible world, or world-state. But it should be noticed here that the concepts of necessity and possibility are related not only to alethic modality, which is chiefly concerned with logical necessity and possibility, but also to other types of modality like epistemic and deontic. We shall soon examine these different types of modality, but before that let us examine one or two more viewpoints regarding modality. Halliday (1970) defines modality in a unique manner. He splits up the logical concept into two, namely, modality and modulation. By modality he means a form of participation by the speaker in the speech event. He elaborates it by saying: "Through modality the speaker associates with the thesis an indication of its status and validity in his own judgement; he intrudes and takes up a position" (p.335). Modality is thus an important element of the semantics of personal participation to Halliday. He believes that it derives from the 'interpersonal' function of language, language as expression of role. There are many other ways also in which modality is related to the speaker's position, specifically to his assessment of the probability of what he is saying, or the extent to which he regards it as
self-evident, and other such attitudes. But Halliday thinks that the primary option in the system of modality is that between 'probable' and 'possible/certain'. His concept of modality is almost identical with the concept of epistemic modality in modal logic, which is also concerned with the speaker's assessment of the truth of the proposition, and with his various propositional attitudes.

What are generally treated as deontic and dynamic modalities in logic are treated by Halliday under 'modulation', which he relates to the ideational function of language. He says that "the transitivity structure is accompanied by a modulation showing the conditions that circumscribe the process" (p.347). He, therefore, treats permission, obligation, willingness and the like as different types of modulation that are part of the thesis-part of the ideational meaning of the clauses.

Although Halliday builds up quite a lengthy argument, and also furnishes some evidence in order to distinguish modality from modulation, it is not absolutely clear how issuing command, or granting permission, which are classed as different types of modulation do not belong to the interpersonal function of language as the speaker's assessment of the probability of what he is saying does. He tries to answer this question by saying, "so while modulations are incorporated
into the thesis as ideational material, they represent that part of it that is oriented towards the interpersonal - it is the content as interpreted by or filtered through the speaker that is being expressed" (p.349). This seems to me mere quibbling, and not a satisfactory explanation of the conceptual distinction between what he calls modality and modulation.

Let us now have a look at some other views. Defining modality, Khlebnikova (1976) says, "As is well known, modality is an indispensable property of statements. It does not define the composition of a statement, but rather its content on the level of the nature and degree of the relation between the subject of a statement and its predicate, or between the theme of a thought and its property." (p.1) He treats modality as a semantic, not a syntactic, category. He explicitly states it: "Modality is a conceptual (semantic) category, a type of meaning, or a complex of meanings, with various reflexes in language" (p.3).

Khlebnikova believes that a semantic category is a form of manifestation in language of correspondences with logic which include both grammatical relations (nonthematic and abstract) and lexical meanings (thematic and concrete). He seems to subscribe to the epistemic concept of modality which he thinks is entrenched in grammatical tradition. He says,
"since time immemorial, such units have been considered modal which are capable of expressing, in a more or less concrete or generalized form, depending on the characteristics of the linguistic unit, the necessity or the possibility of the relation between the subject and its action, and all the nuances which are semantically associated with them". (p.3)

The above concept of modality does not obviously include modalities related to the speaker's commands, permission intention, ability, willingness etc., yet Khlebnikova says that modality "is expressed principally in a generalized form, in the imperative and conjunctive moods, and also in the lexical meanings of modal verbs and certain lexical units" (p.5). We think his limited epistemic concept of modality cannot do all that. A much wider concept of modality, including alethic, epistemic, deontic and dynamic types, is necessary to account for all that different modal elements, verbal and non-verbal, denote in a language. An interesting definition of modality, from this point of view, is given by Harris: "put at its simplest, the term 'modality' covers a whole range of nuances of meaning which have in common the fact that they are opposed in some way to the most neutral semantic value that a sentence may have that is FACTUAL and DECLARATIVE." (1978:160) After mentioning interrogation and negation as two important types of modality he further says: "A whole variety of semantic features which modify the factual nature of sentences (the category 'factual'
therefore also being regarded as neutral or unmarked) are
also referred to as modalities. Such features include, for
example, wishes, intentions, requirements, possibilities,
obligations and many others." (1978:160)

Lyons has also some such concept in mind when after
discussing the modalities of command and interrogation he
suggests (1974:308) that "we may find a large variety of
ways in which the 'attitude' of the speaker is grammatically
marked in different languages." He considers at least
three scales of modality relevant. They are (1) the scale
of 'wish' and 'intention', viz., 'May he rest in peace!' etc.
(2) The scale of 'necessity' and 'obligation', viz., 'I must
go to London next week' etc., and (3) The scale of 'certainty'
and possibility' viz., 'He may be here', 'He must be here'
etc. Lyons treats these different modalities as scales, just
because they may be categorized into a larger or smaller
number of subdivisions (e.g., 'certainty', 'probability',
'possibility', or 'stronger' and 'weaker', or different
kinds of 'obligation' and necessity; and so on).

We will have a better idea of these scales of modality,
if we now look at the different types of modality, distinguished
by philosophers and logicians.
3. Types of Modality

If one tries to enumerate all the different types of modality and illocutionary force that utterances in a language are likely to embody, one is surely going to fail, as they may be numberless. One may come out only with tentative schemes, as Jespersen does in The Philosophy of Grammar (pp.320-21). He divides modalities into two classes: (1) those containing the element of will, and (2) those containing no element of will. The lists are as follows:

1. Those containing the element of will:
   - Jussive: go (command)
   - Compulsive: He has to go
   - Obligative: He ought to go/We should go
   - Advisory: You should go.
   - Precative: Go, please
   - Hortative: Let us go
   - Permissive: You may go if you like
   - Promissive: I will go/It shall be done
   - Optative: (realizable): May he be still alive!
   - Desiderative: (unrealizable): Would he were still alive!
   - Intentional: In order that he may go.

2. Those containing no element of will:
   - Apodictive: Twice two must be (is necessarily) four
   - Necessitative: He must be rich (or he could not spend so much).
Assertive: He is rich.
Presumptive: He is probably rich; he would (will) know.
Dubitative: He may be (is perhaps) rich.
Potential: He can speak.
Conditional: If he is rich...
Hypothetical: If he were rich...
Concessional: Though he is rich...

