A DEVERBAL ANALYSIS OF ADVERBIALS IN HINDI

by

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I. Background

There have been a number of attempts to adequately describe adverbs within a transformational framework. In Aspects of the Theory of Syntax (1965:101) Chomsky handles adverbials in three Phrase Structure rules:

- **Pred Phrase** → Aux + VP (Place) (Time)
- **VP** → V (NP) (Prep Phrase) (Prep Phrase) (Manner)
- **Prep Phrase** → Direction, Duration, Place, Frequency, etc.

No provision is made for the co-occurrence restrictions on the majority of verb-adverbial pairs. In describing the sentence:

1. He decided on the boat on the train.

Chomsky (ibid.) says that "the second Prepositional Phrase is simply a Place Adverbial, which, like a Time Adverbial, has no particular connection with the Verb. However, selectional restrictions between Time Adverbials and Verbs are necessary, as shown by the following sentences:

2. *He died ever since March.
3. *He read the book at midnight.

In the first sentence, the verb requires an instantive adverb, while the second example requires a durative one. There is no obvious way the restrictions which are necessary can be stated, within the Aspects framework, without drastically revising the concept of strict subcategorization or selectional features.

Furthermore, the Phrase Structure rules as Chomsky has expanded them include a number of categories which are now being challenged: Aux, Prep Phrase, and the adverbials.
Recently, there have been more interesting approaches to this class of structures. Mary Gallagher (1970) has suggested that there is no category of Tense in the Phrase Structure rules in English. Instead, the expansion rules may generate an adverb of time, and this adverb dictates the morphological signs on the verb. The advantages of this analysis are:

1. English would no longer be a rather exceptional language in that it has Tense as an obligatory category.

2. It avoids the problem of erasing a meaning-bearing element in Relative Clause Reduction, as demonstrated by the sentence:

4. The evil man lived in a state of terror.

If Tense is a necessary expansion, this would have to be derived from:

5. The man who \( \{ \text{is} \} \) evil...
\( \{ \text{was} \} \)

In Gallagher's analysis, there would be no adverb of time, and therefore no tense would be present that would have to be deleted by a meaning-changing transformation.

3. Certain selectional restrictions can be explained. The non-occurrence of statives in commands is a result of the fact that statives will not take time adverbials, but commands require a future time.

Mike Geis (1970) has discussed before, after, until and since as derived from verbal constituents. He posits a deep structure which is closer to the semantic content of the surface sentences containing these lexical items. Sentences with before and after are derived from a sequence of the form:

6. at a time which was \{ earlier \} than the time at which \{ later \}

The fact that before and after can be modified by measure phrases and
will undergo comparative deletion supports this analysis in which comparatives do show up. Until and since do not act like comparatives and cannot be pronominalized. Their behavior can be better understood if they are derived from aspectual verbs like end and begin, in structures such as:

7. all during the time that \{ began \} at the time at which \{ ended \}

This deeper level of analysis has greater explanatory power than a more superficial one does.

These publications indicate the direction of development. The most comprehensive study to date is Jonnie Geis's doctoral dissertation (1970) in which she studies all types of adverbials and posits a highly abstract analysis. I wish to apply this approach to Hindi since it is well-motivated and sheds some light on previously unresolved problems. I will consider Geis's motivations, applying them to Hindi to see how general they are, and will then consider some arguments that could be leveled against this description of Hindi. In the final section, I will examine A. C. Sinha's presentation of about, ke baare mē, and show that more interesting insights can be gained through a deverbal analysis of this structure.

II. Introduction

In this analysis, an adverb is posited as a verbal element in deep structure which is higher than the main verb, i.e., the verb which appears in surface structure. Thus even a simplex sentence (at surface level) with an adverbial contains at least one embedding. A sentence such as:

8. Jane looked at your photo for two hours.
is diagrammed by J. Geis as (1970:57):

\[
\begin{array}{llll}
S & \rightarrow & NP & VP \\
\rightarrow & it & S & V \\
\rightarrow & NP & VP \\
\rightarrow & Jane & looked at & for two hours
\end{array}
\]

This is an interesting structure because it explains, in a deep theoretical sense, why an SOV language such as Hindi has postpositions rather than prepositions. Greenberg (1963), in a surface analysis of a number of languages, has pointed out that this is overwhelmingly the case. If we examine the expansion rules proposed by Y. Kachru (1966) in conjunction with the analysis given by Geis, it is immediately obvious why this is so. A sentence such as:

9. The boy brings the newspaper.

would have the following structure in Hindi (Kachru, 1966:39):
Dropping, for the moment, the now-controversial AUX node, when an adverb is added, the tree would be:

Although the Adverb Lowering Rule would be slightly different from that in English, insofar as the adverbial VP would be embedded before, rather than after the V node, the order within the VP constituent would be preserved. Thus the occurrence of postpositions is the logical result of the Phrase Structure Rules.

It has been pointed out that in English this type of tree can be supported by sentences of the form:

10. It is from the shop that the boy brings the newspaper.
However, there are no sentences in Hindi of the same form:

11. *ye duukaan se hai ki laRk aa akhbaar laa -taa hai.
    it store from is that boy newspaper bring -s

While this is true, it is important to consider the following facts:

(1) English has a number of sentence forms in which a dummy subject is followed by a copula:

12. It's nice today.
13. It's (raining) etc.

In Hindi, sentences of this type are deviant:

14. *aaj ye baarish ho rahii hai
today it rain -ing is

15. *ye aaj acchaa hai.
it today good is

The above sentences must be expressed with real subjects:

14a. aaj baarish ho rahii hai.
today rain happen -ing is

15a. mausaam aaj acchaa hai.
weather today good is

This suggests that there is a general distinction between the two languages as to what can occur as a surface subject.

