CHAPTER VI
MODALITY AND MODALS IN HINDI

1. Identification

The verbs that denote different types of modality in Hindi have been distinguished as parts of compound verbs by many grammarians of Hindi. For instance, in their discussion of compound verbs Kellogg and Guru treat verbs like 'sak', 'cha:hiye' etc., as subsidiary verbs. These verbs are not distinguished as a separate set of modals from other subsidiary verbs. In fact, Guru's classification of subsidiary verbs rests on the nature of the main verb stem. But recently some grammarians of Hindi (Kachru, 1966; Van Olphen, 1970; Singh, 1878) have distinguished a separate set of modal auxiliaries.

Singh (1978:184) divides Aux. in Hindi into the temporal and non-temporal, and then puts modal under the temporal as one of its categories. The modal here is said to represent the contingent/unreal, and is realized by 'ho/hota:'. This may be an attempt to show that Hindi has such moods. We have already discussed the question of moods in Hindi. There is a modal node under the non-temporal as well. It is analysed as below (1878:185):

<table>
<thead>
<tr>
<th>Non-temporal (Subsidiary)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modal</td>
</tr>
<tr>
<td>[Complettive (cuk)]</td>
</tr>
<tr>
<td>[Abilitative]</td>
</tr>
<tr>
<td>[accomplishment (pa:)</td>
</tr>
<tr>
<td>[ability (sak)</td>
</tr>
</tbody>
</table>
Besides this, a category called 'obligatory,' is also shown under the non-temporal, but it is not treated as a modal category. It is analysed as below: (1978:185)

```
Obligatory
  / \                                / \
Idea/Moral (cha:hiye)      Compulsion (pressure)
     \                                 /  \
      Internal (he:)        External (paR)
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Yamuna Kachru (1966) distinguishes 'sak' and 'cuk' as the only modals in Hindi. She has perhaps rejected 'cuk' now and has included 'paR', 'cha:hiye' etc. in the system of modals in her new grammar of Hindi that she is shortly bringing out.

Van Olphen distinguishes three modals in Hindi: 'sak', 'pa:' and 'cuk'. He treats them as auxiliaries, just because they cannot occur without the main verb, not even with a verbal ellipsis.

While in English we have a lot of discussion about the modal verbs, in Hindi we do not have much. Even the discussion we have lacks clear criteria for the identification of the modals. Amar Bahadur Singh draws an arbitrary distinction between modal and obligatory without clearly explaining what
he means by modal and how obligatory is not modal. While
discussing the concept of modality in the second chapter, we
tried to distinguish different types of modality, such as
deontic, epistemic, dynamic etc. If ability represented by
'sak' is a kind of dynamic modality, moral obligation or any
other sort of compulsion imposed by the speaker or some other
agency, vested with the necessary authority, is surely a kind
of deontic modality. So, in fact, if modality is the under-
lying criterion, most of the items belonging to both modal and
obligatory should be modals. Even there one finds a serious
omission. 'sak' has been put on a par with 'pa:' as an
ablative modal. The status of 'sak' as an epistemic modal,
indicating possibility, and also as a deontic modal, indicating
permission, has been ignored. It should be noticed that 'sak'
is multifunctional, representing all the different types of
modality, deontic, dynamic, alethic and epistemic by indicating
permission, ability and possibility respectively. Amar Bahadur
Singh does not seem to be aware of such multiple modal functions
of 'sak'.

It is also not clear why he wants to treat 'cuk' as a
modal. It obviously does not represent any kind of modality.
Propositions with 'cuk' are not modal propositions, but are
factual statements like 'vah kita:b likh cuk:a: he:' (He has
written the book.) Van Olphen also treats 'cuk' as a modal.
Yamuna Kachru has recently rejected it in her system of modals.
If the function of modality is some sort of criterion with the
above grammarians for identifying modals, inclusion of 'cuk' surely violates that. If that is not so, what formal criteria enable them to treat 'sak' and 'cuk' as members of the same system is not at all clear from their accounts. The criteria are not disclosed. One would think that 'cuk' is as much an aspect-marker as 'raha:', although it is normally not treated so. Guru treats both 'raha:' and 'cuk' as subsidiary verbs occurring in compound verbs. 'cuk' is apparently closer to 'raha:', both notionally and formally, than to 'sak'. Notionally, the idea of completion which 'cuk' represents is close to that of progression that 'raha:' represents. Both are aspectual notions. Formally, there are certain syntactic processes that 'sak' can undergo, but both 'cuk' and 'raha:' cannot. Look at the following sentences:

(1) vah kha: raha: he:
(He is eating.)

(2) vah kha: cuk: he:
(He has eaten.)

(3) vah kha: sak:ta: he:
(He may eat.)

In the epistemic sense (3) can be transformed to 'ho sak:ta: he: vah kha:se' (may be he eats) by preposing the modal and
giving it 'ho' support. This is not possible with (1) or (2), as we can see:

*(1) ho raha: he: vah khaire
*(2) ho cuka: he: vah khaire

This clearly brings out the modal character of 'sak' and the non-modal character of 'cuk'. 'sak' can qualify the whole proposition, while 'cuk' or 'raha:' cannot.

One may argue here that although Van Olphen does not clearly indicate whether 'sak' in his system is epistemic or dynamic, Amar Bahadur Singh clearly specifies it as a dynamic (abilitative) 'sak', and that the above argument relates to the epistemic, not to the dynamic 'sak'. We claim that even the dynamic 'sak' differs formally from 'cuk' and 'raha:'.

Look at the following sentences:

(4) vah paha:r par nahī: charh raha: he:
   (He is not climbing up the mountain.)

(5) vah paha:r par nahī: charh cuka: he:
   (He has not climbed up the mountain.)

(6) vah paha:r par nahī: charh sakata: he:
   (He cannot climb up the mountain.)

In the abilitative sense (6) can be transformed to *pahār
par charhāna: usse nahī: ho sakata:* by preposing the verb
'caRhana:' along with the locative 'paha:r par' and putting the subject and the ability modal close to each other. We cannot do the same with (4) and (5). See below:

*(4) paha:r par chaRhana: usse nahī: ho raha: he:
*(5) paha:r par chaRhana: usse nahī: ho cuk: he:

Besides the above arguments, one may also point out different collocational restrictions between certain verbs and 'sak' and 'cuk'. 'sak' and 'cuk' very much differ from each other in that respect. For instance, 'tumhē yah sab bura: lag sakata: he:' (It may appear bad to you), is possible, while **'tumhē yah sab bura: lag cuk: he:' (It has appeared bad to you) is not. In the sense of ability also, 'mē: apani: patni se pya:r nahī: kar sakata:' (I cannot love my wife) is possible, while 'mē: apani patni se pya:r kar cuk: hū:' (I have completed loving my wife.) is not. Stative verbs like 'lag' (appear) and 'pya:r karna:' (love) can freely occur with the modal 'sak', but not with 'cuk'.

Those who believe that 'sak' and 'cuk' are modals do so probably on the grounds of distributional similarity, and of their being mutually exclusive, as is evident from the following table:

<table>
<thead>
<tr>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>vah ja:</td>
<td>sakata:</td>
<td>he:</td>
</tr>
<tr>
<td></td>
<td>cuk:</td>
<td></td>
</tr>
</tbody>
</table>
*vah ja: sak cukata: he:
he go can (completive) is

*vah ja: cuk sakata: he:
he go (completive) can is

But the question is whether only 'sak' and 'cuk' belong to this system. Look at the following table now:

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>vah cal</td>
<td>sakata:</td>
<td>he:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>cuka:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>raha:</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>para:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vah mar</td>
<td>gaya:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>vah ja:q</td>
<td>uTha:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All the verbs in column 2 are distributionally similar, and also mutually exclusive in most cases. They are all preceded by the verbal root and cannot cooccur, as we can see

*vah cal raha: sakata: he:
he walk (progressive) can is

*vah cal sak raha: he:
he walk can (progressive) is
*vah cal paR sakata: ho:
he walk (asp.) can is

*vah cal sak paRa:
he walk can (asp.)

We can have similar instances for other verbs. Does it mean that they are all modals like 'sak' and 'cuk'? In fact, except 'sak', all the verbs in column 2 represent different aspectual notions like completion, progression, inception etc. If at all they form a system to which 'sak' also belongs, it will have to be called the system of aspects, not of modals on account of the basic function of the system being aspectual. Even if 'paRa:', 'uTha:', 'gaya:' are not generally distinguished as aspect-markers by most Hindi grammarians, 'raha:' is distinguished as such by most. Since 'raha:', 'cuka:' and 'sak' are distributionally similar, and are mutually exclusive, it is not at all clear why 'raha:' is treated as an aspect-marker, and 'cuk' and 'sak' as modals by some grammarians. This kind of division cannot be supported even by their own criteria.

We shall now say no more about 'cuk', but only exclude it from our system of modal verbs. The system that we wish to propose is that of the following verbs: 'ga:', 'sak', 'caisiya', 'paR' and 'pa:'. But these verbs need to be further subclassified. For that we shall use Palmer's scheme of classification.
to which reference has already been made in the fourth chapter. The modals may thus be subclassified as below:

(1) Discourse-oriented: gaː, sak, caːhiye, paː.
(2) Subject-oriented : gaː, sak, paː.
(3) Epistemic : gaː, sak, caːhiye.

As Palmer admits, these classes are based on the use of modals. Discourse-oriented modals refer to the speaker who is present in the discourse as the source of authority for obligation, permission etc., or to the addressee from whom permission may be sought. The subject-oriented modals refer to the subject of the sentence who has the ability, intention or willingness to do something. The epistemic modals refer to the speaker's attitudes towards the factual status of the proposition. These are purely notional distinctions which cannot by themselves serve as sufficient criteria for distinguishing the above sub-classes. We shall therefore advance some syntactic arguments in support of them in the next section. Before that we shall have to settle the issue of 'gaː' as many grammarians of Hindi do not recognize it as a modal verb. The crucial question is whether it is a modal verb as 'sak' and 'caːhiye' are. We think it is. We shall now give some arguments in support of this contention below. Look at the following sentences:

(7) Ram gussaː hogːaː

(Ram may be angry.)
(8) Ram qussa: ho sakata: he:
(Ram may be angry.)

(9) Ram qussa: hona: cahiye
(Ram must be angry.)

The above sentences have all the three epistemic modals in them, i.e. 'ga:', 'sak' and 'cahiye'. They are all ambiguous in the same way. The speaker may refer in either of them to Ram's state of anger in past, present or future, and express his presumption with regard to that. The proposition, 'Ram qussa: ho' in that case may take the past or the non-past tense. 'ho' may also take the person-number suffix 'e' to indicate the possibility of the action in future. We shall present below the underlying structure of each sentence:

(7-i)

(7-ii)
Note: 'ho' does not belong to the deep structure. It is introduced transformationally to support the modal in the surface structure.

If we are thinking of a past event and trying to guess why someone did not talk to me, I might say 'vah gussa; hoga;' and mean: 'It should be the case that he was angry.' But if it has occurred in the present, we may still say the same and mean: 'It should be the case that he is angry.' If we are thinking of the subject's reaction to something in future, we may mean by saying the same sentence: 'It should be the case that he will get angry.' The same may apply to sentences having 'sak' and 'ca:hiye' where the modal part of the utterance will be; 'It may be the case ...', and 'it must be the case ...' respectively.

As we have already mentioned, this kind of ambiguity persists even when the verbs preceding 'ga:', 'sak' and 'ca:hiye' have different aspectual forms. Look at the following sentences:
(10) vah Delhi gaya: hoga:
(He must have gone to Delhi.)