This scheme is, as Jespersen has already pointed out, tentative, as one could easily imagine other modalities like denial, abilitative, determinative etc., to add to it. In fact, it is very difficult to reduce modes of thought to a neat scheme of modalities; yet philosophers have tried to classify modalities into different types for the sake of logical inference. They are alethic, epistemic and deontic modalities. Von Wright (1951) distinguishes one more, i.e., dynamic modality, a type of modality concerned with the concepts of ability; willingness and intention. In some of the extensions of modal logic even tense is treated as a kind of modality which is concerned with the notions of actuality and remoteness in time. We shall now present a brief account of each type of modality to show how it is grammaticalized by means of moods and other modal categories in languages like English and Hindi. It will also help us provide a semantic framework within which modal elements may be interpreted.
3.1 Alethic Modality

Alethic modality is chiefly concerned with the necessary or contingent truth of propositions. Lyons says (1977:791): "What are traditionally described as necessary truths (i.e. propositions which, according to Leibniz, are true in all logically possible worlds) may now be referred to as alethically necessary propositions. Similarly, propositions that are not necessarily false (i.e. propositions that are true in at least one logically possible world) may be described as alethically possible. All alethically necessary propositions are alethically possible, but not conversely." Among alethically necessary propositions those that are necessarily true are called analytic propositions or tautologies, and those that are necessarily false are called contradictions. Alethically possible propositions are synthetic propositions which may be true or false. This kind of distinction presupposes a conceptual framework of possible worlds or world-states. According to Leibniz, analytic propositions are true in all possible worlds; that is to say, their truth is of a non-empirical nature, as it does not depend on a particular state of the world. Synthetic propositions, on the other hand, are true of only certain states of the world that are pointed out. There are other possible worlds or states of the world of which they may be false.
As we have already pointed out, modal logic deals only with general principles that relate different modalities to one another, and shows how modal propositions can be transformed one to the other with the help of other logical operators like negation:

\[
(1) \text{nee } p \equiv \sim \text{poss } \sim p
\]

\[
(2) \text{poss } p \equiv \sim \text{nee } \sim p
\]

It also shows relationships that exist between modalized and unmodalized propositions, as shown below:

\[
(3) \text{nee } p \rightarrow p
\]

\[
(4) p \rightarrow \text{poss } p
\]

Alethic modalities of necessity and possibility are grammaticalized in languages by different means, say, by verbal particles, auxiliary verbs, lexical verbs, adjectives, adverbs, various prosodic features etc., while necessity is associated with self-evident truths, which are true on a priori ground, it is also associated with logically valid inferences. A proposition like 'All human beings are mortal' asserts the factuality of the case, but it also asserts the necessity of it, as it is also necessarily true at the same time, and can very well function as the major premise in any logical argument. The necessity and factuality of the proposition can be represented as below:
(5) \((x) \quad H \quad (x) \quad \rightarrow \quad M \quad (x))\)

(6) \(\text{nee} \quad (x) \quad H \quad (x) \quad \rightarrow \quad M \quad (x))\)

\(H\) is a predicate meaning 'human beings', and \(M\) is a predicate meaning 'mortal'. (6) in which logical necessity of the proposition is asserted can be paraphrased as 'human beings must be mortal'. 'Must' here is the modal operator of alethic necessity. The same occurs in the conclusion of the following argument.

If one is a human being, then one is mortal.

John is a human being.

Therefore, John must be mortal.

The conclusion can thus be represented as \((M \quad (a))\) in which \((a)\) is a constant meaning 'John'.

Alethic possibility can be seen in logical relationships of a different kind, say, in entailments of the following kind:

All human beings are not necessarily good

\(~ \text{nec} \quad (x) \quad G \quad (x))\)

Some human beings are possibly bad

\(\text{poss} \quad (\exists \quad x) \quad B \quad (x))\)
G is a predicate meaning 'good', and B is a predicate meaning 'bad' here. (x) is a variable standing for human beings. In the modal proposition, 'some human beings are possibly bad' the verbal auxiliaries may/can, or the adverbials like 'possibly/probably', or similar adjectives or nominals may be used to represent modality. But what should be particularly noticed here is that although the same forms may sometimes be used to represent modalities of other kinds, i.e., epistemic etc, as is the case in English, their alethic nature must be kept distinct in interpretation.

3.2. Epistemic Modality

As we have already indicated, modal notions of necessity and possibility play an equally important role in epistemic logic. Epistemic logic deals with logical issues arising out of epistemological concepts like knowledge, belief, doubt etc. Instead of dealing with questions of necessary and contingent truth, it deals with what people know or believe or doubt to be the case. It is thus chiefly concerned with the speaker's attitude to the truth of the proposition in the light of the facts known to him. This leads to a number of propositional attitudes that he may have to the factual status of the proposition. Epistemic modal operators like "know", "believe", "think", "suppose", "imagine", "doubt" etc.
represent such attitudes. These attitudes may be represented by various other kinds of grammatical elements also, such as verbal particles, auxiliaries etc.

When the speaker says that he knows that p, he is committed to the belief that p is true, whereas there is no such commitment when he says that he thinks, or imagines or supposes that p. If he says he doubts that p, he in fact expresses his reservations about the truth of p.

It should be quite pertinent here to refer to the notions of factivity, non-factivity and contra-factivity that linguists use to classify different types of utterances. They also relate these notions to different types of epistemic modality. (Kiparsky & Kiparsky, 1978). For example, in 'I know that p', i.e. \( K_x (p) \) 'know', which is represented by k in the logical formula, is the epistemic modal operator indicating the speaker's commitment to the factivity of the proposition, but in 'I suppose that p' 'suppose' is a non-factive modal operator indicating no commitment on the part of the speaker to the factivity or non-factivity of the proposition. In 'I wish I had met you in Delhi', 'wish' indicates contra-factivity. It only indicates a firm commitment on the part of the speaker to the contra-factivity or unreality of the proposition.

The notions of factivity, non-factivity and contra-factivity that are mentioned above constitute a conceptual
framework that underlies various moods of traditional grammar, such as the indicative, the imperative, the subjunctive, the optative, etc. Sometimes languages like Hopi that lack the category of tense grammaticalize modal distinctions of factivity, non-factivity and contra-factivity rather than deictic or non-deictic temporal distinctions (Lyons, 1977:816).

As we have pointed out earlier, epistemic modalities of necessity and possibility are related to the knowledge of the speaker. Different states of the speaker's knowledge of the facts of the case determine his commitment to it. When he says, 'I know that p' what he means is 'I tell you in the light of the facts known to me that it is necessarily the case that p'. What the speaker does here is to assert the epistemic necessity of p. If he says sometime during the rainy season: 'It can rain today,' he asserts the theoretical possibility of raining today, but if he says: 'It may rain today' he may be expressing only his conjecture regarding the event with no commitment to its truth whatsoever. Expressions of possibility in both the cases here are of an epistemic nature, as they depend on different states of the speaker's knowledge. In the former case it is a matter of objective fact, as the speaker's assertion is based on his knowledge of the theoretical possibility of a certain event in the given situation, but in the latter case it may be a purely subjective assessment.
of the situation. In order to deal with such a distinction which may sometimes make utterances ambiguous we will have to divide epistemic modality into objective and subjective types, although it is difficult to distinguish clearly objective epistemic modality from alethic modality, as in both it is the logical possibility which seems to be asserted. Carnap (1956) treats both as modalities of logical probability. However, Lyons/treats the distinction as of some theoretical interest. Let us now illustrate it. The following sentence may be ambiguous precisely for its having both subjective and objective epistemic interpretations:

Naresh may have died.

It could be uttered in two different situations. One situation is when we suddenly hear of the collision of Naresh's car with a lorry. If we are told that three out of the five persons in the car died as a result of the collision, the probability of any one of the five in the car having died becomes, in quantitative terms, 60%. If Naresh is one of them, and we do not have any definite news of his survival, we may say 'Naresh may have died', and mean 'I say so it is probable that Naresh has died'. This is an instance of objective opistemic modality where the assertion of probability is based on certain facts; that is to say, it has an objective basis. In other words, the speaker presents the probability as an objective fact, based on his knowledge.
Let us now change the situation slightly, and imagine that Naresh has suddenly disappeared from home, and has not returned for several years. If the speaker has all these years had no trace of him, he may say 'Naresh may have died' and mean 'I think it is possible that Naresh has died'. This is an instance of subjective epistemic modality where the speaker is not making any assertion of probability, but is only expressing his subjective assessment of the situation. His statement is therefore based not on any knowledge of facts, but on his personal assessment of the situation.

