A TRANSFORMATIONAL TREATMENT

OF

HINDI VERBAL SYNTAX

Thesis
submitted for the Ph.D. degree
of the University of London

by

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JUNE 1965
TO

MY FATHER
ABSTRACT

After acknowledgments and a general index, the thesis opens with an introductory chapter which gives a brief outline of the theory and model of grammatical description upon which this study is based, and reviews the previous work on Hindi verbal syntax.

This is followed by the two main chapters of the work. In chapter 2 Hindi sentence structure and the sub-classes of verb which are relevant for the formulation of the Constituent Structure rules are discussed, before the rules themselves are set out. Chapter 3 first gives some of the singulary transformations, the nominalization, adjectivalization and adverbialization rules follow, and the chapter ends with the singulary transformational rules.

The Appendix following these three chapters comprises a lexicon which gives a list of Hindi verbs with their appropriate syntactic, selectional and semantic features, and lists of the other lexical categories with only their selectional features.

The thesis ends with a bibliography of works on general linguistic theory and the model of Transformational - Generative Grammar on the one hand, and on Hindi language on the other.
ACKNOWLEDGMENTS

I am deeply indebted to the School of Oriental and African Studies, especially to Professor J. Brough, Head of the Department of India, Pakistan and Ceylon, for giving me the opportunity to carry out my research in this Institution.

I have been privileged to work under the guidance of Professor C.E. Bazell, Professor of Linguistics in the University of London, during the course of my study. I express my deepest gratitude to him for the help and encouragement I received from him.

Professor K.B. Lees, Professor of Linguistics in the University of Illinois, was kind enough to look at and criticize parts of this work. I am grateful for his helpful suggestions.

I express my appreciation and thanks to my friend and colleague Dr. M.V. Smith whose help in the final preparation of this thesis has been invaluable.

Finally, my warmest gratitude to my husband, Braj and my sister, Sona, without whose constant help and encouragement this study would not have been possible.
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SYMBOLS AND CONVOLUTIONS

1) \( \| \) indicates sentence and word boundary

2) - indicates simple concatenation

3) + indicates the association of two symbols

(2) and (3) as here designated apply only to transformational rules: only + is used in the CS rules.

4) \( \rightarrow \) describes rules of Constituent Structure:

\[ X \rightarrow Y + Z \] is read: "X is expanded to Y + Z".

5) () indicates the optional presence of a constituent, and simple concatenation is implied.

6) \( \{ \} \) indicates a selection of one element, and simple concatenation is implied. Thus in accordance with the symbolism described in (5) and (6), \( X (\{Y\} L) \) is read: "choose either \( X \) alone, or \( X \) followed by either \( Y \) or \( Z \)."

7) \( [X]\ [L] \rightarrow [x + w] \ [y + z] \) indicates that two rules have been conflated, and reads: "\( X \) is expanded into \( x + w \), and \( Y \) into \( y + z \)." The same applies in transformational rules.
8) \( X \mapsto u + y \) in the env. \( \rightarrow Z \) represents contextual restrictions in the expansion of a symbol. It is read: "\( X, \) when in the environment of a following \( Z, \) is rewritten as \( w + y \)."

9) \( \emptyset \) indicates absence of a constituent.

10) \( \rightarrow \) describes transformational rules.

11) \( S_b, S_e \) represent base sentence and embedded sentence respectively.

12) \( X_1, X_2, X_3 \) represent successive occurrences of \( X \).

13) \( W, i, y, z \) are used as cover symbols for any variable.

14) \( x_{[y]} \) indicates \( X \) with the presence (\( + \)) or absence (\( - \)) of the grammatico-semantic feature \( [y] \).

15) \( X = Y \) is read: "\( X \) is equal to \( Y \)."

16) \( X \neq Y \) is read: "\( X \) is not equal to \( Y \)."

17) \( \# \) indicates non-sentence.

18) \( mR \) indicates matrix dummy of the type \( X \) in a particular environment. e.g., \( mR \) is read: "the matrix dummy for Recipient Noun". It should be noted that \( mR \) is here used in place of recursiveness on \( S \) in the CS rules.
The symbols of the I.P.A. have been used consistently for the Vowels and Consonants of Hindi, with the following exceptions:

\begin{itemize}
  \item $\xi$ is used for I.P.A. $\xi$
  \item $\zeta$ is used for I.P.A. $\zeta$
  \item $\jmath$ is used for I.P.A. $\jmath$
\end{itemize}

The aspirated consonants have been symbolized by a following $h$, e.g. $\ch$ is used for I.P.A. $\ch^h$.

Retroflexion has been indicated by a dot below the appropriate consonant symbol, e.g. $\csh$ is used for I.P.A. $\csh$.

A system of transliteration and not of phonemic notation has been used, this explaining the occurrence of symbols such as $\ks$ and $\jmr$. The inherent vowel $\varepsilon$ of Devanāgarī syllabic writing has not been transcribed in positions where it is not pronounced.

References in footnotes to items in the bibliography make use of the author's name alone if there is only one entry for him, and of the author's name and the number of the work in the bibliography if there are several entries for him:

\begin{itemize}
  \item e.g. fn. 7 Curu.
  \item fn. 5 Chomsky: 23.
\end{itemize}
1.0 As is now generally recognized, any theory of language must be able to account not only for the structures and relationships manifest in any given text but also for the creative power of the mature speaker-hearer: that is, it must characterize the nature of the device which enables a child who has heard only a restricted, finite set of utterances to make generalizations on the basis of these data, and to produce and understand an infinite set of well-formed utterances.  

1.1 A theory of language is thus to be distinguished from individual models of linguistic description which are geared to a specific aim in linguistic research. Such individual models will, of course, provide insight into the nature of the device mentioned, and with appropriate feedback, will not only refine and strengthen the theory, but also, if formulated explicitly, make for simplification in the description of natural languages; i.e. in the form of individual grammars.

1.2 The only model devised in terms of a theory with the

1Chomsky, N.: "Current Issues in Linguistic Theory" (1.1 and 1.2, pp. 50 - 61) in: Fodor and Katz. Note also other works by Chomsky in the Bibliography.
aim of specifying the nature of the device that accounts for the creative aspect of the language speaker-hearer's ability is the Transformational-Generative grammar (hereinafter TG) developed over the past decade at the Massachusetts Institute of Technology and various other centres. In other words, the features characteristic of TG are imposed upon it by the general theory; but before typifying these features, account must be taken of certain other implications of the theory: to wit, the following conceptual distinctions:

1.21 The distinction between competence and performance is explained as follows: the nature speaker-hearer has the ability not only to produce and understand infinitely many new, well-formed sentences of his language, but also to recognize deviant utterances and, where necessary, to impose an interpretation on them. This ability characterizes his competence, whereas performance refers merely to his exercising this ability on any particular occasion.

2ibid.
3Chomsky, N.: 25.
1.22 This distinction brings to mind the one between 'langue' and 'parole' made by de Saussure. 'Langue' may be equated with competence as explained above and, similarly, 'parole' with performance. Of course, this dichotomy cannot be stretched too far, observation of 'parole' provides the necessary insight into 'langue', but 'langue' is more central to the aims discussed in 1.0.

1.23 The discussion of grammatical vs. acceptable also derives from the distinction between competence and performance. "The notion 'acceptable' is not to be confused with 'grammatical'. Acceptability is a concept that belongs to the study of performance; grammaticalness to the study of competence...although one might propose various operational tests for acceptability, it is unlikely that a necessary and sufficient operational criterion might be invented for the much more abstract and far more important notion of grammaticalness...Note that it would be quite impossible to characterize the unacceptable sentences in grammatical terms." Unacceptable grammatical sentences cannot be used for reasons having to do not with grammar, but with memory limitations, stylistic factors, 'iconic' elements of speech, (e.g. a tendency to place major grammatical elements - logical subject and object - early rather than late) and so on. Thus the following will be low in acceptability though high

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4 For a detailed discussion of the similarity and differences between 'langue' vs. 'parole' on the one hand, and 'competence' vs. 'performance' on the other, see: Chomsky, N.: "Current Issues in Linguistic Theory" (pp. 52, 59) in: Fodor and Katz.

5 Chomsky, N.: 25.
in grammaticality:

"I called the man who wrote the book that you told me about up"

It is clear that the scales of grammaticality and acceptability do not coincide.⁶

1.5 Returning to the characteristic features of TG mentioned in 1.2, we may begin by specifying the form of the grammar. This has three components: syntactic, semantic and phonological.⁷

The syntactic component is central to the scheme, the output of this component being the input to the semantic and phonological components. The syntactic component generates strings of minimal syntactically functioning elements (formatives)⁸ and specifies the categories, functions and structural interrelations of the formatives and systems of formatives. It comprises the following:

i) constituent structure (CS) rules (or: 'Base component')

ii) transformational (T) rules

iii) lexicon.

The CS rules assign structural descriptions (SD) to sentences by indicating how a string of formatives is subdivided into constituents of varying scope. These are divided into two sets: a) branching

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⁶Chomsky (ibid.) has used the words 'performance' and 'acceptable' in a special sense. In general, 'acceptable' need not mean 'stylistically acceptable' as he has implied, and it need not be opposed to 'grammatical'. Thus it could be used in the traditional sense of 'grammatically acceptable'.

⁷Chomsky, N.: 15, and other of his works in the bibliography.

⁸"Morphemes" in: Katz and Postal.
rules, and b) sub-categorization rules; the latter being largely restricted to lexical categories. These two sets are not ordered with respect to each other, but once a sub-categorization rule has been applied to a certain category symbol $\theta$, no branching rule can be applied to any of the symbols that are derived from $\theta$ (except in cases of branching within a word boundary). Both sets can be context-free or context-sensitive. Context-sensitive sub-categorization rules can be of two types: i) strict sub-categorization rules, and ii) selectional rules. (i) sub-categorize a lexical category in terms of the frames of the category symbols in which it appears, (ii) sub-categorize a lexical category in terms of syntactic features that appear in specified positions in the string. Once a selectional rule has been applied to form a Complex Symbol $Q$, no strict sub-categorization rule applies later to $Q$. There is the added convention that "each major category has associated with it a 'designated element' as a member. This designated element may actually be realised (e.g. 'it' for abstract nouns, 'some(one, thing)'), or it may be an abstract dummy element".\(^9\) It is this designated element that must appear in the transformations that do not preserve, in the derived string, a specification of the actual terminal representative of the category represented by the designated element or the dummy. This ensures the unique recoverability of deleted

\(^9\) Chomsky, N.: "Current Issues in Linguistic Theory" (pp. 70 - 71), in Fodor and Katz.
elements.  
A general rule inserts lexical items in the string generated by the CS rules, although this rule need not be stated in the grammar since it is universal, and hence part of the theory of grammar.

The transformational rules that perform operations such as substitution, deletion, addition and permutation on the strings generated by the CS rules (underlying P-markers) to derive new strings (derived P-markers) operate on sets of P-markers which share the same structure index. The recursive or creative mechanism that accounts for the infinite properties of the language thus lies within the transformational subpart, except for the convention that S is recursive in the CS rules. That is, each symbol dominating a lexical category can be replaced either by a categorial symbol or by S, and if S is selected, this signals an embedding (generalized) transformation. The string dominated by

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10 This account of the base component is based on Chomsky, N.: 25. The following rules illustrate 'syntactic features', 'strict sub-categorization', 'selection' and the function of the 'designated element or dummy':
1) N: [-count] [+common] [+abstract] = "sincerity"
2) V: [+NP] in the env. --NP
3) [+V] → [-count, +abstract] [+common] in the env. N --.
4) N → "someone" [+human] [+common] [+masculine]...

See also the trees on pp.16, 17.

11 For a concise explanation of the role of CS and transformational rules, see Katz and Postal, (pp. 7 - 12).
this occurrence of S will undergo appropriate singulary transformations, and will then be embedded in the matrix sentence, provided certain compatibility conditions are satisfied. For instance, a sentence such as:

"the man who persuaded John to be examined by a specialist was fired"

has the following transformational history:
The above informal T-marker specifies how the three S(entences) have undergone various transformations to generate the sentence under discussion.

The underlying P-markers generated by the base component act as input to the semantic component, which comprises a dictionary and projection rules, and receive a semantic interpretation; and the derived P-markers which are generated by the transformational sub-component act as input to the phonological component and receive a phonetic interpretation.  

For a detailed discussion of these components, see: Fodor and Katz: "The Structure of a Semantic Theory", Halle: "Phonology in Generative Grammar" (both in Fodor and Katz), Katz and Postal, Halle: 55, Chomsky: 10, etc.
1.4 The form of the grammar outlined above specifies the set of formal universals which has been provided by the theory. In addition to this the theory claims a set of substantive universals. "...the list of all formal universals presents the alternative ways in which a given linguistic description can formulate a generalization about the language it describes", whereas "the list of all substantive universals that the theory of linguistic descriptions makes available to particular linguistic descriptions is the stock of theoretical concepts that may be drawn upon in the construction of the rules and lexical formulations of a given linguistic description." The universals thus specify the set of features that are common to all natural languages, and in doing so form a theory of language. In other words, a full specification of the set of features called the universals is a theory of natural language.

2.0 The model of TG and the theoretical assumptions behind it were accepted for the present study of Hindi verbal syntax for the following reason. The problem of describing certain features of Hindi verbs (e.g. the Compound Verb, the function of participial phrases, etc.) is essentially one of finding the syntactic and semantic features which regulate the behaviour of verbs. TG is

the only current model of linguistic description which provides an adequate form for such an integrated description. 14

2.1 A theory provides the theoretical vocabulary and also a set of concepts out of which particular linguistic descriptions of particular languages are constructed. The descriptions thus test the theory and either strengthen it, or question its assumptions, or else point out the weaknesses in the theory and provide evidence which suggests that a more comprehensive, or even a different kind of, generalization must be found.

2.2 This study has used the theory and model discussed above to specify the set of grammatical rules by means of which new nouns, adjectives and adverbs are created; which explicate the traditional grammatical notion of nominals, adjectivals and adverbials being derived from verb phrases of various types. For instance, the internal structure of expressions such as the ones

14 That is, all the 'formal universals' provided by the theory have been used in this partial grammar of Hindi to account for the phenomena specified below in paragraph 2.2. Although some of the symbols, such as Q, wh, neg, i, V, etc. have been claimed to have the status of substantive universals, this study supports this claim only insofar as comparable symbols, e.g. K, J, neg, i, V, etc. have been used in formulating rules for Hindi. Whether the claims regarding substantive universals are justified or not is yet to be seen.
underlined in examples 1, 2 and 3 exhibit the same kind of major grammatical relations as found in sentences 4, 5 and 6 respectively:

1. **ram ka copcap vehā se khusak jana mahe eccha nahi laga**
   "I did not like Ram's slinking away from there."

2. **pataji ki layi hai nee tesvir dekh rohi thi**
   "I was looking at the new picture brought by my father."

3. **ram, sita or lakṣman ke von jate hi raja desrath ki mātya ho gei**
   "King vashrath died as soon as Ram, Sita and Lakṣman left for the forest."

4. **ram copcap vehā se khusak gaya**
   "Ram slunk quietly away from there."

5. **pataji nee tesvir laye**
   "Father brought a new picture."

6. **ram, sita or lakṣman von gaye**
   "Ram, Sita and Lakṣman went to the forest."

This partial grammar of Hindi thus contains rules that generate various types of simple sentences, and rules that convert these sentences into nominal, adjectival and adverbial expressions.

2.21 The syntax of Hindi verbs has not been discussed in any great detail before, although the traditional description of Hindi by Ramta Prasad Guru contains many insightful remarks about the nominative- ergative, passive and causative sentences, Compound Verbs, and various uses of verbal nouns and participial phrases.\(^{15}\)

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Recent attempts at describing the Compound and Conjunct verbs, or the functions of participial phrases have suffered on two accounts: either the descriptions have not paid enough attention to the syntactic features of verbs, or they have not been based upon any theoretical conception of linguistic structure, and hence, have failed to make any significant generalizations. The latest sketch of Hindi grammar gives an inventory of elements and systems operating in various places in structure. The statements regarding systems are so vague and unrelated that it is hard to draw any conclusions from them. For instance, a system of transitivity and a system of aspect have been set up at clause rank; systems of voice, tense and aspect are set up at (verbal) group rank, and a system of aspect has been set up again for the element V. Causals have been treated as merely a sub-class of lexical verbs. The account of Compound verbs (i.e. the sequence li) is incomplete and inadequate, and the category of Conjunct verbs (i.e. 'compound 1') includes examples such as santos hona, dukh hona etc. which are

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17 Burton-Page: op. cit.
19 Verma: 105. See also: Halliday: 57, 58, 39; and Halliday, Intosh and Strevens.
20 Where * indicates obligatory sequence.
not Conjunct verbs. As is clear from the account following this, the system of causative and possibly that of passive should have been set up at clause rank, and a system of Simple vs. Compound at (verbal) group rank, along with tense, aspect and modals. This failure in setting up systems at proper ranks results in an unsatisfactory account of passive and causative sentences.
1.0 The CS rules following this section have been formulated to account for the various types of Hindi verb phrases (abbreviated VP), both finite and non-finite. As there is no account of Hindi sentence structure available which could serve as a basis for this study, we shall consider the types of sentences in which these VPs occur before we proceed to the discussion of the VPs themselves.

1.1 In modern linguistic writings, one particular type of Hindi sentence structure has attracted much attention, that referred to as the Perfective Nominative-Lative type. To make what is involved in this type of sentence structure explicit, reference is also made to the Imperfective Subject-Object type, and Intransitive sentences. Other types of Hindi sentence structure have not received a full treatment so far.

1.11 To make the discussion of Hindi sentence types more comprehensible, let us consider the following sentences:

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1Allen; Verma.

2Allen: op. cit. Although the Hindi case system is not parallel to Sanskrit, Greek or Latin, and has no terms like nominative, Accusative, etc., we have retained the term used by Allen to designate this type of sentence structure.

3As Imperfective sentences with transitive verbs are comparable to subject-object type sentences in other languages, such as English, we have referred to them as such.
I. Intransitive:
1. ciriya or gayi "The bird flew away"
2. theedi hava cel rehi thi "A cold wind was blowing"
3. mosem schavna tha "The weather was pleasant"
4. lekhi bimar thi "The girl was ill"

II. Imperfective Subject-Object type:
5. dhobi kepyo dho reha tha "The dhobi was washing the clothes"
6. bheriyol bokriyo kha jate he "The wolves cat up the goats"
7. sonar gohne bena ta "The goldsmith makes ornaments"
8. mali phul torga tha "The gardener picked the flowers"

III. Perfective Nominative-Ergative type:
\[ \begin{align*}
& \text{a. } 9. \text{ dhobi ne kepyo dho liye } "\text{The dhobi finished washing some clothes}"
& 10. \text{ bheriyol ne bokriyo kha li } "\text{The wolves ate up some goats}"
& 11. \text{ sonar ne ciriyol bena } "\text{The goldsmith made some bracelets}"
& 12. \text{ mali ne phul toga } "\text{The gardener picked some flowers}"
& \text{b. } 13. \text{ dhobi ne kepyol ko dho liya } "\text{The dhobi finished washing the clothes}"
& 14. \text{ bheriyol ne bokriyo ko kha liya } "\text{The wolves ate up the goats}"
& 15. \text{ sonar ne ciriyo ko bena } "\text{The goldsmith made the bracelets}"
& 16. \text{ mali ne phulo ko toga } "\text{The gardener picked the flowers}"
\] 

IV. Passive:
17. ghayel hons se cya nehi gaya "The wounded swan was unable to fly"
18. dhobi se kepyol dhoyo nehi gaya "The dhobi was unable to wash the clothes"
19. "The goldsmith was unable to make ornaments"

20. "All the flowers were picked"

21. "Father has to go to Calcutta"

22. "I have to write many letters"

23. "The dhobi should wash the sarees"

24. "The child should go to sleep"

25. "Father is hungry"

26. "Mother did not like the play"

27. "The child is feeling sleepy"

28. "He was very happy to get the letter"

1.12 The main syntactical features of the six sets of sentences are as follows:

I - The Subject, which is in the direct case, and the verb agree

4 Note the absence of the passive agent which, if present, would have been \( N + \text{ag} \).

5 The phrase \( \text{petr pa k} \) is adverbial and could either precede or follow \( \text{osko} \).

6 For a full discussion of the number, gender and case systems of Hindi see: Allen. Note that the oblique case is frequently homophonous with the direct.
in number and gender, the number and gender of the former being indicated by the verb if the Subject noun shows no formal indication of them;

II - is similar to I in all respects, except that the sentences in II have an Object noun as well, which could either be in the direct case, or in the oblique if followed by ko;

III - the Agent noun\(^7\) is in the oblique case and is followed by the postposition ne; the Patient noun\(^7\) is in the direct case, and the verb agrees with the Patient noun in number and gender in (a). In (b) the Patient noun is in the oblique case and is followed by the postposition ko, and the verb does not agree either with the Agent or the Patient noun.

IV - the syntactic features of this set are similar to the features of set III, except that the postposition following the Passive Agent\(^7\) is \(\text{se}\).

V - is similar to set III as far as features of concord are concerned.

VI - is similar to set IIIa, except that the initial noun\(^6\) is followed by the postposition ko.