(11) vah Delhi ja: raha: hoga:
(He must be going to Delhi.)

(12) vah Delhi ja: cuka: hoga:
(He must have left for Delhi.)

(13) vah Delhi gaya: ho sakata: he:
(He may have gone to Delhi.)

(14) vah Delhi ja: raha: ho sakata: he:
(He may have been going to Delhi.)

(15) vah Delhi ja: cuka: ho sakata: he:
(He may have left for Delhi.)

Every sentence in the above list is ambiguous, as either of the verbs 'gaya:', 'ja: raha:' and 'ja: cuka:' allows both past and non-past tense with it, thus making both past and present time reference possible. 'cuk' in fact functions only as an aspect-marker along with the modal auxiliaries.

(2) The next argument is related to paraphrase-relationship that we find in the sentences that use these three verbs. Look at the following sentences:
(16) Meeting pāc baje tak samaːpt nahī: hogī:
(The meeting will not be over by 5.)

(17) Meeting pāc baje tak samaːpt ho jaːe, yah nahī: hogā:
(The meeting be over by 5, this will not happen.)

(18) yah nahī: hogā: ki meeting pāc baje tak samaːpt ho jaːe.
(This will not happen that the meeting be over by 5 o'clock.)

(19) Meeting pāc baje tak samaːpt nahī: ho sakātī:
(The meeting cannot be over by 5.)

(20) Meeting pāːc baje tak samaːpt hojaːe, yah nahī: ho sakātā:
(The meeting be over by 5, this cannot happen.)

(21) yah nahī: ho sakātā: ki meeting pāːc baje tak samaːpt ho jaːe
(This cannot happen that the meeting should be over by 5.)

(22) Meeting pāːc baje tak to nahī: calātī: rahānī: caːhiye
(The meeting must not be going on till 5.)

(23) Meeting pāːc baje tak calātī: rahē, yah to nahī: honaː caːhiye
(The meeting may go on till 5, this must not happen.)
(24) yah to nahí: hona: ca:hiye ki meeting paic baje
tak ca:lati: rahe.

(That must not happen that the meeting go on
till 5.)

We can see that (16) - (18), (19) - (21), and (22) - (24) are in paraphrase-relationship. This may be explained by means of some underlying relationship among the sentences of each group consisting of (16), (17) and (18); (19), (20) and (21); and (22), (23) and (24). Let us look at (16), (17) and (18):

(16) Meeting paic baje tak sama:pt nahí: hogi:
(The meeting will not be over by 5 o'clock.)
or Meeting ki: pâ:ic baje tak sama:pti nahí: hogi:
(The termination of the meeting will not take
place by 5 o'clock.)

(17) Meeting paic baje tak sama:pt ho jae yah nahí: hogai:
(The meeting may be over by 5 o'clock, this will
not happen.)

(18) yah nahí: hogai: ki meeting paic baje tak
sama:pt ho jae.
(This will not happen that the meeting may be
over by 5 o'clock.)

All the three sentences obviously have the same deep
structure as shown below:
(17) is thus closest to the deep structure. (18) is derived by extraposing the complement of 'yah' i.e., 'meeting pāic baje tak samaip t ho' and (16) is derived by deleting 'ho' and turning the complement S into a non-finite phrase. 'yah' is then deleted.

The same is true of (19) - (21) and (22) - (24). We can have the same kind of paraphrase-relationship if the above modals are treated as discourse-oriented ones. In that case we will have to replace 'ho' by 'kar' as a supporting verb, and 'yah' by 'tum' as its subject. This is a natural consequence of the nature of the modal, as the discourse-oriented modals require the addressee - the one at whom permission, obligation etc., are directed - as the surface subject. It is he who is permitted or obliged. This is not the case with the epistemic modals where 'yah' stands for the whole proposition,
as in 'yah nahī: ho sakata: ki tum jao'. 'yah' stands for the proposition 'tum jao'. With the discourse-oriented modals the same 'yah' occurs as the object of the modal. Look at the following sentences:

(25) tum yahā: shor nahī: maca: sakate
(You can't make a noise here.)

(26) tum yah nahī: kar sakate ki tum yahā: shor maca:o
(You can't do this that you make noise here.)

(27) tum yahā: shor nahī: maca:oge
(You shall not make a noise here.)

(28) tum yah: nahī: karoge ki tum yahā: shor maca:o
(You shall not do this that you make a noise here.)

(You should not make a noise here.)

(30) tumhe yah: nahī: karane: ca:hīye ki tum yahā: shor maca:o
(You should not do this that you make a noise here.)

Discourse-oriented modals require 'kar' as the supporting verb just because here the addressee is permitted or obliged to do or not to do something, while the epistemic modals require 'ho' as the supporting verb, because here the speaker only expresses his attitude towards the factual status
of the proposition. The above sets of sentences i.e. (25) and (26), (27) and (28), and (29) and (30), which have the modals 'ga:', 'sak' and 'cahiye' in them, and which are in paraphrase-relationship, again prove that the above modals belong to the same system. This affinity is not only conceptual, but also formal, as (26), (28) and (30) which are the transforms of (25), (27) and (29) are quite natural in Hindi. This may not be the case in every other language. Even in English their translated versions are somewhat odd.

(3) The third argument is that even if we accept 'ga:', 'sak' and 'cahiye' as operators, as some grammarians do, these modal operators behave quite differently from others. While other operators are constrained in respect of being used with some verbs but not with others, the above modal operators have no such constraint. They can occur with any lexical verb. The reason for this is clear. Any proposition having a subject and a verb can be modalized by means of 'ga:', 'sak' and 'cahiye'. Other operators obviously do not have this functional property. We can see it from some example below:

*(31) vah nahi: gir be:Tha:

(32) vah nahi: girega:

(He will not fall.)
(33) vah nahī: gīr sakāta: (he:)  
(He cannot fall.)

(34) vah nahī: gīrāna: caḥiye.  
(He must not fall.)

*(35) vah caḥ cal pahūma:  
(He will walk.)

(36) vah cal pahuca:  
(He can walk.)

(37) use cašāna: cašiye.  
(He must walk.)

One may argue that certain operators do not occur with certain verbs because of a certain semantic incompatibility, as we can see in 'gīr be: Tha' or 'cal pahūma:'. While 'pahūma:' can occur with 'gīr', and 'cal' because of the compatibility of their meanings, 'be: Tha:' and 'pahūca:' cannot. We suppose it is not a simple matter of semantic compatibility, as although 'cal' and 'pahūma:' do not seem to have any such semantic compatibility as 'gīr' and 'pahūma:' have they can cooccur. In the case of 'cal' and 'pahūma:' the compatibility is of a formal nature. They can cooccur irrespective of their meanings. What we are trying to emphasize here is that such formal
or semantic cooccurrence restrictions do not seem to exist for the modals.

(4) The fourth argument is related to the attachment of the Negative. The Neg can occur with the modals and other lexical verbs separately in the same sentence. While in English it is possible even in a simple sentence like 'It can't be raining', in Hindi it normally happens in complex sentences that have modals and lexical verbs with Neg. in separate clauses, for example:

(39) yah nahi: hoga: ki yah嘹: june me pani na barase
    (This won't happen that it not rain here in June.)

(40) yah nahi: ho sakta: ki yah嘹: june me pani: na barase
    (This can't happen that it not rain here in June.)

(41) yah nahi: hona: ca:hiye ki yah嘹: june me pani na barase
    (This mustn't happen that it not rain here in June.)

It seems the modals have a special feature of this kind which no other operator has. Many of those operators cannot even be separated like this to be negated in separate clauses of a sentence. Even 'cuk' does not fall in with the above modals in this respect, as we can see from the following sentences
As a result of double negation (39), (40) and (41) can also be presented as affirmative statements as below:

(43) yahā: june mē paːniː baraseɡaː
(It must/will rain here in June.)

(44) yahā: june mē paːniː baras sakataː heː
(It may rain here in June.)

(45) yahā: june mē paːniː barasnaː caːhiye
(It must rain here in June.)

We have so far argued only to show that 'gaː', 'sak' and 'caːhiye' belong to the same system of modals in spite of the fact that they have some surface-differences, such as, while 'sak' can take both aspect and tense with it, 'caːhiye' can take only the past tense, and 'gaː' can take neither. Some other surface-differences, as 'sak' taking the non-finite form 'sakanaː' and 'gaː' and 'caːhiye' not being able to do so, may also be cited to show that they are different. But there are some deeper considerations, which we have stated above, that force us to distinguish them as members of the same system. We shall now show the motivations for further subclassifying them into the discourse-oriented, subject-oriented and epistemic types.
2. **Motivations for the classification**

We have already suggested how the Hindi modals may be sub-classified. We shall now state some of the motivations for doing so. They are of both syntactic and semantic nature, as we can see below:

(i) **Past Tense/Time**

It is necessary to divide the Hindi modals into the discourse-oriented (DO), subject-oriented (SO) and epistemic (Ep) classes in order to bring out the different constraints each class has regarding past time reference. Look at the following table:

<table>
<thead>
<tr>
<th>Class</th>
<th>Example 1</th>
<th>Example 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO</td>
<td>vah cal sakta: tha:</td>
<td>*vah cal saka:</td>
</tr>
<tr>
<td></td>
<td>(He could walk, i.e. he was permitted to walk.)</td>
<td>(He could walk, i.e. he was permitted to walk.)</td>
</tr>
<tr>
<td>SO</td>
<td>vah cal sakta: tha:</td>
<td>vah diva:1 pakaR kar hi:</td>
</tr>
<tr>
<td></td>
<td>(He could walk, i.e. he had the ability to walk.)</td>
<td>cal [saka:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>(He could walk only by catching the wall, i.e. he was able to walk only by catching the wall.)</td>
</tr>
<tr>
<td>Ep</td>
<td>vah cal sakta: tha:</td>
<td>vah cala: ho sakta: he:</td>
</tr>
<tr>
<td></td>
<td>(He could walk, i.e. it was possible for him to walk.)</td>
<td>(He may have walked, i.e. it is possible he walked.)</td>
</tr>
</tbody>
</table>

As we can see, past-time reference can be indicated in Hindi by the past tense. But it can also be indicated by the perfective aspect in expressions like 'cala: ho sakta: he:', 'gaya: ho sakta: he:' etc. But it should be noticed that past
time reference associated with the past tense has a sort of non-factive sense, as by saying 'vah cal sakata: tha:', the speaker only says that the subject had the permission, or the ability to walk, or it was possible for him to do so. He does not claim that the subject also used the permission, ability or possibility and actually walked. But this is possible with the perfective aspect. 'vah di:v al pakaR kar hi: cal saka:' means that he actually used whatever ability of walking he had, and could walk by catching the wall. Past time reference with forms like 'cala: ho sakata: he:' means that the speaker only presumes that the subject had walked in the past. He does not affirm the possibility of the subject's walking in future. The subject-oriented sentence 'vah cal sakata: tha:' could also have a characteristic sense, but the distinction still remains, as while 'vah cal saka:' refers to a particular event, related to ability, in the past, 'vah' cal sakata: tha:' can refer only to one's general characteristic, for example, 'mere da:da: 95 sa:1 ki: umra mē bhi: acchi: tarah cal sakate the' (My grandfather could walk properly even at the age of 95).

