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by

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INTRODUCTION

1. Two types of analysis are found in grammatical studies, whether they are written for pedagogical or other purposes. These two approaches may be referred to as *semantic* and *structural*. The semantic analysis of language is based on meaning differences between forms, while the structural approach is based on the overt markers present. It is clear that the structural approach in itself is insufficient in that it does not detect ambiguity in sentences such as Chomsky's "Flying planes can be danger-ous", nor can deleted items be taken into account.[1a] On the other hand, the primary shortcoming of a purely semantic analysis derives from the difficulty involved in clearly distinguishing and classifying meaning. Thus, the semantic analysis of Hindi auxiliary verbs[1b] can present and classify a large amount of data, but such an analysis invariably results in an unduly large number of classifications and one-member classes with generalizations being rather difficult to make.

2. The ideal analysis should be a structural-semantic one in which both types of data are considered in making the analysis. The Hindi verb system is well-suited for testing the suitability of such an analysis, since the many periphrastic constructions yield a large amount of structural data; it will be demonstrated that semantic data will also have to be considered in order to obtain an accurate analysis.

3. The first complete description of the Hindi verb system was made by Kellogg in his *Grammar of the Hindi Language*, which was a reference grammar of standard Hindi, but also included material on related dialects.

[1a] N. Chomsky, *Syntactic Structures* (The Hague, Mouton, 1957).
[1b] Paul Hacker, *Zur Funktion einiger Hilfsverben im modernen Hindi*. (= *Akademie der Wissenschaften und der Literatur, Abhandlungen der Geistes- und Sozialwissenschaft-lichen Klasse*, Jahrgang 1958. nr. 4) (Wiesbaden, Franz Steiner Verlag GMBH, 1958).

Kellogg recognizes two voices, active and passive, and three moods, indicative, subjunctive, and imperative.[2] He distinguishes the participles which make up the Hindi verb forms as being *imperfect* and *perfect* rather than *present* and *past*, and also divided the verb forms into aspectual and non-aspectual, referring to them as *radical* and *periphrastic*, respectively. He again divides the latter into two groups:

The fifteen tenses of High Hindi may be distributed into three groups. The first group will include such tenses as are formed immediately from the *Root*, by means of certain terminations; the second group, such tenses as are formed by emeans of auxiliaries combined with the Imperfect Participle, the third group, such tenses as are formed by means of auxiliaries combined with the Perfect Participle.[3]

The basic approach, therefore, is structural; however, semantic considerations are also included; One indication of the structural approach is Kellogg's use of the term "indefinite" to refer to a form like *mãĩ calaa* 'I went'. A semantic analysis would have related:

(a) *mãĩ calaa*   'I went'
(b) *mãĩ calaa thaa*   "I went, I had gone"

Since (b) consists of the perfective participle and past tense marker, it is referred to as "perfective past". Comparison of the meanings of (a) and (b) would indicate that *calaa* in (a) is the same *calaa* as in (b) with the past tense marker omitted to indicate a more immediate past. Thus the form (a) would have been given a more accurate name including the term "imperfective".

4. Lienhard[4] presents an analysis of the Hindi verb which is semantically based and takes as its point of departure Kurylowicz's aspect theory.[5] Kurylowicz takes the basic opposition between an imperfective (B) and a perfective (β) verb form and completes this opposition with two more forms, one (Γ) a "neutral" verb form, which is neither imperfective nor perfective, the other (γ) a "complex" verbal, which represents a state and is thus both perfective and imperfective. The four forms exist on both the *nunc* (present) and the *tunc* (past) levels. For English and French the systems look like this:

[2] S. H. Kellogg, *A Grammar of the Hindi Language*. Routledge & Kegan Paul Ltd. 1875. p. 224.
[3] Kellogg, *op. cit.*, pp. 227-228.
[4] S. Lienhard, *Tempusgebrauch und Aktionsartenbildung in der modernen Hindi* (= *Stockholm Oriental Studies*, I) (Stockholm, 1961).
[5] Jerzy Kurylowicz, *L'apophonie en indo-européen* (Wroclaw, Polska akademia nauk, 1956).