(2) In English, focus is possible without the dummy subject followed by the copula as well as with this structure:

20. It is from the shop that the boy brings the newspaper.
20a. From the shop, the boy brings the newspaper.

These are equivalent to sentences in Hindi in which the locative is moved to the beginning of the sentence and thereby becomes the focus:

21. duukaan se laRk aa akhbaar laa -taa hai.
store from boy newspaper bring -s
This would indicate that in English, the grammar can either delete the it and generate the sentence which is comparable in structure to the Hindi sentence, or the copula may be inserted, thereby allowing the deep structure it to remain in surface structure. In Hindi, only the former is possible:

22. From her own house, she brought the gift.

epne ghar se wo tofaa laayii.
own house from she gift brought

23. In the evening, he will go to a hotel.

shaam ko wo hoTel jaayii.
evening in he hotel will go

This is also related to the surface constraint covering possible subjects, mentioned above.

(3) When a sentence with an adverbial is negated, it is ambiguous. This ambiguity is the result of two different deep structures, one in which the negation has as its scope the Main Verb (the lower sentence), the other in which the scope is the entire proposition (the higher sentence). In a sentence such as

24. The boy didn't bring the newspaper from the store.

negation of the Main Verb can be paraphrased:

24a. From the store, the boy didn't bring the newspaper.

while sentence negation is equivalent to:

24b. It is not the case that the boy brought the newspaper from the store.

This reflects the fact that the truth conditions for (24) can be met either if the boy fails to bring the newspaper or if he brings it from some other place. In no case does negation have only the adverbial in its scope. The same ambiguity exists in the Hindi sentence:
In negative responses to yes/no questions, the same behavior occurs. In either language, a short negative response does not specify what the scope is. Thus the following answer does not make clear whether the girl didn't bring vegetables at all, or if she brought them from somewhere other than the market:

26. Did the girl bring the vegetables from the market?
26a. No, she didn't.

27. kyaa laRkii baazaar se tarkaarii laayii? question word girl market from vegetables brought
27a. jii nahi. no

Note that these two types of ambiguity can be resolved by specifying the adverbial as the focus:

28. It wasn't from the store that the boy brought the newspaper.
29. Was it from the market that the girl brought the vegetables?

The same method of disambiguation exists in Hindi:

30. duukaan se laRkaa akhbaar nahi laayaa. store from boy newspaper not brought
31. kyaa baazaar se laRkii tarkaarii laayii? question word market from girl vegetables brought

In both languages, focus can also be achieved with regular word order and heavy stress on the appropriate constituent.

Although English does conform more closely to the posited deep structure, the advantages of a deverbal analysis of adverbials are equally great in Hindi, as I will show in the following sections. A theoretical construct which has explanatory power should not be rejected
because of superficial language differences. Although the area of focus needs extensive work, it seems that the differences in behavior between the two languages can be handled by a surface level constraint related to the feature markings on the deep structure. The following arguments, as well as the explanation for the occurrence of postpositions, seem strong enough to support this position.

III. Motivation for the Analysis

(1) In many respects, at a surface level, adverbials are like transitive verbs. They are both followed by an NP and exhibit co-occurrence restrictions between the verb and the noun phrase:

32. The boy was talking to the girl in a house. *an idea.

33. laRkaa laRkii se {ghar mē} bol raha thaa.
    boy girl with {house in} talking was
    *khyaal mē

34. The boy was sitting with the girl on the sofa. *the plan.

35. laRkaa laRkii ke saath {sofa par} baiThaa thaa.
    boy girl with {sofa on} in the state was
    *yojnaa par

In Hindi, as in English, these co-occurrence restrictions should be stated on the function word rather than the noun since the latter can occur in many other environments besides before a postposition. If the restrictions were stated on the noun, they would have to be optional, making them highly unusual since they are typically obligatory. Furthermore, the statement of these restrictions would be much less parsimonious if placed on the noun since there are many more nouns than function words.
in the two languages (J. Geis, 1970:18).

There would have to be some way of guaranteeing that if a postposition appeared in the deep structure, one of the optional noun features were chosen since a postposition does not occur alone. This would also be an unusual formalism.

If the decision is made to state selectional restrictions on the postposition, and an underlying verb is not posited, an explanation must be given for the fact that the same features of nouns are significant for both verbs and postpositions: [+ concrete, ± abstract ...] (J. Geis, 1970:20).

(2) Various processes support this analysis of postpositions as derived from higher verbs. Verb Phrase Deletion is the rule which deletes the second occurrence of a verb phrase under identity. In the following examples, the second clause is understood to include a VP which is a duplicate of the first:

36. Max likes kosher dills, and I do too.
37. Helene drinks beer every Saturday, but Harv. doesn't.

This process also occurs with prepositions:

38. Max slept for three hours, but I read.
39. Hildegard was eating in the living room and Jack was playing his ukelele.

The fact that the adverbial has been deleted is shown by the following sentence:

40. *Mary left at exactly midnight but I read War and Peace.

This deviance is caused by a violation of co-occurrence restrictions between an instantive preposition, at, and a non-progressive, continuing activity
verb, read.