The first column in the above does not show any difference between the different types of modals, as they are mostly statements of different kinds of facts, but the second column is crucial for bringing out these differences, as the focus there is on the particular instances of the realization of the
permission, ability or possibility the subject had in the past. The DO 'sak' cannot obviously occur there, as one cannot permit anybody to do anything that has already been done. 'vah cal sakaː' therefore cannot have a DO sense. It can only have an SO sense, as besides having the ability to walk in the past one could also realize this ability by actually walking at a particular moment in time. Similarly, with the epistemic 'sak' one could presume or believe that the subject actually walked, besides just indicating that it was possible for him to do so in future. This is represented by a different form 'calː ho sakːaː heː', which is a complex verb phrase. We thus have clear formal differences in respect of different types of 'sak'. We can see these different types of 'sak' also occurring in the same sentence with the formal and conceptual differences indicated above. Look at the following sentence:

(46) vah ab gayaː ho sakːaː heː haːlāːki tabiyat bigaːr jaːme ke kaːraːN vah kal dopahar tak nahiː jaː sakaː

(He may have left now, although he could not leave till noon yesterday on account of being taken ill.)

The first 'sak' in the above sentence is epistemic, and the second subject-oriented. They select different forms. We may sometimes have all the three types of 'sak' in the same sentence:
(47) yadyapi sarkari argya:nusair vah aparne desh ko ja: sakata: tha; bahut bima:ir hone ke ka:raN vah nahi: ja: sakai; lekin ek mahi:ne ba:id ab tak to vah gaya; ho sakata: he:

(Although by the order of the Government he could go to his country, he could not go on account of being too ill, but since one month has passed, he may have left by now.)

In the above sentence the first 'sak' is DO, the second SO, and the third Ep. They again take different forms according to their classes. If the formal constraints associated with them are violated, an unacceptable sentence of the following type will result:

*(48) askhir vah me: c jii:t gaya:, lekin ba:ri: mushkil se jii:t sakata: tha:

(He at last won the match, but he could do so with great difficulty.)

In the above sentence we have selected the SO 'sak', related to ability that has been realized, but have associated a wrong form with it. Hence an unacceptable sentence. The right form would have been 'sakai', meaning that he was able to win the match. Similarly, if we select an Ep 'sak' and associate the form of the above kind of SO 'sak' with it, the sentence resulting will again be unacceptable as we can see below:
*(49) vah ghar par nahi- mila; Delhi qaya- ho saka:
(I couldn't find him at home; he may have
gone to Delhi.)

Again, 'saka:', appropriate for an SO 'sak', is inappropriate
here for an Ep 'sak' which demands the form 'ho sakata: he:'

Let us now look at the behaviour of 'ca:hiye' as a DO
as well as an Ep modal. Look at the following table:

(50) pani: vahaa: barasana: ca:hiye (52) pani vahaa: barasana:
(It must rain there.) - DO  ca:hiye tha:
(It should have rained
there.) - DO

(51) pani: vahaa: barasana: ca:hiye (53) (August tak to) vaha:
(It must rain there.) - Ep.  pani: barasana:
ca:hiye tha:
(It must have rained
there.) (by August.) - Ep.

(54) vahaa: ka:fi: pani:
barasa: hona: ca:hiye.
(isi: ka:raN rail ki:
paTri: Tu:T gai: hess)
(It must have rained
there, a lot.) (It is
for this reason that
the railway line has
been broken.) - Ep.
From the above table we can see that the first column shows no formal difference between a DO and an Ep 'ca:hiye', but the second column, in which the reference is to the past time, brings out the distinction of these classes clearly. While both DO and Ep 'ca:hiye' allow 'tha:' for past time reference, it is only the Ep 'ca:hiye' that allows the complex form 'barasa: hona: ca:hiye'. The reason is clear, while (52) means that the speaker desired that it should have rained there, (53) means that the speaker believed that it must have rained there (by August). In both the cases there is a strong implication that it did not actually rain there. But (54) has a different meaning and implication. It means that the speaker believes that it has rained there a lot as a result of which the railway line has been broken. There is no implication here that it has not. This form with this implication is obviously not possible with a DO 'ca:hiye', as that clearly requires the implication of the action not having taken place in spite of the speaker's desire. Let us see below how speakers select different appropriate forms with different types of 'ca:hiye':

A  
apane ilaj ke liye Mohan ko Delhi ja:na: ca:hiye tha:
(Mohan should have gone to Delhi for his treatment.)

B  
hai tum Thik kahate ho. lekin mei ne kal usko Agra ja:te dekha: tha:
(Yes, you are right. But I saw him leaving for Agra yesterday.)
A: vah agra: Dr. Sircar se milne gaya: hona: ca:hiye.*

(He must have gone to Agra to see Dr. Sircar.)

The first 'ca:hiye' used by A is a DO, while the second 'ca:hiye' is an Ep modal. They, therefore, occur in different types of verbal groups. Any violation of the constraints associated with the different types will surely result in unacceptable sentences.

We shall now have a look at 'qa:', which also has some constraints related to its epistemic use. It has no past time reference in its DO and SO senses, but as an Ep modal it clearly distinguishes between the speaker's belief that something will happen and that something has happened. Such belief about the completion of the action is possible only with the Ep 'qa:'. The DO 'qa:' cannot admit this sense, obviously because it would be absurd to insist on getting something done which has already been done. Likewise, the SO 'qa:' cannot also admit it, just because it would be equally absurd to have the intention of doing something which has already been done. Look at the following table:

<table>
<thead>
<tr>
<th></th>
<th>Past</th>
</tr>
</thead>
<tbody>
<tr>
<td>(55) vah ja:ega:</td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>I</td>
</tr>
<tr>
<td></td>
<td>I</td>
</tr>
</tbody>
</table>

* 'gaya: hona: ca:hiye' may not be acceptable to all speakers of Hindi. I myself would not object to it in a restricted context, although I admit the more normal form for past inference is 'gaya: hoga:'
(The subject is obliged to go.)

(56) vah jaːega:
(He will go.) - SO
(The subject intends to go.)

(57) vah jaːega:
(He will go.) - Ep
(The speaker predicts that the subject will go.)

(58) vah gayaː hogaː.
(He will have gone.) - Ep
(The speaker thinks it probable that the subject has gone.)

Again, it is only the Ep 'gaː' like the Ep 'caːhiye' that can occur in complex verbal groups like 'gayaː hogaː', 'jaːtaː hogaː' etc., while other types of 'gaː' cannot. Such constraints related to the modals like 'saːk', 'caːhiye' and 'gaː' in respect of past tense/time, therefore, make it necessary to classify them into the DO, SO and Ep types.

(ii) Passivization

Our second argument is related to passivization, which also seems to necessitate a classification of the Hindi modals into DO, SO and Ep types. Let us first deal with 'caːhiye'. It can be both DO and Ep. But we find that within a passive sentence it uniformly has the DO sense, while the active sentence admits both the Ep and DO senses; for example,
(59) mulzim ko kal adalat me pesh kiya ja:na: ca:hiye.
(The accused must be brought to the court tomorrow.)

(60) mulzim ko kal adalat me a:na: ca:hiye.
(The accused must/should/ought to come to the court tomorrow.)

'ca:hiye' in (59), which is a passive sentence, is a DO modal, as it indicates the speaker's demand for the accused to be brought to the court the next day. It can never have an epistemic sense. (60), on the other hand, is ambiguous, as 'ca:hiye' here is both DO and Ep. It may mean that the speaker demands of the accused to come to the court tomorrow, and also that the speaker believes that the accused will come to the court tomorrow.

Let us now see how 'sak' and 'ga:' behave in respect of passivization. Look at the following table:

<table>
<thead>
<tr>
<th>Active</th>
<th>Passive</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO (61) tum yah kita:b parha sakate ho.</td>
<td>(62) yah kita:b tumhare dwa:ra parhi: ja: sakati: he:</td>
</tr>
<tr>
<td>(You may read this book.)</td>
<td>(This book may be read by you.)</td>
</tr>
<tr>
<td>(63) tum yah kita:b parhoge</td>
<td>(64) yah kita:b tumhare dwa:ra: parhi: ja:egi:</td>
</tr>
<tr>
<td>(You shall read this book.)</td>
<td>(This book shall be read by you.)</td>
</tr>
<tr>
<td>Line</td>
<td>Meaning</td>
</tr>
<tr>
<td>------</td>
<td>---------</td>
</tr>
<tr>
<td>(65)</td>
<td>कोई भी यह किताब पढ़ सकता है: (Anybody may read this book.)</td>
</tr>
<tr>
<td>(66)</td>
<td>यह किताब (किसी के द्वारा भी) पढ़ी जासकती है: (This book may be read by anyone.)</td>
</tr>
<tr>
<td>(67)</td>
<td>कोई भी यह किताब नहीं पढ़ेगा: (None shall read this book.)</td>
</tr>
<tr>
<td>(68)</td>
<td>यह किताब (किसी के द्वारा भी) नहीं पढ़ी जाएगी: (This book shall be read by none.)</td>
</tr>
<tr>
<td>(69)</td>
<td>तुम यह किताब नहीं पढ़ सकते हैं: (You can't read this book.)</td>
</tr>
<tr>
<td>(70)</td>
<td>तुम से यह किताब नहीं पढ़ी जा सकती है: (This book can't be read by you.)</td>
</tr>
<tr>
<td>(71)</td>
<td>तुम यह किताब नहीं पढ़ेगे: (You will not read this book.)</td>
</tr>
<tr>
<td>(72)</td>
<td>तुम से यह किताब नहीं पढ़े जाएगी: (You will not be able to read this book.)</td>
</tr>
<tr>
<td>(73)</td>
<td>कोई भी यह किताब नहीं पढ़ सकता: (No one can read this book.)</td>
</tr>
<tr>
<td>(74)</td>
<td>यह किताब किसी से नहीं पढ़ी जा सकती: (This book cannot be read by anyone.)</td>
</tr>
<tr>
<td>(75)</td>
<td>कोई भी यह किताब नहीं पढ़ेगा: (No one will read this book.)</td>
</tr>
<tr>
<td>(76)</td>
<td>यह किताब किसी से भी नहीं पढ़ी जा सकती: (No one will be able to read this book.)</td>
</tr>
<tr>
<td>(77)</td>
<td>तुम यह किताब पढ़ सकते हो: (You will be able to read this book.)</td>
</tr>
<tr>
<td>(78)</td>
<td>यह किताब तुम्हारे द्वारा पढ़ी जा सकती है: (This book may be read by you.)</td>
</tr>
</tbody>
</table>
In the above table each type of modals has both definite and indefinite agents. This has been done to show that only indefinite agentives can be deleted from the passive sentences. Definite agentives cannot be deleted as they are non-recoverable. Many languages therefore prefer active to passive sentences with such agentives, as the latter sound very odd with them and do not easily fit into any real communicative situation. With SO modals we have used negative sentences, just because the passive construction which has an abilitative sense does not normally occur without a negative.

If we now look carefully at the table presented above, we shall find different types of modals behaving differently.

(79) tum yah\textsubscript{a} kita\textsubscript{b} parhoge

(You must read this book.)

(80) yah kita\textsubscript{b} tumh\textsubscript{a}re
dwara: parhi\textsubscript{a} ja\textsubscript{a}egi:

(This book must be read by you.)

(81) koi\textsubscript{a} bhi\textsubscript{a} yah kita\textsubscript{b} nah\textsubscript{a}parh sakata:

(No one can read this book.)

(82) yah kita\textsubscript{b} kisi\textsubscript{a} ke
dwara: bhi nah\textsubscript{a} paRhi\textsubscript{a}
ja\textsubscript{a} sakati:

(This book can not be read by anyone.)