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\(^7\) As the terms Subject and Object do not seem appropriate for Ergative sentences, we have used the terms Ergative Agent, Patient Noun and Passive Agent respectively for the first and second nouns of type III and first noun of type IV.

We are grateful to Professor P.E. Lees for suggesting the term Patient noun for the "Object" of type III sentences.

\(^6\) No attempt has been made here to use a defining term for nouns in initial position in sets V and VI.
1.13 Although sets IV, V and VI appear to be similar to set III, there are some important differences between them. The Perfective Nominative-ergative type is restricted to the Infinitive only, but set VI is completely unrestricted as regards aspect. Set III is restricted to Transitive verbs, set VI is restricted to one particular sub-class of Intransitive verbs, set V is free from such restrictions.

1.14 In modern linguistic descriptions of Hindi, the above syntactic characteristics are pointed out, and in one description, a system has been set up to provide for a choice of either non-no or ne-subject, depending upon the choice of appropriate class of verb and aspect. In the same description, although a system of voice has been set up for the verbal group, and the Infinitive verbal group has been treated parallel to the Imperative and Indicative verbal groups, no statement has been made about the nouns in the sentence types IV and V. Presumably, on analogy with ne-subject, a se-subject (object?) and a ko-subject will be set up in such a description for the sentences in IV and V respectively.

9 For a detailed description of aspect, see: Allen.
10 That class of verbs which operates in sentence types II and III is referred to as transitive verb. Similarly, the class of verbs which operates in sentence type I is termed Intransitive.
11 See fn. 1 above.
12 Verma.
The CS rules which could make the above description explicit would be as follows:

(i)  \( S \rightarrow NP \times VP \)

(ii)  \( VP \rightarrow \{ NP \ (Comp) \} \ V \ (\text{passive}) \ Asp \ (T_{aux}) \)

(iii)  \( Asp \rightarrow \{ ta \ y a \ n a \ c \ ga \ if \ c -- \ cahiye \ if \ na -- \ he \ h o \ h o t a \ h o g a \ th a \} \)

(iv)  \( T_{aux} \rightarrow \{ N + no \ if \ || -- NP \times V + ya \ N + sc \ if \ || -- A + V + \text{passive} \} \)

(v)  \( NP \rightarrow \{ N + ko \ if \ || -- NP + V (\text{passive}) na \ N \ elsewhere \} \)

1.15 The above rules, although descriptively adequate, are unsatisfactory for the following reasons:

   a. Certain generalizations that we can make about the sentence-types III - VI are lost, e.g., the same constraints that apply to the first and second nouns in III will apply to the first (and second nouns) respectively in IV - VI; and the number - gender and person concord - rules will be the same for sets III - VI.
b. The introduction of ne, se and ko by rule V results in unmotivated branching of NP in the tree. 13

Both these consequences would complicate the formulation of structural indices to which later transformational rules could be applied.

1.2 At this point, it is helpful to discuss the classes and sub-classes of verbs which are relevant for branching rules in the CS component.

1.21 The following sets of sentences are helpful in classifying the Transitive verbs:

A. 29. ram ne cay pi
30. ram ne mitr ko cay pilayi
31. mohan ne seb khaye
32. mohan ne ram ko seb khilaye
33. siksek ne chatr ko postek di
34. mā ne pitaji ko bhat pərosa

"Ram drank tea"
"Ram gave his friend tea to drink"
"Mohan ate apples"
"Mohan fed Ram with apples"
"The teacher gave a book to the student"
"Mother served rice to father"

13 The tree would be as follows:

```
NP  VP
\[  \]
\[ Kp \]
\[ \]
\[ N \]
\[ ne \]
\[ N \]
\[ V \]
\[ Asp \]
\[ Taux \]
\[ ya \]
\[ he \]
```

Branching of NP into N and ne as above is unmotivated, as ne is not a property of the NP, but is rather connected with the VP as a whole. That is, the choice of ne depends on the choice of V and Asp.
B. 35. ram ne mohan se mitr ko cay pilvayi
   "Ram caused Mohan to give his friend tea to drink"
36. malkan ne resoiye se bocch ko khana khilvaya
   "The mistress caused the cook to feed the children"
37. siksook ne dohlandar se chatr ko postek dilvayi
   "The teacher made the shopkeeper give a book to the student"
38. ma ne behan se pitaji ko bhat porosvaya
   "Mother made sister serve rice to father"

1.22 Sentences 29 and 30 in set A are Perfective Nominative-Ergative type, but the rest of the sentences in A have an additional constituent between the Agent and the Patient noun. Furthermore, this constituent is made up of the elements N + ko. Traditionally, this constituent has been referred to as "Indirect Object", and although this term is not consistent with Agent and Patient noun, we shall retain it for the present. Sentences 29, 30 and 31, 32 exemplify the fact that certain transitive verbs which occur in sentence type III have a derivative which occurs in sentence type A, but certain verbs in sentence type A have no parallel forms in sentence type III: e.g. the verbs in A 35 and 34. As all the sentences in A, however, share the syntactic characteristics of type III enumerated in section 1.12, the verbs occurring in them are treated as a sub-class of transitive verbs.

1.23 Sentences in B, again, differ from A 30, 32, 33, and 34 in that they have one additional constituent: N + se between the Agent, and the "Indirect Object", noun. The verbs in B 35 – 8
are, again, formally related to the verbs in A 29 - 34. Such formal relationships, however, are not restricted to the Transitive verbs. The following sentences are also possible:

C. 39. bēcca so geya "The child went to sleep"
40. mā ne bēcca ko sālaya "other put the child to sleep"
41. mā ne nokār se bēcca ko sālaya "Mother made the servant put the child to sleep"

Sentences with N + se constituents in this position have been called "Causal" sentences in traditional grammars, and the constituent is + se has been termed the causative agent! Since we are using Agent Noun for the N + ne in type III sentences, we shall refer to the is + se in B and C as the "Mediant Noun". The verbs in B and C will be treated as a further sub-class of Transitive verb, as the sentences in B and C share the syntactic characteristics of type III sentences. The verbs in A 30, 32, 33 and 34 will be referred to as "double transitives" and the verbs in B and C as "causatives".14

14 As the double transitive and causative verbs have generally been discussed under morphology by the traditional grammarians, there has been a great deal of confusion as regards what genuine causals are. Statements like the following are quite common: "From all other roots, two causal bases can be derived, the first of which is generally used as a transitive, and the second is considered to be genuinely causal." Guru: Section 205, p. 165.
"If the primitive be a neuter verb, it is plain that the first causal will be the corresponding active verb." Kellogg: Section 420, p. 253.
"The first point to notice in considering the causal verbs is that (Continued overleaf)
The following sets of sentences exemplify the sub-classes of Intransitive verbs:

I. 42. ram katab laya  
43. chatr bhaga nehi semjhe 
"Ram brought a book"
"he students did not understand the lecture"

II. 44. mohen ko hesi ayi  
45. bece ko kilaune mile 
46. chatro ko neya siksek koch joca nehi
"ohan felt like laughing" 
"The child got some toys"
"The students did not like the new teacher"

III. 48. ler'i svosth ho gayi  
49. eb hemara nokar buhra ho gaya he
"The girl recovered"
"Now our servant has become old"

IV. 50. majhe kehani occhi legi  
51. ma ko film vahiyat legi
"I liked the story"
"Mother found the film bad"

The forms Pronoun + ko and Pronoun + e are in free variation.

fn. 14 (Cont. from preceding page)  
many verbs which are causal in form are not, strictly speaking, causal verbs... it is a misuse to call chilna the causal of chilna or chil jana. The former is an active verb... The true causal verb indicates the causing of another to do something..." Greaves: Section 271, p. 501.

Such confusion is avoided when the verbs are looked at syntactically, as has been done in the above discussion. As sentences like the following are ungrammatical, our labelling of double transitive and causal seems to be well motivated:

# ram no mitr ko cay pi  
# ram no mohen se mitr ko cay pilayi  
# siksek ne dekandar se chatr ko postek di  

Sentences like:

ma ne pitaji ko bhat perosvaya

will be "understood" as B 58 after adiant Noun deletion, never as A 54.
Sets I and III are similar in that the first Noun is in the direct case, but they are different in that the second nominal element in I is a Noun, but in III it is an adjective. In sets II and IV the first Noun is in the oblique case followed by the postposition ko; but whereas in set II the second element is a Noun, in set IV the first Noun is followed both by a Noun and an Adjective.

1.25 Then there are the copula verb sentences, like:

52. kemra hovadar he "The room is well ventilated"
53. meri behen jakter he "My sister is a doctor"
54. radha shackanta benti "Radha acted as Shakuntala"
55. vah bega bhola benta he "He pretends to be innocent"

1.26 The position regarding the so-called Impersonal or Passive voice of the intransitive verbs is not clear. There are statements such as the following in Hindi Grammars:

"The impersonal voice is, in fact, the passive voice used for intransitive verbs." (p. 58)

"Only transitive verbs can have a passive voice." (p. 98)

"The impersonal voice...is a variety of the passive, as applied to intransitive verbs." (p. 102)

However, this confusion regarding the terms "passive" and "impersonal" has not prevented grammarians from observing that:

"Apart from the jana passives...there are a large number of

Sharma."
verbs which are passive by nature...All these are, of course, intransitive in form. Their active forms are, naturally, transitive...the active forms are used like ordinary transitive verbs...And they can form a passive as well: kata jana, khola jana, bādha jana, etc. (ibid. p. 100)

Let us consider a few examples of active verbs which have both a jana passive and an "original passive":

56. larke ne davat gira di "The boy dropped the inkpot"
57. larke se davat gira di geyi } "The inkpot was dropped by the boy"
58. larke se davat gur geyi
59. sonar ne gehne nehi benaye "The goldsmith made the ornaments"
60. sonar se gehne nehi benaye geye } "The ornaments were not made by the goldsmith"
61. sonar se gehne nehi bene

As the "impersonal voice" is said to be restricted to the intransitive verbs, and the "original passives" are intransitive verbs, the question naturally arises, do these original passives also occur in the impersonal voice? It turns out that they do not; the following are impossible:

≠ davat se gir jaya gey
≠ gehne se bene nehi gey

It also turns out that only the transitive verbs which co-occur with Instrumental adverbials also occur in passive and causative sentences. The transitive verbs such as khone, bhulna, jama, osjana (lose, forget, give birth to, startle(someone)) which do not co-occur with Instrumental adverbials do not occur in passive
or causative sentences either.\textsuperscript{17} Hence, in this study, the passive agent and the mediant noun have been derived from the instrumental adverbial, which is satisfactory with regard to the semantic interpretation of the passive and causative sentences:

62. \textit{ram se k\text poco dhoye gaye} "The clothes were washed by Ram"
63. \textit{mohen se ram se kepge dhalyaye} "Hohan caused the clothes to be washed by Ram"
64. \textit{mohen se ram s- kepge dhalyaye gaye} "The clothes were caused to be washed by Ram by Hohan"

Sentence 64, though stilistically clumsy, is perfectly acceptable.

1.3 After the preceding discussion of simple verbs, we proceed to discuss the Compound and Conjunct verbs\textsuperscript{18} in some detail. Almost all the grammars and modern descriptions of Hindi\textsuperscript{19} make an attempt to classify the Compound verbs (hereinafter CV) on the basis of their meaning or formation or both. Very little, if any, attention has been paid to their syntactic function.\textsuperscript{20} This has resulted in futile arguments about whether the CV is primarily a grammatical category, or a category of meaning or context.\textsuperscript{21}

\textsuperscript{17}The causatives \textit{porhvana}, \textit{khilvana}, etc. are not the causative forms of \textit{porhna}, \textit{khana}, etc. but of \textit{porhana}, \textit{khilan}, etc. It is by no means sufficient to characterize the causative verbs only with the feature \textsuperscript{[instrumental adv]}, the other features that are relevant in this connection have been discussed on pp. 97 - 9.
\textsuperscript{18}Burton-Page: 89.
\textsuperscript{19}Guru; Greaves; Burton-Page: op. cit.; Hacker: 94, 95.
\textsuperscript{20}Burton-Page: op. cit.
\textsuperscript{21}Burton-Page: op. cit.; Hacker: op. cit.
No clear picture of the grammatical status of CV has emerged so far. Before we suggest a solution to this problem, let us consider the following sentences:

I. 65. gilheri peq per seph gayi  "The squirrel climbed up the tree"
66. peka am tepes peya  "The ripe mango dropped down"
67. mali ne sare phul toq dale  "The gardener picked all the flowers"
68. Sikari ne baga ko mar dala  "The hunter killed the tiger"
69. gosse m3 veq becco ko mar be3ha  "He rashly hit the child in his anger"
70. do-tin din3 m3 mekan saja daya jayga  "The house will be decorated in a day or two"

II. 71. veq din seph teq sota rehta he  "He sleeps till late"
72. meno karme per bhi larqki gati gayi  "Although she was asked to stop, the girl went on singing"

III. 73. veq sobeh ki gari se ghar cela gaya  "He went home by the morning train"
74. heva ke jh3ko m3 qal3 jhaki per rehi th3  "The branches were stooping down because of the force of the wind"
75. nid ne ane per bhi veq le3ta reha  "He remained lying down even though he could not sleep"

IV. 76. tom aram kero, m3 jh3ru lagae doti hu  "You rest, I shall sweep the floor for you"
77. becco ke kyo3 marq qalte ho  "Why are you almost killing the child?"

V. 78. veq eb kam per jane lega he  "He has started to go to work now"
79. ahq3 samte hi kotna bh3kne legta he  "The dog starts barking as soon as it hears a noise"
The above five sets of sentences exemplify the following five morphological types of CV:

I. $V + \text{Operator}$
II. $V + \text{ta} + \text{Operator}$
III. $V + \text{ya} + \text{Operator}$
IV. $V + \text{yc} + \text{Operator}$
V. $V + \text{ne} + \text{Operator}$

(Note that the phonetic form of these suffixes will change according to their environment which will be specified by morphophonemic rules.)

The list of Operators that can occur in each type is as follows:

<table>
<thead>
<tr>
<th>$V+\text{Opr}$</th>
<th>$V+\text{ta}+\text{Opr}$</th>
<th>$V+\text{ya}+\text{Opr}$</th>
<th>$V+\text{yc}+\text{Opr}$</th>
<th>$V+\text{ne}+\text{Opr}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>a</td>
<td>ja</td>
<td>ja</td>
<td>log</td>
</tr>
<tr>
<td>ja</td>
<td>גַּל</td>
<td>ja</td>
<td>peγ</td>
<td>lc</td>
</tr>
<tr>
<td>peγ</td>
<td>ניקל</td>
<td>רה</td>
<td>kor</td>
<td>dc</td>
</tr>
<tr>
<td>כֶּת</td>
<td>קָה</td>
<td>כַּה</td>
<td>גַּל</td>
<td></td>
</tr>
<tr>
<td>בֶּט</td>
<td>מאר</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ניקל</td>
<td>דֵּכֶּק</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>רה</td>
<td>גֵּרִא</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>כֵּל</td>
<td>מָגֶה</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>רֵכֶּח</td>
<td>פֵּהֵכֶּו</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>לֵכ</td>
<td>פָא</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>דְחֵמֶּאק</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

\[22\text{This list is not claimed to be exhaustive, but it is claimed that any addition to it will not add anything new to the syntax of CVs outlined in the following pages.}\]
1.32 The following operators can follow any verb:

<table>
<thead>
<tr>
<th>V+ta</th>
<th>V+ya</th>
<th>V+ne</th>
</tr>
</thead>
<tbody>
<tr>
<td>ja</td>
<td>kor</td>
<td>leg</td>
</tr>
<tr>
<td>rōh</td>
<td>cah</td>
<td>de</td>
</tr>
</tbody>
</table>

The rest of the operators vary in their distribution, so the verbs have to be sub-classified according to the co-occurrence restrictions between verbs and operators. Some further co-occurrence restrictions on operators follow:

1. $V + yo + \text{Operator}$ and $V + ye + \text{Operator}$ constructions do not co-occur with perfective, and $V + ye + \text{Operator}$ does not co-occur with future tenses.

2. Only the following operators co-occur with the negative particles:

<table>
<thead>
<tr>
<th>V+ya+Opr</th>
<th>V+ne+Opr</th>
</tr>
</thead>
<tbody>
<tr>
<td>cah</td>
<td>dc</td>
</tr>
</tbody>
</table>

3. All operators except the following can co-occur in imperative sentences:

<table>
<thead>
<tr>
<th>V+ta</th>
<th>V+ya</th>
<th>V+ye</th>
<th>V+ne</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>ja</td>
<td>ja</td>
<td>le6</td>
</tr>
<tr>
<td></td>
<td>cah</td>
<td>le</td>
<td>dc</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>qal</td>
</tr>
</tbody>
</table>

4. Only transitive CVs (cf. Section 1.34) can operate in passive sentences. (cf. Sections 1.11, 1.12)

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These restrictions apply only to unemphatic, normal statement type sentences. Emphasis will make some difference to all that has been stated so far.
Before the verbs are sub-classified according to the occurrence of the operators, it is interesting to consider if the members of a certain sub-class of V resulting from the application of this criterion have any other syntactic or semantic features in common. Note that Kamta Prasad Guru lists only the following operators which follow V as intensifiers: othna, bethna, ana, jana, lena, dona, porna, dalna, raha, rehna and nikelna. The semantic explanations accompanying these are revealing: e.g. the above operators are said to have the following meaning and restrictions of occurrence:

- **othna** denotes suddenness; occurs with verbs that express state, e.g. bolna, rona, kāpna, oṣkna (to speak, cry, tremble, be startled) etc.

- **bethna** denotes impudence; occurs only with verbs such as marna, carhna, kehna (to hit, climb, tell) etc.

- **ana** indicates i) the direction of an event towards the speaker-hearer, e.g. badal guhir aye "The clouds encircled the sky"
  
  ii) suddenness if following bolna, kehna, rona, hōsna (to speak, tell, cry, laugh) etc.
  
  (dekh ana, lot ana, etc. result from the deletion of ker in dekh ker ana, lot ker ana, respectively, etc.)

- **jana** indicates i) completion if following hona, benna, phelna, marna (to happen, be made, spread, die), etc.

---

ii) speed if it follows process verbs such as khana, nagelna, pina, pahāna, ana, ghumna (to eat, swallow, drink, reach, come, wander), etc.

iii) direction away from the speaker, if kar is deleted from dekh kar jana, lot kar jana, etc.

iv) use of jana in passives.

lena has a meaning similar to ātmanopādam of Sanskrit, i.e. the result of the action, process, etc. is directed towards the actor: e.g. kha lāna, son lāna (to eat up, listen), etc.

dena has a meaning similar to Sanskrit parasmaipādam, i.e. the result of the action, process, etc. is directed towards someone other than the actor: e.g. khīla dena, mar dena (to feed, hit), etc.

It means suddenness when it follows cēna, hōsna, rōna (to move, laugh, cry), etc.

pēna is similar to jana, and means "happening" with intransitive verbs: e.g. gīna, ṭākna, kudna, hōsna (to fall, be startled, jump, laugh), etc.

dalna occurs only with transitive verbs, and denotes volition: e.g. mar dalna, kāt dalna, tor dalna (to kill, cut, smash up), etc.

rehiṇa indicates continuous action.

rēkhna is similar to lēna, and is restricted to a few verbs.

nikēlna is similar to peṇa, and is restricted to a few verbs.

1.322 lena and dena are obviously the kind of operator about which general statements could be made. It is interesting to note that whereas lēna occurs with transitive verbs, such as
khana, pina, socna, samajhna (to eat, drink, think, understand), etc. dena occurs with double transitive verbs such as khilana, pilana, bhejna (to feed, give to drink, send), etc. Of course there is a large number of transitive verbs with which both lena and dena occur, but an obvious difference in meaning results if a transitive verb is followed by dena instead of lena:

80. mē ne catthi parh li "I read the letter (for myself)"
81. mē ne catthi parh di "I read the letter (for the benefit of somebody else)"

Notice also that only the V + lena could have a recipient noun identical with the actor:

82. mē ne apne ko samjha liya "I consoled myself"
83. mē ne osko samjha diya... "I consoled him..."

It is also significant that only the verbs that can co-occur with dena have a causative form: e.g. khilana - khylkan, solana - solvane, pehnana - pehenvane (to feed - cause to feed, put to sleep - cause to put to sleep, dress (someone) - cause to dress (someone)). That is, the following pairs of sentences are related:

84a. osne beccee ko solaya "he put the child to sleep"
84b. osne noker ke beccee ko solvaya
 "he made the servant put the child to sleep"
85a. osne sitthi ko mala pehna di
 "he garlanded the guest"
On the basis of the above, two semantic markers: (atmane), (parasmppai) have been set up to make the occurrence of V + lena, dena type of CV predictable. Similarly, various other semantic markers such as (direction), (action), (process), (stative), etc. have been set up to characterize the sub-classes of verbs which are followed by ana, jena, cthna, bethna, ponna, etc. to indicate the type of semantic interpretation which the CVs would receive. (cf. the Lexicon: p. 121).