With subjective modality in mind, the speaker could have stated the same thing in other words also, such as 'Perhaps Naresh has died'. This is not possible for the statement of objective epistemic modality. There is another difference also. If it is subjective modality, the speaker can add 'I think so' as a parenthetical clause to 'Naresh may have died', but it is not possible to do so if the modality is objective, as it will conflict with the assertive nature of the utterance.

(1977) Lyons thinks that the same distinction is possible in the matter of epistemic necessity. Let us slightly change the above situation for the sake of illustration. Instead of saying 'Naresh may have died' the speaker now says 'Naresh must have died' as he is now told that all the five persons in the car have been killed. On the basis of such knowledge he can infer with certainty that Naresh has died. His
statement will therefore 'mean' 'I say so it must be the case that Naresh has died.' This is, again, an instance of objective epistemic modality. Let us change the situation in the same way as we did before. If after having disappeared suddenly from home Naresh has neither returned, nor has sent any news of him from anywhere, the speaker may say 'Naresh must have died', and actually mean 'I very much believe it should be the case that Naresh has died'. This is again the speaker's subjective assessment of the situation, rather his strong belief, and not an objective inference based on facts, as is the case when Naresh is involved in a car accident. This is, therefore, an instance of subjective epistemic modality. As in the sense of possibility we can put a parenthetic clause 'I think' after 'Naresh may have died', here also we can add 'I believe so' to 'Naresh must have died.' We can thus see that the same modal auxiliaries such as 'may' and 'must' carriers of both types of epistemic modality. The situation may not be the same in Hindi, as we shall see later.

The distinction between objective and subjective epistemic modality can be shown more clearly if we relate them to speech acts. While in the expression of objective epistemic modality the speech act is that of assertion of modality, if not of the proposition itself, in the expression
of various kinds of subjective epistemic modality, there is no assertion, but only the expression of various kinds of reservation and uncertainty that the speaker has in asserting the truth of the proposition. Even in the expression of a strong guess or a private inference he does not assert the truth of the proposition, but only expresses his personal belief. We can thus see that modal auxiliaries like 'may', 'can' and 'must' may have different interpretations, depending on the situation, and the knowledge, belief and presuppositions of the speaker and the addressee. Pragmatic factors of this kind largely determine the illocutionary force and modality that utterances have in them. We shall discuss the issue of speech acts and illocutionary force at some length later. Here it is sufficient to say that speech acts of various kinds interact so much with different types of modality in the logical structure of sentences that they appear to be two sides of the same coin, at least in some cases; for example, questions represent one kind of speech act, but they also represent a kind of epistemic modality, as the speaker clearly indicates by asking a question that he does not know what the case is.

Epistemic modality may have a scale of the kind, possible - probable - more probable - still more probable - almost certain - certain, which may be realized by different means in a language. Any interpretation of epistemic modals has to
take this important fact into account. It has also to pay due attention to cases where the epistemic modality of one element is only reinforced by that of another, for example, 'He may possibly not come'. Here 'possibly' represents the same type of modality as 'may'. They only reinforce each other (Halliday, 1970: 331). But in a case like 'He may certainly come', there is obviously a clash between the speaker's uncertainty represented by 'may' and his sense of certainty represented by the adverbial 'certainly'. This clash makes the subjective interpretation impossible, as one cannot paraphrase the above sentence as 'perhaps he will certainly come'. The interpretation leans towards objective epistemic modality which may make the following interpretation possible: 'It is certainly the case that there is a possibility of his coming'.

3.3 Deontic Modality

Deontic logic is also a branch of modal logic in which principles involving the permissible and the obligatory are formulated and logical relationships between them are brought out. It has a close relationship with other branches of modal logic that we have discussed so far. In fact, as far back as the Middle Ages it had been realized that the logic of the permissible and the obligatory in some ways paralleled that of the possible and the necessary, and could be regarded
as falling under modal logic in a broad sense. Typical examples of modal logic are that whatever is necessary is possible, that what is impossible is necessarily false, and vice versa; and what is necessitated by something necessary is itself necessary. Analogously it would seem that whatever is obligatory is permissible, that what is forbidden (not to permissible) is what we are obliged not/do, and vice versa, and that what we are committed to by something obligatory is itself obligatory (Encyclopaedia of Philosophy Vol.4:509). The propositional modalities related to actions or states of affairs as the obligatory, the permitted, the forbidden etc., are regarded as deontic modalities. Operators of alethic or epistemic modality can easily be replaced by those of deontic modality in the following manner: We can replace "It is necessarily the case that p" by "It ought to be the case that p", and "It could be the case that p" by "It is permissible that p".

The notions of necessity and possibility figure also in deontic modality. What is obligatory is deontically necessary, and what is permissible is deontically possible. But deontic necessity should not be identified with mere moral necessity. It may include social, legal, physical and various other kinds of necessity that make it obligatory on the part of the addressee to bring about a certain state of affairs. Modal elements in languages reflect these different
kinds of deontic necessity. The main factor that determines the precise nature of each is the source of obligation and the authority associated with it. Modals like 'must' and 'should' in English denote different degrees, and also perhaps different kinds of deontic necessity. One may be mandatory, while the other merely recommendatory in nature, as is the case with the contrast between 'must' and 'should' in English. Such differences can be noticed also in deontic statements where the proposition is modalized by modal elements like right/wrong, proper/improper, legal/illegal etc., with moral code, etiquette, or legal system being the source of obligation.

Deontic modality, however, has a few special features that distinguish it from other systems of modal logic previously mentioned. Firstly, it does not directly assert the truth, falsity or probability of propositions at the moment of utterance, but only refers to a future state of affairs when the proposition may be true if the obligation imposed by the speaker upon the addressee to bring about the particular state of affairs is carried out, or the permission granted to the addressee makes it possible for him to bring about that. In fact, most deontic modal propositions can be interpreted as "I hereby oblige/permit you to bring about (in a future state of the world) that p is true". Regarding the truth-value of a deontic proposition, Lyons (1977:24) aptly
says: "The truth-value of a deontically modalized proposition is determined relative to some state of the world (w_j) later than the world-state (w_i) in which the obligation holds, and the world-state in which the obligation holds cannot precede, though it may be simultaneous with the world-state (w_o) in which the obligation is imposed".