(83) koi\textsubscript{a} bhi yah kita\textsubscript{b} nah\textsubscript{a}parhega:

(No one will read this book.)

(84) yah kita\textsubscript{b} kisi\textsubscript{a} ke
dwara: bhi\textsubscript{a} nah\textsubscript{a} paRhi\textsubscript{a}
ja\textsubscript{a}egi:

(This book will not be read by anyone.)
Passive sentences with the DO modals sound quite odd with definite agentives. With indefinite ones they sound a bit less odd, but all the same they are not normal utterances with either of them. Many languages allow deletion of the agentive from such sentences. Hindi also allows that, but since definite agentives are non-recoverable, they cannot be deleted. Therefore, it is normal to use active sentences with them, and avoid passive sentences, unless they are absolutely necessary for emphasis, topicalization etc. Active sentences with indefinite subjects (agentives) can normally occur in the passive form, as it is possible to delete them on account of their total recoverability without the context. Passive sentences (66) and (68) with the DO sense can thus make quite normal utterances without the indefinite agentives.

Sentences having the SO modals do not seem to have any such constraint regarding the deletion of the agentive. Both types of agentives, definite and indefinite, can freely occur in passive sentences. But these sentences have other constraints, not found elsewhere. One important constraint is that they cannot be passivized without change of meaning, when the agentive is shifted to the verb phrase and coupled with the post-position 'dwa:ra:' or 'se' (by). If we try to passivize the sentences with the SO modals the same way—the whole focus changes, and, as a result, the ability or intention
gets associated with the grammatical subject of the passive, which was the object of the active sentence. For instance,

(85) koi: yah kita:b nahi: parh sakata: (SO sense)
Any one this book not read can.
(No one can read this book.)

passive (86) yak kita:b kisi: ke dwairai:se
this book anyone by
nahi: parhi: ja: sakati:
not read be can
(This book cannot be read by anyone.)

The passive sentence (86), does not convey the same sense as the active one (85). With the topicalization of 'yah kita:b' (this book) the sense of ability gets associated with that, and the sentence changes its meaning from 'no one has the ability to read this book' to 'this book is too difficult for anyone to read'. This becomes more clear when the goal of the action in the active sentence is a human being who may have ability or intention with regard to any action. Look at the following:

(87) yah mujhe nahi: phit sakata:/phitega:
he me not beat can/will beat
(He cannot/will not beat me.)
Passive (88) me: uske dwa:ra: na:hí: pi:Ta: ja: I him by not beaten can sakíta:/ja: saki: qa: be/will be

(I cannot/will not be beaten by him.)

While the active sentence expresses the ability or intention of the subject 'vah' (he) not to beat the object 'mujhe' (me), the passive sentence expresses only the ability or intention of the grammatical subject 'mei' (I) not to be beaten by the agent 'vah' (he). This seems to be due to the fact that the modals 'sak' and 'qa:' here are subject-oriented, not agent-oriented.

There is still another constraint associated with the use of the SO modals. As we have already hinted, passive sentences with these modals can have the postposition 'se', which has an instrumental function, with the agentive. This is not possible with other modals. Such passive sentences take either interrogative or negative form. Negation may be expressed either by 'nahi:' (not), or a negative adverbial like 'bahi: mushkil se' (with great difficulty), as in the following sentences:

(89) usse yah kita:b nahi: paRhi: ja: saki: him with this book not read be: can

(This book could not be read by him.)
Now a peculiar feature of this sort of passive sentence is that it admits only one sense with both 'saki' and 'ga:j', i.e., the sense of the ability of the subject, so that the passive sentences (70) and (72) with the SO modals 'saki' and 'ga:j' both mean: 'You will not be able to read this book'. Similarly, the passive sentences (74) and (76) with the same SO modals mean: 'No one will be able to read this book.'

As regards deletion of the agentive, the general constraint about not deleting the definite agentive on account of their irrecoverability holds good here, but the situation is a bit different with indefinite agentives. If we delete 'kisi se' from (74) we shall be left with 'yah kita:b nahi: parhi: ja: sakati:' (This book cannot be read), and after deleting 'kisi: se' from (76) we shall be left with 'yah kita:b nahi: parhi: ja: egi:' (This book will not be read.) This changes the meaning, as ability is now associated with the book. Either of the sentences would mean 'This book is too difficult to read.' If we want to preserve the same meaning, we
cannot delete even the indefinite agentive. We can thus see that the behaviour of the SO modals is different from other types of modals in passive sentences. They impose different kinds of constraints regarding both form and meaning on them.

Looking now at the Ep modals, we find that the passive sentences having them have no specific constraint regarding the deletion or non-deletion of their agentives. They may happily occur in them with Ep modals, or may as well be deleted, if they are recoverable. Either way these sentences make normal utterances and have the same meaning. Look at the following sentences:

(91) sabhi: arab desh mishra ka:
    all Arab countries Egypt of
    bahishkar kar sakate he:
    boycott do can

(All the Arab countries may/will boycott Egypt.)

(92) sabhi: arab deshō dwa:ra mishra ka:
    all Arab countries by Egypt of
    bahishkair kiya: ja: sakata: he:
    boycott done be can/will

(Egypt may be boycotted by all the Arab countries.)

We have thus seen with reference to passivization and the constraints associated with it in respect of the different
kinds of modals that the division of the Hindi modals into the DO, SO and Ep classes is well-motivated.

(iii) **Alternative Constructions**

Another motivation for dividing the Hindi modals into the above three types is that such a division accounts for the different types of alternative constructions that the sentences with the different types of modals can have. Let us look at the following sentence:

(93) tum sku:l ja:oge:
you school go will/shall

(You will/shall go to school.)

The sentence is ambiguous as 'ga:' carries all the three senses with it, DO, SO and Ep. But in the DO sense 'tum' can be the agent only in relation to the verb ja: (go), not in relation to the modal 'ga:' which represents the insistence of the speaker who is present in the discourse, but not in the sentence. This fact is obscured in the above sentence by the nominative form of the subject which normally occurs with a free agent. Since with a DO modal 'tum' (you) cannot be a free agent, as it is the goal of the obligation imposed by the speaker, it can easily take a dative form 'tumko' (to you), and can occur in an alternative construction 'tumko sku:l ja:na: paReqa:' (You will have to go to school) which has the same
sense as 'tum skul ja:oga'. Both these must be related somewhere in the deep structure which may be like the following:

The NP representing the speaker is invariably deleted from the sentences having a DO modal, and the goal NP can take the nominative or the dative form depending on the selection of the DO modal 'ga:', 'hoga:' or 'paReqa:'. Like 'ga:' which has 'paReqa:' as an alternative modal, 'sak' does not have any to allow an alternative construction where the goal of permission may occur in a dative form. For that we shall have to replace 'sak' by its lexical equivalent 'a:gya: he:', as in the following sentences:

(94) 'tum ja: saktë ho tumko ja:ne ki a:gya:
you go may to you go of permission
he:
is/have

(You may go.) (You are permitted to go.)
Both may have the same underlying structure.

The above kind of alternative construction with a dative 'tumko' is not possible if the modal is SO, as there the subject 'tum' remains a free agent who can freely express his willingness or intention. The speaker only announces this agent's intention in the sentence 'tum sku:l ja:rge' (You will go to school, i.e. you intend to go to school). Such a sentence does not allow any alternative construction by changing the form of the subject as sentences with a DO modal 'ga:' do, just because the modal is directly oriented to the subject here.

The case is different with sentences having the Ep modals. They have an alternative form, but that is different from that related to the sentences with the DO modals. Let us look at the following sentence.

(95) vah shaxm tak a:ega:
    he evening by come will

(He will come by the evening.)

This can take an alternative form like:

(96) uska: a:na: shaxm tak hoga:
    his coming evening by be will

(His coming will take place by the evening.)
The nominative 'vah' is not changed to the dative 'usako' here, as may happen if we treat 'ga:' as a DO modal, for example,

(97) usko sha:m tak a:na: paReqa:
    him evening by to come will have

(He will have to come by the evening.)

Instead, in the sentence having the Ep modal the proposition 'vah sha:m tak a:e' has changed to its non-finite form with a possessive 'usaJ~at' in place of 'vah'. This is not difficult to understand, as an Ep modal is oriented to a phenomenon rather to a person. In the sentence 'uska: sha:m tak a:na: hoga:/ho sakata: he:' (His coming by the evening will/may take place.) 'uska: sha:m tak a:na:' is a phenomenon that is certain or possible to take place.

We have thus seen how the Hindi modals have to be distinguished as DO, SO and Ep types in order to account for the constraints that sentences have regarding alternative constructions to which they are systematically related. Any violation of these constraints will lead to unacceptable sentences, as we can see below:

(98) mei bahult dinō se qhar ja:ne ki: soc
    I many days for home go of think
raha: hū:, lekin pahale mei: apana: ka:m
    am but before I my work
pu:ra: karūiga: tab ja:sūga:
    finish do then go will
(I have been thinking of going home for so many days, but I shall first finish my work and then go.)

The modal 'ga:' in both 'karūga:' and 'ja:ūga:' is SO, expressing the subject's intention. It is, therefore, not possible to change the sentences having it to those alternative forms that sentences with a DO or Ep ‘ga:' may take; for instance, the following sentence is odd:

(99) me: bahut dinō se ghar ja:ne ki: soch raha: hū:, lekin pahle mujhe apna: kā:m pūra: karana pārega:, tab ja:na: pārega:

(I have been thinking of going home for several days, but I will first have to finish my work and then go.)

A part of it could be made normal discourse if we provide/missing link, for example,

(100) me: bahut dinō se ghar ja:ne ki: I several days for home go of soc raha: hū: lekin mere director think ing am but my director kahate he: ki pahale me: apna: kā:m say is that first I my work pūra: karūnga: tab ghar ja:ūnga: finish do will then home go will

(I have been thinking of going home for several days, but my director says that I will first finish my work and then go.)
'ga:' coupled with 'karūqa:' and 'jaūqa:' in the above sentence is now a DO modal expressing the Director's insistence that I first finish the work and then go home. This has to be so after we have introduced in the sentence the Director who is the source of authority. In the above sentence 'mē: pahale apna: kām pu:ra: karūqa:, tab jaūqa:' can easily be replaced by the alternative construction 'mujhe pahale apna: kām pu:ra: kārāna: paReGa:, tab ja:i: paReGa:'. We cannot put here the alternative forms that go with the Ep 'ga:' i.e. *'pahale mera: apnā: kām pu:ra: kārāna: hoga:, tab ja:i: hoga:'.

Whenever the modal is Ep it will stop the sentence from selecting the alternative form appropriate for a sentence with a DO modal, for example,

(101) mē: bahut dinō se uska: intaza:r
I several days for his wait
kar raha: hūi: mē: socata: hūi: vah
do inq am I think am he
kal tak loT a:ega:
tomorrow by return will

(I have been waiting for him for several days. I think he will return by tomorrow.)

'ga:' coupled with 'loT a:ega:' here is an Ep modal. The sentence having it will therefore not accept the alternative form 'usako kal tak loT a:na: paReGa:' Normally the alternative
form selected will be 'us\text{\textkatak}a: lo\katakT \text{\textkatak}a: kal tak hoga/ho sak\text{\textkatak}a: he:'. If the alternative form 'usko kal tak lo\katakT a:na: p\text{\textkatak}\text{\textkatak}a: sa' is selected, the meaning will change from 'The speaker thinks that the subject (vah) will do something by tomorrow' to 'The speaker thinks that the subject is obliged to do something by tomorrow.'