ENGLISH		*Present*	*Past*
imperfective	(B)	I am writing	I was writing
perfective	(β)	I have written	I had written
neutral	(Γ)	I write	I wrote
complex	(γ)	I have been writing	I had been writing

FRENCH			
imperfective	(B)	j'écris	j'écrivais
perfective	(β)	j'ai écrit	j'avais écrit
neutral	(Γ)	j'écris	j'écrivis
complex	(γ)	(je suis maigri)	(j'étais maigri)

Although Kurylowicz also proposed a system for Hindi, it was based on the sketchy information found in unreliable Hindi grammars, and Lienhard therefore proposes his own system:

HINDI			
imperfective	(B)	likh rahaa hai	likh rahaa thaa
perfective	(β)	likhaa	likhaa thaa
neutral	(Γ)	likhtaa hai	likhtaa thaa
complex	(γ)	likhaa hai	likhaa thaa

Lienhard's proposed system also contains some errors. The (B) forms seem to be correct; thus *likh rahaa hũũ* can correspond to *I am writing* and *j'écris*. However, the only reason for calling *likhaa* a present perfective form is the absence of the overt marker *thaa*, a structural, not a semantic, fact. The meaning of *likhaa* is definitely past as is the form listed under past, *likhaa thaa*. The obvious form to insert in the perfective present slot would be *likhaa hai*; this form may mean "has written" and then refers to a completed ("perfective") act, which is relevant to the present. The form may then also be listed as complex, when it is used statively in the sense "be written". In addition, both the neutral forms given, *likthaa hai* and *likhtaa thaa*, are clearly imperfective. Because of the developed aspect system of the Hindi verb, the Kurylowicz system cannot be consistently applied.

5. In the first generative transformational analyses of Hindi we find a clear statement of the Hindi aspect-tense-mood system[6]:

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[6] Kachru, *An Introduction to Hindi Syntax*, Department of Linguistics, University of Illinois, Urbana, Illinois, 61801 (Dec. 1966), p. 91.

There are three aspects   *-taa*   (imperfective)
                                  -yaa   (perfective)
                                  -rahaa   (durative)
There are five tenses   *hai*   present
                                  thaa   past
                                  ho   contingent
                                  hotaa   past contingent
                                  hogaa   presumptive

The non-aspectual verb forms (future and future subjunctive) are not mentioned here, but they are listed elsewhere in the study and would probably be classified as tenses.

Although the format used is transformational, the basic approach is structural with no reference to a semantic "base". Thus the analysis as the tense/aspect/tense/mood system produces the following formula:

$$\left\{ \begin{array}{l} e(gaa) \\ \left\{ \begin{array}{l} taa \\ yaa \end{array} \right\} (huaa)\ (ho+\text{Tns}) \\ rahaa + ho + \text{Tns} \end{array} \right\} \quad \begin{array}{l} \text{(The sequence} \\ \textit{-taa} + \textit{huaa} + \textit{ho} + \text{Tns} \\ \text{does not occur).} \end{array}$$

One indication of a structural analysis is the inclusion of *huaa* at this point. Since *huaa* is used only to mark verbal adjectives, it has no part in the aspect/tense/mood system. Thus in the sentence *laṛkii baiṭhii huii thii.* 'The girl was sitting/seated.' the form *baiṭhii* is an adjective modifying 'girl'. The form *huii* is optional and marks *baiṭhii* unambiguously as an adjective rather than a verb form. *thii* is the past form of the verb 'to be', the only verb in Hindi which is not normally used with overt aspect markers.

6. In the following analysis of the Hindi aspect/tense/mood system, structural data is considered only in the semantic context. Historical data will however be considered irrelevant to this synchronic description.[7]

When a semantic analysis indicates that two forms are different, they will be treated distinctly, even if they are homonomous. As an example of the effect of semantic data on analysis we can take a statement from a pedagogical grammar of Hindi:[8]

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[7] Historical evolution is usually marked to a greater degree in the surface structure than in the deep (semantic) structure. Thus the postposition *ne* used after the subject of perfective transitive verbs in Hindi represents a previous historical stage but should probably not be represented in the semantic structure of modern Hindi.

[8] Franklin C. Southworth, *The Student's Hindi-Urdu Reference Manual* (The University of Arizona Press, 1971), p. 58.

The SIMPLE GENERAL form (i.e. the form *aataa/aatii/aate/aatii*) without an auxiliary) is used in two distinct situations:

(1) to refer to *purely hypothetical situations*
(2) to refer to *repeated actions in a narrative*

As an illustration for (1) this sentence is given:

košiš bhii karte to use bacaa nahīī sakte.

'Even if they tried, they wouldn't be able to save him.'

However, we can rephrase that sentence with very little change in meaning:

košiš bhii kii hotii to use bacaa nahīī sakte.