In Hindi, as in English, both verb phrase and adverbial deletion occur. Verb Phrase Deletion in Hindi is somewhat different from that in English, but both postpositions and verbs behave in the same way. This is what one would predict within this theoretical analysis. In English, where there is Verb Phrase Deletion, there is always either a PRO-verb form or part of the underlying structure left behind (depending on whether one accepts Ross's analysis involving higher sentences). In Hindi, there is no such form:

41. Sheila likes coffee and Sarala does too.

shiilaa ko kaafii pasand hai aur saralaa ko bhii.
Sheila to coffee pleasing is and Sarala to also

The following are examples of deleted adverbials:

42. I was studying in the library and Sheila was writing a letter.

māī laaibrarii mē paRh rhaa thaa aur shiilaa ciTThii
I library in study -ing was and Sheila letter
likh rahiī thii.
writ -ing was

43. I was reading for five hours and John was writing a letter.

māī paāc ghaffī tak paRhtaa rhaa aur jaan ciTThii
I five hours until reading kept and John letter
likhtaa rhaaa.
writing kept

In both of these sentences, the second clause is understood to include the adverbial which is present in the first.

As in English, a deviant sentence is generated if an instantaneous time adverbial is combined with a stative or non-progressive continuing activity verb:
44. *I will go out at exactly four o'clock and John will read a book.

    *māĩ Thiiik caar baje nikluugaa aur jaan kitaab paRhega.
    I exactly four o'clock will leave and John book will read

45. *I met Prakash yesterday and he was thin.

    *māi Prakaash se kal milaa aur wo dublaa thaa.
    I Prakash with yesterday met and he thin was

(3) In English, a sentence such as the following is ambiguous:

46. I read in the library for ten hours and Rachael wrote a paper.

This can mean either that Rachael wrote a paper in the library for ten hours or that she worked on the paper for ten hours elsewhere. That this is the case is shown by the grammaticality of the following:

47. John swam in the pool for thirty minutes and Susan wrote letters.

These two activities clearly do not both occur in the pool, but the time duration is the same. The sentence is not ambiguous, due to the semantic constraints.

The same type of behavior occurs in Hindi sentences involving double adverbials:

48. I studied in the library for three hours and my friend wrote a paper.

    tiin ghāTO tak lsaibrarii mē mēI ne kitaab paRhii
    three hours until library in I book studied
    aur mere mitr ne lekh likhaa.
    and my friend paper wrote

49. I read a newspaper in my room for some time and my friend read a story.

    kamare mē kuch der tak māĩ ne akhbaar paRhaa aur
    room in some time for I newspaper read and
mere mitr ne kahaanii parhii.
my friend story read

Notice that in these conjunct sentences where there is a "heavy" adverbial phrase, the adverbial preposing rule is stylistically preferred.

As in English, semantic constraints prevent ambiguity:

50. John swam in the river for one hour and his wife slept.

jaan nadii me ekghante taira aur us kii patnii soii.
John river in one hour swam and him of wife slept

(4) Another process which supports this analysis is Object Deletion. In English, certain transitive verbs can lose their objects:

51. She sang $\emptyset$ for two hours.

52. He eats $\emptyset$ at 10:00 every night.

The understood object is a generic term rather than a specific one. This can also occur with certain prepositions, which is what would be expected if they are analyzed as transitive verbs:

53. The ocean must be near $\emptyset$: I see a lot of seagulls.

54. The doctor isn't in $\emptyset$.

Object Deletion also occurs in Hindi:

55. Ram eats every day.

raam har roz $\emptyset$ khaa taa hai.
Ram every day eat -s

56. She was singing.

wo $\emptyset$ gaa rahii thii.
she sing -ing was

There is an equivalent operation in the case of the postposition. In Hindi, one can say:
57. Is the doctor in his office?

kyaa DaakTar daftar mē hāī?

question word doctor office in is (honorific)

However, if one optionally deletes the object, the postposition must obligatorily be deleted:

58. Is the doctor in?

DaakTar hāī?

doctor is (honorific)

The process of Object Deletion is less common in Hindi than it is in English, in regard to both verbs and adverbials.

In Hindi, there is no trace of the verb in the case of Verb Phrase Deletion, and the same type of process occurs in the case of Object Deletion. There is a high degree of consistency in behavior, greater than chance would predict. There is no violation of Chomsky's recoverability constraint because the context supplies the deleted constituents. In English there is a PRO-form left in the case of Verb Phrase Deletion and, in Object Deletion, the verbal remains. English thus seems to require some surface verbal in the case of both verbs and adverbial phrases, while Hindi does not.

(5) The type of pronominal objects which can occur with transitive main verbs and adverbials in English supports the theory that they are the same in underlying form. J. Geis lists the following verbs which can take an adverbial form, such as there, as well as the more usual pronominal form, it (1970:23). I personally feel that the sentences with the adverbial PRO-form are only marginally acceptable, but this is the data as she reports it:
60. She was approaching the city in an airplane and he was approaching it in a taxi. [there]

61. Some fans were entering the sports arena and others were leaving it. [there.]

The same thing occurs with prepositions: some may occur with adverbial PRO-forms as well as nominal ones (Geis, 1970:20):

62. The bandits were hiding beyond the river, but the posse was afraid to ride beyond it. [there.]

This does not occur with all prepositions, just as it does not occur with all verbs:

63. Ralph's at the party, and Judy's at it too. [there]

With time prepositions, the pronominal form can never occur:

64. Jane worked until five o'clock and Bill worked until it too. [then]

In Hindi, the following sentence types show up:

64. She was going to the city by airplane and the boy was going there by car.

wo hawaaι jahaaz se us shahar kii or jaa rahii thii she airplane by that city of direction go-ing was

aur wo laRkaa wahaa moTar se pahuc rahaa thaa. *us kii or

and that boy there car by arriv-ing was

65. He arrived home and his guests arrived there too. *to it

wo ghar pahuc aa aur us ke mehamaan bhii wahii pahuce. he house arrived and him of guests also there arrived

In Hindi, an alternation of two forms does not appear to be possible and
only the adverbial form occurs. The informants I consulted said the nominal PRO-form was clearly ungrammatical. However, in some cases, what appears to be a nominal form is present, but this is actually an elliptical one, the reduced surface reflex of a form such as wo jagah, that place. In these cases, wo is equivalent to that, not it.