We shall now present the constraints related to the different types of modals in respect of alternative constructions in the following table:

<table>
<thead>
<tr>
<th>Modals</th>
<th>Sentences with Nominative subjects</th>
<th>Alternative sentences with dative subjects</th>
<th>Alternative sentences having nominalized subjects with a possessive head</th>
</tr>
</thead>
<tbody>
<tr>
<td>DO</td>
<td>Yes</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>SO</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Ep</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>

This clearly provides some basis for classifying the Hindi modals into the DO, SO and Ep types.

(iv) **Verb Features**

We have so far advanced three syntactic arguments to justify the classification of the Hindi modals into DO, SO and Ep types. We shall now advance an argument of somewhat semantic nature. It is related to the inherent features of Hindi verbs. We may have to distinguish the above classes
of modals, if we take into account features like volitive, stative, dynamic etc. Let us begin with volitive. Hindi verbs can surely be classified into those having plus or minus 'volitive' feature, for example, 'jaːnaː' (go) has a plus volitive feature, while '(bismaːr) pəɾanaː' (fall (ill)) is minus volitive. The verbs occurring in most intransitive sentences with inanimate subjects have a minus volitive feature, as in 'pyːlaː tuːt qəːaː' (The cup broke.), obviously because inanimate subjects have no volition.

Now if we associate the modal 'sak', 'gaː' or 'caːhiye' with a verb having a plus volitive feature, we may get all the three senses, DO, SO and EP in the modal, especially in 'sak' and 'gaː'; that is to say, a verb with a plus volitive feature can perhaps occur with all the three types of modals; for example:

(102) vah ghar jaː sakataː he
he home go may/can

(He may/can go home.)

(103) vah ghar jaːgaː
he home go will/shall

(He will/shall go home.)

(104) usako ghar jaːnaː caːhiye
him home go must

(He must/go home.)
But if we now try to associate the same modals with verbs having a minus volitive feature, the Ep modals fall apart from other types of modals. The reason is obvious. Giving permission to, or imposing obligation on someone who has no volition for action is just impossible. One cannot even think of the subject's ability or intention with such verbs. But one can always think it possible, and even predict it. All this is evident from the following sentences:

(105) vah bi:mair par sakata: he:
      he ill fall may/can
      (He may/can fall ill, i.e. It is possible that he will fall ill.) (Ep.)

(106) vah bi:mair parRega:
      he ill fall will
      (He will fall ill, i.e. It is certain that he will fall ill.) (Ep.)

*(107) usko bi:mair parana: ca:hiye (DO)
       him ill fall must/should
       (He must/should fall ill.)

In (105) and (106) what the speaker is putting forward is the possibility or certainty of his falling ill. This is the sense associated with the Ep modal. The speaker cannot of course say that the subject has the intention or ability to fall ill giving the modals the SO sense. Even DO sense is not possible with 'bi:mair parana:' as the speaker cannot oblige
anyone to fall ill. 'ca:hiye' with a dative subject is therefore not possible here, as it can function only as a DO modal. The last sentence is unacceptable precisely because one cannot exhort the subject or demand of him to fall ill.

Besides the above situation, there are other situations where with a verb having a plus volitive feature the SO and Ep modals fall apart from the DO modals. It generally happens when the subject of such a verb is inanimate. The reason, again, is obvious. One cannot give permission to an inanimate being to perform any action, although it would be quite legitimate to suppose that an inanimate being, such as a tree, or a stone, may have the ability or capacity to bring about certain changes in the surrounding environment, and likewise to suppose that it is possible for an inanimate being to do so. Look at the following sentence:

(108) yah patthar us khirki ko tor
this stone that window to break
sakata he can/may

(This stone can/may break that window.)

The modal 'sak' here belongs only to the SO and Ep classes. The DO modal is ruled out here, as the stone, being inanimate, cannot be permitted to break the window. It is possible only
when the inanimate subject is replaced by an animate one like 'yah aːdmiː' (this man).

Let us now look at some other features of the Hindi verb, such as + stative and + dynamic. When modals are associated with verbs carrying such features, it is necessary to classify them into DO, SO and Ep types. If we select a verb with a plus stative feature, we must associate an Ep modal with it, as DO and SO modals cannot co-occur with a verb having such a feature, for example,

(109) baccaː zamːiːn par paːraː hi sakataː heː
cchild ground on lie be may
(The child may be lying on the ground.)

The same is the case with sentences having 'be' as the main verb, and a nominal or an adjectival as the complement, as below:

(110) vah cintit ho sakataː heː
he worried be may
(He may be worried.)

(111) vah ek dhaniː aːdmiː ho sakataː heː
hethearichperson be may
(He may be a rich person.)

We can further make a distinction between anything having been in a certain state till the present moment, and the same
thing continuing in that state in the future. Look at the following sentences:

(112) vah be:Tha: hua: ho sakata: he:
    he seated be may
    (He may be seated.)

(113) vah be:Tha hua: rah sakata: he:
    he seated remain may
    (He may remain seated.)

Both these sentences have 'sak', but while in the first it is associated with the stative 'ho' and can be only an Ep modal, in the second it may belong to any of the three classes, as it is associated with the dynamic verb 'rahana:'. 'ga:' will also behave like 'sak' in the above sentences.

Now the above account may create the impression that any type of modal may be associated with a dynamic verb. There are some constraints here that one will have to take into account while selecting modals of different types. There are some dynamic verbs that do not allow the DO modals, for instance, 'soca:na' (think), as the speaker cannot permit the subject to think. Look at the following sentence:

(114) tum soc sakate ho
    you think may/can
    (You may/can think.)
The above sentence means only that it is possible for you to think, or you have the capacity to think. It can never mean that you have the permission to think. Permission would be legitimate only in a situation where the speaker is in a position by virtue of his authority to control the action that he permits the subject to perform. The DO modal is therefore perfectly legitimate in the verb phrase 'be:Tha hua: rah sakata: he:', as the speaker can control the subject's action of sitting. If he withdraws the permission, the subject may have to quit the place. But the action of thinking cannot possibly be controlled in the same way. One does not start thinking only after one is permitted, nor does one stop thinking after the permission is withdrawn. Verbs like 'socana:' (think) are dynamic verbs, but since no authority can control the action denoted by them, DO modals cannot be associated with them.

We have thus seen how verbs having different types of features select different types of modals. It therefore seems to be necessary to divide the Hindi modals into the DO, SO and Ep classes in order to account for the constraints related to their cooccurrence with certain types of verbs. One may think of some other arguments also, both of syntactic and semantic nature, but we shall not give any more due to lack of
space. The above four arguments should be enough to provide some justification for the classification of the Hindi modals on the lines proposed.

3. Syntax

In the discussion of the syntax of the Hindi modals we shall first examine some of the surface features of different modals as auxiliary verbs, and then see whether they can be treated as main verbs in the underlying structure. As we tried to show in connection with the English modals, the issue of treating all auxiliaries as main verbs is still highly controversial. We would like to examine only tentatively how far the facts of Hindi support the hypothesis of auxiliaries as main verbs.

3.1 Surface Features

At the surface different modals behave in different ways. But they all seem to behave as auxiliaries occurring with different kinds of verb stems. These stems have different aspects associated with them. The following table shows their distribution:

<table>
<thead>
<tr>
<th>Root 'kar' (do)</th>
<th>Perfective Aspect (unmarked) 'kar' sak pa:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perfective Aspect with Person-Number 'karu:' 'kare' etc. qa:</td>
<td></td>
</tr>
<tr>
<td>Determinative Aspect with 'na:' as its marker: 'karana:' ca:hiye paR/ho</td>
<td></td>
</tr>
</tbody>
</table>
Now each modal is associated with a number of categories that follow it. We shall soon state them below, but it is necessary to point out here that in some cases the modals are not mutually exclusive. Some of them may co-occur. In that case the preceding modal will be within the scope of the following one, for example,

(115) mē: baizāːr nahiː jāː saḵūɡaː;
I market not go may/will

Here 'saḵ' is within the scope of 'gaː'. The logical structure of the above sentence may be something like the following:

Neg. \[\neg\text{Prediction} \neg\text{Poss} \text{mē}: \text{baizāːr jāː jāː} \]
\[\text{gaː} \text{saḵ} \text{Prop. I market go Prop.} \]
will can

It can also be brought out in the following paraphrase of the above sentence, such as

(116) yah nahiː hogaː ki ,mē: baizāːr
this not be will that I market
jaː saḵūː
go may

(This will not happen that I may go to the market.)

or better, 'yah nahiː hogaː ki iskīː sambhaːvmaː:
this not will be that this possible
ho ki mē: baizāːr jāːū:'
is that I market go)
Most modals in English do not co-occur; for instance, 'may' and 'will' are mutually exclusive. One cannot say:

*(117) I will not can/may go to the market.

One would rather say the same thing in the following way:

(118) I will not be able to go to the market.

or

(119) It will not be possible for me to go to the market.

The only modal that can co-occur with some other modals in English is the secondary modal, 'have to', as in 'may/will/shall have to'.

In Hindi 'ga:' can occur with 'sak', 'pa:', 'paR'/ho'. That is to say, it can occur with all except 'ca:hiye'. Similarly, 'sak' can also occur with 'paR'/ho'. Look at the following sentences:

(120) vah nahi: ja: sakega:
    he not go can will
    (He will not be able to go.)

(121) use ja:na: paRe:ga:
    him go have to will
    (He will have to go.)

(122) vah nahi: ja: paRe:ga:
    he not go can will
    (He will not be able to go.)
(123) use jaːnaː hogaː
him go have to will
(He will have to go.)

*(124) use jaːnaː caːhiye gaː
him go must/should will

(125) use jaːnaː paː sankataː heː
him go have to may
(He may have to go.)

(126) use jaːnaː ho sankataː heː
him go have to may
(He may have to go.)

*(127) use jaːnaː caːhiye sankataː heː
him go must/should may

*(128) vah jaːegaː sankataː heː
he go will may

The last sentence shows that while it is possible for the possibility or ability modal 'sak' to be within the scope of the prediction modal 'gaː', as in the sentence: 'vah jaː sakegaː', it is not possible to put 'gaː' within the scope of 'sak'. 'gaː', as we shall more clearly show when we discuss the semantics of the modals, represents the speaker's assessment, belief or prediction. The speaker may believe or infer from something that something else is possible. This is also
one of the functions of 'ca:hiye' in Hindi, but it is used much less than 'ga:' for this. It is possible to use 'ca:hiye' or 'ga:' alternatively in the following sentences to express the speaker's assessment or prediction about a certain event.

(129) a:j ba:rish hogi:
today rain happen /will/must

(It will/must rain today.)

(130) a:j ba:rish honi/orca:hiye
today rain happen must

(It must rain today.)

But it is not possible to replace 'ga:' by 'ca:hiye' everywhere. While the following sentences are quite acceptable with 'ga:', they are probably unacceptable with 'ca:hiye'.

(131) vah yah ka:m nahī: karega: (Ep)
he this work not do will
(He will not do this work.)

*(132) use yah ka:m nahī: karcha: ca:hiye (Ep)
him this work not do must
(He must not do this work.)

(133) vah nahī: kha:ega: (Ep)
he not will
(He will not eat.)
*(134) use nahi: kha:na: ca:hiye (Ep)

him not eat can must

(He must not eat.)

That shows that 'ca:hiye' is more frequently used in the DO than in the Ep sense. (132) and (134) are quite acceptable in the DO sense. Even if we put 'use' in the direct form as 'vah', the sentences do not make any sense.