In fact, we find that three forms can be used with similar meanings:

(a) *karte*
(b) *kar rahe hote*
(c) *kii   hotii*

Forms (b) and (c) are referred to elsewhere in the same grammar as CONTINUOUS HYPOTHETICAL and COMPLETIVE HYPOTHETICAL, respectively. According to the pattern evident from comparing forms (a), (b), and (c), form (a) must be the GENERAL HYPOTHETICAL, since the GENERAL form is present in (a) where the CONTINUOUS and COMPLETIVE forms are present in (b) and (c), respectively. The fact that there is no HYPOTHETICAL marker in the surface structure is irrelevant to the analysis, since it must be present in the deep semantic structure.

From a pedagogical point of view also, the comparison of (a) with (b) and (c) is of more value to the student that its comparison to the 'repeated action in a narrative' found in the grammar.

THE STRUCTURE OF THE ASPECT/TENSE/MOOD SYSTEM

7.1. The periphrastic nature of many Hindi verb forms invites a subdivision of Hindi conjugational forms into elements which correspond to the various semantic divisions. In most instances, we find that Hindi conjugational forms follow a regular and symmetric pattern.

7.2. Periphrastic Hindi verb forms consist of two elements. The first of these two elements is the aspect marker. The second element is the tense-mood marker. Taking the sentence:

nevlaa sãấp ko dekh rahaa hai. 'The mongoose is looking at the snake.'
the form *dekh rahaa* represents the progressive aspect of the verb *dekhnaa*
'look at, see'. The form *hai* is the present tense marker. All progressive
forms of the verb *dekhnaa* contain the element *dekh rahaa* and all present
forms of *dekhnaa* contain the element *hai.*

7.3. In addition to *dekh rahaa hai,* there are four other progressive verb
forms of *dekhnaa,* each including a different TM (tense-mood) marker.

dekh rahaa thaa	'was looking at'	(progressive past)
dekh rahaa hogaa	'must be looking at'	(progressive presumptive)
dekh rahaa ho	'may be looking at'	(progressive subjunctive)
dekh rahaa hotaa	'(if he) had been looking at'	(progressive conditional)

7.4. In addition to *dekh rahaa thaa,* there are two other present forms of
dekhnaa, each including a different aspect marker.

dekhtaa hai	'looks at'	(habitual present)
dekhaa hai	'has looked at'	(perfective present)

8. By combining the forms given in 7.3-7.4, we can list all the periphrastic
verb forms in Hindi for the verb *dekhnaa* in this abbreviated form:

ASPECT			TENSE-MOOD (TM)
habitual	*dekhtaa*	*hai*	present
progressive	*dekh rahaa*	*thaa*	past
perfect	*dekhaa*	*hogaa*	presumptive
		ho	subjunctive
		hotaa	conditional

Each aspect form can be combined with each tense-mood form for a total
of 15 combinations. In addition, the perfective form *dekhaa* can be used
without a tense-mood marker, thus making a sixteenth form.

9.1. The forms of the verb *dekhnaa* given in 8 can now be given in a
more general form to fit all verbs in all gender, number, and person
agreement patterns.

9.2. In each instance in 8, the aspect marker is attached to the form
dekh, the stem of the verb. The stem is formed by taking the infinitive or
dictionary form of any Hindi verb, such as *dekhnaa* and deleting the
ending *naa.* The stem will be abbreviated as *S.*

9.3. The ending *aa* is found on all aspect forms and several TM
markers:

ASPECTS	TENSE-MOOD
dekhtaa	thaa
dekh rahaa	hogaa
dekhaa	hotaa

In each instance above, the ending *aa* denotes masculine singular agreement. This ending has the following variants:

	masculine	feminine
singular	*aa*	*ii*
plural	*e*	*ĩĩ*

special rule 1: *ĩĩ* → ii / __TM

The ending *ĩĩ* on an aspect marker becomes *ii* when a tense-mood marker follows. The tense-mood marker will then indicate the plural agreement, while the aspect marker marks feminine agreement only:

aurtẽ aa rahii thĩĩ   'The women were coming'.

The form *rahĩĩ* has become *rahii* by special rule 1, since the past tense marker *thii* follows. When no TM marker follows, the aspect marker retains the *ii* ending:

yahãã aurtẽ nahĩĩ aatĩĩ.   'Women don't come here.'[9]

special rule 2: The ending *aa*, besides indicating masculine singular agreement, also denotes neutral agreement, where the verb cannot agree with either the subject or the object (when they are not present of used with postpositions).

The endings given above will be abbreviated as GN (gender-number agreement).