Secondly, deontic modal propositions are not confined just to the speaker and the addressee. Since they imply a definite authority, moral, legal, or administrative which imposes the obligation or grants the permission to do anything, they may refer to sources other than the speaker, if the obligation emanates from them. For example, in 'You must finish the work by tomorrow' the authority imposing the obligation is possibly that of the speaker, but in 'you mustn't cross the road when the red light is on' the authority is obviously not that of the speaker, but of the traffic law. The speaker can also impose on himself an obligation by saying 'I must go for a walk every morning', in which case the source of obligation is the need to keep physically fit. In fact, there is always some authority existing in the universe of discourse when deontic modalities are involved. That seems to be the reason why Palmer (1974: 100-102) calls the English modals of obligation and permission 'discourse-oriented', in contrast with 'epistemic and subject-oriented modals' which are not dependent on any external source.
One last point that we would like to include in a discussion of deontic modality is the distinction between subjective and objective deontic modality that Lyons (1977) makes. He thinks that the following interpretations of "Alfred must be unmarried" are subjective and objective respectively:

(1) I (hereby) oblige Alfred to be unmarried.
(2) Alfred is obliged to be unmarried.

What is called the subjective interpretation is in fact a speech act by which the speaker himself imposes on the addressee the obligation of remaining unmarried; while what is treated as the objective interpretation may be either a speech act of assertion by which the speaker simply asserts that there is such an obligation on the addressee to which he (the speaker) is also committed, or it may simply be an act of reporting by which the speaker merely reports that an obligation to be unmarried has been imposed on the addressee, but he (the speaker) is not committed to it by virtue of acknowledging the authority of one who is the source of obligation. What is crucial in the distinction is really the source of obligation. If it is the speaker himself, it is indicative of subjective deontic modality, but if it is someone other than the speaker, the modality is objective. Utterances with subjective modality are non-factive
and those with objective modality are factive, as is the case with epistemic modality. Utterances with deontic modality may also be ambiguous in the same way as those with epistemic modality, as far as the subjective and objective interpretations are concerned.

One more thing that should be said about deontic modality is that basically it is related to the speaker's desire for a particular state of affairs to materialize. The speaker may, therefore, sometimes not impose any obligation on the addressee, but may only suggest what he would like the addressee to do. For example, in 'you must remember you are ungrateful to your friend' or 'you mustn't forget that we are in China' no obligation as such is imposed by the speaker on the addressee, but it is only the speaker's expectation or desire that the addressee will remember, or won't forget something the speaker wants him to remember. If we look at deontic modality from this point of view, we may find that the speaker's desire underlies any kind of obligation that he may impose on the addressee. This is the function that emerges right at the initial stage of life when a child does not know who will carry out his desire so well as what he wants. Halliday (1975), therefore, lists it among the most basic functions performed by the child at the earliest stage. One may therefore treat it as the most basic kind of deontic modality, from which other deontic modalities grow with the ongoing progress of socialization.
3.4 Dynamic Modality

We have so far looked at three types of modality, and also at the distinctions of subjective and objective nature in them. Let us now look at what Von Wright (1951:28) calls 'dynamic modality' which underlies utterances representing the subject's (which may be the speaker) ability, intention, or willingness to bring about in a certain future state of the world the state of affairs when p is true. For example, in 'I can repair this car' the subject (who is the speaker himself) proclaims his ability to bring about the state of affairs when the proposition 'the car is repaired' holds true. 'Can' represents here the dynamic modality of ability. Similarly, 'will' represents the dynamic modalities of intention, willingness etc., in English. Since all these modalities are directly related to the subject of the sentence and not to the speaker or the hearer, unless they function as the subject, Palmer (1974:100-102) calls the modals that represent them in English 'subject-oriented'. But he says: 'in the analysis of ordinary language it is not always possible to draw a clear distinction between epistemic and dynamic modality, even though the distinction is clear in a formal system:' He thinks that epistemic modality is a more basic or wider concept since what is (epistemically) possible includes what can (dynamically) be done. This view seems to be correct, as when we look at the modalities of intention and
willingness also, we find them close to the epistemic modalities of prediction and supposition. When the speaker predicts or supposes that he will do something, it partly implies that he is willing or intends to do that, although in some cases it may not be so. For example, it is possible to say 'I'll go to Delhi tomorrow, even though I am not willing to go'. In such cases it is not neutral prediction, but some kind of unpleasant obligation or compulsion that seems to be involved.

In fact, in English 'will' has both epistemic and dynamic meanings associated with it; so utterances having 'will' are generally ambiguous. For example, 'I will repair the car' may mean 'I have the intention or willingness to repair the car', and also 'I predict or suppose or imagine that I will repair the car'.

All these modalities occur in non-factive utterances. Some forms of them occur even in contra-factive utterances. For example 'he can sing', and 'he can tell awful lies' are non-factive utterances although they are different from each other in respect of actuality, as Palmer (1977:1-23) points out. But the use of 'could' or 'could have' in the same utterance may make it contra-factive; for example, 'he could sing' may imply that the event of singing did not actually take place. It may thus be wrong to equate it with 'he was able to sing' which has the implication of actuality.
Similarly, 'he could have sung' also has the implication of non-actuality, but here Palmer thinks that the event did not take place, not because the ability was lacking. He thinks that unreality here is associated with the event rather than the modality.

Discussing the implications of 'can' Palmer (1977) thinks that with future reference 'can' often implies that the event will take place. It implies actuality. But having discussed the use of 'can' as a dynamic modal at length he qualifies his initial statement by saying that 'can' implies actuality only when it relates to specific actions, not to a class of actions, as in utterances like 'he can tell awful lies' which means he does from time to time, and he will in future. But 'can you sing?' does not have similar implications as the addressee can say in reply 'I can, but I won't.' What Palmer is trying to show is that 'can' can be used to imply actuality in the future, but not in the past, just because, as he says, "future actuality does not involve factual status - for predicted events may or may not take place. In contrast, it is known whether the past event took place. A modal verb may, therefore, be appropriate where there is a reference to a future event, but not where there is reference to a past one" (1977:5). Does it mean that dynamic modals like 'can' and 'will' can never be used to indicate actuality of a factual status? We think this is not the case when we relate them not to the past or the future, but
to the present. In utterances like "I can sing", and "I will sing" the speaker can assert the fact of his ability or intention to sing. These are assertions made by the speaker about what he has in his mind, character or personality, and they have the same truth-value as other empirical statements. One basic difference between such assertions and assertions about the events which took place in the past, or are taking place at present, however, is that empirical verification of dynamic assertions i.e., assertions about one's personality and state of mind, has sometimes to wait for evidence as it may be available only in the future, as in the case of intention. The evidence for ability may, however, be available in the past as well as in the future.

Now there is a little problem about the interpretation that we have given of dynamic modals. In that case they become the main predicates of the proposition in which they occur; for example, "I can sing" = "I have the ability to sing", and "I will sing" = "I have the intention/willingness to sing." 'To sing' here is only the complement of the predicate. In such a situation one cannot safely say 'can' and 'will' are still modal auxiliaries occurring in modalized utterances and denoting dynamic modalities, although their meanings remain the same. This problem is not confined to dynamic modals alone, but epistemic modals have also to face it, as there 'may' and 'must', which indicate possibility and strong
probability, may behave like main predicates rather than just modal auxiliaries. For example, "He may come" = (He come) may (i.e. is possible) = It (he come) is possible; and "He must come" = (he come) must (i.e. It (he come) is highly probable.) In both cases the proposition (he come) functions as subject, and 'may' and 'must' as predicates.