Sak
(1) The aspects that can follow 'sak' are the following: perfective and imperfective. We have already said that the perfective is realized by zero, as it is formally the neutral aspect, and the imperfective is realized by 'ta:'. These aspects are immediately followed by the person-number or gender-number markers, according to their nature. The perfective aspect can take either of them, but the imperfective can take only gender-number markers, for example,

<table>
<thead>
<tr>
<th>Perfective</th>
<th>ON</th>
</tr>
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<tbody>
<tr>
<td>sak + 0</td>
<td>+ a: = saka:</td>
</tr>
<tr>
<td></td>
<td>= saki:</td>
</tr>
<tr>
<td></td>
<td>= sake</td>
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<td></td>
<td>PN</td>
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</tbody>
</table>

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>sak + 0</td>
<td>+ u: = sakũ:</td>
</tr>
<tr>
<td></td>
<td>= sake</td>
</tr>
<tr>
<td></td>
<td>= sake</td>
</tr>
<tr>
<td></td>
<td>o = sako</td>
</tr>
</tbody>
</table>
Look at the following sentences in which the above forms are used.

(135) Ra:m nahi: ja: sak: 
Ram not go could
(Ram could not go.)

(136) agar tum a: sako to a: na: 
if you come can then come
(If you can come, come.)

(137) agar mē: a: sakata: to a: ta: 
if I come could have then come would have
(If I could have come, I would have done so.)

(ii) Both the perfective and imperfective aspects associated with 'sak' may be followed by the past and non-past tenses only after they have taken the gender-number markers. But tense is not as obligatory as aspect is with 'sak'. The perfective may occur even without either of the tenses following it. Look at the following sentences:
One can easily see the difference of meaning between the sentences with tense and those without tense. In (138), which is without tense, 'saka: tha' can be translated by 'could' or 'was able to', but 'saka: tha' in (139) can be translated by 'had been able to', not by 'could', similarly, 'saka: hu: in (140) can be translated by 'have been able to'. This shows that the perfective aspect occurs without tense, as in (138) it has a temporal function of referring to past time, but when it occurs with either tense it has a proper aspectual function of marking completion.

Like the perfective, the imperfective aspect may occur with or without tense, as one can see from the following sentences:
(141) mē: nahi: ja: sakata:
I not go can
(I cannot go.)

(142) mē: ja: sakata: hū:
I go can
(I can go.)

(143) mē: ja: sakata: tha:
I go could have
(I could have gone.)

If the sentence is negative, the imperfective aspect does not normally take the non-past tense, as 'mē: nahi: ja: sakta: hū:' is quite abnormal. But the past tense is quite normal even when the sentence is negative; for example, 'mē: nahi: ja: sakta: tha:'. The past tense in a negative or an affirmative sentence has some non-factual implication. For example, 'mē: ja: sakta: tha:' implies that I could have gone, but did not do so.

While a negative sentence does not take the non-past, an affirmative sentence necessarily takes it, as in (142). It drops it only when it is used in a conditional sentence which marks unreal past; for example,

(144) agar mē: ja: sakta: to avashya ja:ta:
if I gone could have then surely gone would have
(If I could have gone, I would surely have gone.)
A real condition easily allows the non-past, as in the following:

(145) agar kisi: tarah tum abhi: ja: sakte
if somehow you just now leave can
ho to tumhe ga:Ri: avashya mil
(non- then you train surely catch
past)
ja:egi:
will

(If you can somehow leave just now, you will surely be able to catch the train.)

Besides finite forms, 'sak' may also take non-finite forms, and occur in nominalized constructions, such as

(146) cuna:av me apane pratidwandi: ko hara:
election in his opponent to defeat
sakana: usake liye kaThin he:
to can him for difficult is

(It is difficult for him to be able to defeat his opponent in the election.)

However, 'pa:na:' is more frequent in this context than 'sakana:' (i.e. hara: pa:na:).

pa:

'pa:' behaves very much like 'sak', except that it is unusual in affirmative sentences expressing the sense of ability; for instance,
(147) mē: French pāṛh saktaḥ hūḥ:  
I French read can am  
(I can read French.)

(148) mē: French pāṛh pāṭaḥ hūḥ:  
I French read can am  
(I can read French.)

But the denial of ability can be expressed by means of 'pāṛ'.  
It is thus quite normal in a negative sentence, as we can see below:

(149) mē: French nahīḥ pāṛh pāṭaḥ  
I French not read can  
(I cannot read French.)

But in a conditional sentence expressing unreal condition 'pāṛ',  
can occur even in an affirmative clause, as in the following:

(150) agar mēḥ cal pāṭaḥ, to tumhaṛe  
if I gone could have then you  
saṭṭh avashya calṭaḥ  
with surely would have gone

(If I could have walked, I would surely have accompanied you.)

Non-finite forms with 'pāṛ' are, as indicated above, more normal than with 'sak'.

'ga:' follows the perfective aspect only when it takes person-number markers, for example,

\[
\text{Perfective} + \text{Person-number} \\
\text{ja:} + \emptyset \quad \text{u:} + \text{ga:} = \text{ja:u:ga:} \\
\text{e} + \text{ga:} = \text{ja:ega:} \\
\text{o} + \text{ga:} = \text{ja:o:ga:} \\
\text{etc.}
\]

'ga:' itself takes only gender-number markers in 'ga:', 'gi:' and 'qe'. It does not allow any tense after it.

cahiye

cahiye follows only the determinative aspect which can take gender-number markers, as in the following:

\[
\begin{array}{c|c}
\text{Determinative} & \text{Gender-number} \\
\hline
\text{ja:} + & \text{na:} + \\
\text{i:} + & \text{ca:hiye} \\
\text{e} + & \text{ca:hiyé} \\
\text{ja:na:} & \text{ca:hiye} \\
\text{ja:ni:} & \text{cahiye} \\
\text{ja:ne} & \text{ca:hiyé}
\end{array}
\]

It does not allow the non-past tense to follow it. Only the past tense can follow it. With the past tense it implies unfulfilled obligation, for example,
(151) use ghar ja:na: ca:hiye tha:
him home gone should have
(He should have gone home.)

Sentences with 'ca:hiye' cannot be nominalized like those with 'sak'. 'ca:hiye' cannot also co-occur with any other modal. But one unique feature of it is that of all the modal auxiliaries, it alone can function as a main verb in the surface-structure, as we can see from the following sentence:

(152) tumhē ca:hiye ki tum ghar ja:o
you should that you home go
(You should go home.)

It normally takes an oblique subject marked with 'ko'. But it varies according to the nature of the subject. If the subject has volition, 'ko' is perhaps obligatory, as in the following sentence:

(153) is a:dami ko yahā: se harna: ca:hiye.
(This man must/should/ought to move from here.)

If the man is dead, his dead body will lose all volition. One cannot then say the following:

*(154) is la:sh ko yahā: se harna: ca:hiye.
(This dead body must/should/ought to move from here.)
One will either use the passive voice and say:

(155) is la:\sh ko yah\: se ha\:naiya: ja\:na: ca\:hiye

(This dead body must/should/ought to be removed from here.)

or replace the oblique subject by a direct subject by dropping 'ko', and say the following:

(156) yah la:\sh yah\: se ha\:nini: ca\:hiye.

(This dead body must/should/ought to be removed from here.)

(156) in fact means that the speaker demands of someone to remove the dead body from there. When the subject has volition the speaker demands of the subject to do something. There are a number of other instances of volitionless subjects also where 'ko' is uniformly dropped, such as 'pa\:ni: bar\:nas\:a: ca\:hiye' (It should rain.), 'yaha: sa\:Ra\:k pa\:ni: ca\:hiye' (A road should be laid here.), 'tu\:f\:a\:n ruk\:na: ca\:hiye' (The storm should end.) etc.

From the above instances it seems Varma (1978:203) is not altogether right when he says that "if the NP involved in the action (by which perhaps means the subject NP) is inanimate, the verb 'ca\:hiye' is marked 'inferential' and not 'desirable', for 'desirability' presupposes '+animate'. His own example, 'podhe su\:kh rahe h\:e:, pa\:ni bar\:nas\:a: ca\:hiye' (the plants are drying up; it should rain.) disproves his position.
'ca:hiye' in the above example indicates only desirability, not inference.

par

'ho' sometimes alternates with 'par' as a DO modal. Like 'ca:hiye' it follows only the determinative aspect, but can be followed by both the perfective and imperfective aspects. The perfective aspect cannot take any gender-number or person-number markers other than 'a:' and 'e', and the imperfective only 'ta:'. Either aspect can then be followed by both the past and non-past tenses, as we can see below:

<table>
<thead>
<tr>
<th>Determinative</th>
<th>Peff.</th>
</tr>
</thead>
<tbody>
<tr>
<td>ja: + na:</td>
<td>+ par + a: = ja:na: para:</td>
</tr>
<tr>
<td></td>
<td>e = ja:na: par</td>
</tr>
</tbody>
</table>

Imperf.

| ja: + na:     | + par + ta: + a: = ja:na: parta: |

Tense

<table>
<thead>
<tr>
<th>ja: na: para: + tha:</th>
</tr>
</thead>
<tbody>
<tr>
<td>he:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ja:na: parta: + tha:</th>
</tr>
</thead>
<tbody>
<tr>
<td>he:</td>
</tr>
</tbody>
</table>

'ja:na: par' cannot take any tense. It is used in modalized sentences like

agār mujhe ja:na: par e...
sha:yad mujhe ja:na: par
Instead of tense it may take 'ga:' with it, as in the following sentence:

(157) tumhē jaːnaː paRgaː
you go will have to
(You will have to go.)

Sentences with paR also do not allow nominalization, as we can see below:

(158) use Bombay jaːnaː paR
he Bombay go had to
(He had to go to Bombay.)

*(159) uskaː Bombay jaːnaː paRnāː
his Bombay go having to

ho

Regarding 'ho' it should be made clear that it is not altogether interchangeable with 'paR'. With the perfective aspect and either of the tenses, 'paR' cannot be replaced by 'ho', as it can be when the aspect is imperfective.

(160) use jaː naː paR
he; I
thāː I
him to go I has/had to
I had;

*(161) use jaː naː huː
eː I
thāː I
him to go has/had to
3.2 Modal Auxiliaries as Main Verbs

In the chapter on English modals we tried to reproduce some of those arguments that Ross, Huddleston and others have advanced to prove that English modals are like full verbs. Some similar arguments could be put forward to suggest that the Hindi modals also behave in certain respects like full verbs. Let us look at them:

1. The first argument is related to the DO 'sak' which is used for seeking or granting permission. When permission is granted, the speaker who grants it remains in the background, and appears in the sentence only when it is intended to make him explicit by introducing the performative verb 'anumati dena' (permit). For example:

(164) mē: tumhē kisi: videshi: sarkār dwa:ra: chā:travritti diye ja:ne kī: khushi: scholarship awarded to be gladly

I you any foreign Government by

Use ja: na: paRta: I he: I

him to go [has] to [had]

Use ja: na: hota: I he: I

him to go [has] to [had]
(I gladly permit you to be awarded scholarship by any foreign government.)

*(165)* me: tumhē mere dwāra: cha:ṭravṛtti diye
I you me by scholarship awarded
jaːne kiː khushiː se anumati detaː hūː
to be gladly permission give

(I gladly permit you to be awarded scholarship by me.)