9.4. Three TM markers show person agreement:

hai	present
hogaa	presumptive
ho	subjunctive

The complete personal ending system in Hindi can be indicated as follows:

[9] The present tense marker may be omitted with the habitual aspect marker in the negative. The form *nahĩĩ* 'not' results from a combination of *na* 'not' and *hai*. The form *nahĩĩ* has lost this compound meaning in modern Hindi (*nahĩĩ hai* occurs frequently) and the optional deletion of hai in the negative remains as a relic form.

	singular	plural
first person	*ũ̃ũ*	*ẽ*
second person	*e*	*o*
third person	*e*	*ẽ*

Only four endings are distinguished, and the personal ending system can therefore be simplified as follows:

	singular		plural
mãĩ ('I') form	*ũ̃ũ*	*tum* ('you') form	*o*
general singular	*e*	general plural	*ẽ*

These personal endings will be abbreviated as *P*.

The present tense marker can now be abbreviated as *hP*. The combination of *h* and the endings *P* produces somewhat irregular forms:[10]

	singular		plural
mãĩ form	$h + ũ̃ũ = hũ̃ũ$	*tum* form	$h + o = ho$
general singular	$h + e = hai$	general plural	$h + ẽ = hãĩ$

Contractions result when the marker *ho* is combined with P as in the presumptive and subjunctive forms.

	singular		plural
mãĩ form	$ho + ũ̃ũ = hoũ̃ũ$	*tum* form	$ho + o = hoo/ho$
general singular	$ho + e = hoe/ho$	general plural	$ho + ẽ = hoẽ/hõ$

The contractions are much more commonly used than the non-contracted forms.

9.5. The periphrastic verb forms given for *dekhnaa* in 8 can now be given in a canonical form for all regular verbs:

habitual		*t*		*h*P	present
				*th*GN	past
progressive	S	*rah*	GN +	*ho*PgGN	presumptive
				*ho*P	subjunctive
perfective		*y*		*hot*GN	conditional

[10] The tense-mood marker is identical to the verb 'to be' in most forms. In a semantic analysis, the TM marker and the verb 'to be' can however be considered distinct because of their different functions. The form *hogaa* of the verb 'to be' has both presumptive and future meaning; the form *hogaa* of the TM marker, however, only has a presumptive meaning. The verb 'to be' has special general forms for general statements: *hotaa hai, hotaa thaa*, etc. The TM marker does not have such forms.

Lower-case (underlined) letters are those found in the actual Hindi verb forms. The upper-case letters are abbreviations discussed in 9.2-9.3:

      S: verb stem
      GN: gender-number agreement
      P: person agreement

9.6. The perfective aspect marker contains a y, which is not found in the examples given for the verb *dekhnaa* in 8. Although the y is of phonological origin, it is consistently persent only in perfective aspect markers; therefore, it is included as the marker of the perfective. The y is obligatorily deleted when the verb stem does not end in a vowel, and it is optionally deleted when $GN \neq aa$.

Example 1: $dekh + y + e = dekhe$
The stem does not end in a vowel and y is obligatorily deleted.

Example 2: $aa + y + ii = aayii \mid aaii$
The stem ends in a vowel and $GN \neq aa$. Thus y is optionally deleted.

Example 3: $aa + y + aa = aayaa$
The stem ends in a vowel and $GN = aa$. Thus y may not be deleted.

9.7. The perfective aspect refers to completed action. Both the habitual and progressive aspects refer to completed action. The aspects may therefore more properly be listed in the following manner:

     1. imperfective
        a. habitual
        b. progressive
     2. perfective

10.1. The symmetric pattern of aspect and tense-mood markers found in the periphrastic verb forms described above is not found in the non-periphrastic verb forms. Non-periphrastic verb forms in Hindi are either future or imperative.

10.2. Hindi future forms are semantically imperfective, since they indicate incomplete action; however, no overt imperfective aspect marker is included in these forms.
   The future forms are given below:

	future	future subjunctive
imperfective	SPgGN	SP

With P = general singular, GN = feminine singular, we get the following forms for the verb *dekhnaa*:

future: *dekhegii*   future subjunctive: *dekhe*

The subjunctive form usually indicates some degree of doubt.

10.3. Hindi imperative forms may also be categorized as imperfective; the following imperatives occur in Hindi.

intimate	S	(*dekh*)
familiar	S*o*	(*dekho*)
neutral	S*naa*	(*dekhnaa*)
polite	S*iye*	(*dekhiye*)
extra-polite	S*iyegaa*	(*dekhiyegaa*)
request	Se	(dekhe)

The request imperative is actually a subjunctive form. Since it patterns semantically with the imperatives, it has been included in the above list; however, the same form would not be considered imperative in other uses, as in *if* clauses. All forms above have similar translations in English; their use is determined by the varying honorific conventions used throughout the Hindi-speaking area.