The following verbal sequences, although they appear to be similar to CVs, have been left out of this account, because they do not behave similarly to the CVs discussed above:

86. haven verṣ ki cmr më hi seṭh ji cel bese
   "Seth died when he was 52"

87. oski jan par a bēni
   "His life was in danger"

88. šetṛcō ne qila ja ḍhera
   "The enemy surrounded the fort"

89. ciriya jal mē ja phāsi
   "The bird was caught in the net"

The first two are clearly idioms as their readings do not amalgamate to produce a non-deviant reading. The next two are different from CVs, as the following sentences will show:

90a. ciriya or geyi
     "The bird flew away"

90b. ciriya nēhi orī
     "The bird did not fly away"

Other such idioms are: ḍepek ponna, bēn ponna (to arrive unexpectedly, be possible), etc.
89a. cārya jal mē ja phāsi. "The bird was caught in the net"
89b. cārya jal mē nehi phāsi. "The bird was not caught in the net"

In CV, the reading of the V dominates and the reading of the Operator modifies it, which is not the case with ja phāsnā. It is obviously a sequence of two Vs: jana and phāsnā, and derived by a deletion transformation from:

91. cārya ja kēr jal mē phāsnā geyi
   "The bird went and got caught in the net" 26

1.34 The status of the CVs in terms of transitivity is clear if we consider the following sentences:

92. billi ne sara dudh pi liya "The cat drank up all the milk"
93. billi sara dudh pi geyi
94. bēcca ro diya "The child burst out crying"
95. bēcca ro peṇā

It is clear that the CV is transitive if both the V and the Opr belong to the transitive class of Vs, and is intransitive otherwise. Of course, only CVs of the V+Opr type lend themselves to this test, as all the others involve a participial form of the V (V+ta, V+ya, etc.) and some of them are severely restricted in their co-occurrence possibilities with Aspect-markers. (cf. Section 1.32).

26 Other such sequences have ghārṇa, ḍhapētna, dorna, bhārṇa, ḍōtna, bēsna, rōkna, pehōṇa, milna, tūtna, etc. as the second V.
However, although the $V_{\text{transitive}} + \text{Operator}_{\text{intransitive}}$ type of CV is syntactically intransitive in that it cannot participate in the Perfective Noninative-ergative type concord (cf. 1.12), $V_{\text{transitive}}$ still retains its characteristics of having a Patient noun as in sentence 95 above.

1.35 Thus, CVs are not merely a sub-class of verb, because if we treat them as such, from the point of view of the Perfective Noninative-ergative type concord, they will fall together with the intransitive Vs of the lana type; but the constraints that apply to the second nominal of sentences with lana type Vs will not be applicable to such CVs. Instead, the constraints that apply to such CVs are the same as those that apply to the Patient noun and $V_{\text{transitive}}$. It therefore seems profitable to treat Operators as separately concatenable elements inside the VP in the CS rules.

1.36 The question arises at this point as to why items like sokna and cokna have been left out of the preceding discussion. These items have always been treated as Operators in grammatical writings on Hindi. We propose to treat them differently for the following reasons:

1. sokna and cokna (markers of ability and completion respectively, and hereinafter designated the M element) are

27 cf. fn. 18 and 19 above.
not restricted in their co-occurrence possibilities to any particular sub-class/es of the V.

2. Although M does not participate in Perfective nominative-largative type sentences, unlike the Intransitive CVs, it can operate in Passive sentences.

3. Only sakna can co-occur with the negative.

4. Unlike the Operators M does not operate in Imperative sentences.

5. M can follow CV in a sentence, although there will be some restrictions on such sequences.

1.4 The Conjunct Verbs present a somewhat different problem and have to be considered separately. Several criteria have been suggested to separate the Conjunct Verbs from sequences of Nominal + Verb, but they have not been entirely successful.

Three criteria necessary to separate the two are suggested below:

The nominal element in a Conjunct verb

1. cannot be followed by a y postposition,
2. cannot be inflected for number, gender or case,
3. cannot be preceded by any modifier, not even the possessive form.

28 Burton-Page: op.cit.
29 This is a necessary condition as otherwise sentences like the following would be considered to have a Conjunct verb as their main verb:

1. cashe der te: aqka intizar kiya
   "He waited for you for a long time"
2. mojhe behen ki yad ayi "I remembered my sister"

(Continued overleaf)
1.41 Unlike CVs, Conjunct verbs constitute a lexical category of verb and, as such, would be introduced as sub-classes of Intransitive and Transitive verbs, depending on the class membership of the verbal element of the conjunct verb.

2.0 The following CS rules sum up the above discussion. Each rule is followed by necessary explanations and exemplifications.

2.1 \[ S \rightarrow \{K, \text{Imp}\} \cdot NP + VP \]

The first rule of the CS expands the initial symbol S into an optional K or Imp, and NP plus VP. K represents the Interrogative and, if selected, signals the application of Q transformations (cf. T_{27} and 28, p. 107.). Similarly, Imp represents the Imperative and, if selected, signals the application of the Imperative transformation (cf. T_{33}, p. 109.).

Negative has not been treated parallel to the Interrogative as it does not shew parallel structure. The

---

(fn. 29 Cont. from preceding page)

These obviously have to be analysed as:
1. csne dārvaza bond kiya
2. mojhe bohen ki yad aya
as opposed to sentences like:
3. csne dārvaza bend kiya
4. mojhe mekan pasend aya
which have to be analysed as:
5. csne dārvaza bend kiya
4. mojhe mekan pasend aya
Verbs like dikhai dēna, perna, sōnai pērna, etc. are Conjunct verbs according to the above criteria.
differences will become clear in the following rules.

2.2 \( VP \rightarrow (\text{neg}) (\text{tn}) (\text{pl}) VP' (M) AT \)

The \( VP \) is expanded into the main verb phrase \( VP' \), and obligatory \( A(\text{spect}) \) and \( T(\text{once auxiliary}) \) constituents, and optional elements of negative, time and place adverbials.

2.3 \( VP' \rightarrow (\text{PP} \text{phrase}) \left\{ \left\{ \text{m} \text{dp}_{\text{Pred}} \right\} \right\} \text{VP' } \left( \text{SE} \text{Operator} \right) \)

\( VP' \) is expanded into adverbial phrases that are relevant for the subcategorization of verbs into sub-classes of verbs, and into an optional Operator which may or may not select \( S(\text{tem}) \text{L(anding)} \) for \( V \). The sub-classes of verbs which depend on the selection of one of the choices in the second constituent of \( VP' \) are as follows:

\begin{itemize}
\item \( +\text{NP} \) - Transitive
\item \( m\text{dp} + AT \) - Double transitive
\item \( +\text{Nom} \) - Verbs of the \text{lambda} type
\item \( +\text{Pred} \) - Copula verbs
\item \( \text{NP} \{ +\text{comp} \} \) - Verbs which require a complement
\end{itemize}

If the second constituent above is not selected we get a simple intransitive verb, which will be characterized by \([-\text{NP}] \) in the following pages. All these types have been discussed in detail in the preceding sections, where they have also been exemplified (cf. 1.11 - 23). The \( m\text{dp}, \) if selected, will
signal the embedding of a recipient noun (cf. T₅ p. 66).

The following somewhat simplified tree will make the embedding of a recipient noun clear:

\[ S \]
\[ NP \quad VP \]
\[ ram \]
\[ VP' \quad Asp \quad Taux \]
\[ md \quad NP \quad \vee \quad ne \quad ya \quad tha \]
\[ khilona \quad de \]
\[ S \]
\[ NP \quad VP \]
\[ bocca \quad VP' \quad Asp \quad Taux \]
\[ Nom \quad V \quad ko \quad ya \quad tha \]
\[ khilona \quad mil \]

After various ordering, concord and deletion transformations the resulting sentence would be:

\[ ram \ ne \ bocce \ ko \ khilona \ diya \ tha \]

"Ram had given a toy to the child"

The following conditions determine the application of the relevant embedding transformation:

1. The embedding transformation has to follow the order transformation that attaches the \( ne \) and \( ko \) elements to the initial \( iP \) of the respective sentences, under specified conditions (cf. \( T₁, T₂ \) and \( T₂.1 \)).

2. The second \( iP \) of the matrix and the \( iP \) of the constituent sentence have to be identical.
3. The Asp and Taux of the matrix and constituent sentences have to be identical.

2.4 \[ M \rightarrow \{ \text{sak} \} \]

The symbol \( \square \) is expanded into the markers of ability (sak) and completion (ock).

\[ \{ e + \text{ga if Imp} + \text{Imp} (3) \text{ VP'} \} \]

2.5 \[ \text{AT} \rightarrow \{ \text{ya} \}
\begin{align*}
\{ & e \\
\{ & \text{Asp} \times \text{Taux}
\end{align*} \]

(Note that B = (neg) (tm) (pl))

The constituent AT is expanded into future if Imp is selected in 2.1, simple past or contingent future or Aspect and Tense auxiliaries otherwise.

2.6 \[ \text{Asp} \rightarrow \{ \text{ta} \}
\begin{align*}
\{ & \text{ya} \\
\{ & \text{reh}a \\
\{ & e
\end{align*} \]

\[ \{ \text{ga if e---} \]

2.7 \[ \text{Taux} \rightarrow \{ \text{he} \\
\{ \text{tha} \\
\{ \text{hoge} \\
\{ \text{ho} \\
\{ \text{hota}
\end{align*} \]

The above context-sensitive rules specify all the choices possible in Asp and Taux, viz.:

\( V \times e \) - contingent future
\( V \times e \times \text{ga} \) - future
The following observations on Hindi aspect are relevant to the discussion of the sub-classes of Hindi verbs which undergo the transformations that derive the adjectival phrases from underlying verb phrases (cf. Section 5.1.2 pp. 69ff.).

The imperfective and perfective aspects provide us with the notion of the action or process resulting in a state, e.g.

96. voh korsi par beitha he  "He sits on a chair"
97. voh korsi par behta he  "He is seated on a chair"

The action of sitting is not relevant in 96 (which indicates habitual action), whereas the process is complete, and the actor
is in the state of being seated in 97. In the case of verbs of action, the per-rective does not imply a state but an event; e.g., in:

98. vəh tez doəta he "he runs fast"
99. vəh tez doəta he "he has run fast"

the action is not complete in 98, whereas in 99 the event of running has already taken place. Thus two classes of verb are established: one is action/process - state verb, the other is action/process - event verb. It is interesting to note that most intransitive verbs are action/process - state, whereas most transitive verbs are action/process - event, although there are exceptions to this. More has been said about this in the relevant sections.

2.8 PPphrase → { Instrumental
              Concomitive
              Separative
              Source
              Manner
              .......

2.9 Instrumental → (mdM) HP + se

The md signals the mediant noun embedding in Causative sentences (cf. 2.4, p. 65.), and the HP + se characterizes the strings that undergo the passive transformation (cf. 2.5, p. 64).

PPphrase has been expanded into various adverbial phrases which are relevant for the subcategorization of V. In a full grammar of Hindi many more sub-classes of PPphrase may be found
necessary, but there is no motivation to subcategorize them any further for the present. Verbs that co-occur with Instrumental also occur in causative sentences, e.g.:

100. osne ḍak se kitaḥ bheji "He sent the book by post"
101. osne noker se ḍak se kitaḥ bhijvayi
   "He made the servant send the book by post"
102. caku se phol kṛta "The fruit got cut with a knife"
103. osne caku se phol kṛta "He cut the fruit with a knife"
104. osne behen se caku se phol kṛtvaya
   "He made his sister cut the fruit with a knife"

Verbs like socna, janna (to think, know), etc. that do not co-occur with Instrumental do not occur in causative sentences either. This restriction is useful in characterizing the strings in which mediant noun embedding is possible\(^\text{30}\) (cf. T\(_5\), p.36).

\[\begin{align*}
2.10 \quad V' & \rightarrow \begin{cases}
V + \text{Passive in the envs. NP} \rightarrow \text{A} \rightarrow (\text{SK})\text{Operator} \\
V(\text{ne}) \text{ in the env. NP}(\text{comp}) \rightarrow (\text{SK})\text{Operator} \\
V + \text{ko in the env. Nom}(\text{comp}) \rightarrow (\text{SK})\text{Operator} \\
V \text{ elsewhere}
\end{cases}
\]

(knote that A = (midd) (mdR) NP (comp))

The V + Passive signals the passive transformation (cf. T\(_5\), p.64).

\[\begin{align*}
2.11 \quad V & \rightarrow \text{C.S. in the env,}\begin{cases}
\text{PPphrase} \\
\emptyset \\
\text{NP}(\text{comp}) \\
\text{Nom} \\
\text{Pred} \\
\text{Passive}
\end{cases} \rightarrow \text{Operator}
\]

\(^{30}\) Sentences like: phul dhup se acrjha gaye (The flowers withered away in the sun) are not counter-examples to this argument, as dhup se here is not Instrumental but Source. Besides, the above argument applies only to transitive verbs.
The above rule rewrites the V as a C(omplex) S(ymbol) in the environments specified. This rule is an abbreviated version of the following rules:

Assign the feature:

\([\neg I P]\) to the V if the second constituent dominated by VP' is not selected,
\([+ I P]\) to the V if the IP dominated by VP' is selected,
\([+\text{comp}]\) to the V if comp is selected,
\([+\text{Pred}]\) to the V if Pred is selected,
\([+\text{hom}]\) to the V if on is selected, and so on.

The rule could be spelled out as follows:

\[
2.12 \quad V \rightarrow [+v, +\text{PPphrase}, \begin{cases} +\text{IP} \\ +\text{Pred} \end{cases}, +\text{Operator}, +\text{Passive}]
\]

That is, each verb gets a category feature [+v] obligatorily, plus the syntactic features such as [+ or - PPphrase], [+ or - IP], etc. depending upon the environment in which the V occurs in a particular string.\(^3\)

\[
2.13 \quad \text{Operator} \rightarrow \text{C.S. in the env.} \begin{cases} \emptyset \\ \text{Nom} \end{cases} \quad V \rightarrow (SE)
\]

Operator is written as a Complex Symbol by this rule, as the Operator also has to be subcategorized according to

\(^3\)See: Chomsky: 25 for a full discussion of subcategorization.
the subcategory of the V with which it can occur (cf. Sections 1.34 and 1.35), and also according to the S(tem) b(nding) of the V.

This rule again can be rewritten as follows to make the assignment of features clear:

\[ \text{Operator} \rightarrow \left\{ \begin{array}{c}
\pm \text{Pred} \\
\pm \text{Nom}
\end{array} \right\}, \pm \text{SP} \]

At this stage, before subcategorizing the CVs, it may be useful to reconsider the status of the Operators listed on p.57. Consider the following:

105. larki hōs pari
   "The girl burst out laughing"

106a. osne kagzat ki qher mē se citthi dhūkh nikali
106b. osne kagzat ki qher mē se citthi dhūkh kar nikali
   "He searched out the letter from among the pile of paper"

107. mē osne kēh (kēr) dekhta hū kī kya hota hē
   "I shall tell him and see what happens"

108. osne kītal kheridva (kēr) mēc(v)ayi
   "He had the book bought and brought (to him)"

109a. osne perā ko kat garaya
109b. osne perā ko kat kār garā diya
   "He felled the tree"

110a. hēm pīrīhūā se is mēkān mē rōhte aye hē
    "We have been living in this house for generations"

111a. hēm pīrīhūā se is mēkān mē rōhte aye hē
    "We have been asleep the whole night in the train"
112. larki gati gayi "The girl went on singing"
113. larki gati hoi gayi "The girl was singing as she went"
114. voh din bhor sota rahta he "He keeps sleeping the whole day"
   "Voh din bhor sota hoa rahta he"

It is clear from the above that in V+Opr type CVs, whereas V+parma is a CV, the status of V+nalna, de'khna, mōg(v)ana, girana is doubtful, as these seem to be derived by the deletion of kar from adverbial phrases of V+kar type. As regards the V+ta+Opr type CVs, there is a difference between the sequence V+ta(homa)+V (as in 110 - 3 above) and V+ta+Opr; and sequences like sota ana will have to be derived by deletion, whereas rehta ana is a clear instance of CV. This would make further sub-classification of Vs (so that rehta ana does not get two structural descriptions) important. We shall come back to this later.

2.14 SE → \{ ta
   ya
   ye
   ne \}

The above rule expands the SE into four different stem endings, one of which could be selected if SE has been chosen in rule 2.3.

2.15 [+SE] → [+ \{ ta
   ya
   ye
   ne \} in the env.]} → [+ \{ ta
   ya
   ye
   ne \} --.]

The syntactic feature [+SE] assigned to the Opr is rewritten as [+ta, ya, ye or ne] according to whether the Opr
follows ta, ya, ye or no.

2.18 \([-SL]\) \[\rightarrow \ [+\ m, n, o, \ldots q]\]

The feature \([-SE]\) assigned to the Opr is rewritten as \([+e, b, c, \ldots q]\) according to the above rule. This gives us 17 Opr of the V+Opr type CVs. It is necessary to treat each Opr of this group as a class in itself as the list of Vs that can precede the individual Opr does not coincide with regard to any two Optrs.

The following rule subcategorizes the \([\text{Operator}]\) feature assigned to the V in terms of the above sub-classes of Opr.
As the sub-classes of V*ta, ya or ye +Opr are not relevant to the syntactic rules we shall not specify them here.

The selection of V and Opr in such CVs has, however, been specified in the lexicon (cf. p. 121.).

2.18 Nom → NP

2.19 Pred → {NP, Adj}

Rules 18 and 19 rewrite the Nom and Pred elements as NP or Adj. The following sentences exemplify the choices in 2.18 and 2.19:

115. osko cot logi [NP] Nom
    "He was hurt"

116. cercal tori del ke kehan neta the [NP] Pred
    "Churchill was a great leader of the Tory party"

117. nehru bharet ne bher lokpray the [Adj] Pred

2.20 NP → {SdP if Imp
            { (rel) N
            { Prof}
Rule 2.20 expands the NP in various positions into rel which, if selected, would signal the embedding of Adjective (cf. $T_7$), or relative clause (cf. $T_16$).

The rules that follow now rewrite the N as a C(object) Symbol and assign various features to it.

2.21 $\begin{align*}
N \\
\text{Pro}^i
\end{align*}$ $\rightarrow$ C.S. in the env. \{ $(K)$ $\rightarrow$ N + V \\
(K) N $\rightarrow$ V \}

2.21.1 $\begin{align*}
N \\
\text{ProN}
\end{align*}$ $\rightarrow$ $\begin{align*}
+ [N] \\
\text{ProH}
\end{align*}$, ±Plural, ±Feminine, ±Count

2.21.2 $\begin{align*}
+ N
\end{align*}$ $\rightarrow$ $\begin{align*}
\pm \text{Definite}
\end{align*}$ in the env. (mdR) $\rightarrow$ V

2.21.3 $\begin{align*}
+ \text{ProN}
\end{align*}$ $\rightarrow$ $\pm \text{ThP}$

2.21.4 $\begin{align*}
- \text{ThP}
\end{align*}$ $\rightarrow$ $\begin{align*}
+ \{ \text{Ptp} \}
\end{align*}$ $\begin{align*}
+ \{ \text{Sdp} \}
\end{align*}$

All the above features, [+N] and person, number, gender and countability are necessary to formulate the selectional features of the V. The feature ±Count is developed further in the following rules.

2.22 $\begin{align*}
+ \text{Count}
\end{align*}$ $\rightarrow$ ±Animate

2.23 $\begin{align*}
+ \text{Animate}
\end{align*}$ $\rightarrow$ ±Human

2.24 $\begin{align*}
+ \text{Human}
\end{align*}$ $\rightarrow$ ±Honorific

2.25 $\begin{align*}
- \text{Count}
\end{align*}$ $\rightarrow$ ±Abstract
All the above features such as [+Honorific], [-Animate], [+Abstract] are necessary to account for concord features, or restrictions on N in various positions, or embeddings. For instance, Honorific is a feature necessary to account for the second personal pronominal form ap, and the special Imperative form of the V, e.g. jaiye (honorific "go") as opposed to non-honorific jao; [+Abstract] is necessary to specify the dummy that signals the embedding of verbal nouns in sentences like mojuko jana he (I have to go); [+Animate] is necessary to characterize the mdM and mdR which signal the mediant and recipient noun embeddings respectively (cf. T₄ p. 65, T₅ p. 65).