The following sentences show the behavior of PRO-forms with postpositions:

66. That thief was leaving the bank and the police were entering it.

wo cor bāïk se nikal rahaa thaa aur pulis that thief bank from leav-ing was and police it in
ghus rahii thii.
enter -ing were

67. Some people are going into the theatre and some people are coming out of it.

kuch log sinemaa ghar kii or jaa rahe hāī aur some people movie house of direction go -ing are and
kuch log wahāā se nikal rahe hāī.
some people there from leav-ing are
us se it from

68. Ram is at the party and Sarita is there also.

raam paartii mē hai aur saritaa bhii hai.
Ram party in is and Sarita also there is

As in English, with time expressions the pronominal form is not possible:

69. John worked until four o'clock and Bill worked until then too.

In the case of postpositions, Hindi is like English in permitting both pronominal and adverbial PRO-forms, except in the case of time expressions, where only the adverbial PRO-form may occur.

These data seem to show that in regard to PRO-form objects, the argument is not as strong in Hindi as in English. In the speech of one of my informants, the pronominal form could not occur in the adverbial phrase or the verb phrase and thus represents the desired distribution within this theoretical framework. However, this was not the case in the speech of my other informants.

It could be claimed that the speech of my first informant represents a regularizing tendency: both verbs and adverbs can take only the adverbial PRO-form object. Although this is an appealing thought, I do not have enough historical or dialectal information or an analysis which is complete enough to do more than make the suggestion.

In any case, I do not feel this is a very strong argument because a postposition could be posited in deep structure in a synchronic analysis and then be deleted by a late rule. That this process is often involved is shown by the inflection of words which precede the spot where the posited postposition would be:

70. I am going to my house.

māī ṣṝṇe ḡar ṣ jaa rhaa ṡāu. I my house go -ing am
(6) A verbal origin has been posited for adjectives. If there is a rule which applies to adverbs, adjectives, and verbs only, we would have additional support for a verbal origin for all three. In considering sentences with predicate adjectives and adverbs, we would expect them to behave differently from predicate nominals. Examples of these types are:

71. She is attractive.
72. He is in New York.
73. He is a fool.

One process which differentiates between these two groups is Whiz-Deletion. This deletes the wh-word of relative clauses and the immediately following verb to be. Whiz-Deletion can occur in a restrictive relative clause which contains a verb, adjective, or adverb, but not when it contains a predicate nominal. Thus there are sentences of the form:

74. He met a girl (who is) beautiful →
    He met a beautiful girl.

Adjective Preposing, which applies to single lexical items, yields the grammatical form of the sentence after deletion.

75. He attended the meeting (which was) in Denver.
76. He likes the girl (who is) singing →
    He likes the singing girl.

There are no similar sentences which include an embedded predicate nominal:

77. He met the man who is the mayor →
    *He met the man the mayor.
The following are examples of Hindi sentences:

With adjectives:

78. That boy met a girl who is beautiful.

wo laRkaa ek laRkii se milaa jo sundar hai. ---
that boy a girl with met who beautiful is

79. That boy met a beautiful girl.

wo laRkaa ek sundar laRkii se milaa.
that boy a beautiful girl with met

80. That city which is big is in India.

wo shahar jo baRa hai bhaarat mē hai. ---
that city which big is India in is

81. That big city is in India.

wo baRaa shahar bhaarat mē hai.
that big city India in is

With adverbials:

82. He went to that meeting which was in Delhi.

wo us sabhaa mē gayaa jo dillii mē thii. ---
he that meeting to went which Delhi in was

83. He went to the Delhi meeting.

wo dillii kii sabhaa mē gayaa.
he Delhi of meeting to went

wo dillii waalii sabhaa mē gayaa.
he Delhi one meeting in went

84. That book which is on the table is expensive.

jo kitaab mez par hai wo mahāgii hai. ---
which book table on is it expensive is

85. That book on the table is expensive.

mez par waalii kitaab mahāgii hai.
table on one book expensive is

mez par kii kitaab mahāgii hai.
table on of book expensive is
86. They went to the party which was on Saturday.

**they that party to went which Saturday on was**

87. They went to the Saturday party.

**they Saturday of party to went**

With verb forms:

88. He likes that girl who is singing.

**him to that girl pleasing is who song singing is**

89. He likes that singing girl.

**him to that song singing one girl pleasing is**

In sentences with an animate subject, the types of reduction which can occur appear to be subject to a number of constraints. Consider the following data:

90. That boy who is in the room...

**which boy that room in is he**

91. That boy in the room...

**that room one boy**

92. My aunt who is in Delhi...

**my which aunt Delhi in is she**

93. My aunt in Delhi...

**my Delhi one aunt**

94. That boy who is on the roof...

**that boy roof on is he**
95. That boy on the roof...

wo chat per waalaa laRkaa...
that roof on one boy

In this sentence, the postposition cannot be deleted because it is not the unmarked form and is therefore not recoverable. The following sentence does not reduce:

96. That man on the table...

jo aadmii mez par hai wo... -/→
that man table on is he

97. That man on the table...

*mez par waalaa aadmii...
table on one man

It may be that the factor determining if a waalaa form can occur is whether the sentence is understood as elliptical. If it is, further reduction is not possible. Sentence 96 may be a shortened form of the structure underlying 96:

98. That man seated on the table...

wo mez par baiThaa huaa aadmii...
that table on in a state of sitting man

This would mean that with animate subjects, certain adverbial phrases can not occur as predicates, but only with verbs such as baiThnaa, to sit; khaRaa honaa, to stand; laTnaa, to lie. In any case, these examples are not critical to my discussion and I will not attempt to analyze them further.