Pursuing the argument thus far we have perhaps got very close to another controversy that has been raging actively in linguistics for some time; that is, whether auxiliaries are not like other so-called main verbs. Several linguists (Ross, 1969; Huddleston, 1974 and 1976; Pullum & Wilson, 1977) have advanced both syntactic and semantic arguments in support of this thesis. We shall not say anything on that at this point.

4. Tense as Modality

We shall now briefly mention an important extension of modal logic, i.e., tense logic, or the logic of temporal modalities. This kind of logic, which deals with past, present and future relationships of propositions, originated with the Megarians of the 4th century B.C. In the Megarian sense of modality, the actual is that which is realized now, the possible is that which is realized at some time or other, and the necessary is that which is realized at all times (Encyclopaedia Brittanica, Vol.1:35).
chronologically definite and indefinite statements. The truth-value of chronologically definite statements is independent of their time of assertion, but such is not the case with chronologically indefinite statements. For example, "the meeting took place on 4 November, 1978" is a chronologically definite statement, but "the meeting took place last month" is not so, as it requires some definite point of reference to which "last month" could refer for its specification.

In tense logic propositions are generally regarded as tenseless or timeless, and temporal modal operators are added to them to specify their temporal relationship to the universe of discourse. For example, "He left for Delhi yesterday" could be characterized as

\[ P(p) \]

\( P \) here stands for the modality of Past tense, and \( p \) stands for the tenseless proposition, 'He leave for Delhi'.

It is also argued by some (Lyons, 1977: 817-20) that the distinctions of tense, such as past and non-past, or past and present, or past, present and future, which different languages make may be regarded as a particular case of the distinction: 'remote vs. non-remote'. This makes tense
a kind of modality which expresses itself through deictic distinctions in a slightly different way. Now in place of present we have non-remoteness as the point of reference. Past and future are remote from this point. These distinctions of remoteness and non-remoteness are also closely related to those of factivity, non-factivity and contra-factivity that we briefly referred to in connection with epistemic modality. The past tense may be treated as at once remote and factive, while the so-called future tense may be at once non-remote and non-factive. Contra-factivity can then arise out of remoteness and non-factivity (Lyons, 1977:820). The past tense sometimes indicates contra-factivity, as in a sentence like 'If you had worked hard you would have passed the examination'.

It is claimed by some linguists that the above analysis in terms of remote vs. non-remote may account better for the facts of certain languages like Hopi. (Lyons, 1977:816). This brings tense so close to epistemic modality that we have to treat it in Hopi as the grammaticalization of modality. Tense thus ceases to be a predominantly deictic category, but becomes a kind of mood. In fact some traditional grammarians of English, especially Henry Sweet, recognize a category called 'tense-mood'. That is based only on the modal function of tense.
5. Speech Act and Illocutionary Force

It is the philosopher J.L. Austin who perhaps first systematically discussed the idea of speech act. He first makes a distinction between constative and performative utterances, and then asks (1971:560) "how many senses there are in which to say something is to do something, or in saying something we do something, and even by saying something we do something". He regards the act of "saying something" as the performance of an illocutionary act which consists of the phonetic act, the phatic act and the rhetoric act. He defines these acts as follows: "The phonetic act is merely an act of uttering certain noises. The phatic act is the uttering of certain vocables or words i.e., noises of certain types, belonging to and as belonging to, a certain vocabulary, conforming to and as conforming to a certain grammar. The rhetoric act is the performance of an act of using those vocables with a certain more-or-less definite sense and reference." (1971:561) Furthermore, Austin introduces the notion of illocutionary act, and says that to perform an illocutionary act is, in general, also to perform an illocutionary act, but in order to determine what illocutionary act is performed, we will have to determine in what way we are using the locution; that is, whether we are using it for asking questions, or announcing a verdict or an intention, or pronouncing sentence and so on. Austin calls the performance of an act in this sense the performance of an "illocutionary"
act, i.e., the performance of an act in saying something as opposed to the performance of an act of saying something (p.563). He refers to such a doctrine of different types of function of language as the doctrine of "illocutionary forces". While he treats the meaning of an utterance as a matter of its sense and reference, he relates the illocutionary force of it to its function. Later, he introduces the notion of perlocutionary act by which he means the act of producing certain consequential effects upon the feelings, thoughts and actions of the audience by saying something. Putting all of them together he says that there is a sense in which to perform a locutionary act, and therein an illocutionary act, may also be to perform a perlocutionary act.

We do not want to go into any further details of Austin's theory of speech acts. Austin's distinctions of locutionary, illocutionary and perlocutionary acts have been highly controversial. Cohen (1971:580-99) asks whether illocutionary forces really exist. He forcefully argues against the very notion of illocutionary force as something apart from the meaning of an utterance. Strawson (1971:599-613) also questions Austin's notions of the illocutionary force of an utterance and the illocutionary act which a speaker performs in making an utterance. He finds Grice's theory of meaning more satisfactory, as it has a much wider application. Searle (1971:614-28), however, has his own
differences with Austin's view, but, by and large, he accepts it and tries to elaborate and formalize it by means of rules of speech behaviour. To him all linguistic communication involves linguistic acts. He says: "The unit of linguistic communication is not, as has generally been supposed, the symbol, word or sentence in the performance of the speech act. To take the token as a message is to take it as a produced or issued token. More precisely, the production or issuance of a sentence taken under certain conditions is a speech act, and speech acts are the basic or minimal units of linguistic communication ... a theory of language is part of a theory of action, simply because speaking is a rule-governed form of behaviour." (1969:16-17).

Searle rejects the distinction between meaning and speech act which Austin had indirectly made. He says: "There are, therefore, not two irreducibly distinct semantic studies, one, a study of the meanings of sentences and one, a study of the performances of speech acts. For just as it is part of our notion of the meaning of a sentence that a liberal utterance of that sentence with that meaning in a certain context would be the performance of a particular speech act, so it is part of our notion of a speech act that there is a possible sentence (or sentences), the utterances of which in a given context would in virtue of its (their) meaning constitute a performance of that speech act" (1969:17).
Searle categorically states (p. 18): "the speech act or acts performed in the utterance of a sentence are in general a function of the meaning of the sentence ... the study of the meanings of sentences and the study of speech acts are not two independent studies but one study from two different points of view."

One may now legitimately ask how the theory of speech acts and illocutionary force is related to the problem of modality and mood. That illocutionary force is closely related to modality and mood is a fact that several linguists have emphasized (Householder, 1971; Boyd & Thorne, 1969). Boyd and Thorne (1969:62-73) treat the English modal verbs, such as 'will', 'shall', 'can', 'may' etc., as "indicating the illocutionary potential of the sentences in which they occur." For example, 'He will go to London tomorrow' can be analysed as 'I predict he goes to London tomorrow'. The analysis that Boyd and Thorne have presented with regard to the semantics of modal verbs is the usual performative analysis of sentences that several other linguists like Ross (1970) Householder (1971) and Sadock (1974) have also presented. What is interesting about it is that all the different types of modality that we have so far referred to have been shown as indicating illocutionary force or potential of different kinds. For example, epistemic modalities of possibility and necessity in sentences like 'He may come tomorrow', and 'He must come tomorrow' are directly related to the illocutionary forces of
the speaker's mental acts of guessing and predicting respectively. They may be expressed as 'I guess or think (He come tomorrow)' and 'I predict (He come tomorrow)'. What lies within the brackets is the proposition, and outside it is the illocutionary force indicating device. In fact, as far as epistemic modality is concerned, there may be numerous such devices reflecting different propositional attitudes. Starting from absolute commitment to the truth of the proposition by saying 'I know that p' the speaker may qualify his commitment by saying 'I think/suppose/believe/imagine/guess/doubt/trust/hope etc., that p'. All these which represent slightly different types of illocutionary force cannot so neatly be related to the epistemic modality of possibility, nor to the different epistemic modals found in English or Hindi. The conclusion, obviously, is the same that Halliday (1969) reaches, viz. there is a general category called the 'speaker's comment' which is realized by different types of illocutionary force in different situations, and modal elements that represent different types of epistemic modality function only as a subset that indicates a limited number of illocutionary forces.