The V has to receive all the features that the first and second nominals have:

2.26 \[ [+V] \rightarrow \text{C.S. in the env. } \parallel \text{NP} \rightarrow \begin{cases} \emptyset \\
\text{NP (comp)} \\
\text{Nom} \\
\text{Pred} \end{cases} \]

Later transformational rules will specify the concord relations (cf.}

2.27 neg \rightarrow \begin{cases} \text{ne} \\
\text{nehî} \\
\text{met } \text{in the env. Imp + NP} \end{cases}

2.28 Adj \rightarrow \text{C.S. in the env. N } \rightarrow \text{V}
2.28.1 \[ \text{Adj} \rightarrow [+\text{adj}, +\text{attributive}] \]

2.28.2 \[ [+\text{adj}] \rightarrow [+\text{Honorific} / +\text{Abstract}, +\text{Plur}, +\text{Fem}] \]

in the env. \[ K [+\text{Honorific} / +\text{Abstract}, +\text{Plur}, +\text{Fem}] \]

Rule 2.28 rewrites the Adj as a C.S., and the next two rules specify the inherent and selectional features of the Adj respectively.
CHAPTER THREE

3.0 Before formulating rules for Nominalizations, Adjectivalizations, Adverbializations, concord, etc., it is necessary to assign the ne, ko and ko elements (cf. CS rule 2.10, p. 32) their proper place in the string. The following transformational rules accomplish this:

\[ T_n - \text{Nominative} - \text{Ergative} \]

\[ X - N - A - V + \text{ne (Opr.) ya (T_{aux})} \]

\[ \rightarrow \quad X - N + \text{ne} - A - V (\text{Opr.}) \text{ ya (T}_{aux}) \]

The effect of the above transformational rule is made explicit by the following trees:
The application of appropriate concord and morphophonemic rules will yield:

118. ram ne kitab peñhi

"Ram read a book."

\[ T_2 \text{ ko placement} \]

\[
X - N_1 \cdot V \cdot N_2 \cdot V + ko - Y
\]

\[
\rightarrow \rightarrow X - N_1 \cdot W \cdot N_2 + ko - V - Y
\]

\[ T_{2,1} \text{ Nom shift} \]

\[
X - L_1 \cdot W \cdot N_2 + ko - V - Y
\]

\[
\rightarrow \rightarrow X - N_2 + ko - W \cdot N_1 - V - Y
\]
The above transformations will result in the following trees:

```
S
  | unpopular concord rules and phonological rules
NP | VP
  | N  | VP' | AT
  | ram | Nom | V' | ya
  |   | N   | V  | ko
  |   | bhukh | leg

S
  | unpopular concord rules and phonological rules
NP | KP | VP
  | N  | VP' | AT
  | ram | ko | bhukh | leg
```

The application of appropriate concord rules and phonological rules will result in:

119. ram ko bhukh lagi

"Ram was hungry."
This formulation of the passive transformation automatically excludes the 'original passive' intransitive verbs, as they will not have a syntactic feature [+Passive].

The following example illustrates the application of the above rule:

bar hoi ne - bərəhəi se - kərsi - bəna + Passive - ya \[\rightarrow T_3\]

The above will be rewritten by the appropriate concord and phonological rules as:

120. bərəhəi se kərsi bənai geyi

"The chair was made by the carpenter."
T4  mdM embedding:

\[ S_b : \quad M_1 - X - mdM - (mdR) \quad Y - V_1 \quad Y \]

\[ S_e : \quad N_3 + se - (mdR) \quad N_4 - V_2 \quad ya + ja \quad Z \]

\[ M_1 - X - N_3 + se - (mdR) \quad N_4 - V_1 \quad Y \]

Where:

a) \( M_1 \not\equiv N_3 \)

b) \( (mdR) \quad V_2 - V_1 - Y = (mdR) \quad N_4 - V_2 - Z \)

c) \( V_1 = V_2 + caus \)

The application of the above rule to:

\[ S_b : \quad \text{ram -mdM- bocce ko khana khilvata he} \]

"Ram -mdM- feeds the child"

\[ S_e : \quad \text{nokar se bocce ko khana khilaya jata he} \]

"The child is being fed by the servant"

yields the following causative sentence:

121. \( \text{ram -nokar se- bocce ko khana khilvata he} \)

"Ram makes the servant feed the child"

Appropriate morphophonemic rules specify the causative forms of the verb by rewriting \( V + caus \) as \( V \text{caus} \)

(e.g.: \( \text{khilana + caus} \leftrightarrow \text{khilvana} \)).
The above rule derives the following sentence:

122. mohan ne sohan ko cay pilayi
   "Mohan gave Sohan some tea to drink"

from the following base and embedded sentences:

S_b  mohan ne -mdR- cay pilayi  "Mohan gave some tea -mdR- to drink"
S_c  sohan ko cay mili        "Sohan had some tea"

Sentence 122 has the following tree structure:

```
S
  /  \
/    \       
VP   VP
  /  \
/    \            
N  moh  N  cay pila ya  
    ko  k  V  Asp  Taux
```
The conditions necessary for the application of
the rule are:

a) $N_1 \neq N_3$

b) $N_2 = N_4$

c) Asp and Taux have to be identical in $S_b$ and $S_c$.

3.1.1 Nominalizations.

All the verbs that take an abstract noun as their
subject, complement, predicate complement or patient noun also
take a nominalized phrase in these positions. For instance,
consider the following:

125. jhuth bolna pap he "It is a sin to tell lies"
124. joldi ohna occha he "It is good to rise early"
125. osko ghor jana he "He has to go home"
126. ram ko kitab khoridni he "Ram has to buy a book"
127. mē phel khana nohī cahta "I do not want to eat fruit"
128. voh beoce ka kotte so khelna dekhta raha "He kept looking at the child playing with the dog"
129. mē ko mali ka der so ghor loţna bora laga "Mother felt unhappy at Malti's returning home late"
150. ram ne kam jold sōmpat kēna aev̄yek sōmjha "Ram considered it necessary to finish the job quickly"

In the above sentences the nominals jhuth bolna, ghor jana, phel khana, etc. occur in the following environments:

123 and 124 ---Pred + V
125 and 126 N + ko ----- V
127 and 128  \( N \rightarrow V \)
129  \( N + ko \rightarrow Adj + V \)
130  \( N + ne \rightarrow Adj + V \)

The sub-classes of verb involved in 125 - 30 have already been discussed.

The comp symbol after NP in the environments \( (mdR) V \rightarrow V \) and \( Nom + N \rightarrow V \) signals an Adjective embedding in the following manner:

\[\text{ma ko film -md- logi} \quad \text{"Mother found the film -md"} \]
\[\text{film bori thi} \quad \text{"The film was bad"} \]
\[\text{me ne ram ko -md- paya} \quad \text{"I found Ram -md"} \]
\[\text{ram svosth tha} \quad \text{"Ram was healthy"} \]

Note also that all the transitive verbs that take a nominalized phrase as their patient noun are the ones which do not have a deletable patient noun. Therefore an md is postulated for verbs exemplified by sentences 125 - 30 and this md is replaced by the nominalization when the strings characterized by it undergo the following transformation:

\[T_6 \quad \text{Nominalization:} \]

\[S_b: \quad X - md [\text{abstract}] - Y \quad \rightarrow \]
[\text{abstract}]

\[S_e: \quad N - Z - V (\text{Operator}) - Asp - Taux \]

\[X - N + Gen + Z + V (\text{Operator}) + na - Y \]
3.1.2 Parallel to attributive adjective + noun constructions

In Hindi there are constructions that involve a participial (phrase) and a noun, e.g.:

133. lal kitab meri he "The red book is mine"
134. mez par pari hoi kitab meri he "The book lying on the table is mine"
135. sunder phul ko met togo "Do not pluck the beautiful flowers"
136. khilte hae phul ko met togo "Do not pluck opening flowers"
137. kali mojtar lal betti dekhte hi rak gayi "The black car stopped as soon as it saw the red lights"
138. tez bhagti hoi mojtar lal betti dekhte hi rak gayi "The car travelling fast stopped as soon as it saw the red lights"
139. alsi nokar so roha tha "The lazy servant was asleep"
140. kari mahanat se thaka hoa kisan so roha tha "The peasant tired of hard work was asleep"

The similarity between adjectives and participial phrases extends to the relative clauses too:

141. jo nokar alsi tha, vah so roha tha "The servant who was lazy was asleep"
142. jo kari mahanat se theka gaya tha vah kisan so roha tha "The peasant who was tired of hard work was asleep" etc.

The participial phrases occur also in predicative position, e.g.
However, there are restrictions on the occurrence of participial phrases in predicative position, which are discussed below. We shall consider first imperfect participial phrases.

145. nokor bazar jata tha  "The servant was going to the market"

146. bazar jata hva nokor...  "The servant going to the market..."

147. ghora tez doqta hva  "The horse runs fast"

148. tez doqta hva ghora...  "The horse runs fast..."

although:

145a. jo nokor bazar jata hva...  "The servant going to the market..."

147a. jo ghora tez doqta hva...  "The horse runs fast..."

Compare the behaviour of perfect participial phrases:

149. lorka ghor se bhaga tha  "The boy had run away from home"

150. lorka ghor se bhaga hva tha  "The boy who had run away from home..."

151. ghor se bhaga hva lorka...  "The boy who had run away from home..."

152. jo lorka ghor se bhaga (hva) tha vah...  "The boy who had run away from home..."

153. korsı kemre me parı thi  "The chair was standing in the room"

154. korsı kemre me parı hva thi  "The chair was standing in the room"
The chair standing in the room...

The chair that was standing in the room...

A closer look reveals differences even among the intransitive verbs we have been discussing so far:

The servant had gone to the market

The servant who had gone to the market

The servant who had gone to the market...

The horse had run fast

Verbs of action like ochelna, kudna, khelna, jhulna, phadna (to leap, jump, play, swing, spring), etc. behave similarly to dorna in this respect.

In view of the above it is desirable to derive the participial phrases before formulating the rel embeddings and the transformations that derive the Adjective + noun Phrase from the rel strings.

3.1.21 A dummy symbol which is necessary for the formulation of $T_7$ has been taken for granted, according to the conventions of $R$ (cf. 1.5, p. 15), in the following transformational rule.

(The dummy has the features [+adj, +attributive]).
72

\[ T_7 \quad \text{Adj embedding:} \]

\[ S_7: \begin{align*}
X - N_1 - \text{md}[\pm \text{Adj}] - Y \\
V - N_2 - Z + V + \text{ta} + \text{Taux}
\end{align*} \]

\[ X - N_1 - Z + V + \text{ta} + \text{hca} - Y. \]

\text{Where:} \quad \begin{align*}
a) & \quad N_1 = N_2 \\
b) & \quad Z \text{ does not contain neg}
\end{align*}

Notice that the above rule will yield starred sentences such as 145a and 147a on p. 70, which is objectionable. The same difficulty arises with the introduction of a restricted class of Adjectives in predicative position by the GS rules, as they occur only in the attributive position, e.g.:

161. vohā cōnd log the \quad "There were a few people there"
= 161a. vohā log cōnd the

162. ram mera cōcera bhai he \quad "Ram is my cousin"
= 162a. mera bhai ram cōcera he

One way of accounting for such adjectives is to introduce these in pre-nominal position in the GS rules, and then imperfect participial phrases such as those in sentences 146 and 148 on p. 70 could be introduced by embedding them in the position of a dummy representative of such adjectives. Such adjectives will not be discussed any further here.
Before formulating the rules for the perfect participial phrases, it is necessary to note that the intransitive and transitive verbs behave quite differently with regard to these:

163. becoa kəmrə mə soya he "The child is asleep in the room"
164. kəmrə mə soya hca becoa...
   "The child who is asleep in the room..."
165. laŋka fərəs par bəṭha ha "The boy is seated on the floor"
166. fərəs par bəṭha hca laŋka...
   "The boy seated on the floor"

but 167. dhobi ne kəpəɾe dhoye "The dhobi washed the clothes"
   167a. kəpəɾe dhoya hca dhobi...
168. kəvi ne məhakavy likha "The poet wrote an epic"
   168a. məhakavy likha hca kəvi...

although the following are possible:

169. dhobi kə dhoye hə kəpəɾe...
   "The clothes washed by the dhobi..."
170. kəvi kə likha hca məhakavy...
   "The epic written by the poet..."

and the following sets of relative clauses are also possible:

171. jis dhobi ne kəpəɾe dhoye vəh...
   "The dhobi who washed the clothes..."
172. jo kəpəɾe dhobi kə dhoye hə kə və...
   "The clothes that the dhobi washed..."
173. jis kəvi ne məhakavy likha vəh...
   "The poet who wrote the epic..."
174. jo məhakavy kəvi kə likha hca he vəh...
   "The epic that the poet wrote..."
The following rules are formulated to account for the phenomena discussed above:

Tg. Adj embedding:

\[ S_b : \quad X - N_1 \rightarrow \text{md}_{[+adj]} - Y \quad \]
\[ S_c : \quad N_2 - ko - N_3 - V - ya - Tau \]  
\[ X - N_1 = N_3 \]

\[ X - N_1 - N_2 + ko + V + ya + haa - Y \]

\[ \text{Where:} \quad N_1 = N_3 \]

Tg.1 Adj embedding:

\[ S_b : \quad X - N_1 \rightarrow \text{md}_{[+adj]} - Y \quad \]
\[ S_c : \quad N_2 - ke - Z - N_3 - V - ya - Tau \]  
\[ X - N_1 - N_2 + gen + Z + V + ya + haa - Y \]

\[ \text{Where:} \quad N_1 = N_3 \]

Tg.2 Adj embedding:

\[ S_b : \quad X - N_1 \rightarrow \text{md}_{[+adj]} - Y \quad \]
\[ S_c : \quad N_2 - N_3 - V - ya - Tau \]  
\[ X - N_1 - N_2 + gen + V + ya + haa - Y \]

\[ \text{Where:} \quad a) \quad N_1 = N_3 \]
\[ b) \quad V = V_{[+NP, -ne]} \]
The above transformations will specify strings of the following type:

\[ T_8 \ 175. \ \text{co} \text{ṛ} \text{ram ko lāgi hāi hē} \quad \text{"Ram is hurt"} \]

\[ T_{8.1} \ 176. \ \text{mahākavya kēvī ka likha hē} \quad \text{"The epic is written by the poet"} \]

\[ T_{8.2} \ 177. \ \text{kitāb ram ki lāyi hē} \quad \text{"The book has been brought by Ram"} \]

\[ T_{8.3} \ \text{Adj embedding:} \]

\[ S_u : \ X - N_1 - \text{nd}[+\text{adj}] - Y \]

\[ S_e : \ N_2 - Z - V[-iP, +\text{stative}] - ya - \text{Trav} \]

\[ X - N_1 - Z + V[-iP, +\text{stative}] + ya + hēna - Y \]

Where:

a) \( X \) may be null

b) \( N_1 = N_2 \)

3.1.3 Another type of Adjectival derived from verbs in Hindi is exemplified in the following sentences:

178. \( \text{mero pēgos mē rohnevala pērīvar japān se aya hē} \)

"The family living next door to me comes from Japan"

179. \( \text{nav cālēvala lēpke ne ēcānēk gārī sēkh di} \)

"The boy rowing the boat suddenly shipped oars"

180. \( \text{pērikēga mē prēthēm anēvala chatr ko pērēskār mīlegha} \)

"The student who comes first in the examination will get a prize"
The following rules are formulated to derive such adjectivals:

\( T_9 \) Adj embedding:

\[
S_b : \quad X - N_1 - md[+adj] - Y \\
S_c : \quad N_2 - Z - V (\text{Operator}) - Asp - Taux
\]

\( X - N_1 - Z + V (\text{Operator}) \cdot nc + vala - Y \)

Where:

\( a) \quad N_1 = t_2 \)

\( b) \quad V = V \left[ -NP, +NE \right] \left[ +Pred \right] \)

\( T_{9.1} \) Adj embedding:

\[
S_b : \quad x - N_1 - md[+adj] - X \\
S_c : \quad N_2 + ko - N_3 - V (\text{Operator}) - \quad \}
\]

\( x - N_1 - N_3 + ko + V (\text{Operator}) \cdot nc + vala - X \)

Where:

\( N_1 = N_3 \)

The above transformations will yield the following:

181. lērka nav calanevala he "The boy has to row the boat"
182. ram ṣyam se bhikhari ko pese dilvanevala he "Ram is going to make Shyan give some money to the beggar"
183. gvala dudh lanevala he "The dairyman is going to bring some milk"
184. radha is naték ki nayaka bona evali he
   "Radha is going to be the heroine of this play"
185. meri behen jald hi yehā anevali he
   "My sister is going to arrive here soon"
186. bēcca aḥ sonovala he "The child is about to sleep now"
187. goli hiroṇ ko ḍeṅnevali he
   "The bullet is about to hit the deer"
188. nokri bhai ko āmilnevali he
   "Brother is going to get a job"

3.1.4 At this point the rules for embedding relative clauses can be formulated, which in turn yield adjective + noun phrases.

\[
\begin{align*}
S_b : & \quad X - \text{rel} - N_1 - Y \\
S_e : & \quad N_2 - \text{Adj}[+\text{attr}] - Z \\
& \quad \Rightarrow \\
X - \text{jo} + N_2 + \text{Adj}[+\text{attr}] + Z + \text{veh} - N_1 - Y \\
\text{Here:} & \quad N_1 = N_2
\end{align*}
\]

The above transformation generates the following:
That is:

\[ S_b : \text{rel - larka gođdi ora reha he} \]

"The - rel - boy is flying the kite"

\[ S_e : \text{larka choṭa he} \]

"The boy is small"

\[ \text{jo larka choṭa he vah larka gođdi ora reha he} \]

"The boy who is small is flying a kite".

Now a deletion transformation deletes the repeated N of the derived string:

\[ X - \text{jo} + N_2 + \text{Adj}^{+[attr]} + Z + \text{vēh} - N_1 - Y \]

\[ X - \text{jo} + \text{Adj}^{+[attr]} + Z + \text{vēh} - N_1 - Y \]

---

1. Sentences such as \text{jo larka vēh bētha hoa he, vēh kēvītaś lākh reha he} (The boy, who is sitting there, is writing poems) are not considered here, as they are not relevant for the discussion of Adjectivalizations. The same is true of sentences like \text{jīs kēvī ne mahakavy lākha, āsne openyas lākhne ki bhi cēṭa ki} (The poet, who wrote an epic, also attempted to write a novel).
Another deletion transformation reduces the rel to Adj, yielding Adj + Noun phrase:

\[ T_{10.2} \quad X - jo + \text{Adj}_{\text{attr}} + Z + \text{veh} - N - Y \quad \rightarrow \quad X - \text{Adj}_{\text{attr}} - N - Y \]

The following example illustrates how these transformations are applied to generate the underlined string in:

189. \underline{vehā beṅha hůc ləṛkə kovitaŋ likh reha he}
    "The boy sitting there is writing poems"

\[ \text{leṛkə vehā beṅha be}\text{ṅha hůc hůc.} \text{---} \quad T_{8.3} - \text{Adjectivalization} \]
\[ \text{jo leṛkə vehā beṅha hůc he veh leṛkə } \text{---} \quad T_{10} - \text{rel embedding} \]
\[ \text{jo vehā beṅha hůc he veh leṛkə } \text{---} \quad T_{10.1} \]
\[ \underline{vehā beṅha hůc leṛkə} \text{---} \quad T_{10.2} \]

3.2 Adverbializations:

The following adverbial phrases derived from verbs are common in Hindi:

190. \underline{andha bhikhari gəte hůc bhikh māg reha thə}
    "The blind beggar was singing while he begged"

191. \underline{dərbari ne sir jhckaye hůc raja ko praŋam kəya}
    "The courtier greeted the king with bowed head"
192. cor'pehredar ko jega dekh kor khisek gaya
    "The thief slipped away when he saw the guard awake"
193. khoya hoa betca lotane per osne larko ko inam diya
    "She rewarded the boy when he returned her the purse that she had lost"

The participial phrases will be considered first, and then the forms such as those in sentences 192 and 193 will be discussed.

3.2.1 Imperfect participial phrases occur in sentences such as the following:

194. mazdurin'c chop kuttii hoi gana ga rehi thi
    "The women labourers were singing as they levelled the roof"
195. sher gorajta hoa shakar per tuf po'ra
    "The lion pounced upon his prey roaring"
196. becca rote rote so gaya  "The child fell asleep crying"
197. colte colte asko pav'o me chale par gaye
    "His feet were blistered because of walking"
198. sam ghalte ghalte vah ghar peh'c gaya
    "He reached home before night fell"
199. dak'ter ke peh'c te peh'c te rogi ki holot bigor gayi
    "The condition of the patient worsened before the doctor could reach him"
200. ondor ate hi osne botti jolai
    "He lit a lamp as soon as he came in"
201. shikshak ko dekhte hi chatr'c no coppi sadh li
    "As soon as they saw the teacher the students became quiet"
The participial phrases in sentences 194 and 195 are in agreement in number and gender with the preceding noun. In the nominative-ergative type sentences the participial phrases occur only in their indeclinable form:

202. मेज्दरुमो ने चेत कुट्टे हो गाना गया
"The women labourers sang while they levelled the roof"

In all other types of sentence the participial phrases occur either in their declinable form, when they are in agreement with their subject noun, or in their indeclinable form. Incidentally, the possibility of the declinable form gives rise to various kinds of ambiguity, as, in its declinable form, the adverbial is identical to the adjectival, e.g.:

203. त्रेन केल्टि होि आसाक रक हॉि गयि
"The train which was moving stopped suddenly"
or "The train stopped suddenly while moving".2

The following, however, have only one reading: the second.