The important point is that in the case of noun predicates, the sentence does not reduce:

99. That man who is my teacher is very smart.
wo sajjan jo mere adhyaapak hain bahut tez hai. -»
that man who my teacher is very smart is

100. *That man-teacher is very smart.

*wo adhyaapak sajjan bahut tez hain.
that teacher man very smart is

101. That jewel which is his treasure is beautiful.

wo gahnaa jo us kii nidhi hai sundar hai. -»
that jewel which him of treasure is beautiful is

102. *His treasure-jewel is beautiful.

*us kii nidhi gahnaa bahut sundar hai.
him of treasure jewel very beautiful is

Although the structures involving relative reduction seem to be
more complicated in Hindi than in English, involving at the very least
an animate/inanimate dimension, there is still good evidence for
treating the predicate nominal as a class apart since it does not
undergo reduction.

This paper has been an attempt to motivate the analysis of adverbials
in Hindi as higher verbs. I have relied heavily on Jonnie Geis's
dissertation, in many cases using her examples and in all cases applying
her arguments in English to Hindi. I have shown that, as in English,
both transitive verbs and postpositions have objects and exhibit co-
ocurrence restrictions with these objects. These can be most parsimoniously stated on the postposition, and unless these surface-level forms
are posited as verbs, some explanation must be given for the fact that
the same features of nouns are relevant in both cases.

Both verbs and postpositions undergo Verb Phrase and Object
Deletion. Although there are differences between the two languages,
within each there is a consistency of rule application for the two
distinct surface classes.

In the case of pronominalization of the objects, I personally do not feel the argument is a strong one. With many adverbial objects of verbs, it could be argued that the postposition had been deleted by a late rule. This would explain the presence of the oblique case.

Adverbials undergo at least one rule in common with verbs and adjectives: Whiz-Deletion. Nouns do not conform to this process.

Finally this analysis gives an explanation for the appearance of postpositions with an SOV language such as Hindi.

IV. Arguments and Counter-Arguments

There are a number of objections which can be raised against a deverbal analysis of adverbs.

(1) Traditionally, postpositions have been derived from nominal forms. Although there has been great disagreement on the exact nature of these derivations, the basic assumption seems to be correct. This would seem, at first glance, to be strong counter-evidence to postpositions as underlying verbs. However, more extensive investigation shows this is not the case.

Paul Postal, in Aspects of Phonological Theory, has shown in his study of Mohawk and Oneida that synchronic rule ordering does not necessarily mirror diachronic order. This is because the optimum grammar is not always generated by adding a rule to the end (see Chpt. 13). This would argue that there is a distinction between the historical development of a language and the psychological reality reflected by the grammar. Granting that postpositions are historically derived from
nouns does not preclude the possibility that they are now perceived as verbs by the speakers of the language.

There is, however, no need to use either a phonological or meta-theoretical argument to support the deverbal analysis since there is ample evidence for it in the development of Hindi itself.

It is indeed true that most analyses of postpositions derive them from nouns, but they are usually derived from the locative case. This fact is sometimes overlooked. H. Bahri states (1959:350):

We can now endorse with authority the opinion of Dr. Kellogg that most of the postpositions are originally nouns some of which have been truncated beyond recognition.

But Kellogg himself says (1955:380):

Besides the...pronominal adverbs are many others of various derivations. Very many of these, indeed, are, in fact, old locative cases of nouns.

Many of the derivations he gives for the pronominal adverbs show that they too can be derived from locatives (see especially 373-380).

As might be expected, in several instances a locative case is posited as the origin of a modern postposition (Kellogg, 1955:129):

loc. sing. madhya, middle → me


A large number of the adverbials...are, in their ultimate analysis, case forms of nominal stems, e. g. the simple neuter stem which functions as nom. acc. sg. nt. (jaatu), endless locative (praatāa), instrumental (sāyutraā).

However, in some instances, the stem no longer has any function except in the adverbial form, while in others the stem can still be used as a substantive or adjective. Thus even in Sanskrit, from which Hindi derives many of these items, a verbal analysis can be supported.
The statement that postpositions are derived from nominals is a simplification which overlooks the critical matter of case.

By the time of Hindi, the case endings were almost completely gone and one form had to express the relationships formerly given by six cases. Sanskrit had evolved a system of using indeclinable adverbials to define more closely the relation expressed by a case affix (Burrows, 1965:283). At a later stage in the language, the newer adverbially-used case forms also served this purpose. This evolved into the modern system of declension with postpositions (Kellogg, 1955:119). This is a common pattern of change, well-documented in a number of instances, of an inflectional language changing to one in which separate morphemes and position express the grammatical relations. Since both inflections and postpositions must have co-existed to a rather great extent (note that presently there is still a trace of case in the oblique form in Hindi) and both performed the same function, it would be denying any possibility of psychological reality of the grammar if we argued that postpositions were deverbal and case endings were not.