11.1. The habitual aspect is also called the imperfective or general aspect. In some grammars, however, there is no clear distinction between the aspectual function of the habitual participle and the tense function of the TM marker. Thus Guru[11] refers to the habitual present as *saamaany vartmaankaal* ('ordinary present'). In Sharma-Vermeer[12] we find the habitual marker referred to as Participium Präsentis. However, when this "Participium Präsentis" is combined with the past-tense marker *thaa*, the resulting form is labelled "habituelles Präteritum", correctly reflecting the aspectual nature of the "Participium Präsentis". As indicated in 9.7, the imperfective aspect has been redefined to include both the habitual and progressive aspects, so that which has been traditionally referred to as "imperfective" will be referred to as "habitual" here.

11.2. Verb forms containing the habitual aspect have three main uses:

(a) habitual action: *chaatr roz hindii klaas jaate hãĩ.*
                           'The students go to Hindi class every day.'

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[11] K. P. Guru, *Hindii Vyaakaraṇ*, Nagrī Pracharini Sabha, Varaṇasi, 1959 (First edition, 1920).
[12] A. Sharma and H. J. Vermeer, *Einführung in die Hindī-Grammatik* (Heidelberg, Julius Groos Verlag, 1963).

(b) characteristic, general action:

> *mocii juute ṭhiik karte hɑ̃ĩ.*
> 'Shoemakers repair shoes.'

(c) immediate future action:

> *abhii laataa hũ̃ũ.*
> 'I'll bring it right away.'

Assuming a standard semantic feature in the base for the habitual aspect in the form ⟨+habitual⟩, we see that it can underlie both (a) and (b), but not (c). The traditional concept of immediate future action as being one "use" of the habitual aspect marker is based entirely on a structural analysis. Thus, since (c) *abhii laataa hũ̃ũ.* has the same surface structure as *roz laataa hũ̃ũ.* (d) (I bring (it) every day.), the form is considered an instance of the habitual present. Based on a semantic analysis, (c) would have to be considered a non-habitual form with a meaning much closer to the following (non-habitual) structures:

abhii laanevaalaa hũ̃ũ.   'I am about to bring (it).'
abhii laaũ̃ũgaa.   'I'll bring it.'

11.3. There is no habitual past form corresponding to (c) in 11.2, a fact which supports the contention that (c) should not be classified as a habitual form. In the past tense, we do have expressions corresponding to (a) and (b):

(a′) *chaatr roz hindii klaas jaate the.*
  'The students used to go to Hindi class every day.'

(b′) *mocii juute ṭhiik karte the.*
  '(The) shoemakers used to repair shoes.'

11.4. In narration, the habitual aspect is often used without the TM marker:

> *job vo choṭii thii, to vo saat bajee uṭhtii, uṭh kar roṭii khaatii,...*

'When she was little, she would get up at seven o'clock, then she would eat...'

This habitual narrative is closely associated with the habitual past, since the past TM *thii* could be inserted with each verb form without appreciably altering the meaning. There seems to be no synchronic basis for calling this narrative form "rein aspektuell".[13] It has already been discussed in

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[13] Lienhard (*op. cit.* p. 112) distinguishes the two forms:
1.   Das generelle Imperfekt (z.B. *vo boltaa thaa*, 'er sprach') bezeichnet

a) ein einmaliges oder mehrmaliges Geschehen

6 why the narrative form cannot be related to other uses of the habitual aspect marker without the TM marker.

12.1. The main function of the progressive aspect is to refer to an action in progress:

> *ve log phuul caṛhaa rahe hãĩ.*
> 'Those people are offering flowers.'

There are verbs in Hindi which are not used in the progressive, such as *jaannaa* 'know', or *saknaa* 'can, be able', but some verbs like *lagnaa* 'seem', which cannot be used in the progressive in English are found in this aspect in Hindi:

mujhe aap kii baatẽ burii lag rahii hãĩ.
'Your words seem bad to me' (i.e. 'I dislike what you are saying').

In English, the progressive present can be used to indicate future time as in "I'm meeting him tomorrow.' In Hindi this usage is limited to a few verbs of motion such as *aanaa* 'come' and *pahũcnaa* 'arrive'. *siitaa kal bambaii jaa rahii hai.* 'Sita is going to Bombay tomorrow'. Again, the question arises whether the future usage of the progressive present can be classified as progressive in the semantic base, although if certainly has the progressive form superficially.