204. गारि केल्टि होि आसाक रक हॉि गयि
"The vehicle stopped suddenly while moving"
205. ओस्ने केल्टि होि यह बात केहि ठी
"He said this while leaving"
206. ओस्ने हास्ति होि यह बात केहि ठी
"He said this laughing"

2That is: केल्टि होि त्रेन - आसाक - रक हॉि
"The train which was moving stopped suddenly"
"The train stopped suddenly while moving"
Similarly:

207. voh khana pakati hoi larki se batā kārti rehi

has the following readings:

a. "She kept talking to the girl while cooking"

b. "She who was cooking kept talking to the girl"

Parallel to sentences on pp. 80 - 1, there are sentences such as the following:

208. job mezdurānā chot kuṭ rehi thi, tēb ve gana ga rehi thi
   "The women labourers were singing while they levelled the roof"

209. job tek ṭam ḍhali, tēb tek vēh gher pēhāco goya
   "He arrived home before nightfall"

210. jyō hi vēh ēndēr aya, tēhī ēsne bētti jēlai
    "As soon as he came in he lit a lamp"

211. jēb vēh cēl rehā tha, tēhī ēsne yēh kēhā tha
    "He had said this while he was leaving"

The above sentences are paraphrases of sentences 194, 198, 200 and 205. Note that the hi in 200 is not the emphatic particle hi, as there is no non-emphatic:

w ēndēr ate ēsne bētti jēlai

Similarly, the bhi in the following is not an emphatic particle:

212. mere pēkārē por bhi vēh rehī aya
    "He did not come although I called him"
as the following is not an unemphatic form of 212 but a different sentence entirely:

215. mere pokarne per voh nehi aya

"He did not come \{because\} I called him"

Compare the following:

214. mere pokarne per voh aya

"He came \{because\} I called him"

The characteristics of 212 and 213 arc reflected in:

215. ye diya më ne ose pokara, \{to \} bhi voh nehi aya

"Although I called him he did not come"

216. \{cuki\} më ne ose pokara, \{isliye\} voh nehi aya

"Because \{when\} I called him, \{(therefore)\} he did not come"

Compare also:

217. oske cela jane \{to \} sab dokhi hcc

"Everyone became unhappy \{because\} he left"

218. \{cuki\} voh cela geya, \{isliye\} sab dokhi hcc

"Because \{when\} he left everyone became unhappy"
But 216. cosity calls Joan if he leaves

"Everyone will be sorry if he leaves"

220. (ege
t) veh calls, so he leaves "if he leaves, then everyone will be sorry"

Thus, cūk...islaye is restricted to the non-future tenses, and ege...to to the future tenses, but jeb...to is not restricted in this way.

As the selection restrictions between the subordinate clauses and the main clauses in the above sentences (i.e., the class of verb which occurs in the subordinate and main clauses, the Aspect and Tense restrictions, etc.) are mirrored in the sentences with the adverbial phrases, it is profitable to derive the adverbial phrases from the subordinate clauses discussed above.

The adverbial phrases are therefore derived in the following manner:

The following rules are added to the base component:

\[
\begin{align*}
2.8.1 \text{ manner} & \Rightarrow \\
& \{ \text{yedye} \uparrow S, \rightarrow \{ \text{to} \} \text{bhi} \} \\
& \{ \text{cūk} \uparrow S, \rightarrow \{ \text{islaye} \} \} \\
& \{ \text{ege} \uparrow S, \rightarrow \{ \text{to} \} \} \\
& \{ \text{ta} \} \text{Taux} \}
\end{align*}
\]

(Note that: S must contain \{ \text{ege} \} in the env. ege --- to)

S must contain \{ \text{ya} \} (Taux) in the env. cūk --- islaye.)
2.8.2 \( \text{tm} \rightarrow \{ jyō \ \text{hi} + S, + tyō \ \text{hi} \quad \text{"As soon as"} \\
\quad jēb + S, + tēb \quad \text{"While"} \\
\quad jēb \ tōk + S, + tēb \ tōk \quad \text{"Before"} \\
\quad jēb + S, + tōk \quad \text{"Then"} \}
\)

(Note that: \( S \) must contain \( rēha + \text{Taux} \) in the env. \( jēb \longrightarrow tēb \))

The "," in the above rules represents intonational features, and the "....." represents choices which have not been mentioned here.

\( T_{11} \) Time adverbial: "As soon as"

\[ X - jyō \ \text{hi} + iː + V + V + \text{Asp} + \text{Taux}, + tyō \ \text{hi} - Y \quad \rightarrow \]

\[ X - N + \text{Gen} + V + tē + hi - Y \]

Where: \( \text{Asp} + \text{Taux} \) must be identical in both the base and the embedded sentence.

\( T_{12} \) Time adverbial: "While"

\[ X - N₁ - (\text{PP}) - jēb + N₂ + \text{hi} + V + V + rēha + \text{Taux}, + tēb - Y \quad \rightarrow \]

\[ X - N₁ - \{ \emptyset \} - N₂ + \text{Gen} + V + V + \{ tē \ hō \} - Y \]

\[ \{ tē \ hō \} - Y \]

Note that: \( \text{PP} = \begin{cases} \text{nc} \\ \text{se} \\ \text{ko} \end{cases} \)
Where: a) \( i_1 = i_2 \)

b) Taux is identical in both the base and the embedded sentence.

\[ T_{13} \] Time adverbial: "Before"

\[ \begin{align*}
X - \text{job tok} &+ N + I + V + \text{Asp} + \text{Taux} + \text{tab tok} - Y \\
X - N + \text{Gen} + I + V + \{ \text{to hco} \} - Y
\end{align*} \]

Where: a) Asp and Taux are identical in both the base and the embedded sentence.

b) \( V = V_{\text{temp, time}} \) e.g.: rehna, homa (to last, happen), etc.

These rules generate strings such as the following:

\[ T_{11} \]
\[ X - \text{ram ke} + \text{ate} + \text{hi} - Y \]

\[ T_{12} \]
\[ X - \text{ram no} - \text{ram ke} + \text{colte} + \text{hco} - Y \]

\[ T_{13} \]
\[ X - \text{sam ke} + \{ \text{dholte hco} \} - Y \]

N + Gen has to be deleted from the string generated by \( T_{12} \) and the elements Gen and hco from the string generated by \( T_{15} \) to derive:

\[ X - \text{ram no} - \text{colte} + \text{hco} \]

\[ X = \text{sam dholte} - Y \]

or: \( X = \text{sam dholte dholte} - Y \)

All these deletions are effected by rules \( T_{24, 25} \)

(cf. p. 95)
5.2.2 The following sentences exemplify the adverbial use of perfective participial phrases:

221. am pore-pore sej gaye
   "The mangoes got rotten just lying there"

222. voh gluṭnō per mōh ḍakaye beṭhi rehi
   "She kept sitting there with her chin resting on her knees"

223. voh pore-pore socta reha
   "He kept thinking while lying there"

224. kotta mōh mē roṭi ka ḍekra dōbaye ja reha tha
   "The dog was walking with a piece of bread in his mouth"

225. koch din bite raja phur bor ko gaye
   "The King went to the forest again after a few days had elapsed"

226. ḍasko dalli gaye do sal ho gaye
   "Two years have elapsed since he went to Delhi"

227. ḍasko nehaye do din ho gaye
   "Two days have elapsed since he had a bath"

The participial phrases in sentences 225 - 7 have a clear reference to time. The others are manner adverbials.

All these could be derived by the following transformations:

\[ T_{14} \text{ manner adverbial:} \]

\[ S_0: \begin{pmatrix} X - N_1 - \mathrm{md}[^{+\text{manner}}] - V[^{+\text{process/action}}] - Y \end{pmatrix} \]

\[ S_0: \begin{pmatrix} N_2 - V - V[^{2, -\text{MP}}, \text{+staticc}]^2 - ya - \text{Taux} \end{pmatrix} \]

\[ X - \Pi_1 - V + V[^2, +\text{ye} + V[^2, +\text{ye} - V[^1 - Y \]

Where:

a) \[ \Pi_1 = \Pi_2 \]

b) \[ W \text{ does not contain neg.} \]
T15  Manner adverbial:

\[
S_b: X - N_1 - \text{md} [+\text{manner}] - Y \\
S_e: N_2 - W - V [+\text{NP}, +\text{stative}] - ya - \text{Taux}
\]

\[\rightarrow\rightarrow\]

\[X - N_1 - W + V [+\text{NP}, +\text{stative}] + ye + hoe - Y\]

where:

a) \(N_1 = N_2\)

b) \(W\) does not contain neg.

T16  Time adverbial: "Ago"

\[
S_b: X - N - \text{md} [+\text{time}] - Y \\
S_e: N [+\text{temp}] - V [+\text{time}] - ya - \text{Taux}
\]

\[\rightarrow\rightarrow\]

\[X - N - W + V [+\text{temp}] + ye - Y\]

T17  Time adverbial: "Since"

\[
S_b: X - N [+\text{temp}] - \text{md} [+\text{time}] - Y \\
S_e: N - W - V - ya - \text{Taux}
\]

\[\rightarrow\rightarrow\]

\[X - N [+\text{temp}] - N + ko + \text{W} + V + ye - Y\]

where: \(W\) does not contain neg.
The following types of time adverbial phrase are generated by the above transformations:

\[ T_{16} \quad 228. \quad \text{voh do d\text{\text{-}}n h\text{\text{-}}c \ yoh\text{\text{-}}h\text{\text{-}}a \ a\text{\text{-}}ya \ \text{tha}.} \]

"He came here two days ago."

\[ T_{17} \quad 229. \quad \text{do d\text{\text{-}}n \ c\text{\text{-}}sko} \ yoh\text{\text{-}}h\text{\text{-}}a \ a\text{\text{-}}yc \ h\text{\text{-}}c. \]

"Two days have elapsed since he came here."

\[ T_{18}: \ \text{deletion of} \ h\text{\text{-}}c \]

\[ X - \left[ V[\ast\text{time}] + \text{te} + h\text{\text{-}}c - N \right] - Y \]

\[ \left[ V[\ast\text{NP}, \ast\text{stative}] + y\text{\text{-}}c + h\text{\text{-}}c \right] \]

\[ \left[ V[\ast\text{time}] + \text{te} - N \right] - Y \]

\[ \left[ V[\ast\text{NP}, \ast\text{stative}] + y\text{\text{-}}c \right] \]

The adverbial phrases generated by \( T_{12} \) and \( T_{15} \) undergo the above transformation optionally, and the resulting strings will be as follows:

\[ T_{15} \quad \text{voh hath m\text{\text{-}}c \ kitab \ li\text{\text{-}}yc \ h\text{\text{-}}c \ a \ \text{roha \ tha}.} \]

\[ T_{18} \quad \text{voh hath m\text{\text{-}}c \ kitab \ li\text{\text{-}}yc \ a \ \text{roha \ tha}.} \]

"He was coming with a book in his hand."
Another type of adverbial phrase is exemplified by the following sentences:

232. ve khana kha kēr nāṭak āekh̄ ne gāye.
   "They went to see the play after having a meal."

235. age ja kēr omnē ek gāv dakhai diya.
   "Having gone further they happened to see a village."

254. bhāi ko dekh kēr ērīka mon hānt hēa.
   "Having seen his brother he felt relieved."

255. Ser pokar kēr pījē mā ḍal diya gēya.
   "Having been caught the lion was put in a cage."

The to + kēr adverbial phrases in general refer to the simultaneity of events, the kēr phrases in general specify the succession of events. All the above examples, however, differ in the type of relationship between the kēr phrase and the finite verb phrase. In 232, the subject of both the V + kēr and the finite verb phrase are the same:

252 a. enhōne khēna khēya. "They ate a meal."
232 b. ve nāṭak āekhne gāye. "They went to see the play."

But, in sentence 233, the subject of the kēr phrase is identical with the N of the Nom element of the matrix sentence, e.g.:

233 a. ve age gāye. "They went ahead."
233 b. omnē ek gāv dakhai diya.
   "A village became visible to them."
In 254 the subject of the constituent sentence and the N of the possessive form modifying the subject N of the matrix sentence are identical:

254a. ḍeše bhai ko dekha  "He saw his brother"
254b. ḍeka mēn ṭant hēa  "His mind was relieved"

In sentence 255 the underlying strings are passive:

255a. ṭēr pekra geya  "The lion was caught"
255b. ṭēr piḍjē mē ḍāl dāya geya  "The lion was put in a cage"

All the above phenomena are accounted for by the following T rules:

Tₙ₉  Time adverbial: "Subsequent action"
Sₗ₉ :  X - N₁ (PP) - am[+time] - U - V₁ - Y  
Sₗ₉ :  N₂ - U - V₂ - Z  
X - N₁ - U + V₂ + kør - U - V₁ - Y  

Where:  a) N₁ = N₂
         b) V₁ ≠ V₁⁺copula
Time adverbial: "Subsequent action (Passive)"

\[ S_b : \quad X - m\tilde{a}_i + \text{time} - N_1 \text{ (comp) } - V_1 + ya + ja - Y \]  
\[ S_0 : \quad \tilde{U} - K_2 \text{ (comp) } - V_2 + ya + ja - Y \]

\[ \tilde{V} \text{ (comp) } - V_2 + \text{kor} - N_1 \text{ (comp) } - V_1 + ya + ja - Y \]

Where: \( i'_1 = N_2 \)

3.2.4 The following sentences contain yet other types of adverbial phrase derived from verb phrases:

236. osne oxbar lane ko liye pese māge
   "He asked for money in order to get a newspaper"

237. yeh kolom sirf tAMILY khane ke liye he
   "This pen is only for you to write with"

238. osne mojhe pine ko pani diya
   "He gave me water to drink"

239. oske cele jane por sob so goye
   "Everyone went to sleep when he was gone"

240. oske rone per sobko dakh hoa
   "Everyone was sorry when he cried"

241. oske rone so sobko dakh hoa
   "Everyone was sorry because he cried"

242. oske cele jane so sob koX8 the
   "Everyone was happy because he was gone"

243. oske rone per bhi kasi ko dakh ne hoa
   "No-one was sorry although he cried"

Except for the examples in sentences 239 and 240, where the adverbial phrases have a clear time reference, all are
manner adverbials. In examples 256 - 8, the adverbial phrases consist of a noun derived by $T_6$ (cf. p. 68) from an underlying verb phrase and a postposition ko or a compound postposition ke liye:

- (256) oxbar lane + ke liye
- (257) sirf tcmhare likhne + ke liye
- (258) pine + ko

The other examples have already been discussed (cf. pp. 32 - 4). Phrases such as 256 - 8 above are derived by the following rule:

$$T_{20}: \text{Purpose adverbial:}$$

$$S_b: \{X - N_1 - \text{md} [+\text{manner, +purpose}] - U - V - Y \} \quad \rightarrow$$

$$S_e: V - N_2 - Z$$

$$X - N_1 - N_2 + \{\text{ke liye} \} - U - V - Y$$

Where:

a) $N_2 = N + \text{Gen} + Z + V \text{ (Operator) + na}$

(derived by $T_6$)

b) $V = V [+\text{temp, +time}]$

Now a deletion transformation has obligatorily to delete the $N + \text{Gen}$ of the constituent string from the result of $T_{20}$ to prevent the generation of strings such as the following:

- x ram ne mohon ke oxbar lane ke liye pese mäge
- x sita ne sita ke jane por khana khaya
- x mohon ke ole jane se mohon ko däkh hoe
This is done by the deletion transformation $T_{24}$ (cf. p. 95).

Now the adverbial phrases exemplified by sentences 239 - 243 are derived by the following rules:

$T_{21}$ Manner adverbial: "Although"

\[ X - \text{yadyop1} + N + i' + V \text{ (Operator)} - \text{Asp} + \text{Taux}, \begin{cases} \text{to} \\ \text{phir bhi} \end{cases} - Y \]

$\rightarrow \rightarrow \ X - N + \text{Gen} + W + V + na + per + bhi - Y$

Where: Asp + Taux are identical in both the base and the embedded sentence, and either $S_b$ or $S_e$ contains the constituent neg.

$T_{22}$ Manner adverbial: "Because"

\[ X - N_1 + ko - \left[ \text{cuki} \right] + N_2 + w + V \text{ (Operator)} - \text{Asp} + \text{Taux}, \begin{cases} \text{isliye} \\ \text{to} \end{cases} - Y \]

$\rightarrow \rightarrow \ X - N_1 + ko - N_2 + ke + W + V \text{ (Operator)} + na + se - Y$

Where: Asp + Taux are identical in both the base and the embedded sentence.

$T_{23}$ Time adverbial: "When"

\[ X - jeb + N + i' + V \text{ (Operator)} - \text{Asp} + \text{Taux}, + to - Y \]

$\rightarrow \rightarrow \ X - N + \text{Gen} + w + V \text{ (Operator)} - na + per - Y$

Condition as in $T_{22}$.
Now the deletion transformation which deletes \( N + \text{Gen} \) or \( \text{Gen} \) is formulated as follows:

\[ T_{24} \quad \text{Deletion of } N + \text{Gen:} \]

\[
X - N_1 - N_2 + \text{Gen} + V + V + (\text{Operator}) - na + (\text{par} \text{se} \text{ko} \text{ke laye}) - Y
\]

\[ \rightarrow \rightarrow \quad X - N_1 - W + V + (\text{Operator}) - na + (\text{par} \text{se} \text{ko} \text{ke laye}) - Y \]

Where: \( N_1 = N_2 \)

\[ T_{25} \quad \text{Deletion of Gen:} \]

\[
X - N_1 - N_2 + \text{Gen} + V \left[ \begin{array}{c}
\text{te + hi} \\
\text{te + V + te}
\end{array} \right] - Y
\]

\[ \rightarrow \rightarrow \quad X - N_1 - N_2 + V \left[ \begin{array}{c}
\text{te + hi} \\
\text{te + V + te}
\end{array} \right] - Y \]

Where: \( N_2 = N_{[+\text{temp}]} \)

e.g. \( \text{dan, rat, nam} \) (day, night, evening), etc.

The application of \( T_{25} \) is exemplified by the following:
5.5 A few problems related to the Adjectivalization and Adverbialization transformations formulated in the preceding pages are discussed in this section.

5.5.1 Rule \( T_{8.1} \) (cf. p. 74) generates adjectival phrases of the following type:

244. \( \text{kitab - ram ki pərhi hoi - he} \)

"The book is the one read by Ram"

245. \( \text{kəpərə - dhobi ke dhoye həo - hə} \)

"The clothes are the ones washed by the dhobi"

which, after they have undergone the rel embedding and reduction rules (cf. \( T_{10} - T_{10.2} \), pp. 77 - 9), yield Adj + N phrases of the following form:

246. \( \text{ram ki pərhi həo kitab} \)

"The book read by Ram"

247. \( \text{dhobi ke dhoye həo kəpərə} \)

"The clothes washed by the dhobi"

It has already been said that phrases such as the following, from the perfect participial form of the transitive
verb, are impossible (cf. p. 73):

a. किताब पढ़ा होना राम
b. कपरे धोया होना धोबी

although the following imperfect participial phrases are possible:

248. किताब पढ़ता होना लड़का "The boy reading the book"
249. कपरे धोता होना धोबी "The dhobi washing clothes"

A sub-class of transitive verbs, however, permits perfect participial phrases of the following type:

250. नकेलर ने कम सिखा "The servant learnt the work"
251. अन्मि ने पाजामा पहना "The man wore pajamas"
252. कम सिखा होना नकेलर "The servant who has learnt the work"
253. पाजामा पहना होना अन्मि "The man wearing pajamas"

This sub-class consists of verbs such as:

कमाना, जानना, पाना, समाजना, भरना, पिंची (to earn, know, obtain, understand, cover oneself with, drink) etc.

It is significant that this sub-class is precisely the class of transitive verbs which does not operate in CVS of $V+dena$ type. It is also interesting to note that the CV with $dena$ has the semantic feature corresponding to the parasmapiṇḍa use of Sanskrit verbs (cf. Guru: p. 598), whereas the CV with $lena$ has the opposite
semantic feature corresponding to the ätmanepada of Sanskrit verbs. It is claimed that all Hindi verbs have the semantic features ätmane or parasmai or both, and only the sub-class of transitive verbs that is marked with the feature ätmane is absent from the V + dēna CV, and undergoes the transformation that yields the adjectival phrases exemplified by sentences 252 and 253. All verbs in the lexicon, therefore, have the features (ätmane) or (parasmai) assigned to them.

A further reservation is necessary before the formulation of the rule to generate the adjectival phrases under discussion. Verbs of action, though possessing the semantic marker (ätmane) do not yield adjectival phrases of the above-mentioned type, e.g., the following are not possible:

* डौकू लूट घू होा डौकू
* लोड्डू चिना होा लोड्डा

from underlying sentences such as:

254. डौकू ने डौण लूट लिया.
   "The robber robbed the precious possessions."

255. लोड्डे ने बोळण का लोड्डू चिंन लिया.
   "The boy snatched sweets away from his sister."

It is necessary to assign a semantic marker that
would specify that a verb of action, process etc. also has the reading of a stative verb in the perfective, before this reservation can be explained. In the context of discussing the perfect participial adjectival phrase, it has already been pointed out that certain intransitive verbs such as dorna, jhulna (to run, swing), etc. do not undergo the transformation which generates such phrases. These verbs are assigned a feature [-stative] to exclude them from T7 (cf. p. 72). The transitive verbs that possess the [+Atmane] feature are also assigned the feature [+stative] and only verbs with [+stative] undergo the following transformational rule. It is interesting to note that khana and socna (to eat, think) have the feature [-stative] whereas pina and samajhna (to drink, understand) have [+stative]. Although the markers (Atmane) or (parasmai) are, in general, relevant only to transitive verbs, and the features [+stative] to intransitive verbs, the former set is also relevant to a small sub-class of intransitive verbs, just as the latter set has been found useful to characterize a sub-class of transitive verbs. This sub-class of intransitive verbs consists of verbs such as hōsna, rona, maskerana (to laugh, cry, smile), etc. which operate in CVs of the V + dona type. Note also that only transitive verbs with a semantic marker (parasmai) have a corresponding causative form.