We would be claiming that simply because the speaker chose a position, i.e. a separate morpheme, rather than a case ending, he would be using completely different psychological processes. The not-unusual change from an inflectional to a positional language with the concurrent development of a pre/postpositional system would have to imply both a radical change in the psychological basis of the grammar and the simultaneous functioning of two different processes with the same ultimate communicative purpose in the mind of each speaker for an extended period of time. This is just the opposite of what one
would predict.

(2) It has been suggested that because the noun of agency, waalaa, occurs with postpositions, they should not be considered deverbal. I do not find this a serious objection. Although waalaa can occur with nouns and postpositions, it can also occur with adjectives and verbs:

- paRhnewaale those who study (paRhnaa - to study)
- rahaneaalaa the one who lives (rahanaa - to live)
- gaanewaalaa the one who sings (gaanaa - to sing)
- puraanaawaaalaa the old one (puraanaa - old)
- nayaawaalaa the new one (nayaa - new)

Therefore, by claiming that the same process applying to verbs applied to the postpositions, the same data could be used as evidence for the deverbal origin of postpositions. However, further investigation reveals that when the waalaa does join with a verb, it is only after nominalization of the verb has occurred. That it is a nominal form is shown by the face that the verb inflects in the same way a noun does:

- aaneaalaa the one who comes (aanaa - to come)
- kelewaalaa banana seller (kelaa - banana)
- baccewaalaa a person who has a child (baccaa - child)

More important, the distribution of waalaa is not over the entire group of postpositions. The following data show this:

- baahar waalaa the outside one (baahar - outside)
- andar waalaa the inside one (andar - inside)
- paas waalaa the near one (paas - near)
- *mē waalaa *the one who is in (mē - in)
*par waalaa  *the one who is on  (par - on)

But:  mez par waalaa  the one on the  (mez - table)

kamaree (mē)  the one in the  (kamaraa - room)

waalaa  room  (mē - in)

These facts indicate that waalaa does not attach to nouns and verbs at all but rather to Noun Phrases. A postposition and a verb, at the time in the derivation when this transformation applies, must be dominated by an NP node in the same way a noun must be.

Joining the waalaa to a true postposition (see below) would be analogous to joining it to a verb in the finite form:

*\{  paRhte waalaa  \}  *the studies one  (paRhnaa - to study)
\{  paRh rahe waalaa  \}
\{  paRh waalaa  \}

The distribution of this form gives strong support for treating postpositions and verbs as one class.

(3) Another problem is the construction and behavior of compound postpositions, a rather large group of items. I will use the following terms proposed by K. C. Bahl (1967:497) in discussing this class:

aap  ke  paas  near you
you  near

noun genitive  pseudonoun
marker

The most serious objection to the verbal analysis is the fact that the genitive marker kaa which occurs in these structures inflects to agree with the gender of the following pseudonoun, which is traditionally considered a postposition:
naukar kii jagah in place of the servant
servant of place

ghar ke bhiitar inside the house
house inside

This class of words is discussed fairly extensively by Bahl (1967:497 ff.). He says:

The common characteristics which distinguish these pseudo-nouns from nouns as well as adjectives are that they always imply oblique forms, do not occur with number and, with some exception, function as postpositions with the postpositions ke and/or se.

Note especially that the first element is either ke or se. Kellogg (1955:486) also states that these can be preceded by either the genitive or the ablative but no other group. The fact that this is a highly restricted group suggests that this form can be predicted, with the presence of one or the other being due to a semantic marking on the entire lexical unit.4

Although the inflected kaa could be attributed to the word directly following, the pseudonoun, it could also be attributed to the presence in deep structure of a postposition following the surface pseudonoun. This same process can be seen in the sentence:

103. I went to my friend's house.

māī apne dost ke ghar ḍ gayaa.
I my friend of house went

Here, the postposition meaning to is deleted, but its presence in deep structure is indicated by the inflection of apnaa and kaa. There is no question of ghar, house, being a postposition. Native speakers of Hindi agree that a postposition is present at a deep level in sentences of this kind.

This is supported by Bahl's insight (1967:502):
All pseudonouns and nouns occur as adverbs of place, direction, time or manner, and imply only one of the several simple postpositions. These implied postpositions are the primary postpositions of these pseudonouns and nouns.

The postposition can be deleted from one of these compound postpositions when the feature markings that the postposition contributes to the construction are redundant. He demonstrates this with two sentences (1967:500):

104. He has put the book here.

us ne pustak yahāā (par) rakhii thii.
he book here on put has

105. He has taken the book from here.

wo pustak yahāā se le gayaa thaa.
he book here from take (emphatic has past)

yahāā has the same markings as par, so the latter may be deleted. se, however, changes the meaning of the construction, so it must be present.

My feeling is that the term "pseudonoun" refers clearly to a surface phenomenon, and that in deep structure these should be treated as true nouns followed by true postpositions, a rather limited group.

This treatment is implied in Kellogg's work. He first makes the point that postpositions are used in substantive declensions to denote the cases of nouns and then attributes the presence of a postposition preceding an adverb to be due to the substantive character of the adverb (1955:386). He gives several examples of adverbs which require the genitive postposition: baahar, outside; saath, with, etc. Further on, he states (1955:487):

Many words which, when following a noun in the genitive, must be rendered into English as prepositions, under other circumstances must be regarded as nouns, and often translated
accordingly.