6. **Speech Functions**

We have so far only tried to define the notions of speech act and illocutionary force, and discussed some of their
implications. What we have merely referred to and have not yet explained is the distinction between constantive and performative utterances that Austin makes. This distinction is in fact related to different functions of language. It was originally thought by logical positivists that language had only one function i.e., the descriptive function. But it was soon realized by others that it had various other important functions as well. One could not only make statements by using language, but could also ask questions, issue commands, make requests, and also express different states of feeling. That is to say, language could have functions like social, imaginative, expressive etc., besides the descriptive. It was also realized that making statements was not solely confined to the descriptive function, but it also had social function, as one made a statement not only to transmit information, but also to influence the belief and attitude of the addressee. Making a statement is also a specific kind of speech act which requires for its successful performance all those felicity conditions that other kinds of speech acts do. This makes the distinction between constative and performative utterances highly suspect. In fact, even Austin (1971:577-79) starts asking at one stage whether there is such a clear-cut distinction. He tries to relate all kinds of utterances to definite social contexts according to their functions. His theory of speech acts
emphasizes the relationship that exists between utterances and the social contexts in which they are made for different functions. Besides him, Wittgenstein (1953) also emphasizes the use of language for various social functions, and tries to relate meaning to use. The relevance of speech functions to mood lies in the fact that besides other functions, language is used also for various kinds of modal functions where the speaker expresses his attitude to the truth or desirability of the proposition by means of different types of modality. These different types of modality, for example, epistemic, deontic, dynamic etc., belong not just to one kind of function, but to different functions according to their nature. Halliday tries to relate mood and modality to the functions that language is used for in communication. His primary aim in most of his writings that explore the diversity of functions of language is to relate function to structure (Halliday, 1970, 1973, 1974, 1975). He claims (1970:322) that the link between function and structure is seen most clearly in the language of the child. He discusses at length (1973, 1975) the different functions for which the child uses language, such as the instrumental function, the regulatory function, the interactional function etc. This functional diversity of the child's language in which each functional component has its own meaning potential is, in Halliday's words (1974:36) "gradually replaced by a
more highly coded and more abstract, but also simpler functional system. In the adult language system the above diversity is reduced to a small set of three main functions which Halliday calls 'ideational', 'inter-personal' and 'textual'. The grammatical system of a language is thus treated as "a functional input and a structural output"/providing the mechanism for different functions to be combined in one utterance in the way the adult requires. Through the ideational function language expresses the speaker's experience of the real world, including the inner world of his own consciousness. This is roughly equivalent to the descriptive function of language. But through the interpersonal function language serves to establish and maintain social relations for the expression of social roles, which include the communication roles created by language itself; for example, the roles of the questioner or the respondent, which we take on by asking or answering a question; and also for getting things done by means of interaction between one person and another. The options regarding communication roles are available in every language. One can assert, ask questions, make requests, give orders, express doubts and certainties and so on in a language. Halliday (1970:159-60) says: "the basic 'speech functions' of statement, question, response, command, and exclamation fall within the modal function (though they do not exhaust it). These are said to be expressed grammatically
by the system of mood (cf. Sweet, 1955:103), in which the principal options are declarative, interrogative, (yes/no and wh-types), imperative etc." Here Halliday is taking a different view of 'mood' which is generally regarded as a property of the verb and not of sentence-types that represent different speech acts. We shall discuss the problem of mood as such a little later.

7. **Sentence-types and Mood**

We shall now look at the structure of sentences from the point of view of speech acts and illocutionary force, and then see the relation of different types of illocutionary force to different types of modality and mood. Searle (1969:30) says: "From the semantical point of view we can distinguish two (not necessarily separate) elements in the syntactical structure of the sentence, which we might call the propositional indicator and the illocutionary force indicator. The illocutionary force indicator shows how the proposition is to be taken, or to put it another way, what illocutionary force the utterance is to have; that is, what illocutionary act the speaker is performing in the utterance of the sentence. Illocutionary-force-indicating devices in English include at least: word order, stress, intonation-contour, punctuation, the mood of the verb, and the so-called performative verbs".
We have already seen how the illocutionary force of directing or commanding, for instance, is related to deontic modality, and also to the so-called imperative mood. Other types of illocutionary force, as we shall discuss below, are related to alethic, epistemic and dynamic modalities. They are represented by various moods like indicative, optative, potential, subjunctive etc., in different languages. But we should be careful not to mix up mood with mere syntactic contrasts which are formal devices of a different kind representing different illocutionary forces. Halliday does so, and then Huddleston (1976:68) perhaps follows Halliday in equating moods with sentence-types, but he calls it only one of the senses of the term 'mood'. He, however, correctly relates mood to the level of the speaker's assurance in the factuality of what he is saying. Making a distinction between neutral and non-neutral moods he says that the 'neutral' mood is typically associated with assured factual statements and the various non-neutral moods involve qualifications to or departures from them. He then tries to show how the term 'mood' is used in three separate senses—one of which is the sense of sentence-types. He thinks that the contrast between declarative, interrogative and imperative clauses is of modal nature. He says: "There are several reasons why it is important to distinguish between the mood categories, declarative, interrogative etc., on the one hand,
and the illocutionary force categories, statement, question etc., on the other" (1976:28). One reason may be that any mood category does not have just one function; for instance, the so-called declarative mood may be used not merely for making statements, but also for promising, advising, apologizing, thanking, congratulating etc. The relation between mood and illocutionary force categories, thus, according to Huddleston, may not be of one-to-one, but of one-to-many. Even this position may not be correct, as he further explains. He shows how the relation may be of many-to-many, that is to say, it may not only be the case that one mood can be used for different types of illocutionary force, but also that different moods can be used for the same illocutionary force; for example, "come here", "I am asking you to come here" have different syntactic moods, according to Huddleston, but have the same illocutionary force of commanding.