The relevant adjectivalization rule can now be
formulated in the following manner:

\[ T_{8.1} \text{ (to be applied before } T_{8.1}) \]

\[ S_b : X - N_1 - \text{md}[^{+\text{adj}}] - Y \]
\[ S_e : N_2 - (\text{ne}) Z - N_3 - V\lt[-\text{parasmai, +stative}\rangle - ya (Taux) \]
\[ \rightarrow \rightarrow X - Z + N_3 + V + ya + \text{hoca} - Y \]

Where: \( N_1 = N_2 \)

3.3.2 Sentences such as the following pose a problem:

256. yeh rasta mera cola hoa he
   "This road is the one that I have walked upon."

257. yeh kōmra mera reha hoa he
   "This room is the one in which I have lived."

258. ḍūkē mēhdi roce hath mera sir sēhla rehe the
   "Her henna-smeared hands were massaging my head gently."

259. is jēng lēga caku se gobhi nehī kēṭegi
   "The cauliflower can not be cut with this rusty knife."

The phrases:

260. mera cola hoa rasta
261. mera reha hoa kōmra
262. mēhdi roce hath
263. jēng lēga caku
are surely derived from the underlying strings:

264. mē raste per cela  "I walked on the road."
265. mē kōmre mē reha  "I lived in the room."
266. mēhdi hath mē ṛaci  "The henna smeared the hand."
267. jēng ṛaku mē ṛega  "The rust formed on the knife."

The first two are not generalizable, i.e., the following, though parallel to 264 and 265, do not yield phrases parallel to 260 and 261:

268. mē pōl per cela  "I walked on the bridge."
269. mē seray mē reha  "I lived in the inn."

The other two, i.e., 266 and 267, however, are generalizable. For instance:

270. mēhavēr pāvō mē ṛega  "mēhavēr smeared the feet."
271. mēhavēr ṛega pāv  "The feet smeared with mēhavēr"
272. kai pettēr per jēmi  "The moss formed on the stone."
275. kai jēma pettēr  "The moss-grown stone"

Intransitive verbs such as ṛēgna, ṛēcna, jōmna (to form, smear, grow) etc. which require a place adverbial, undergo some transformation, or, transformations, that yield the phrases exemplified by 262 - 63, 271 and 275. It is not quite clear how this is achieved in the case of ṛēgna and jōmna. ṛēcna is different
because, parallel to 266, there is the following sentence:

274. hath mēhdi se rēce. "The hands were smeared with henna."

The verb rēcna thus has at least two readings, and it turns out that the string underlying 262 is not 266, but 274, which undergoes $T_{8.5}$ e.g.:

hath mēhdi se rēce the ---- $T_{8.3}$ ----$ightarrow$

hath mēhdi se rēce hōe the ---- $T_{10}$ ----$ightarrow$

jo hath mēhdi se rēce hōe the, ve hath ---- $T_{10.1}$ ----$ightarrow$

jo mēhdi se rēce hōe the, ve hath ---- $T_{10.2}$ ----$ightarrow$

mēhdi se rēce hōo hath

After two more deletion transformations have operated upon the last string, deleting first hōe, and then se, the result will be the phrase in 262. The deletion of the element hōa is necessary anyway to take care of phrases such as:

275. vēhā beṭha lārka "The boy sitting there" (cf. p.79)

Notice also that the deletion of hōa applies to all intransitive and transitive verbs with the feature [+stative]. The following $T$ rule, therefore, is formulated:
The second rule yields phrases such as:

276. tez dörta ghora  "The horse running fast"
277. dhime celti gaři  "The vehicle moving slowly"
278. sota bəcca  "The sleeping child"
279. gati ciŋya  "The singing bird"

As phrases such as in 260 and 261 are not generalizable, they have not been discussed any further.

3.5.3 The problem that arises because of the following sentences also belongs to the discussion of adjectivalization and adverbialization:
280. sipahi ne cor ko tala törté dekha
"The constable saw the thief breaking the lock."
281. mē ne lērke ko gate sōna "I heard the boy singing."
282. osne tote ko pījē mē mēra paya "He found the parrot dead in its cage."
283. pehrodar ne kedi ko bhagte hoc pekṛa "The guard caught the prisoner while escaping."

The CS rules already generate strings such as the following:

284. malīk ne mali ko alsi sōmajha thā
"The master had considered the gardener lazy."
285. mē osko ēpna bhai manta hē "I consider him my brother."
286. raja ne gerib brāmheṣṭ ko divān bōna līya "The king made the poor brhmin his minister."
287. graheṣ ēk ko sōda mēhsā jēca "The customer found the merchandise expensive."

Certain transitive and intransitive verbs, such as the ones in sentences 284 - 7 above, require a nominal complement following their patient noun (e.g., 284 - 6) or Nom element (e.g., 287) (cf. CS rule 2.3, p. 47). Verbs like sōmajhna, manna (to consider, accept) etc. then have a feature [±comp] which signals the embedding of adjectival (e.g. in sentence 282) or adverbial phrase (e.g., 280, 281 and 283). It is to be noted, however, that
the sub-class of verb of the type in examples 284 - 7 is not co-

extensive with the sub-class in 280 - 3; for instance, bənana,
manna, ləgna, jəcna,(to make, accept, appear, seem) etc. do not
take the derived adjectivals or adverbials, and pekərəna (to catch)
takes only derived adverbials. All these restrictions can be taken
care of easily, so the following general rule is formulated:

T_{26} Verbal complement: (to be applied after T_{10})

$$S_b : X - N_1 - PP - U - N_2 - mad_{(+comp)} - Y$$

$$S_e : W - Adj_{(+attr)} - Z$$

$$X - N_1 - PP - U - N_2 - Adj_{(+attr)} - Y$$

(Note that PP = ne or ko)

3.4 The negative of the V + ker phrases (cf. T_{19}, p.91,
and the discussion preceding it) of the time adverbial has to be dis-
cussed further. T_{19} generates sentences such as the following:

288. bəcə dudh pi ker so əgyə
"The child went to sleep after drinking some milk."

289. ram kitab le ker cela əgyə
"Ram went away having taken the book."
Had the $S$ contained a neg constituent, the result would not have been:

≠ becca dudh ne piker so goya
≠ ram kitab ne le kər cəla goya

but,

290. becca dudh piye bina so goya

"The child went to sleep without having drunk any milk."

291. ram kitab liye bina cəla goya

"Ram went away without having taken the book."

A morphophonemic rule such as the following assigns the correct shape to the neg + V + kər string:

$T_{19.2}$ Morphophonemic rule:

$$X - \text{neg} + V + \text{kər} - Y \rightarrow X - V + ye + bina - Y$$

The rule regarding the pre-verbal position of bina belongs to the general discussion of emphasis, and hence, has not been discussed here.
3.5 The obligatory singulary transformations that the terminal strings resulting from the rules formulated so far must undergo before they can act as input to the phonological component are discussed below.

The following rules generate the interrogative, negative and imperative sentences. To generate the "yes-no" question, a sentence adverbial constituent (SADV) which will be generated by the first rule of the base component in a grammar of Hindi has been taken for granted in the following rule.

\[ T_{27} \quad \text{"yes - no" question:} \]

\[ K + \text{SADV} - \text{NP} + \text{VP} \rightarrow \begin{cases} \text{Intonation} \\ \text{kya} \end{cases} \text{NP} + \text{VP} \]

To generate the Hindi "Wh" questions, the following K - attachment and K - incorporation rules will be necessary. The first of these has been formulated below, and only the items that must be generated by the second have been indicated:

\[ T_{28} \quad \text{K - attachment:} \]

\[ K - X - L - Y \quad \rightarrow \quad X - K + L - Y \]

(Note that \( L \) = any major lexical category)

\(^3\text{See Lexicon: p. 162.}\)
$T_29$  \[ K \text{- incorporation (morphophonemic rules)} \]

\[ K + koi \quad "\text{someone}" \quad = \quad kon \quad "\text{who}" \]

\[ K + koh \quad "\text{something}" \quad = \quad kya \quad "\text{what}" \]

\[ K + kabi \quad "\text{some time}" \quad = \quad k\eta \quad "\text{when}" \]

\[ K + k\eta \quad "\text{some place}" \quad = \quad k\eta h \quad "\text{where}" \]

\[ K + kisi t\text{-}\eta\eta \quad = \quad \text{kidher} \quad "\text{whither}"
\]

and so on.

$T_{30}$  \[ \text{neg attachment:} \]

\[ X - \text{neg} - W - V (B) \left[ \begin{array}{c} \text{ta} \\ \text{ya} \end{array} \right] + \text{he} \]

\[ X - W - V (B) \left[ \begin{array}{c} \text{ta} \\ \text{ya} \end{array} \right] + \text{he} + \text{neg} \]

$T_{31}$  \[ \text{neg incorporation:} \]

\[ X - \left[ \begin{array}{c} \text{ta} \\ \text{ya} \end{array} \right] + \text{he} + \text{neg} \quad \rightarrow \quad X - \left[ \begin{array}{c} \text{ta} \\ \text{ya} \end{array} \right] + \text{neg} \]

The above rules ensure the correct negative forms of sentences such as:

292. v\text{\textbar}h kam \text{-}\text{per jata he} \quad v\text{\textbar}h kam \text{-}\text{per nahi jata}

"He goes to work."  
"He does not go to work."

293. pitaji \text{-}\text{d\textbar}ta\text{-}g\text{\textbar}e\text{\textbar}y \text{-}h \quad pitaji \text{-}\text{d\textbar}ta\text{-}n\text{\textbar}hi g\text{\textbar}e\text{\textbar}y

"Father has gone to the office."

"Father has not gone to the office."
Now, $T_{32}$ assigns the constituent neg its characteristic place in the string:

\[ T_{32} \text{ neg placement:} \]

\[
X - \begin{cases}
W - V - (B)\{ta\} - \text{neg} \\
\text{neg} - Z - V - Y \\
\end{cases} \quad \rightarrow \rightarrow \\
X - \begin{cases}
W - \text{neg} - V - (B)\{ta\} \\
Z - \text{neg} - V - Y \\
\end{cases}
\]

The following rule deletes the constituent AT from strings which select the constituent Imp:

\[ T_{33} \text{ Imperative} \]

\[
\text{Imp} - \text{sdP} - W - V + e + ga \quad \rightarrow \rightarrow \quad \text{sdP} - W - V
\]

The second person pronoun is deleted after the string has undergone the appropriate concord rule.

5.5.1 Nothing so far has been said about the case of N in Hindi. The cases were not introduced in the CS rules, as they are obligatory features of N depending upon the environment in which a particular N occurs.
There are two cases in Hindi - direct and oblique. All the nouns preceding a postposition occur in oblique case, the others in direct case. The following rule is formulated to assign the oblique case to Ns of the terminal strings:

\[ X - N + PP - Y \quad \rightarrow \quad X - N + \text{obl.case} + PP - Y \]

where: \( PP = \) ne, se, ko, par, ka, Gen, ke liye

A morphophonemic rule converts the Gen into ka, but this has not been formulated here.

The above rule results in the following:
That is,

lærke ne seb khaya "The boy ate an apple."

The patient noun of a transitive verb is followed by the postposition ko if it possesses the feature [+animate] or [+definite] or both. But, if it is preceded by a recipient noun, then the position is different:

294. mã ne noker ko koch ḫepçe ḏayc

"Mother gave some clothes to the servant."
Also,

295. mả ne nơkər ko mərə kəniz di.
   "Mother gave my shirt to the servant."

But:

296. mả ne bəcə ko ọ́tha liya.
   "Mother picked the child up."

and,

297. mả ne bəcə dâi ko thəma diya.
   "Mother gave the child to the maid."

All these restrictions are taken care of by the following rules:

\[ T_{35} \text{ Assignment of ko} \]

\[ X - \left[ \frac{N}{\text{ProN}} \right] - V - Y \quad \rightarrow \quad X - \left[ \frac{N}{\text{ProN}} \right] + \text{ko} - V - Y \]

Where: \( \frac{N}{\text{ProN}} \) occurs in the env. \((\text{mdR}) \quad (\text{comp}) \quad V\)

\[ T_{35.1} \]

\[ X - N + \text{ko} - N_{\left[ \text{animate+definite} \right]} - V - Y \quad \rightarrow \]

\[ X - N_{\left[ \text{animate+definite} \right]} - N + \text{ko} - V - Y \]

Where:

\( N + \text{ko} \) is dominated by \( \text{mdR} \).
Reflexive pronoun:

\[ X - N_1 - W - N_2 - Y \rightarrow X - N_1 - W - \text{opna} - Y \]

Where:

a. \( N_1 = N_2 \)

b. \( N_2 = N \) in the env.

c. \( V = V[+\text{NP}, +\text{ne}] \)

The above rule prevents the generation of strings such as the following:

- \( \text{x mojhko alsi somajhta hu} \)
- \( \text{x ram ne ram ko vyest rekha} \)

and generates strings such as the following:

298. \( \text{m\={e} opne ko alsi somajhta hu} \)
   
   "I consider myself lazy."

299. \( \text{ram ne opne ko vyest rekha} \)
   
   "Ram kept himself busy."

The following morphophonemic rule takes care of the alternations of the following type:

300. \( \text{ram ne } \{\text{mojhko} \} \text{ ek kitab di} \)
   
   "Ram gave me a book."

301. \( \text{osne } \{\text{tomko} \} \text{ ky\={e} bheja} \)
   
   "Why did he send you?"
Optional morphophonemic rule:

\[ X - \text{ProN} + \text{ko} - Y \rightarrow X - \text{ProN} + e - Y \]

Following the above, a series of morphophonemic rules will be necessary to specify the forms of pronoun + oblique case + e. No attempt is made here to formulate the rules, only the forms are listed below:

<table>
<thead>
<tr>
<th>ProN</th>
<th>ProN + obl. case</th>
<th>ProN + obl. case + PP</th>
</tr>
</thead>
<tbody>
<tr>
<td>mē &quot;I&quot;</td>
<td>{mē if --- ne }</td>
<td>{me- + ka }</td>
</tr>
<tr>
<td></td>
<td>{me- if --- ka }</td>
<td>{mē + e }</td>
</tr>
<tr>
<td></td>
<td>{mōjē otherwise}</td>
<td>{mōjē + e }</td>
</tr>
<tr>
<td>hēm &quot;We&quot;</td>
<td>hēm</td>
<td>hēm + ka</td>
</tr>
<tr>
<td>tu &quot;You&quot;</td>
<td>{te- if --- ka }</td>
<td>{te- + ka }</td>
</tr>
<tr>
<td></td>
<td>{tōjē otherwise}</td>
<td>{tōjē + e }</td>
</tr>
<tr>
<td>tōm &quot;You&quot;</td>
<td>tōm</td>
<td>tōm + ka</td>
</tr>
<tr>
<td></td>
<td></td>
<td>tōm + e</td>
</tr>
<tr>
<td>yēh {&quot;He/She&quot;}</td>
<td>is</td>
<td>is + e</td>
</tr>
<tr>
<td>ye {&quot;They&quot;}</td>
<td>in</td>
<td>{in + ne}</td>
</tr>
<tr>
<td>vēh {&quot;He/She&quot;}</td>
<td>os</td>
<td>os + e</td>
</tr>
<tr>
<td>ve {&quot;They&quot;}</td>
<td>{cm}</td>
<td>{cm + ne}</td>
</tr>
</tbody>
</table>

3.5.2 The concord rules that specify the agreement between Noun and Adjective and Noun and Verb will have to be of a
tentative nature till the relevant sections of the grammar - e.g., the conjunction rules, among other things - are worked out. Even then the following will not become redundant though they will have to be reformulated to include the rules about the strings generated by the coordinative and alternative conjunction - i.e., the "and" and "or" conjunction - rules.

\[ T_{38} \text{ Concord - Nominative-Ergative, and Passive - transitive} \]

\[ X - N_1 \begin{bmatrix} \text{ne} \\ \text{se} \end{bmatrix} - W - N_2 \begin{bmatrix} V[+NP, +ne] (Opr. [+NP, +ne]) ya \\ V[+NP, +ne] (Opr. [+NP, +ne])(i) Asp \end{bmatrix} Y \]

\[ \text{\rightarrow \rightarrow} X - N_1 \begin{bmatrix} \text{ne} \\ \text{se} \end{bmatrix} - W - N_2 \begin{bmatrix} V(Opr.) ya \\ V(Opr.)(i) \end{bmatrix} - Y[\pm \text{fem}, \pm \text{plu}] \]

Where: \( N_2 \neq \text{ProN} \)

The rule is to be interpreted as follows:

\[ \begin{bmatrix} N_2[+\text{fem}, -\text{plu}] \\ N_2[-\text{fem}, +\text{plu}] \\ N_2[-\text{fem}, -\text{plu}] \\ N_2[+\text{fem}, +\text{plu}] \end{bmatrix} \]

If \( N_2[+\text{fem}, -\text{plu}] \), then

\[ \begin{bmatrix} V(Opr.)(i)AT [+\text{fem}, -\text{plu}] \\ V(Opr.)(i)AT [-\text{fem}, +\text{plu}] \\ V(Opr.)(i)AT [-\text{fem}, -\text{plu}] \\ V(Opr.)(i)AT [+\text{fem}, +\text{plu}] \end{bmatrix} \]

The same applies to all the following concord rules.
T.38.1 Concord - Definite/Animate object, Passive - intransitive

\[ N_1 - \left[ \frac{\text{ne}}{\text{se}} \right] - W - \left[ \frac{N_2 + \text{ko}}{\emptyset} \right] - V - (\text{Opr.}) (M) \text{ AT} \]

Where \( N_2 = N \) in the env. --- (comp) V

T.38.2 Concord - Subject and Verb

\[ X - N - W - V ((\text{SE}Opr.) (M) \text{ AT} \]

\[ X \left[ \begin{array}{c} \pm \text{fem} \text{, } \pm \text{plu} \text{, } \pm \text{SdP} \\ \pm \text{ThP} \end{array} \right] - W - V - \ldots - \text{AT} \left[ \begin{array}{c} \pm \text{fem} \text{, } \pm \text{plu} \text{, } \pm \text{SdP} \\ \pm \text{ThP} \end{array} \right] \]

T.38.3 Concord - N and Adj

\[ X - N - \text{Adj[}\pm \text{attr}] - Y \]

\[ X - N \left[ \begin{array}{c} \pm \text{fem} \text{, } \pm \text{plu} \\ \pm \text{fem} \text{, } +\text{Hon} \end{array} \right] - \text{Adj} \left[ \begin{array}{c} \pm \text{fem} \text{, } \pm \text{plu} \\ \pm \text{fem} \text{, } \pm \text{plu} \end{array} \right] - Y \]
The case assignment rule is reformulated to assign case to the Adj also if the Adj + N is followed by PP:

\[ X - \text{Adj} - N + \text{PP} - Y \quad \rightarrow \quad X - \text{Adj} + \text{obl. case} - N + \text{obl. case} + \text{PP} - Y \]

Now, the second person pronoun is deleted from the string generated by \( T_{35} \) to generate the subject-less imperative sentences:

\[ T_{39} \quad \text{Deletion of SdP:} \]

\[ \text{SdP} - \emptyset - V[+\text{SdP}] \quad \rightarrow \quad W - V[+\text{SdP}] \]

\[ T_{39.1} \quad \text{Morphophonemic rule:} \]

\[ V[+\text{SdP}] \quad \rightarrow \quad V \circ 0 \]
The following word-boundary transformation assigns correct boundaries to the items. As the concordial features are not relevant for this rule they have not been marked in the following formulation:

\[ T_{40} \text{ Word-boundary:} \]

\[
\begin{align*}
&V \left[ ((SE)\text{Operator}) (\|) \right] \left[ (Asp + Taux) \right] \\
&X - (Adj + obl. case) N + obl. case + PP - Y \\
&V + [ta] + [hoa] \\
&\quad [ye] + [hoa]
\end{align*}
\]

302. lērdka - dɔ́ - ta - hɔ̀ - bazar - ja - r̪ɛ́hə - thə

"The boy was going to the market running"

303. mɛ́ - ɔbhi - bazar + se - nəmək - la - ye - de - ta - hũ

"I shall go and get some salt from the market presently"

304. və̊h - roz - sɔbə́h - tˌəhelna + obl. case + ke + liye - ja - ya - kɔ́rta - he

"He goes for a walk every morning"
The rules as formulated in the preceding pages do not generate sequences of CVs such as *de* _daya karta he* (V + Opr. + ya + Opr.). No mention has been made of verbal compounds such as *khana - pina, puchna - tachna*, (to eat and drink, enquire), etc. Transitive verbs which take a "that" clause as their patient noun have not been separated from the other transitive verbs. All these can be taken care of quite simply. To generate the CV sequence the CS rules can be rewritten to expand V into
\[ V ((SE)Operator) \{\text{+ya +kər}\} \] and then statements can be made to specify the selection restrictions between Operator and ya + kər.

Verbal compounds will not make any difference to the syntactic rules already formulated, although compounding might affect the syntactic features of particular verbal items. To classify the transitive verbs to account for those that take a "that" clause the rule expanding NP can be rewritten to provide for the choice of \[ k_{1} + S \] in the env. (mdR) --- V. The appropriate verbs will then take a feature \[ [+k_{1} +S] \]. Note that there are no restrictions on the S following the \[ k_{1} \], and hence there is no need for any rules to operate upon strings with \[ k_{1} + S \] constituents. The lexicon following this chapter marks the appropriate verbs with the feature \[ [+k_{1} +S] \].