The final argument involves the literal translation of some of these compound postpositions, given by Bahri (1959:349):

- sag company aap ke sag along with you
- saath company aap ke saath with you
- haath hand naukar ke haath through the servant (by the hand of the servant)
- kaaran reason aap ke kaaran due to you
- jagah place naukar kii jagah in place of the servant

In deep structure, for a sentence such as:

106. The servant sleeps outside the house.

naukar ghar ke baahar so -taa hai.
servant house of outside sleep -s

I would posit:

```
S
  NP
  
S
  np
  ye naukar sotaa hai baahar ghar ke baahar {par m3}
  it servant sleep -s outside house of outside {on in}
```

I do not want to try to formulate the genitive structure under the circled S node, but this would be more complex. If no genitive construction were present, the sentence would be:
107. The servant sleeps outside.

naukar baahar sota hai.
servant outside sleep -s

In some of these compound postpositions, the surface manifestation as a noun is probably no longer possible and these would have to be marked as requiring a genitive construction.

There is a large group of words which supports the analysis of compound postpositions into the genitive marker, a noun and an underlying postposition: those compounds in which the postposition is present in surface structure. Examples include:

- **kii bagal mē** along **bagal** side, border
- **kii tulnaa mē** beside **tulnaa** similarity, comparison
- **ke hisaab se** by (time) **hisaab** calculation
- **kii wajah se** because of **wajah** reason
- **kii dishaa mē** toward **dishaa** direction, point
- **ke [maarg ] se** via **maarg** path
  **raaste** **raastaa** street
- **ke baare mē** about **baaraa** matter, business

The lack of inflection on the forms **tulnaa** and **dishaa** is due to the fact that they are feminine words of Sanskrit origin and characteristically do not inflect in the singular in the way masculine singular words ending in -aa do.

These cases seem analogous to those in which the true postposition is missing:

- **ke pare** beyond **paraa** a line
- **ke piiche** after **piichaa** back
If in the face of this evidence we nevertheless choose to say the above pseudonouns are actually postpositions, we have to explain the following:

(1) The genitive marker agrees in gender with it. This would mean we would have to mark all postpositions for gender. Naturally this would include the true postpositions, a class which includes at least me, se, par, tak, ko and probably a few others. Since there is no way to determine what the gender of these might be, the feature chosen would be completely arbitrary, which immediately throws serious doubt upon this position.

(2) The postpositions would also have to inflect for number, since many compound postpositions which are masculine (as indicated by ke) end in -e, the marker for both plural and oblique case. This could be avoided by claiming that there is no relationship between the compound postposition and the noun ending in -aa to which it is semantically related, but this is attributing far too much to coincidence and is completely ad hoc.
An elegant solution to this confusion is to posit a deep structure postposition which is deleted. With the addition of a deletion rule, others already required by the grammar for the generation of surface strings such as:

108. in John's house
    jaan ke ghar mē
    John of house in

will produce the correct compound postposition. This rule is required anyway to generate the string:

109. to John's house
    jaan ke ghar ø
    John of house

This also explains the semantic link between the noun and the postpositional phrase.

V. A Note on A. C. Sinha's Analysis of about - ke baare mē

If the analysis of postpositions as deep structure verbals is correct, it provides a possible way to resolve the problems created by A. C. Sinha's analysis of ke baare mē, presented in his dissertation, Predicate Complement Constructions in Hindi and English (1970). His analysis is ad hoc and is based on a large body of faulty data, which I will note in the body of this discussion.

ke baare mē is introduced in his chapter on embedded questions in Hindi (1970:106). In attempting to extend his analysis of complementizers, he says that only the clause complementizer, kii, and the gerundive, kaa -naa function in embedded questions. This immediately starts him off on the wrong foot since there are no sentences in Hindi of the form:
110. *māi ne māā se kis ke hone kaa puuchaa.
   I mother from who of being of asked

111. *māi ne māā se us ke yahāā hone kaa puuchaa.
   I mother from him of where being of asked

112. *māi ne māā se us ke kaise hone kaa puuchaa.
   I mother from him of condition being of asked

Sinha considers these sentences and says they are ungrammatical because ho, to be, is introduced transformationally and could not appear before the gerundive element -nāa. He then says the -nāa is obligatorily deleted after an NP. This also generates an ungrammatical sentence. Apparently still trying to preserve his extension of the gerundive complementizer, he chooses ke baare mē as the structure which is the surface reflex of the underlying complementizer kaa -nāa. He sets up the ke as the inflected form of kaa; the -nāa is deleted because it follows an NP; and baare mē is introduced transformationally. He gives no motivation for this other than the following (1970:112):

The exact nature of the transformation (or transformations) that ultimately generates baare mē ... is not at all clear although a dependency between this transformation (whatever its exact nature) and the gerundive complementizer is apparent.

The tentative nature of this statement in itself should cause any serious reader to question this analysis. However, there are many more fundamental reasons to do so.

First, he does not consider the gerundive equivalents of sentences such as:

113. I asked mother who was going.

114. I asked mother where he was going.

If the only reason the kaa -nāa does not appear in the sentences with the copula is because that verb is introduced transformationally and
and the -naa is deleted after an NP before ho can be inserted, there is no natural way to prevent the generation of the following deviant sentences:

115. *māī ne māā se kiis ke jaane kaa puuchaa.
    I mother from who of going of asked

116. *māī ne māā se us ke kahāā jaane kaa puuchaa.
    I mother from him of where going of asked

This is a major problem for his analysis which he does not resolve.