12.2. The progressive aspect is also referred to as "continuous" and "durative". It has been neglected in many traditional grammars of Hindi, since those grammars were based on traditional grammars of English and the Latin tradition, where the progressive aspect did not occur. The progressive aspect in English and Hindi is expresssed by unique forms, which must be distinguished in usage from habitual forms. This fact has gone unrecognized, since most of the common European languages use

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b) ein gewohnheitsmässiges Tun im Sinn eines Faktums
c) eine schlechthin (in der Vergangenheit) ablaufende Handlung
d) eine stets vergangene Handlung

2. Das Imperfekt der Regelmässigkeit (z.B. *vo boltaa* 'er sprach' bzw. 'spricht') bezeichnet

a) ein stets mehrmaliges (repetitives) Geschehen,
b) ein regelmassiges Tun im Sinn einer Ordnung
c) eine während eines eingeschränkten Zeitabschnitts (wiederholt ablaufende Handlung)
d) eine vergangene oder — seltener — gegenwartige Handlung.

However, the major distinction seems to be one between narrative and isolated utterance. The two forms could thus be considered semantically identical; the context, narrative or isolated, would determine which form were chosen.

the same form to express both the habitual and progressive aspects, with
some languages having additional optional forms for the progressive.
(i.e. French *en train de V*, Spanish *Vndo*). Kellogg[14] labels the progressive
as an example of an auxiliary verb. Thus *jaa rahaa hai* 'is going' would be
similar to *jaa sakaa hai*, 'was able to go'. This analysis is incorrect, since
rahaa hai cannot be given in other aspects like other verbs (including
auxiliary verbs), since it is itself an aspect. On the other hand, *sakaa hai*
can occur in the habitual aspect *saktaa hai*. The fact that a form *jaa
rahtaa hai* exists is irrelevant since it has no semantic connection to the
progressive.[15]

K. P. Guru's *Hindii Vyaakaraṇ* is modelled after Kellogg's grammar,
but Guru does give the progressive forms a distinct place on his verbal
chart[16]. However, this approach is not consistently maintained in the rest
of the grammar; subsequently, the verbal forms are listed with the
progressive forms among the auxiliary verbs. Even in the original verbal
chart, Guru distinguishes the progressive *rah*GN forms from the habitual
*t*GN forms only in the present. With the past tense marker *th*GN, the two
forms are considered synonymous, indicating that the parallel situations
(here given for the verb *calnaa* 'go') were not recognized:

	habitual	progressive
present	*caltaa hai*	*cal rahaa hai*
past	*caltaa thaa*	*cal rahaa thaa*

[14] Kellogg, *op. cit.* p. 261.
[15] K. C. Bahl, *A Reference Grammar of Hindi* (University of Chicago, 1967) denies
that *rahaa* is an aspectual marker (pp. 234-235) because

(1) *rahaa* alternates with *rahtaa, rahiye,* and other aspectual forms of the verb
rahnaa and

(2) not all verbs can occur with this aspectual marker.

The examples given in support of statement (1), however, all use the verb *rahnaa* as a
special auxiliary verb, which has no semantic relationship to the use of *rahaa* as a
marker of the progressive aspect. Statement (2) is merely a statement of the fact that a
small number of verbs may not be semantically consistent with the progressive aspect.
Bahl gives only a statively-used verb as an example of non-compatibility with the pro-
gressive. It is of course to be expected that progressive and stative are incompatible
concepts.
[16] In Southworth (*op. cit.*), we find that the perfective simple is also used to express
future events (p. 89). In R. S. McGregor, *Outline of Hindi Grammar* (Oxford, 1972), we
also find that this form is 'used ... not only of events occurring in past time'. (p. 23)
In both instances, however, only *if* clauses are given as examples. In a semantic analysis,
this use of the perfective aspect marker would not be considered perfective, since it is
more closely related to subjunctive usage. Only the superficial form is identical to that
of the perfective.

13. The perfective aspect is used to describe completed actions. The perfective aspect has not been consistently distinguished from the past tense. Thus, in Sharma-Vermeer, we find that the habitual past is called "habituelles-Präteritum, a name which indicates that Präteritum refers to the past tense. However, the perfective without overt TM marker (Kellogg's 'indefinite') is called "punktuelles Präteritum" indicating that "Präteritum" refers to the perfective aspect. On the basis of a semantic analysis, a past tense component is present in this form along with the perfective component.[16]

14.1. The remaining TM markers used with the aspects indicate moods. Especially when used with imperfective aspect markers, these mood forms are not marked for tense, and the action may occur in the present or the past as the context indicates. The perfective aspect does usually indicate that the action occurred in the past.

14.2. The presumptive mood indicates that an action is presumed or likely to occur. Since the presumptive marker is a future form (see 9.5), these forms have been referred to as future in some grammars. However, semantically they are not future in standard Hindi usage.[17]

14.3. The subjunctive mood indicates a degree of doubt and is required in many types of subordinate clauses. This mood may also occur with the future (see 10.2), as well as all three aspect markers.