(165) is obviously unacceptable, as the speaker cannot permit himself for anything. Such sentences in which the speaker permits, demands of, insists on, requests or orders the addressee to do something follow a specific constraint, namely, that the subject of the higher sentence having the performative verb in it cannot be identical with the agent of the complement clause. This constraint operates even when by applying the Flip rule the performative verb is flipped to the complement clause, and the subject of the higher sentence is deleted, for example,

(166) kisiː videoshīː sarkar: dwāraː
any foreign government by
cha:ṭravṛttiː diye jaːne kiː tumhē
scholarship awarded to be you
khushiː se anumatiː diː japīː heː
gladly permitted are

(You are gladly permitted to be awarded scholarship by any foreign government.)
*(167) mere dwara: chastravritti: diye ja:me
me by scholarship awarded to be

ki: tumhe khushi: se anumati di: ja:ti: he:
you gladly permitted are

(You are gladly permitted to be awarded
scholarship by me.)

'mere dwara:' in (167) should be read as the agentive,
related to 'chastravritti: diye ja:na:', and not to 'anumati
dena:'), as the latter reading would make the sentence acceptable.
The unacceptability of (167) results from the violation of the
constraint mentioned above. The same is the case if we
replace 'anumati di: ja:ti: he:' by the modal 'sak' in (166)
and (167).

(168) kisi:videshi: sarkaar dwara:
any foreign government by
chastravritti: tumhe khushi se
scholarship you gladly
di: ja: sakati: he:
awarded may

(You may gladly be awarded scholarship by
any foreign government.)

*(169) mere dwara: chastravritti: tumhe khushi
me by scholarship you gladly
se di: ja: sakati: he:
awarded may be

(You may gladly be awarded scholarship by me.)
This proves that the same constraint as operates with the performative verb 'anumati dena:' operates also with 'sak'. This can also be flipped from the higher sentence to the complement clause after deleting its speaker-subject. Since the Flip rule applies to verbs, it supports the claim that modals are like main verbs. Ross (1969:79-80) has advanced a similar argument in relation to English modals. It seems both Hindi and English modals (DO) are similar in this respect.

(2) Our second argument is related specifically to the DO modal 'ca:hiye' (must/should), and by analogy to the other DO modals like 'sak' and 'ga:'. 'ca:hiye' is unique among the Hindi modals, as it can occur even in the surface structure independently as a verb; for example,

(170) tumhē ca:hiye ki tum ghar ja:o you should that you home go
(You should go home.)

To extend this we may also say:

(171) tumhē ca:hiye ki tum ghar ja:o you should that you home go
ca:re use bhi: e:sa: karna: ca:hiye and him too so do should
(You should go home, and he should also do so.)
Analogically we can say:

(172) tumhē anumati he: ki tum qhar ja:o,
you permitted are that you home go
or vah bhi: e:sa: kar sakata: he:
and he too so do may

(You are permitted to go home, and he may also do so.)

Notice, in (171) 'ca:hiye' in the coordinate clause, 'use bhi: e:sa:karna: ca:hiye', is also a full verb like that in the first clause 'tumhē ca:hiye'. e:sa: :karna: is the complement of that in the same way as 'ki tum qhar ja:o' is the complement of the first 'ca:hiye'. In fact it is the reduced version of 'vah e:sa:kare', as the coordinate clause could also be presented in the following form:

or use ca:hiye ki vah bhi: e:sa:kare
and him should that he also so do

Let us now look at (172). We find the same phenomenon there. The coordinate clause in (172) is absolutely identical with that in (171). We can therefore claim that 'e:sa:kar' is the reduced version of 'vah e:sa:kare', and is the complement of 'sak' in the same way as 'ki tum qhar ja:o' is the complement of 'anumati he:'. 'sak' and 'ca:hiye', therefore, seem to behave exactly alike in the coordinate clauses of (171) and (172). The only difference is that while 'ca:hiye'
can occur independently in the main clause, 'sak' cannot. This seems to be only an idiosyncratic feature of 'sak'. In English even the equivalent of 'cąhiye' i.e., 'should' or 'must' cannot occur so independently.

(3) Our third argument is related to time-expressions. Normally a simple sentence contains one time expression, which indicates the time when the action is to take place or has taken place, for instance,

(173) vah kal Bombay jat raha: he: he tomorrow Bombay going is
(He is leaving for Bombay tomorrow.)

We can have two time expressions, if the sentence is complex and contains two verbs denoting two different actions that may be related to those time-expressions; for example,

(174) vah ab kal Bombay ja:ne ki soc' raha: he: he now tomorrow Bombay going for thinking is
(He is now thinking of leaving for Bombay tomorrow.)

The paraphrase of the above sentence that clearly shows the time-expressions along with the verbs to which they belong may be the following:

(175) vah ab soc raha: he: ki vah kal he now thinking is that he tomorrow Bombay ja:e Bombay may go
(He is now thinking that he should leave for Bombay tomorrow.)
Look at the following sentence now:

(176) vah ab kal ja: sakata: he:
    he now tomorrow go may
    (He may now go tomorrow.)

(176) has two time expressions 'ab' (now) and 'kal' (tomorrow). The sentence therefore is likely to be complex having two verbs to which the time expressions may separately belong. 'kal' obviously belongs to 'ja:' (go), 'ab' therefore must belong to 'sakata: he:'. The sentence may be paraphrased in the following manner:

(177) ab yah ho sakata: he: ki vah
    now this be may that he
    kal       ja:e
    tomorrow go
    (It may now be that he should go tomorrow.)

This means that the speaker affirms now (at the moment of utterance) the possibility of the subject's leaving tomorrow. Logically, 'now' belongs to the modal. While in (174) 'uska kal Bombay ja:na:' is the complement of the verb 'soc raha: he:' to which 'ab' belongs, in (176) 'usaka: kal ja:na:' is the subject of the verb 'sak'. As both the verbs behave quite similarly, we may claim that 'sak' is like any other full verb. This is true not only of the SO 'sak' but also of the DO 'sak', 'ga:' and 'ca:hiye'. They also behave
in the same manner, as can be seen from the following examples:

(178) tum ab kal Bombay ja: sakate ho
you now tomorrow Bombay go may
(You may now leave for Bombay tomorrow.)

(179) tum ab kal Bombay ja: oge
you now tomorrow Bombay go shall
(You shall now leave for Bombay tomorrow.)

(180) tumhē ab kal Bombay ja: na: ca: hiye
you now tomorrow Bombay go should/must
(You should/must now leave for Bombay tomorrow.)

The underlying structures of (176), (178), (179) and (180) may be the following:
'ho' supported is provided to the modal when either of the above underlying structures gets to the surface structure.

(4) The fourth argument is related to Negation. As Palmer has also pointed out, that negation may be present only once in a simple sentence. If a sentence has two instances of negation, it must be complex, as in that case, two different clauses of which the sentence is constituted may be separately negated, for example,

(181) I don't prefer not to go.

The first 'not' negates the clause 'I prefer (it)' and the second 'not' negates 'I go'. A similar phenomenon operates in Hindi, as can be seen in the following sentence:

(182) is kathinaː miː usːkiː madad na this difficulty in his help not karanaː miː Thːk nahiː samajhataː to do I proper not .think

(I don't think it proper not to help him in this difficulty.)

It could be put as follows also:

(183) miː yah Thːk nahiː samajhataː kiː is this proper not think this this kathinaː miː oːsːkiː madad na karuː difficulty in his help not do

(I don't think it proper that I should not help him in this difficulty.)
(182) has two negatives, one belonging to 'madad karanaː', and the other to 'samajhataː'. Now look at the following sentences:

(184) tum yahaː nahiː rah kyo nahiː sakate
you here not live why not can
(Why can't you not live here?)

(185) tumhaːe yahaː nahiː rahanaː kyo nahiː caːhiye
you here not live why not should
(Why shouldn't you not live here?)

In (184) and (185) each we have two negatives of which one belongs to the full verb 'rah' and the other to 'sak' in (184) and to 'caːhiye' in (185). As we have seen in relation to (182) that negatives are associated with verbs, and they decide how many verb nuclei the complex sentence has, we can easily conclude that modals like 'sak' and 'caːhiye' are like full verbs.

One can think of some more arguments, but it is not possible to do so for lack of space. Our attempt in laying out the above four arguments was only to suggest a direction in which the treatment of the Hindi modals could go, and also to explore some of their deep-structure properties. We find some motivations, as we have tried to show, to treat the Hindi modals as verbs with +Modal feature in the deep structure. But we shall not put it forward as too strong a
claim, as we think the moderate position. Palmer (1979) takes in this regard is more reasonable than any extreme position. We have already discussed Palmer's views in the fourth chapter. We shall therefore now move on to the semantics of the Hindi modals.

4. Semantics

We shall discuss the semantics of the Hindi modals with reference to the different types of modality and speech acts, as we have done in the case of the English modals. After that we shall discuss the meanings not covered by them as residual meanings. At this point we should once again list the Hindi modals for ready reference. They are:

(1) sak (may/can)
(2) pa: (can)
(3) qa: (will/shall)
(4) ca:hiye (must/should/ought to)
(5) par/ho (have to)

4.1 Alethic Modality

Alethic or logical possibility is expressed by 'sak' in Hindi, for instance,

(186) yah sansa:r ek din nasht ho sakta: he:
        this world one day perish can
        (This world can perish one day.)
Man can live for more than one hundred years.

In both (186) and (187) the logical or theoretical possibility of certain things has been affirmed. In (186) the logical possibility of the destruction of the world has been affirmed on the basis of the destructive forces which both man and nature possess, and which have the potentiality of destroying the world. In (187) the logical possibility of the survival of man beyond one hundred years has been affirmed on the basis of its being factually true in the case of some men. That implies that it is not necessarily true that man cannot live beyond the age of one hundred years.

On the other hand, alethic necessity is expressed by both 'caahiye' and 'gai', for instance,

Politicians are knaves; Ramkumar is a politician; therefore Ramkumar is a knave.
(188) is a typical syllogism in which the conclusion derived from the preceding two premises affirms the logical necessity of Ramkumar's being a knave. That can be done by either of the two modals mentioned above, although 'ga:' is more frequently used for that.

4.2 Epistemic Modality

This type of modality is also expressed by 'sak', 'ga:' and 'cashiye'. We have pointed out in the second chapter that epistemic modality may be subjective or objective. 'sak' is employed for both, for example,

(189) hawai-jahaːz se koi bhi: Hyderabad se air by anyone Hyderabad to
Bombay ek ghanʈe ke bhiːtar pahūc
Bombay one hour in reach
sakataː he;
may/can

(One may reach Bombay from Hyderabad in an hour by air.)

Here the speaker affirms the possibility of one's reaching Bombay in an hour by air on the basis of his knowledge of the Airlines schedule, and, may be, his own experience also. The possibility here is put forward/fact. But in the following sentence the possibility is purely subjective:
Here the speaker has no knowledge on the basis of which he may affirm the possibility of its raining by this evening. He may at best express his personal guess, based perhaps on some clouds that he can see.

Subjective epistemic modality may also be expressed by introducing the modal adverbial and leaving out the modal verb, for instance,

(191) sha:yad sha: m t ak pa:n i baras sakat a: he: 
perhaps evening by rain may 
(Perhaps it will rain by this evening.)

This form cannot, however, be used for the expression of objective epistemic modality.