Many of the rules are obviously tentative in nature, and will be modified as more areas of Hindi grammar are worked out.
in detail. The element J (cf. p. 19, fn.) has not been developed as the relative - correlative elements have been introduced at appropriate places (cf. T_{10}, p. 77; CS rules 2.9.1, 2, pp. 84 - 5) without any attempt to generalize about the occurrence of J in other places at this stage. Similarly, the reflexive pronominal element has been introduced in only one rule: no attempt has been made to generalize its occurrence elsewhere.
The following is a list of verbs with syntactic, selectional and semantic features assigned to the items. The syntactic and selectional features are symbolized as [+x], the semantic markers are in ( ), the distinguishers in / /, and the English translations are in quotation marks, e.g.:

\[
\text{ernæ} \quad [+V]; \quad [-\text{NP}, +\text{Passive}, +\text{NP} +\text{sc}, +\text{Opr.}]; \quad [+\text{Human}, +\text{Opr. ja, beth, reh}]; \quad \text{(stative) (atmane)}; \quad /\text{to stand stubbornly still, as applied to animals; to be stubbornly insistent, as applied to humans/; "to refuse to budge".}
\]

where \([+V]\) specifies that the item belongs to the syntactic category of verb; the second entry specifies the syntactic features; the third assigns selectional features in terms of the subject noun, and the Operator - the operators themselves have been entered to make the entry more explicit -; the entry in / / points out the different 'senses' of the item; and the final entry gives the English translation. \([+V]\) has been taken for granted in the following entries. The selectional features of the second and subsequent nouns if the item is a transitive verb, follow the selectional features of the first noun. Only
those features that have already been discussed in the preceding chapters have been marked. The marker (instancy) implies co-occurrence of the item with the Operator ḏal.

ākna

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, -Abstract]; (ātmane) (parasmai) (instancy); /to draw or paint a picture/; "to draw or paint".

ana

[-NP, +Passive, +NP +se, +Opr.]; [+Animate, +Opr. ja, pahāc, dhāmāc]; (stative) (ātmane); "to come".

[-NP, +NP +se, +Opr.]; [-Animate, -Abstract, +Opr. ja]; (stative); /to arrive, as applied to post, parcels, etc./; "to arrive".

[+Nom, +Opr.]; [+Human/Animate]; [+Abstract, expression of pleasure, pain, etc., +Opr. ja]; (stative); /to be felt, as applied to anger, laughter, etc./; "to be felt".

[+Opr., -NP]; /specifies direction of preceding verb towards the speaker-hearer/.

okharna

[-NP, +Opr.]; [-Animate, -Abstract, +Opr. a, ja]; (stative); /to be uprooted, as applied to plants, poles, etc./; "to be uprooted".

[-NP, +Opr.]; [animate, +Opr. ja]; (event); /to be torn up by the roots, as applied to an enemy, rival, etc./; "to be torn up by the roots".
ckharna  
[+NP, +Passive, +NP +se, +Opr.]; [[±Animate, 
-Abstract]]; [-Abstract]; (parasmai) (ētmane) (instancy); /to uproot plants, poles, etc./; 
"to uproot".

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; 
[-Abstract]; (parasmai); /to tear up by the roots, as applied to an enemy, rival, etc./; 
"to tear up by the roots".

ckhervana  
[+mūdi, +Human]; Otherwise as ckharna; "to cause to be uprooted".

qgna  
[+NP, +Passive, +NP +se, +Opr.]; [-Animate, 
-Abstract, +Luminary, +Opr. a, ja]; (stative) (ētmane); /to rise, as applied to sun, moon and stars/; "to rise".

[-NP, +Opr.]; [-Animate, -Abstract, +Opr. a, ja]; (stative); /to grow, as applied to grass, plants, etc./; "to grow".

ocholna  
[-NP, +Passive, +NP +se, +Opr.]; [+Animate, 
+Opr. per]; (ētmane) (event); "to jump".

ōthna  
[-NP, +Passive, +NP +se, +Opr.]; [+Animate, 
+Opr. a, ja, bēth]; (event); "to raise oneself up".

[-NP, +NP +se, +Opr.]; [-Animate, -Abstract, 
+Opr. ja]; (stative); /to be picked up/; "to be raised up".

[+Opr., -NP]; /suddenness, impudence, intensity/; 
"Intensive".
othana

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate]; (stative) (atmane) (parasmai);
/to raise something or someone/; "to raise, lift up".

othvana

[+mdï, +Human]; Otherwise as othana; "to cause to be raised up".

orna

[-NP, +Passive, +NP +se, +Opr.]; [+Animate, +Avian, +Opr. a, ja, cel]; (atmane) (event);
/motion on wings/; "to fly".

[-NP, +NP +se, +Opr.]; [-Animate, -Abstract, +Avian, +Opr. ja]; (event); /to be in the air, as applied to aeroplanes, kites, balloons, etc./;
"to be airborne".

orana

[+NP, +Passive, +NP+se, +Opr.]; [+Human]; [+Animate, -Abstract, +Avian]; (atmane)
(parasmai); "to fly".

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, -Abstract]; (parasmai) (instancy);
/to squander, as applied to riches/; "to squander".

oterna

[-NP, +Passive, +NP +se, +Opr.]; [+Human, +Opr. a, ja, per]; (stative); "to climb down, be taken down".

[-NP, +Opr.]; [-Animate, -Abstract, +Opr. ja]; (stative); /to fall, as applied to the level of water, someone's face, etc./; "to fall".
otarna  

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; 
[±Animate, -Abstract, +Opr. beth]; (atmane)  
(parasmai) (instancy); "to take someone,  
something down".

otervana  

[+mdM, +Human]; Otherwise as otnarna; "to  
cause to be taken down".

obalna  

[-NP, +Opr.]; [-Animate, -Abstract, +Opr. ja];  
(stative); "to be boiled".

obalna  

[+NP, +Passive, +NP +se, +Opr.]; [+Human];  
[±Animate, -Abstract]; (atmane) (parasmai)  
(instancy); /to boil water, milk, grain, etc./;  
"to boil".

omerna  

[-NP, +Opr.]; [-Animate, ±Abstract, +Opr. a,  
per, osel]; (stative); /to overflow, as applied  
to rivers, tears, feelings, etc./; "to overflow".

orhna  

[+NP, +Passive, +NP +se, +Opr.]; [+Human];  
[±Animate, -Abstract]; (stative) (atmane);  
"to cover oneself with".

orhna/orhna  

[+mdR, +NP, +Passive, +NP +se, +Opr.]; [+Human];  
[±Human]; [-Animate, -Abstract]; (parasmai)  
(instancy); "to cover".

orhvana  

[+mdM, +Human]; Otherwise as orhna; "to cause  
to be covered with".
\textbf{katna} \quad [-NP, +NP +se, +Opr.]; [±Human, -Abstract, +Opr. ja]; "to be cut".

\textbf{katna} \quad [+NP, +Passive, +NP +se, +Opr.]; [±Animate, -Abstract]; [±Animate, -Abstract]; (atmane) (parasmai) (instancy); "to cut".

\textbf{koṭvana} \quad [+mdM, +Human]; Otherwise as katna; "to cause to be cut".

\textbf{kəmana} \quad [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, ±Abstract]; (atmane); /to earn money, fame, etc./; "to earn".

\textbf{kərna} \quad [+NP, +Passive, +NP +se, +Opr.]; [±Animate, ±Abstract]; [±Abstract, +Opr. beth]; (atmane) (parasmai) (instancy); "to do".

[+Opr., +NP +ya]; Otherwise as preceding; /habitual, regular action/.

\textbf{kəhna} \quad [+NP, +k1 +S, +Passive, +NP +se, +concomitive, +Opr.]; [+Human]; [±Abstract]; (atmane) (parasmai) (instancy); "to say, tell".

[+NP, +concomitive, +ye, +Opr.]; (parasmai); "to warn, give an ultimatum".

\textbf{kəpna} \quad [-NP, +Source, +Opr.]; [±Human, +Opr. ja, oth]; (event); "to tremble".

[-NP, +Source, +Opr.]; [-Animate, -Abstract, +Opr. oth]; (event); /to quiver, as applied to leaves, etc./; "to quiver".
**kudna**

[-NP, +Passive, +Opr.]; [+Animate, +Opr. a, ja]; (event) (atmane); "to jump up and down".

**khana**

[+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [+Animate, -Abstract, +Solid, +Opr. ja]; (event) (atmane) (instancy); "to eat".

**khilana**

[+mdR, +NP, +Passive, +NP +se, +Opr.]; [+Animate]; [+Animate]; [+Animate, -Abstract, +Solid]; (parasmai); "to feed".

[+NP, +Passive, +NP +se, +Opr.]; [+Animate, -Abstract]; [-Animate, -Abstract]; (parasmai); "to make flowers blossom".

**khilna**

[-NP, +Opr.]; [-Animate, -Abstract, +Opr. ja, oth]; (stative); /to bloom like a flower, as applied to flowers, faces, etc./; "to blossom".

**khelna**

[+NP, -ne, +Passive, +NP +se, +Opr.]; [+Animate]; [-Animate, +Abstract]; (atmane); /to play a game/; "to play".

**khicna**

[-NP, +Opr.]; [-Animate, -Abstract, +Opr. a, ja]; (stative); /to be pulled, as applied to rope, thread, etc./; "to be pulled".

[-NP, +Separative, +Opr.]; [+Human, +Opr. ja]; (stative); /to be cross with someone/; "to be cross or annoyed".
khōna
[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Human, +Abstract]; (ātmane); "to pull towards oneself".

[+NP, +Opr.]; [+Abstract]; [+Animate, +Abstract]; (ātmane); "to attract".

kholna
[-NP, +NP +se, +Opr.]; [-Animate, -Abstract, +Opr. ja]; (stative); "To be opened".

kholna
[+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [-Animate, -Abstract]; (ātmane) (parasmai) (instancy); /to open a door, book, ones eyes, etc./; "to open".

kholvana
[+mdM, +Human]; Otherwise as kholna; /to cause someone to get something opened/; "to cause to be opened".

khojna
[+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [+Animate, +Abstract] +Opr. nikal]; (ātmane) (parasmai); /to look for someone, something/; "to search".

khojvana
[+mdM, +NP, +Passive, +NP +se, +Opr.]; [+Animate]; [+Animate]; [+Animate, +Abstract] +Opr. mēga]; (ātmane) (parasmai); /to get someone, something searched out/; "to cause to be searched".
ganna

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate, ±Abstract]; (ātmane) (parasmai) (instancy); /to count people, things, days, numbers, etc./; "to count".

girvana

[+madM, +Human]; Otherwise as ganna; /to cause someone to count/; "to cause to be counted".

gīrana

[-NP, +Separative, +Opr.]; [+Animate, -Abstract, +Opr. ja, par]; (stative); /to be dropped, fall unintentionally/; "to fall, be dropped".

girana

[+NP, +Passive, +NP +se, +Opr.]; [+Animate, -Abstract]; [+Animate, -Abstract]; (stative) (ātmane) (parasmai) (instancy); /to fell, drop someone, something/; "to fell, drop".

girvana

[+madM, +Human]; Otherwise as girana; (ātmane) (parasmai) (instancy); /to make someone drop or fell something/; "to cause to drop".

ghoṭana

[-NP, +Opr.]; [-Animate, -Abstract, +Luminary, +Opr. ja, cel]; (stative); /to wane, be reduced in size/; "to be reduced".

ghoṭana

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, ±Abstract]; (ātmane) (parasmai) (instancy); /to reduce, subtract/; "to reduce".
ghasna [-NP, +Opr.]; [-Animate, -Abstract, +Opr. ja]; (stative); /to be rubbed, scraped/; "to be worn".

[-NP, +Passive, +NP +se, +Opr.]; [+Animate]; [-Animate, -Abstract]; (ätmane) (parasmai); "to rub, scrape".

gholna [-NP, +Opr.]; [-Animate, -Abstract, +Opr. ja]; (stative); /to be mixed, dissolve/; "to dissolve".

[-NP, +Opr.]; [+Human, +ta +{ja}]; (event); /to pine, waste away/; "to waste away".

ghosna [-NP, +Passive, +NP +se, +Opr.]; [+Animate, +Opr. ja, pek]; (ätmane) (stative); /to enter, slip in/; "to enter".

[-NP, +Opr.]; [-Animate, -Abstract, +Opr. ja]; (stative); "to be pushed in".

ghosana [+NP, +Passive, +NP +se, +Pl, +Opr.]; [+Animate]; [+Animate, -Abstract]; (stative) (ätmane) (parasmai) (instancy); "to push someone or something into something".

corhna [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, -Abstract]; (ätmane) (parasmai) (instancy); /to dissolve, stir, mix/; "to dissolve".

gholna [-NP, +Pl, +Passive, +Opr.]; [+Animate, -Abstract, +Opr. a, ja, beṭh]; (stative) (ätmane); "to climb up".

[+Nom, +Opr.]; [+Human]; [+Abstract, +Opr. ja]; (stative); /to be drunk, angry, etc./; "to soar up".
cerhana
[+NP, +pl, +Passive, +NP +se, +Opr.]; [+Human, -Abstract]; [+Animate, ±Abstract]; (stative) (atmane) (parasmai) (instancy); /to lift up someone, something, make someone climb/; "to raise to a higher position".

cəbana
[+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [-Animate, -Abstract]; (event) (atmane) (instancy); /to munch, chew/; "to chew".

cəlna
[-NP, +Passive, +NP +se, +manner, +Opr.]; [+Animate, +Opr. per, ya + a, ja]; (event) (parasmai); /to move, walk/; "to walk".

cəlna
[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, -Abstract, +Vehicular, +Propulsion]; (parasmai); /to drive a vehicle, shoot an arrow, gun, etc., to throw a knife, spear, etc./; "to drive".

cəlna
[+NP, +passive, +NP +se, +Opr.]; [+Human]; [±Animate, ±Abstract, ±md]; "to want".

cəhnə
[+Nom, +md]; [±Human]; [-Animate, ±Abstract]; "to want".

cəhiye
[+Nom, +md]; [±Human]; [-Animate, ±Abstract]; "to want".

cərnə
[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, -Abstract, +Timber, +Anatomy]; (atmane) (parasmai) (instancy); /to saw, dissect/; "to cut off".
cogna

[+NP, +Passive, +NP +se, +Opr.]; [+Animate, +Avian]; [-Animate, -Abstract]; (ätmane)
/to eat, as applied to birds/; "to peck".

cogana

[+mdR, +NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate, +Avian]; [-Animate, -Abstract]; (parasmai); /to feed birds/; "to feed".

cogvana

[+mdR, +NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; [+Animate, +Avian]; [-Animate, -Abstract]; (parasmai); /to make someone feed birds/; "to cause to feed".

catña

[+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [-Animate, -Abstract, +Semisolid]; (ätmane)
/to lick semisolid edibles/; "to lick".

[+NP, +Passive, +NP +se, +Opr.]; [+Animate, -Human]; [-Animate, -Abstract]; (ätmane); "to lick".

catvana

[+mdR, +NP, +NP +se, +Opr.]; [+Human]; [+Animate]; (parasmai) (instancy); "to feed semisolid things to someone".

cetvana

[+mdR, +NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; [+Animate]; (parasmai); "to make someone feed someone semisolid things".

cusna

[+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [-Animate, -Abstract]; (ätmane) (instancy); /to suck sugar cane, bone, blood, etc./; "to suck".
cuna  [-NP, +Separative]; [-Animate, -Abstract]; /to leak, as applied to the roof, etc., to drop, as applied to water, etc./; "to leak".

cokna  [-NP, +Opr.]; [+Human, +Opr. oth, per]; "to be startled".

chapna  [-NP, +Opr.]; [-Animate, ±Abstract, +Opr. ja]; (stative); /to be printed, as applied to news, newspaper, cloth, etc./; "to be printed".

chapna  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, ±Abstract]; (atmane) (parasmai) (instancy); /to print news, newspapers, books, etc./; "to print".

chapvana  [+mdM, +NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; [-Animate, ±Abstract]; (atmane) (parasmai) (instancy); /to make someone print something/; "to cause to print".

chelkna  [-NP, +Opr.]; [-Animate, -Abstract, +Opr. ja, oth, per]; (stative); /to spill |intransitive|, as applied to water, milk, tears, etc./; "to spill".

chirna  [-NP, +Opr.]; [+Abstract, +Contention, +Opr. ja]; (stative); /to begin, as applied to fighting, quarrelling, arguing, etc./; "to commence, set in".
cherna  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Abstract, +Contention, +Music]; (parasmai); /to initiate, start, a quarrel, debate, singing, etc./; "to start".

chipay  [-NP, +Passive, +NP +se, +Opr.]; [+Animate, +Opr. ja]; (stative) (atmane); "to hide oneself, take cover".

chapan  [+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [+Animate, ±Abstract]; (stative) (atmane) (parasmai); "to hide someone, something".

chinna  [+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [+Animate, ±Abstract]; (event) (atmane); "to snatch away".

chutna  [-NP, +NP +se, +Opr.]; [+Animate, +Opr. ja]; (stative); "to be left, given up".

[-NP, +Opr.]; [-Animate, -Abstract, +Vehicular, +Opr. ja]; "to leave".

chorna  [+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [+Animate, +Opr. a, ja]; (parasmai); "to leave behind, give up".

jegna  [-NP, +Passive, +NP +se, +Opr.]; [+Animate, +Abstract, +Opr. ja]; (stative) (atmane); "to wake up".

jegana  [+NP, +Passive, +NP +se, +Opr.]; [+Animate, +Sound]; [+Animate, +Abstract]; (parasmai); "to wake up".
jolna  [-NP, +NP +se, +Opr.]; [±Animate, ±Abstract, +Opr. ja]; (stative); "to burn".

jolana  [+NP, +Passive, +NP +se, +Opr.]; [+Human];
[±Animate, ±Abstract, +Fire]; (atmane) (parasmai); "to burn".

jelvana  [+mdm, +Human]; Otherwise as jelana; "to make someone burn something".

jana  [-NP, +pl, +Passive, +NP +se, +Opr.]; [±Animate, ±Abstract, +Opr. pəhəc, əhəmak]; (stative);
"to go".
[+Opr., -NP, +i]; "Intensive, Direction".¹

janna  [+NP, +k1 +S, +md, +Passive, +NP +se, +Opr.];
[+Human]; [±Animate, ±Abstract, +Opr. ja];
(atmane); "to know".

jina  [-NP, +tm, +Passive, +NP +se, +Opr.]; [±Animate, +Opr. ja, oth]; "to be alive".

jorna  [-NP, +Concomitive, +Opr.]; [-Animate, -Abstract, +Opr. ja]; (stative); "to be joined".

jorna  [+NP, +Passive, +Concomitive, +NP+se, +Opr.];
[+Human]; [-Animate, -Abstract]; (stative) (atmane) (parasmai); "to join".

¹Also: [+Opr. ta + ja, ye + ja]; "to keep doing something, go on doing something".
jhokna  [-NP, +Source, +Opr.]; [+Animate, -Abstract, +Opr. a, ja, ya + par]; (stative); "to bend".

jhokana  [+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [+Animate, -Abstract]; (stative) (atmane) (parasmai); "to bend".

jhulna  [-NP, +Passive, +NP +se, +Opr.]; [+Human, +Opr. par]; (event); "to swing".

[-NP]; [+Animate, -Abstract]; (event); "to dangle".

jhulana  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; (parasmai); "to swing".

tohelna  [-NP, +pl, +Passive, +NP +se, +Opr.]; [+Human]; (event) (atmane); /to walk for pleasure, take a walk/; "to walk".

tutna  [-NP, +NP +se, +Opr.]; [-Animate, -Abstract, +Breakable, +Opr. ja]; (stative); "to break".

thoherna  [-NP, +pl, +Opr.]; [+Human, +Opr. ja]; (stative); "to stay".

thohrana  [+NP, +pl, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; (atmane) (parasmai); /to make someone stay somewhere, put up a guest/; "to have someone staying somewhere".
dōrana  [-NP, +Source, +Opr.]; [+Animate, +Opr. ja]; "to fear".

dōrana  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate]; (parasmai); "to frighten".

dātna  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate]; (parasmai); "to scold, rebuke".

dalna  [+NP, +pl, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate, ±Abstract]; (stative) (ātmane) (parasmai); /to put, add to/; "to add to". ²

dolvana  [+mdM, +NP, +pl, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; [+Animate, ±Abstract]; (stative) (ātmane) (parasmai); "to cause to add to".

dubna  [-NP, +pl, +Opr.]; [+Animate, -Abstract, +Opr. ja]; (stative); "to be drowned".

[-NP, +pl, +Opr.]; [-Animate, -Abstract, +Luminary]; (event); /to set, as applied to sun, moon, stars, etc./; "to set"

dōbana  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate, ±Abstract]; (parasmai); "to drown".

[+NP, +Opr.]; [+Abstract]; [+Human]; (parasmai); /to ruin someone or something/; "to ruin".