14.4. The conditional refers to an action contrary to fact and is also referred to as "hypothetical"[18] and "Irrealis"[19]. These forms are discussed in 6.

15. THE SEMANTIC BASE

The following analysis develops a semantic base for the Hindi aspect/tense/mood system, which is consistent with the overt structure present on the surface.

$$ATM \rightarrow CS$$

The aspect/tense/mood system will be developed as a complex symbol; the segment-structure rules will generate the semantic base[20].

[17] Thus in McGregor (*op. cit.*) p. 27, these forms are called imperfective, continuous, and perfective future, although the examples and explanations indicate that these forms are in fact not future at all.
[18] Southworth, *op cit.*
[19] Sharma-Vermeer, *op cit.*
[20] See Noam Chomsky, *Aspects of the Theory of Syntax* (Cambridge, Mass., M.I.T. Press, 1965).

#1 $\langle +\text{ATM} \rangle \rightarrow \langle \pm\text{imperative} \rangle$

#2 $\langle -\text{imperative} \rangle \rightarrow \langle \pm\text{perfective}, \pm\text{tense} \rangle$

When a form is not imperative, it is marked for aspect. The aspect present in the ATM marker must be either perfective or imperfective ($= -\text{per-fective}$). Furthermore, the non-imperative verb forms are marked either for tense or mood.

#3 $\langle +\text{perfective}, +\text{tense} \rangle \rightarrow \langle \pm\text{past} \rangle$

When the verb form is perfective, only two tenses are possible, past and present ($= -\text{past}$).

   The forms derived here will all be illustrated using the verb

kuudnaa (S = *kuud*) 'jump' and subject *larkaa* 'boy'.

Segment structure rule #3 produces the following forms:

$\langle +\text{perfective}, +\text{past} \rangle$

larkaa kuudaa thaa. 'The boy jumped.' / 'The boy had jumped.'

Here the feature $\langle +\text{past} \rangle$ indicates either that the action occurred previous to some past time or in a past time which does not lead directly up to the present. This semantic area will be called $\langle -\text{recent} \rangle$.

#4 $\langle +\text{perfective}, +\text{past} \rangle \rightarrow \langle +\text{perfective}, +\text{past}, \pm\text{recent} \rangle$

Two perfective past forms are generated in this way:

$\langle +\text{perfective}, +\text{past}, -\text{recent} \rangle$ (perfective past)

larkaa kuudaa thaa. 'The boy jumped' / 'The boy had jumped'

$\langle +\text{perfective}, +\text{past}, +\text{recent} \rangle$ (perfective simple)

larkaa kuuddaa.   'The boy jumped.'

The feature $\langle +\text{recent} \rangle$ is relative and may range over a variable time period.

#5 $\langle -\text{perfective}, +\text{tense} \rangle \rightarrow \langle \pm\text{future} \rangle$

When the verb form is imperfective, the form may also be marked for tense; first we choose the future:

$\langle -\text{perfective}, +\text{future} \rangle$
larkaa kuudegaa.   'The boy will jump.'

In this instance, the semantic analysis of the form as $\langle -\text{perfective} \rangle$ does not correspond to an overt aspect marker.

#6 $\langle -\text{future} \rangle \rightarrow \langle \pm\text{past} \rangle$

When the ⟨—future⟩ feature is chosen, there are two possible tenses, present (= —past) and past.

   Rule #5 states that imperfective forms marked for tense are either future or not. Rule #6 states that ⟨—future⟩ forms are either present or past.

#7   ⟨—perfective, —future⟩ → ⟨±habitual⟩

Rules #6 and #7 produce another set of forms:

⟨+habitual, —past⟩   (habitual present)
larkaa kuudtaa hai.   'The boy jumps.'
⟨+habitual, +past⟩   (habitual past)
larkaa kuudtaa thaa.   'The boy used to jump.'
⟨—habitual, —past⟩   (progressive present)
larkaa kuud rahaa hai.   'The boy is jumping.'
⟨—habitual, +past⟩
larkaa kuud rahaa thaa.   'The boy was jumping.'

The subjunctive forms must be obtained from two sources, since the subjunctive coexists with tense in the future, while it co-exists with aspect in non-future forms. This situation is a rare asymmetry in an otherwise symmetrical verb system and has led many grammarians to distinguish the two uses of the subjunctive, using such alternate terms as "optative" and "potential".