Besides these, theoretical possibility may also be of epistemic nature. In that case it is almost identical with objective epistemic modality, and is expressed by 'sak', for example,

(192) vaise durghatana: aksar nah i: hoti: 
although accidents often not take 
hot: lekin machine kha:id hone se 
place but machine defective being from 
hawai:jaha:z kahhi: bhi: nice gir 
aircraft anytime down fall 
sakata: he: 
can
(Although accidents do not often take place, the aircraft can anytime fall down on account of defect in the machine.)

Here the speaker affirms this theoretical possibility, as he knows that it is not necessary that the machine of an aircraft will never get out of order while it is in flight. He even knows the instances when it has actually happened.

Epistemic necessity seems to be expressed by 'ca:hiye' and 'ga:'. But we must remember that even this is of subjective and objective types, as we have tried to show in the second chapter. 'ca:hiye' and 'ga:' can each express both the types, for instance,

(193) shahar, mē curfew laqa: he; is samay city in curfew in force this time 
vah ghar mē hi: hona: ca:hiye he home at only be must 
(There is curfew in the city; he must be at home at this time.)

The speaker here affirms the necessity of the subject being at home on the basis of his knowledge of the curfew being in force in the town, and the subject's office being closed. But in a different situation 'ca:hiye' will express subjective epistemic necessity, as in the following:

(194) ab ki ba:r usēne ka:fi: mehnat ki: this time he hard work do
The above sentence only expresses the speaker's personal belief which he makes explicit in the parenthesis. It does not affirm the objective necessity of the subject's passing the examination, but only a personal assessment of his chances of passing.

The same situation operates with 'ga:', as we can see below:

(195) vima:n durghatana: se koi: nahi: baca:

air accident from none escaped

eisi: khabar he:; Shyam us me: tha:;
such news is Shyam in that was

vah mar gya: hoga:

he died have must

(None escaped from the air accident, such is the news. Shyam was in that aircraft, he must have died.)

The speaker here affirms the epistemic necessity of Shyam's death on the basis of the news of which he has knowledge. But if one says:
One only presumes here what may have happened. One does not affirm the objective necessity of the paper being leaked to the subject. At best, it is the speaker's personal assessment where the necessity of the event is purely subjective.

Besides the above meanings, 'ga:' also expresses the speaker's intimation or prediction of a future event, as in the following sentence:

(197) sabha: kal hogi:

(The meeting will take place tomorrow.)

4.3. Deontic Modality

This type of modality may be expressed by 'sak', 'ga:', 'ca:hiye', 'par' and 'ho'. The seeking or granting of permission is expressed by 'sak', as in the following sentences:

(198) kya: me: ba:har ja: sakta: hui?

(May I go out?)
Yes, you may go.

All mandatory actions imposed by the speaker, or some other person, vested with the necessary authority, are expressed by 'ga:', 'par' and 'ho', for example.

(Yes, you may go.)

(200) tum har ha:lat mē sha:m tak
you any circumstances under evening by
va:pis a:ja:oge
return shall

(You shall return by the evening under any circumstances.)

(201) tumhē har ha:lat mē sha:m
you any circumstances under evening
tak va:pis a:ja:na: | pagega: | ho:ga: |
by return will have to

(You will have to return by the evening under any circumstances.)

Advice, suggestion, exhortation etc., which are of purely recommendatory nature, are expressed by 'ca:hiya&a, for example,

(202) tumhē apani: pari:ksa: ke liye
you your examination for
parishram karana: ca:hiye
hard work do should

(You should work hard for your examination.)
Although by using 'ca:hiye' the speaker does not apparently insist on the addressee to do something, . . . if he has some authority over him, even his suggestion may be taken as an order. For example, if the teachers at a particular school usually come late, and the headmaster tells them one day:

Even though it is in the form of a suggestion and only puts forward the speaker's desire, most teachers will take it as an order imposing on them the obligation to come on time from the next day. This is a matter of pragmatics where the meaning of a particular utterance is determined by the contextual factors besides its formal features. Semantics may still associate 'ca:hiye' with the actions of a recommendatory nature.

'ca:hiye' may be used also for expressing the speaker's desire, as in the following sentence,
We have already said that 'caṣhiye' also indicates epistemic necessity. Verma (1978:197) conflates both epistemic and deontic necessity when he says: "Our hypothesis is that the assumption underlying 'caṣhiye' construction is". I (i.e. the speaker) think it obligative (based on desirability/necessity/inference) for someone or something to undergo the effect of an action in a particular way."

4.4. Dynamic Modality

The concept of ability is expressed by both 'sak' and 'pa:', as in the following sentences:

(206) mēi yah peR nahi: gira: sakta:
I this tree not pull down can

(I cannot pull down this tree.)

(207) mēi yah peR nahi: gira: pa:ū:ga:

(I shall not be able to pull down this tree.)

'pa:' does not occur in some types of simple affirmative sentences as we can see below:

(208) mei yah peR gira: pa:ū:ga:
I this tree pull down be able to shall

(I shall be able to pull down this tree.)

But if we add the intensifier 'hi:' to the object 'yah peR', we get quite a normal sentence as below:
(209) meį yah per hi: gira: paųįga:
I this tree only pull down be able to shall
(I shall be able to pull down only this tree.)

However, as part of a complex sentence 'pasi' can occur freely without a negative or an intensifier, as we can see below:

(210) yadi meį yah per gira: paųįga:
if I this tree pull down shall be able
to mujhe bahut lakšRi: mil ja:egi:
then me a lot of wood get shall
(If I am able to pull down this tree I shall get a lot of wood.)

However, 'sak' and 'pasi' differ in meaning when both occur with the imperfective aspect, as in the following:

(211) meį skuįl der se ja: pasįta: huį:
I school late go am able to
(I am able to go late to school.)

(212) meį skuįl der se ja: sakįta: huį:
I school late go can
(I can go late to school.)

One can easily see the difference of meaning here. While (211) affirms the repeated inability of the subject to go to school on time, (212) only affirms the subject's ability to go late to school. This difference continues even when the
tense is dropped in negative sentences. But in the case of unreal condition the difference disappears, as we can see below:

(213) yadi me: ja: l sakta: l to bara: 
pata: l
  if I go could then very
  account hota:
nice would be

(If I could have gone it would have been
  I had been able to go
  very nice.)

From all this it appears that 'pa:' sometimes behaves like a verb that takes the meaning of characteristic activity when 'ta:' is associated with it, as in the following:

(214) me: roz ghumne jata: hu:
  I daily to walk go
  (I go for a walk daily.)

Ability associated with 'pa:' then becomes repetitive or characteristic.

With the perfective aspect, however, the meanings of 'sak' and 'pa:' remain, more or less, the same, for example,

(215) me: nahi: ja: saka:
  I not go could
  (I could not go.)
(216) meh nahi ja pari:
I not go was not able
(I was not able to go.)

In passive sentences 'par' sounds somewhat abnormal, while
'sak' does not, for instance,

(217) meh vah kitaab nahi pari saka pari:
I that book not read could/was able to
(I could not/was not able to read that book.)

(218) vah kitaab mujhse nahi pari ja saki:
that book by me not read be could
(That book could not be read by me.)

?? (219) vah kitaab mujhse nahi pari ja pari:
that book by me not read could be
(That book could not be read by me.)

A normal passive with the abilitative sense would be the
following:

(220) vah kitaab mujhse nahi pari gai:
that book by me not read could be

Besides 'sak' and 'pa:', 'ga:' expresses the dynamic
modal concepts of willingness, and intention, for example,

(221) meh tumhe English par gai:
I you English teach shall
(I shall teach you English.)
Here the speaker expresses his willingness to teach the addressee English. If the utterance is negative, it will be tantamount to the speaker's refusal to help the addressee. 'ga:' also indicates intention.

(222) meǐ kal Bombay jaːiːgaː
I tomorrow Bombay go shall
(I shall go to Bombay tomorrow.)

Here the speaker announces his intention to go to Bombay the next day. Speech acts of promise, assurance etc., fall under this, as they all presuppose the speaker's intention to do something.

4.5 Residual Meanings

Here we shall discuss the meanings that do not fall within any of the above modalities. For instance, 'ga:' has some non-modal meanings also, as the following examples show:

(223) bhaːg jaːo badmasho; aiːyeːge
go away mischevous felldws would come
aːr shor macaːːnːe ːlaːɡeː; ceːn se
and noise would make quiet
beːThanaː hiː nahiː aːtaː
to sit not know

(Go away, mischevous fellows; they would come and start shouting. They wouldn't sit quiet.)
The speaker here says about the habit of the people who make a noise every time they come. So 'ga:' here expresses habitual or characteristic traits.

(224) "mei to kahugga: is me: aipki: galati: he:
I would say in this your mistake is
(I would say it is your mistake.)

Here the speaker wants to express his judgement about the addressee's conduct, but tries to make it tentative like a personal opinion by using 'ga:' with 'mah' (say). It has no reference to future.

'ga:' is also used in conditional sentences expressing real condition as in the following:

(225) 'agar vah mehnat karega: to pas ho jaega:
if he works hard then pass will
(If he works hard, he will pass.)

cahiye

We have already said that 'cahiye' can be used as a main verb when the speaker advises or exhorts anyone, for example, 'yumhē cahiye ki tum bilmairi: ke ba:d kuch din airam karo' (You should take a rest for a few days after your illness.) This also implies the speaker's desire that you follow his advice. But the speaker can also express his desire or need by using 'cahiye' as a main verb without addressing anyone, for example,
Here 'ca:\hiye' is close to the lexical verb 'ca:\n\nta:' which expresses the speaker's desire. The above sentence can easily be paraphrased as:

(227) m\.: bu\rha:pe m\.: ab a:\ra:\m ca:\nta\: h\.: 
I old age in now rest want

(I want rest in my old age now.)

This use of 'ca:\hiye' is not discourse-oriented, but subject-oriented.

**Modals with the Past Tense**

'ga:'

Except 'ga:' all other modals allow the past tense with them. Although with all of them the past tense can refer to past time, with 'sak' and 'ca:\hiye' it can also indicate non-fulfilment in addition, for example:

(228) vah Delhi ja: sak\:ta: th\: 
he Delhi go could have
(He could have gone to Delhi.)

(229) use Delhi ja:\na: ca:\hiye th\: 
him Delhi to go should have
(He should have gone to Delhi.)
While (228) shows that the subject had the ability to go to Delhi, but he did not use that and go to Delhi, in (209) the subject had some obligation to go to Delhi, but he did not fulfil that.

The following are some examples of the use of the modals with the past tense referring to past time:

(230) vah apanic: jawani: me 5 mile bhaig
he his youth in 5 miles run
sakta: tha:
sould
(He could go run five miles in his youth.)

(231) vah 3 sail ki: umar tak nahi: bol
he 3 years of age till not speak
pa:ta:/pa:ya: tha:
able to was
(He was not able to speak till the age of 3.)

(232) mujhe roz subah 5 bajeg uThma:
me daily morning 5 o'clock get up
paRta: tha:
had to
(I had to get up daily at 5 a.m.)

(233) usako roz aspatai: ja:na: hota: tha:
him daily hospital to go had
(He had to go to hospital daily.)
(234) use pari:ksha: me bo:Thana: ca:hiye tha:
im examination in sat should have

(He should have sat in the examination.)

The idea of unfulfilment in (234) is associated with past time, as the obligation of sitting for the examination on the subject lay only in the past. Verma (1978:198) draws our attention to this fact by saying: "When 'ca:hiye' is used with a past auxiliary, it indicates that the act referred to was not performed ..." He perceives an element of unreality associated with the past tense here.

...