Unlike Halliday and Huddleston, several linguists still believe that mood, like tense, is frequently realized by inflecting the verb, or by modifying it by means of 'auxiliaries'. Simple declarative sentences are in fact unmarked for mood, but, in contrast, imperative sentences are marked in languages like Latin; for example, 'Dic mihi quid fecerit' (declarative) and 'Dicis mihi quid fecerit' (imperative). But the question is whether we find such a formal contrast in the verb in the case of an interrogative sentence which Huddleston relates to
the interrogative mood. Lyons admits that though interrogative sentences stand in contrast to declarative sentences by virtue of their modality, "they are not traditionally regarded as modal, because in most languages (including Latin, Greek, English) the syntactic distinction between declarative and interrogative sentences is not associated with a difference of verbal inflexion, or the selection of a particular auxiliary, but with the employment of various interrogative particles or pronouns, with a difference of word order or with intonation together with the indicative mood". (1974:307)

What Halliday and Huddleston seem to have mixed up in their analysis are, in fact, sentences which are characterized by means of mood alone, i.e., in which the main verb has a clear mood-marker such as imperative, subjunctive etc., in some languages, and sentences which are characterised purely with reference to their sentence-structure, such as interrogative sentences. Lyons keeps this distinction in mind when he suggests (1977:747-48) that the distinctions between statements, questions and mands, on the one hand, and between declarative, interrogative and imperative sentences, on the other, are quite misleading, just because imperative, which is a modal class, can go only with other modal classes like indicative and subjunctive, and not with declarative and interrogative which are not modal but only sentence classes, having non-modal characteristic features. It is, therefore,
wrong to put imperative along with declarative and interrogative on the basis of the distinctions of illocutionary force like mands, statements and questions. Restoring imperative to its own set of modal classes to which indicative and subjunctive belong by virtue of distinct mood-markers in the main verb, Lyons introduces a term, called 'jussive sentence'. He puts it along with the declarative and interrogative sentence types. "A jussive sentence", he says (1977:748), "then, will be one of a grammatically defined class of sentences that are characteristically used to issue mands." Imperative sentences, if any language has them by virtue of its having the imperative mood, may be only a subset of jussive sentences. We thus see that it is necessary to make a distinction between sentence-types, determined by purely syntactic features, and other sentence-types, which are directly determined by the mood of the verb. Illocutionary force may, however, be related to both. Mood is only one of the grammatical devices to indicate illocutionary force, as has already been suggested by Searle. Many languages do not have moods but have other devices for that function.

8. Illocutionary Force vs. Modality in the Logical Structure of Sentences

We have so far suggested that illocutionary force and modality are so close to each other that in some cases they may even look like two sides of the same coin. They are both
superimposed by the speaker on the propositional content of his message for different communicative purposes. But it would be misleading to equate them completely in the logical structure of sentences. They maintain their separate identity, as Hare (1971) shows in his analysis of different kinds of sentences. He perceives three distinct components in the logical structure of a sentence, which he calls the neustic, the tropic and the phrastic components. He describes the neustic as a "sign of subscription" to the speech act that the speaker performs. This component, which occurs first, expresses the speaker's commitment to the factuality, desirability, doubtfulness etc., of the propositional content of the sentence. For example, if the speaker says: 'John is a thief', he commits himself to the factuality of the proposition, 'John is a thief' by saying in his mind: 'I say so that it is the case that John is a thief'. This 'I say so' component is the neustic that expresses the speaker's commitment. It is also at the same time that the performative component of the speech act of assertion, as thereby the speaker performs the speech act of assertion. Different kinds of speech acts with different illocutionary forces can be performed in the neustic component. Instead of 'I say so' the speaker may say 'I doubt if it is the case that p', or 'I promise that it will be the case at such time in such a state of the world that p is true'. He is then performing different kinds of speech acts. But it should
be noticed that there is another component following the neustic where we have things like 'that/ if it is the case', 'that it will be the case', etc. This component is the tropic. Hare treats it as the modal component just because it is here that the speaker attaches a particular kind of modality to the propositional content of a sentence. For example, in a sentence like 'John is a thief' which we have analysed as 'I say so that it is the case that John is a thief', the modality is that of perfect knowledge and the illocutionary force is that of perfect commitment to the factuality of the proposition on the basis of this knowledge. But in a case like 'John may be a thief', which is ambiguous, (as both subjective and objective epistemic modal interpretations are possible) modality is of a different kind. If we take the objective interpretation, the sentence may be analysed as 'I say so that it is possible, or it may be the case, that John is a thief'. Here the illocutionary force indicated by the neustic component is that of the speaker's commitment i.e., of assertion, but the modality is that of uncertain knowledge i.e., of possibility. So, in fact, what the speaker is committed to, or is hereby asserting, is the probability of John being a thief. But the picture suddenly changes if we move over to the subjective interpretation. In that case the sentence will have to be analysed as 'I guess it is the case that John is a thief'. We could make 'John may be a thief'
unambiguous for subjective interpretation by representing the modality by means of the adverbial 'perhaps', rather than by the auxiliary verb 'may', so that a sentence like 'Perhaps John is a thief' will unambiguously mean 'I guess it is the case that John is a thief'. Notice, it has actually reversed the neustic and the tropic with each other. Now the neustic is that of guessing, that is to say, the speaker is only guessing if it is the case, and not asserting that it may be the case. The tropic in this case cannot have a modality that conflicts with the neustic; for example, it cannot have the epistemic modality of perfect knowledge. The modality will either be neutral or conforming to the neustic, so that 'I guess it is/may be the case that p' is perfectly alright but 'I guess it is surely the case that p' is somewhat anomalous. At best the latter would mean 'I am sure about the correctness of my guess'; the interpretation still remains subjective. For understanding such cases we may refer to the two principles that Lyons (1977:808) mentions: (i) subjective modality always has wider scope than objective modality, and (ii) no simple utterance may contain more than a single subjective epistemic modality (though this single modality may be expressed, as in a sentence like 'He may possibly have forgotten' in two places). Lyons thinks that these principles are of crucial importance in cases where the subjective epistemic modality qualifies the neustic or the performative component. It is such a qualification that may justify our
statement that in some cases illocutionary force and modality look like two sides of the same coin, as they completely overlap. We think it is not true/only of the subjective epistemic modality, but also of the subjective deontic modality, as in a case like "I hereby oblige you that it ought to be the case that p is true", the subjective deontic modality has a wider scope than the objective one; it will not allow any other type of modality in the same sentence that conflicts with it.

We have so far looked at the two components of the logical structure of a sentence, neustic and tropic. We have also said that the neustic is the performative component that may indicate the speaker's commitment to the factuality, possibility, desirability etc., of the proposition, and that it may vary according to the illocutionary force of the speech act that the speaker wants to perform. About the tropic we have said that it is the modal component that may have any type of modality in it, epistemic, deontic, dynamic etc. It is possible for the neustic to remain the same and the modalities to vary as we have shown. Since the subjective nature of a particular modality has wider scope, it may qualify the neustic, and in a way supersede it. We have so far said nothing about the phrasric component. It is the component which has the proposition in it. It is, thus, the last in
the chain. So, ideally, the neustic determines the nature of the speaker's commitment, the tropic the nature of modal qualification and the phrastic the propositional core of the message. The sum of these components is the utterance, which is, according to Searle, a component of our communicative behaviour.