#8   ⟨+future⟩ → ⟨±subjunctive⟩
#9   ⟨—tense⟩ → ⟨±subjunctive⟩

The ⟨+future⟩ form given above was ⟨+future, —subjunctive⟩. The other form is ⟨+future, +subjunctive⟩

šaayad larkaa kuude.   'Perhaps the boy will jump.'

Other subjunctive forms are as follows:

⟨+habitual, +subjunctive⟩   (habitual subjunctive)
šaayad larkaa kuudtaa ho.   'Perhaps the boy jumps.'
⟨—habitual, +subjunctive⟩   (progressive subjunctive)
šaayad larkaa kuud rahaa ho.   'Perhaps the boy is jumping.'
⟨—imperfective, +subjunctive⟩   (perfective subjunctive)
šaayad larkaa kuudaa ho.   "Perhaps the boy jumped.'

The absence of tense in a Hindi verb form indicates the presence of mood. The diagrams below indicate the binary development of aspect, tense, and mood as given by the segment-structure rules:
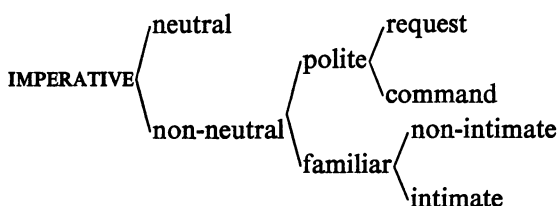
```
                          ╱habitual
           ╱imperfective╱
ASPECT╱               ╲progressive
     ╲perfective
      ╱future
TENSE╱            ╱present
    ╲non-future╱
                ╲past
                 ╱subjunctive
        ╱possible╱
MOOD╱          ╲presumptive
   ╲hypothetical (conditional)
```
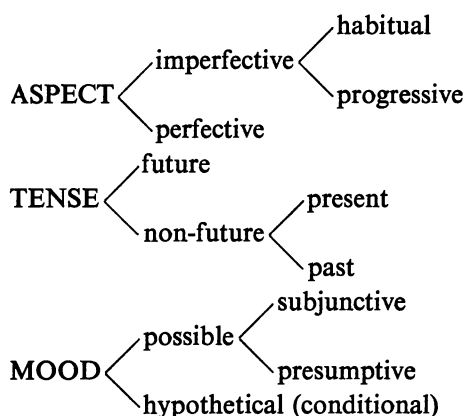
#10   ⟨—tense, —subjunctive⟩ → ⟨±conditional⟩

Thus, a form not marked for tense and not subjunctive may be either conditional or presumptive.

⟨+habitual, —conditional⟩   (habitual presumptive)
laṛkaa kuudtaa hogaa.   'The boy probably jumps.'
⟨—habitual, —conditional⟩   (progressive presumptive)
laṛkaa kuud rahaa hogaa.   'The boy must be jumping.'
⟨+perfective, —conditional⟩   (perfective presumptive;
laṛkaa kuudaa hogaa.   'The boy probably jumped.'
⟨+habitual, +conditional⟩   (habitual conditional)
(agar) laṛkaa kuudtaa...   'If the boy had jumped...'
⟨—habitual, +conditional⟩   (progressive conditional)
(agar) laṛkaa kuud rahaa hotaa...   'If the boy had been jumping...'
⟨+perfective, +conditional⟩   (perfective conditional)
(agar) laṛkaa kuudaa hotaa...   'If the boy had jumped—'

Returning to rule #1, we can now choose the ⟨+imperative⟩ alternative, which can also be arranged in a binary structure.

```
            ╱neutral           ╱request
           ╱           ╱polite╱
IMPERATIVE╱           ╱      ╲command
          ╲          ╱        ╱non-intimate
           ╲non-neutral╲    ╱
                        ╲familiar╱
                               ╲intimate
```

#11   ⟨+imperative⟩ → ⟨±neutral⟩
#12   ⟨—neutral⟩   → ⟨±polite⟩

$\#$13 $\langle$+polite$\rangle$ $\rightarrow\langle\pm$command$\rangle$
$\#$14 $\langle$—polite$\rangle$ $\rightarrow\langle\pm$intimate$\rangle$

$\langle$+neutral$\rangle$ *kuudnaa*
$\langle$+polite, +command$\rangle$ *kuudiye*
$\langle$+polite, —command$\rangle$ *kuude*
$\langle$—polite, +intimate$\rangle$ *kuud*
$\langle$—polite, —intimate$\rangle$ *kuudo*

The semantic features developed here are sufficient for the common uses of the aspects, tenses, and moods. As was indicated for the habitual aspect in 11.2, additional semantic features will be required for idiosyncratic uses of particular forms.