²Also: [+Opr.]; "Intensive": [+ye +dal]; "Reckless action".
dhūrṇa

[+NP, +Passive, +NP +se, +Opr.]; [+Animate];
[±Animate, ±Abstract, +Opr. nīkā]; (atmane) (parasmai); "to look for, search."

dhūrṇavāṇa

[+mā, +NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; [±Animate, ±Abstract, +Opr. mēga];
(atmane) (parasmai); "to cause to search."

dhona

[+NP, +Passive, +NP +se, +Opr.]; [±Animate];
[±Animate, ±Abstract]; (atmane) (parasmai);
"to carry."

dholaṇa

[+mā, +NP; +Passive, +NP +se, +Opr.]; Otherwise as dhona; (parasmai); "to cause to carry."

thakna

[+NP, +Source, +Opr.]; [+Animate, +Opr. ja];
(stative); "to be tired."

thakana

[+NP, +Source, +Passive, +NP +se, +Opr.]; [+Animate];
[+Animate]; (parasmai); "to tire."

dekhna

[+NP, +ki +S, +comp, +Passive, +NP +se, +Opr.];
[+Animate]; [±Animate, -Abstract, +Visible];
(atmane) (parasmai); (instancy); /to see, examine/;
"to see."

[+Opr.]; /tentative action or process/.

dākhlanā

[+mā, +NP, +Passive, +NP +se, +Opr.]; [+Animate];
[+Animate]; [±Animate, -Abstract, +Visible];
(atmane) (parasmai); "to shew."
dikholvana  [+mdI, +Human]; Otherwise as dikhlana; (parasmai); "to cause to show".

dena  [+mdR, +NP, +Passive, +NP +se, +Opr.]; [+Animate]; [+Animate]; [+Animate, ±Abstract]; (parasmai) (instancy); "to give".

[+Opr.]; (parasmai); /the result of the action or process being directed towards others/.

dilana  [+mdI, +Human]; Otherwise as dena; "to cause to give".

dorna  [+NP, +Passive, +NP +se, +Opr.]; [+Animate]; (event) (ātmane); "to run".

[+NP]; [-Animate, -Abstract, +Vehicular]; (event) (ātmane); "to run".

dorana  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate, +Vehicular]; (event) (parasmai); "to drive, make someone run".

dholna  [+NP, +Source, +Opr.]; [-Animate, -Abstract, +Opr. ja]; (stative); "to be washed".

dhona  [+NP, +comp, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, -Abstract]; (ātmane) (parasmai) (instancy); "to wash something".

dholvana  [+mdI, +Human]; Otherwise as dhona; "to cause to wash".
nënana  [-NP, +Passive, +NP +se, +Opr.]; [+Animate]; (stative) (atmane); "to take a bath".

nënlna  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate]; (parasmai) (instancy); /to make someone take a bath/; "to wash".

nënëlnana  [+mdǐ; +Human]; Otherwise as nënlna; "to cause to wash".

nïkälna  [-NP, +pl, +Passive, +NP +se, +Opr.]; [+Animate, +Opr. a, ja, per]; (stative); "to come out".

nïkalna  [+NP, +pl, +Passive, +NP +se, +Opr.]; [+Animate]; [+Animate, +Abstract]; (stative) (atmane)
(parasmai); /to cause to come out, take out/;
"to take out".

nïkëlnana  [+mdǐ; +Human]; Otherwise as nïkalna; "to cause to take out".

nokona  [+NP, +Passive, +NP +se, +Opr.]; [+Animate]; (atmane); "to scratch".

pëkërña  [+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [+Animate, -Abstract]; (stative) (atmane);
"to catch".
\textbf{pənna} \quad [-NP, +Opr.]; [\textit{animate}, -Abstract, +Opr. \textit{ja}]; (stative) (event); /to lie down, rain/; "to lie down".

\footnotesize[+Nom, +md, +Opr.]; [+Abstract, +Opr. \textit{ja}]; "to have to".

\footnotesize[+Opr.]; "Downward motion, Suddenness".

\textbf{pərhna} \quad [+NP, +k1 +S, +Passive, +NP +se, +Opr.]; [+Human]; [+Legible]; (atmane) (parasmai); "to read".

\textbf{pərhana} \quad [+mdR, +NP, +k1 +S, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; [+Legible]; (parasmai); "to teach".

\textbf{pərhvana} \quad [+mdM, +Human]; Otherwise as \textbf{pərhana}; (atmane) (parasmai); "to cause to read".

\textbf{pəhənna} \quad [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-\textit{animate}, -Abstract, +Dress]; (stative) (atmane); "to wear".

\textbf{pəhnana} \quad [+mdR, +Human]; Otherwise as \textbf{pəhənna}; (parasmai); "to dress".

\textbf{pəhənvana} \quad [+mdM, +Human]; Otherwise as \textbf{pəhnana}; "to cause to dress".

\textbf{pəb̪ənna} \quad [-NP, +pl, +Opr.]; [\textit{animate}, \textit{abstract}, +Opr. \textit{ja}]; (stative); "to reach some place".
pohōcanā [+NP, +pL, +Passive, +NP +se, +Opr.]; [±Animate, ±Abstract]; (parasmai); "to send, cause to reach".

pohōcvana [+mdM, +Human]; Otherwise as pohōcanā; "to cause to cause to reach".

pitna [-NP, +Passive, +NP +se, +Opr.]; [±Animate, -Abstract]; (stative); "to be hit, beaten".

pitna [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [±Animate, -Abstract]; (ātmane) (parasmai) (instance); "to hit, beat".

pitvana [+mdM, +Human]; Otherwise as pitna; "to cause to be hit".

pīna [+NP, +Passive, +NP +se, +Opr.]; [+Animate]; [-Animate, -Abstract]; (ātmane); "to drink". Also (stative) if [-Animate, -Abstract, +Alcohol].

pilāna [+mdR, +Animate]; Otherwise as pīna; (parasmai); "to make someone, something drink something".

pilvana [+mdM, +Human]; Otherwise as pilāna; "to make someone cause someone, something to drink something".

puchna [+NP, +k1 +S, +Concomitive, +Passive, +NP +se, +Opr.]; [+Human]; [±Abstract, +Opr. beth]; (ātmane) (parasmai); /to ask a question, etc./; "to ask".
phēsna  [-NP, +pl, +Opr.]; [+Animate, +Opr. ja];  
(stative); "to be caught".

phāsna  [+NP, +pl, +Passive, +NP +se, +Opr.]; [+Animate]; 
[+Animate]; (ātmane); "to catch, net".

phētna  [-NP, +Opr.]; [-Animate, -Abstract, +Opr. ja];  
(stative); "to be torn".

phārña  [+NP, +Passive, +NP +se, +Opr.]; [+Animate]; 
[-Animate, -Abstract]; (parasmai) (instancy); 
"to tear up".

phēkna  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; 
[-Animate, -Abstract]; (parasmai) (instancy); 
"to throw away".

phēlna  [-NP, +pl, +Opr.]; [-Animate, ±Abstract, 
+Collective, +Opr. ja]; (stative); "to spread, be scattered".

phēlana  [+NP, +Passive, +NP +se, +Opr.]; [+Animate]; 
[-Animate, ±Abstract, +Collective]; (ātmane) 
(parasmai) (instancy); "to spread, scatter".

bōṭna  [-NP, +NP +se, +Opr.]; [-Animate, ±Abstract, 
+Divisible, +Opr. ja]; (stative); "to be divided".

bāṭna  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; 
[-Animate, ±Abstract, +Divisible]; (ātmane) 
(parasmai) (instancy); "to divide".
bētvana  [+mdR, +Human]; Otherwise as bātne; (parasmai); "to cause to divide".

bēkna  [+NP, +ki +S, -ne, +Opr.]; [+Human]; [+Abstract]; (parasmai); "to babble".

bējna  [-NP, +Opr.]; [+Temporal, +Opr. ja]; /to strike, as applied to the hour/; "to strike".
[-NP]; [-Animate, -Abstract, +Sound]; "to be played".

bējana  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, -Abstract, +Sound]; (ātmane) (parasmai); "to play, strike".

bēnna  [-NP, +NP +se, +Opr.]; [-Animate, -Abstract, +Opr. ja]; (stative); "to be made".
[+Pred, +Opr.]; [+Human, +Opr. ja, beth]; (stative); "to be made".

bēnana  [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, -Abstract]; (ātmane) (parasmai) (instancy); "to make".
[+NP, +comp, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; (parasmai); "to make".

bēhna  [-NP, +Opr.]; [-Animate, -Abstract, +Opr. ja, col]; (event); "to flow, float".
bethana  [+NP, +pl, +Passive, +NP +se, +Opr.]; [+Human];
[-Animate, -Abstract]; (parasmai); "to float".

bitna  [-NP, +Opr.]; [+Temporal, +Opr. ja];
(stative); "to be spent".

bitana  [+NP, +Passive, +NP +se, +Opr.]; [+Human];
[+Temporal]; (ātmane) (parasmai); "to spend
time".

bethna  [-NP, +pl, +Passive, +NP +se, +Opr.]; [+Animate,
+Opr. ja]; (stative); "to sit".
[+Opr.]; "Rash action".

bethana  [+NP, +pl, +Passive, +NP +se, +Opr.]; [+Human];
[+Human]; (ātmane) (parasmai); "to seat".

bithvana  [+mō, +Human]; Otherwise as bethana; "to
cause to seat".

bolana  [+NP, +Passive, +NP +se, +Opr.]; [+Human];
[+Animate, +Abstract]; (ātmane); "to call".

bolna  [+NP, +kí +S, -ne, +Passive, +NP +se, +Opr.];
[+Animate]; [+Abstract, +Speech, +Opr. cth,
beth]; (parasmai); "to speak, tell".

bhagna  [-NP, +Passive, +NP +se, +Opr.]; [+Animate,
+Opr. a, ja]; (stative); "to run away".
bhogana  
[+NP, +Passive, +NP +se, +Opr.]; [+Human];  
[+Animate, +Abstract]; (parasmai); "to cause to run away".

bhūkna  
[-NP]; [+Animate, -Human]; "to bark".

bhulna  
[+NP, +Opr.]; [+Human]; [+Animate, +Abstract, +Opr. ja]; "to forget".

[-NP, +NP +se, +Opr.]; [+Animate, -Abstract, +Opr. ja]; (stative); "to be forgotten".

bhogna  
[+NP, +Passive, +NP +se, +Opr.]; [+Human];  
[+Abstract, +Experience]; (ātmane); "to feel, experience".

mārna  
[-NP, +Opr.]; [+Animate, +Opr. ja]; (stative); "to die".

marna  
[+mdR, +NP, +Passive, +NP +se, +Opr.]; [+Human];  
[+Animate]; [+Abstract]; (parasmai); "to beat".

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, -Abstract]; (ātmane); "to embezzle, pilfer".

[+NP, +Passive, +NP +se, +Opr.]; [+Human];  
[+Animate]; (instancy); "to kill".

mārvana  
[+mdli, +NP, +Passive, +NP +se, +Opr.]; [+Human];  
[+Human]; [+Animate]; (parasmai) (instancy); "to cause to kill".
manna $\{[+NP, +ki +S, +Passive, +NP +se, +Opr.]; [+Human];
[+Abstract]; (ātmane); "to accept".\}$

milna $\{[+Nom, +Opr.]; [-Animate, $^\bot$Abstract, +Opr. Ḗ];
(stative); "to accrue".

[-NP, +Concomitive, +Passive, +NP +se, +Opr.];
[+Animate, +Human, +Opr. Ḗ]; (ātmane); "to meet".

rēkhna $\{[+NP, +pl, +tm, +Passive, +NP +se, +Opr.];
[±Human]; [±Animate, -Abstract]; (ātmane)
(parasmai) (instancy); "to keep, place".\}$

rēhna $\{[-NP, +pl, +tm, +Passive, +NP +se, +Opr.];
[+Human, +Opr. Ḗ]; (ātmane); "to stay, live".

[-NP, +tm, +Opr.]; [+Temporal, +Opr. Ḗ]; "to be left".

[+Opr., +ta +rēh]; "to keep doing something".

rona $\{[-NP, +Passive, +NP +se, +Opr.]; [+Animate,
+Opr. ḕth, ṗṛk]; (ātmane) (parasmai); "to cry, weep".\}$

rolana $\{[+NP, +Passive, +NP +se, +Opr.]; [+Human];
[+Human]; (parasmai); "to make someone cry".\}$

rolvana $\{[mdM, +Human]; Otherwise as rolana; "to cause
to make someone cry".\}$
**lāgha**

[+Nom, +Opr.]; [+Animate]; [-Animate, -Abstract, +Propulsion, +Opr. ja]; (stative); "to hit".

[+Nom, +Opr.]; [+Animate]; [+Abstract, +Opr. ja]; (stative); "to be felt".

[+Nom, +md, +comp, +Opr.]; [+Human]; [+Animate, -Abstract, +Opr. ja]; "to seem, be felt".

[+Opr., +ne +lāg]; "to begin to".

**lērneh**

[-NP, +Concomitive, +Opr.]; [+Animate, +Opr. ja, per, beth]; (atmane); "to fight, quarrel".

**lētna**

[-NP, +pl, +tm, +Passive, +NP +se, +Opr.];

[+Animate, +Opr. reh, ja]; (stative); "to lie down".

**lētnah**

[+NP, +pl, +Passive, +NP +se, +Opr.]; [+Human];

[+Human]; (atmane) (parasmai); "to lay someone down".

**likhna**

[+mdR, +NP, +kī +S, +Passive, +NP +se, +Opr.];

[+Human]; [+Abstract, +Legible]; (atmane) (parasmai) (instancy); "to write".

[+NP, +Opr.]; [+Human]; [+Abstract, +Legible, +Opr. marna]; "to write rashly".

**likhna**

[+mdR, +NP, +Passive, +NP +se, +Opr.]; [+Human];

[+Human]; [+Legible]; (parasmai); "to dictate".

**likhvanah**

[+mdM, +Human]; Otherwise as likhna; "to cause to write".

**lana**

[+NP, -ne, +Passive, +NP +se, +Opr.]; [+Animate, -Abstract]; [+Animate, +Abstract]; (parasmai); "to bring".
lena  [+NP, +Passive, +NP +se, +Opr.]; [+Human];
[±Animate, -Abstract]; (ātmane); "to take".
[±Opr.]; "ātmane".

sómējhana  [+NP, +comp, -ne, +k1 +S, +Passive, +NP +se,
+Opr.]; [+Human]; [+Abstract]; (stative)
(ātmane); "to understand, comprehend".

sīna  [+NP, +Passive, +NP +se, +Opr.]; [+Human];
[±Animate, -Abstract]; (ātmane) (parasmai);
"to stitch".

sīlna  [-NP, +NP +se, +Opr.]; [±Animate, -Abstract,
+Opr. ja]; (stative); "to be stitched".

sīl(v)ana  [+mdM, +Human]; Otherwise as sīna; "to cause
to be stitched".

sikhna  [+NP, +k1 +S, +Passive, +NP +se, +Opr.];
[±Animate]; [+Abstract, +Opr. ja]; (stative)
(ātmane); "to learn".

sīkhana  [+mdR, +Human]; Otherwise as sikhna; (parasmai);
"to teach".

sōcna  [+NP, +k1 +S, +Passive, +NP +se, +Opr.];
[±Human]; [+Abstract]; (ātmane); "to think".

hōsna  [-NP, +Passive, +NP +se, +Opr.]; [+Human,
+Opr. oth, peter]; (ātmane) (parasmai);
"to laugh".
hosana [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; (parasmai); "to make someone laugh".

harna [+NP, +Concomitive, +Opr.]; [+Human, +Opr. ja]; (stative); "to be defeated".

hérana [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; (parasmai); "to defeat".

hona [+Pred, +Copula]; "to be".

hona [+Pred, +Opr. ja]; [+Animate, -Abstract]; "to become".

hona [+Pred, +Opr. ja]; [+Abstract]; "to happen".
Conjunct Verbs

kheera hona

[-NP, +Passive, +NP +se, +Opr.]; [+Animate, +Opr. ja]; "to stand".

kheera karna

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate, -Abstract]; (parasmai); "to stand |transitive|".

khetm korna

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate, +Abstract]; (atmane) (parasmai); "to finish, end |transitive|".

dikhai{dena \_\_\_porna}

[+Nom, +Opr.]; [+Human]; [+Animate, -Abstract, +Opr. ja]; "to be visible".

pes hona

[-NP, +pl]; [+Animate]; "to be present".

pes karna

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate]; (parasmai); "to present, put forward".

bond karna

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate, -Abstract]; (atmane) (parasmai) (instancy); "to shut".

yad karna

[+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Animate]; (atmane); "to remember, commit to memory".
vida karnā [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; (parasmai); "to bid farewell to".

ścro karnā [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, +Abstract]; (parasmai); "to begin".

smejh ana [+Nom]; [+Human]; [+Abstract]; "to comprehend".

sonai {dana [pēna]} [+Nom, +Opr.]; [+Human]; [-Animate, +Noise, +Opr. ja]; "to be audible".

svikar hona [+Nom]; [+Human]; [-Animate, +Abstract]; "to be acceptable".

svikar karnā [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [-Animate, +Abstract]; (ētmane); "to accept".

kṣēma karnā [+NP, +Passive, +NP +se, +Opr.]; [+Human]; [+Human]; (parasmai); "to forgive".
# Nouns

## Animate

### Human

<table>
<thead>
<tr>
<th>Gender</th>
<th>Noun</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>male</td>
<td>adm = man</td>
<td>raštrapati = president</td>
</tr>
<tr>
<td>female</td>
<td>mənəgy = woman</td>
<td>mā = mother</td>
</tr>
<tr>
<td>male</td>
<td>oret = boy</td>
<td>bap = father</td>
</tr>
<tr>
<td>female</td>
<td>stri = girl</td>
<td>beți = daughter</td>
</tr>
<tr>
<td>male</td>
<td>lərka = child (m)</td>
<td>beța = son</td>
</tr>
<tr>
<td>female</td>
<td>bəcca = child (f)</td>
<td>behu = daughter-in-law</td>
</tr>
<tr>
<td>male</td>
<td>malik = master</td>
<td>jamata = son-in-law</td>
</tr>
<tr>
<td>female</td>
<td>nəkər = servant</td>
<td>caca = uncle</td>
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<td>mali = gardener</td>
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### Adjectives

#### Attributive Form

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jhutha - untrue

dost - villainous

sherawati - mischievous

sant - calm

nyayi - just

yogy - suitable, fit

vyest - busy

svesth - healthy

rog - ill

dhoni - rich

gorib - poor

khera - genuine

khotha - counterfeit

nrdoṣ} - innocent

bhola - criminal

apradhi - beautiful

sonder - ugly

korup - easy

asan - difficult

moskil} - necessary

kethan} - closed

khola - open

mitha - sweet

khotta - sour

kerva - bitter

tita - hot (spicy)
germ - hot (warm)

thendra - cool

xoṣ - happy

dokhi - sorrowful

Numerals

ek - one

do - two

tin - three

car - four

pāc - five

cho - six

sat - seven

āṭh - eight

no - nine

des - ten

adha - half

迦 Theft - one and a half

迦 hai - two and a half

迦 saṭhe tin - three and a half

迦 cōthai - quarter

迦 tin cōthai - three quarters

迦 sova - one and a quarter

迦 sova do - two and a quarter

迦 pēhla - first

迦 dusra - second

迦 tisra - third

迦 cōtha - fourth

迦 pācvā - fifth

迦 chaṭha - sixth

迦 satvā - seventh

迦 aṭhvā - eighth

迦 doñ - both

迦 tinō - all three

迦 carō - all four
Collective

kol  }  -whole, total
samuca  }
seb  }  -all
sara  }

Predicative

mona  -- forbidden
ketipey  - few
kheta  - finished
šoro  - begun
din  - day
rat  - night
šam  - evening
dopeher  - noon
septah  }
hefta  }  - week
mehina  - month
sal  }
vers  }
ek  - year
do beje  }

Adverbs

Place

Age  }
Samne  }
Piche  -- behind
Pas  }
Niket  }
Aspas  - near
dur  - around
dahine  - far
baye  - above
bahar  - on the right
bhitor  - on the left
yehä  - outside
jehä  - inside
heh  - here
there
where

Time

Ob  - now
job  - when
tob  - then
aj  - today
kal  - tomorrow,
yesterday
day before
yesterday,
day after
tomorrow
persh  
sebore  - in the morning
legatar  - continuously
pehle  - before
bad (mē)  - after(wards)
<table>
<thead>
<tr>
<th>Manner</th>
<th>Sentence Adverbials</th>
</tr>
</thead>
<tbody>
<tr>
<td>ekosmat</td>
<td>suddenly</td>
</tr>
<tr>
<td>ecansk</td>
<td>nəhĩ</td>
</tr>
<tr>
<td>jhotpest</td>
<td>quickly</td>
</tr>
<tr>
<td>joldi se</td>
<td>berkol</td>
</tr>
<tr>
<td>dhire se</td>
<td>slowly</td>
</tr>
<tr>
<td>dhire-dhire</td>
<td>slowy</td>
</tr>
<tr>
<td>pedol</td>
<td>on foot</td>
</tr>
<tr>
<td>tezi se</td>
<td>with speed</td>
</tr>
<tr>
<td>yõ</td>
<td>in this manner</td>
</tr>
<tr>
<td>dhime</td>
<td>softly</td>
</tr>
<tr>
<td>ahista</td>
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