So far so good; but a difficulty now arises about the nature of the phrastic, and about its interaction with the tropic. We have analysed the sentence, 'John may be a thief' as 'I say so that it is possible that John is a thief'. In the phrastic here 'John' is the subject and 'a thief' is predicated of him. 'Possible' is a modal qualifier in the tropic, but the sentence may also be analysed as 'I say so it is so that John's being a thief is possible'. Here the subject is not 'John', but the whole clause consisting of 'John's being a thief', and 'possible' is predicated of this complex subject. The modal component is neutral. These different representations may be shown as below:

\[ \text{poss (p)} \]
\[ (\text{Poss p}) \]

In the case of objective epistemic modality they perhaps mean the same. This kind of formulation makes the analysis of cases having dynamic modality easier. The sentence like 'I can read French' may be analysed as 'I say so I have the
ability to make p true', but it may be rephrased as 'I say so it is so that I am the one who has the ability to read French'. The latter brings out more clearly the nature of the assertion that the speaker makes about his ability. The same applies to other dynamic modalities like willingness, intention etc. It should be noticed here that modality now shifts to the phrastic component with no difference of meaning, which is not the case when it shifts to the neustic, which changes the meaning.

Now one may conclude from this that modality can freely shift to the phrastic without bringing about any change in the meaning of the utterance, but it is not true, as is evident from the attachment of Neg to the neustic, the tropic and the phrastic separately. Let us look at the following cases:

1. Neg "I say so" "it is so" that (p)
2. "I say so" Neg "it is so" that (p)
3. "I say so" "it is so" that (Neg p)

Since the Neg is attached to the Neustic in (1), it means that the speaker does not commit himself to the truth of the proposition. In (2) since the Neg is attached to the tropic, it means that the speaker is committed to its not being true that p, i.e., he denies that p is true. In (3) the Neg is attached to the phrastic; it, therefore, means that the speaker is committed to the truth of the negative proposition.
The main difference between (2) and (3) is that (2) is context-dependent, as it denies some assertion made previously in the discourse, while (3) is context-independent, as it only asserts the negative proposition made for the first time in the discourse, and is not a denial of anything. In view of this, we do not think Halliday is right when he says: "There is no such thing therefore as a negative modality; all modalities are positive" (1974:333).

9. **Linguistic Manifestation of Illocutionary Force and Modality**

We have so far discussed illocutionary force and modality as conceptual categories that manifest themselves in different ways in a language. Let us recall at this point what Searle says about this: "Illocutionary-force-indicating devices in English include at least: word order, stress, intonation-contour, punctuation, the mood of the verb and the so-called performative verb" (1969:30). He surely has in mind the distinction Austin (1962:69) draws within performative utterances between primary and explicit performatives. It is only explicit performative utterances that have performative verbs to indicate illocutionary force; for example, 'I promise to help you', whose underlying structure is 'I promise (I'll help you)'. But as Searle has suggested, the same illocutionary force can be expressed by other means in a primary performative utterance, say, by means of the modal 'will', so that 'I will
help you' has the same meaning as 'I promise to help you'. The only difference is that a primary performative utterance is an open utterance that can admit more than one meaning, while an explicit performative utterance is a closed utterance that can admit only one meaning, the meaning indicated by the performative verb. An utterance like 'I will help you' may be a prediction, or an expression of willingness, or intention, besides being a promise. Modal auxiliaries in English thus function quite effectively in indicating different kinds of illocutionary force and modality. Most of them are multi-functional, as they not only indicate different varieties of the same modality, but also different kinds of modality; for example, 'will' can indicate both intention and willingness under dynamic modal interpretation, but can also indicate conjecture, prediction, strong probability, certainty, etc., under epistemic modal interpretation; and obligation, insistence etc., under deontic modal interpretation. We shall discuss different meanings of the English modals later, but it is proper to say here that a wide range of illocutionary forces can be indicated by means of the modal auxiliaries in languages that have them.

Besides performative verbs and modal auxiliaries, illocutionary force and modality can be indicated by modal particles in different moods of the verb. Khlebnikova (1976:4) has this in mind when he defines mood as "a grammatical category
which expresses in verbal form the modality (or modal content) of an event." He thinks that the indicative mood expresses the null relation to modality, being a modal, but the other moods realize modal meaning proper in special forms. These moods are also, like modal auxiliaries, multi-functional. Any mood can indicate a number of illocutionary forces as Jespersen (1968) clearly shows; for example, the imperative mood may be used to indicate not only commands and requests, but also permission, threat etc., as is clear from the following example: 'Take this' (command); 'Take this' (if you like) (permission); 'Take this' (and you will know the consequences) (threat). Similarly, the subjunctive has a number of functions like optative, potential, conditiona, irrealis etc. We shall talk about them later at greater length.

In addition to the above linguistic categories which belong to the verbal group, there are other categories like adjectives, adverbs, and even nouns that may indicate illocutionary force and modality. For example, the message contained in 'I presume he will come tomorrow', which is an explicit performative utterance, may be conveyed in any of the following ways: 'He may come tomorrow', 'His coming tomorrow is possible'; 'He will possibly come tomorrow'; 'There is a possibility of his coming tomorrow'; 'Perhaps he will come tomorrow (subjective sense)'. Looking at this one can easily conclude that besides purely grammatical categories like
moods and modal auxiliaries, which belong to closed systems, lexical categories like noun, adjective, verb and adverb, which belong to open sets, can also be used to indicate illocutionary force and modality.

Besides grammatical and lexical categories, even orthographic features like those of punctuation are also considered by Searle as illocutionary force and modality-indicating devices. Features like question mark (?), full stop (.), mark of exclamation (!) etc., do indicate different kinds of illocutionary force and modality. (?) may indicate the modality of uncertainty, and illocutionary force of questioning, besides many others, (.) may indicate a large variety of them, and (!) may indicate different states of the speaker's feeling.

Similarly, prosodic features like stress and intonation-contour are also used for indicating a variety of illocutionary forces and modalities. A rising tone may indicate uncertainty, while a falling one certainty and self-assurance, and so on.

Finally, word-order is also an effective means to indicate different kinds of illocutionary force and modality. As linguists we have already pointed out, some like Halliday identify certain word-order distinctions with moods. However, it will have to be admitted that the distinctions of certainty, uncertainty etc., in respect of modality, and statement, question, command etc., in respect of illocutionary force manifest themselves in
different word-orders, such as the normal word-order in 'He is going home.', inverse word-order in 'Is he going home?' ellipsis of the subject in 'go home'. But this fact alone cannot make these sentence-types different moods, unless we are prepared to use the term 'mood' in so many different senses, and are also prepared to treat every modality-indicating device as a kind of mood.

The above account clearly shows how modality and illocutionary force of various kinds can be realized in a large variety of ways in surface structure. Mood as a particular morphological category of the verb is only one of the ways to do so. It is now believed by some linguists (Fillmore, 1968:23-4) that modalities are associated in deep structure with the sentence as a whole, rather than with any particular constituent of the sentence. Accordingly, Calbert (1971:106) tries to show that modality belongs to a higher predicate in deep structure in the form of a matrix of semantic features which is realized in the surface structure by means of moods or modal verbs. This may be true if the underlying structure is semantic in nature. In fact, this kind of hypothesis leads on to the one which postulates a set of universal features from which different languages form their matrices. Such a language independent universal set is so far not available; yet one can think of some general conceptual categories and features that may underlie the mood and modal verbs of different languages. We have discussed them in this chapter; we shall now try to show in the following chapters how they underlie moods and modals in English and Hindi.