Furthermore, he is forced to say that the gerundive equivalents of the following sentences with the clause complementizer have the same surface form (1970:107):

117. I asked mother who ne was.
    māī ne māā se ye puuchaa ki wo kaun hai.
    I mother from it asked that he who is

118. I asked mother how he was.
    māī ne māā se ye puuchaa ki wo kaisaa hai.
    I mother from it asked that he how is

119. I asked mother where he was.
    māī ne māā se ye puuchaa ki wo kahāā hai.
    I mother from it asked that he where is

The gerundive equivalent for all three of the above, in Sinha's analysis is:

120. I asked mother about him.
    māī ne māā se us ke baare mē puuchaa.
    I mother from him about asked

He says (1970:107):

Notice that the adverbial distinctions brought out by the sentences (by the question words kaisaa "how" and kahāā "where") are obliterated. However, the occurrence of this transformation is dependent upon the deep structure presence of an embedded question.
He could also have included kaun, who. In any case, this seems to be a clear instance of a transformation changing meanings in ways which are both major and unpredictable. I have found no Hindi speaker who agrees with these data. Furthermore, Sinha offers no explanation of how he gets rid of the question words beyond the quotations given above concerning the dependency of the baare mē transformation, the gerundive complementizer and embedded questions.

Setting the ke + baare mē up as related to the gerundive forces him to more extreme positions. Consider the following sentences (1970:109):

121. I asked mother who he was.

māī ne māa se ye puuchaa ki wo kaun hai
I mother from it asked that he who is

122. I asked mother about him as to who he was.

māī ne māa se us ke baare mē ye puuchaa ki
I mother from him about it asked that

wo kaun hai.
he who is

He is forced to conclude that these two sentences, "despite their semantic similarity (1970:110)" are not synonymous. If he interpreted 122 as containing the surface reflex of the gerundive complementizer, he would be claiming that two complementizers had applied to one embedded sentence. This is obviously impossible.

Besides the unfortunate decision to deny the relationship of these two sentences, this analysis forces Sinha to find another way to generate ke baare mē. He sets up the "other" occurrence as an expansion in the Phrase Structure rules.

Using this distinction, he correctly claims the following two
sentences are non-synonymous (1970:110):

123. I wish to know the time of his going.

maai us ke jaane kaa samay jaannaa caah -taa huu.
I him of going of time to know want Pres.

124. I want to know about the time of his going:

maai us ke jaane ke samay ke baare me jaannaa caah -taa huu.
I him of going of time about to know want Pres.

Unfortunately, he claims the two above are not synonymous because 124 and the following are:

125. I want to know about him as to the time that he is going.

maai us ke baare me ye jaannaa caah -taa huu ki wo
I him about it to know want Pres. that he

his samay ja raha hai.
which time go -ing is

He is pushed into this incorrect claim of synonymity because 124 has his ka -naa complementizer and ke baare me. This means that ke baare me in this sentence means about. Therefore, the sentence should be equivalent to 125 with the clause complementizer and about. He overlooks the significance of the fact that in 125 the ke baare me follows samay, time and in 133 it follows wo (us), him. This is due to his failure to attribute real semantic content to the word baare (baaraa - affair, business, etc. See wishay.) In the beginning of his chapter, he clearly spells out this position when he says that baaraa, unlike wishay, can not appear alone meaning theme and he will therefore discuss only the former.

I will conclude this discussion of Sinha's position with one other example of the sentences he is forced to analyze as aynonomous since he
is attempting to maintain the equivalence of the transformationally introduced ke baare mē and the ki complementizer:

126. I want to know if he went.

māī ye jaanna caah -taa hūū ki kyaa wo gayaa.
I it to know want Pres. that Ques. Word he went

127. I want to know about his going.

māī us kee jaane ke baare mai jaannaa caah -taa hūū.
I him of going Complementizer to know want Pres.

Even at the most fundamental operational level, these are clearly not equivalent. The first will elicit a yes/no answer; the second, information. I do not wish to discuss this further.

I propose to analyze ke baare mē, in all its occurrences, as a compound postposition composed of a genitive phrase, a noun, and a true postposition. As in the case of some of the adverbials discussed by Burrows, baaraa would be marked so it could not occur outside the phrase ke baare mē. If it did so, the sentence would be marked as deviant.

128. I saw that {business.} {affair.}

*māī ne wo baaraa dekhaa.
I that business saw

129. I thought about that {matter.} {theme.}

*māī ne us baaraa ke wishay mē socaa.
I that matter about thought

I am now going to suggest three possible tree structures.

Although a complete formulation of the rules necessary to generate the surface structures is far beyond the scope of this paper, the trees are much closer to the semantic structures of the ke baare mē sentences than anything Sinha suggests, and they reflect the correct semantic
relationships between sentences, which Sinha's do not:

130. I asked who he was.

māī ne (ye) puuchaa ki wo kaun hai.

Note that the kaa -naa complementizer can not apply to the embedded sentence because there is a WH-element in it. The ye, it, is optionally deletable.

131. I asked about him.

māī ne us ke baare mē puuchaa.
In this sentence, the lowest occurrence of baaraa is deleted under identity. The genitive transformation applies, yielding us ke. The it must be deleted in this sentence.

132. I asked about him as to who he was.

māi ne us ke baare mē (ye) puuchaa ki wo kaun hai.

In this sentence, only the ki complementizer can apply to the most deeply embedded sentence because it is a question. Again, the two occurrences of baaraa reduce to one under identity and the genitive transformation applies. The it is deletable.

The problems created by having two different sources for the same structure are avoided, as well as the problems of deleting irrecoverable blocks of semantic material. Furthermore, these trees give a reasonable
explanation for the synonymity and distinction of sentence pairs, many of which are confused in Sinha's analysis.

One of the fundamental points of my analysis is that only the ki complementizer can occur with embedded questions. This prevents the generation of sentences such as 110, 111, 112 above.

It may be possible that a comprehensive study, which would cover a larger range of patterns in the language, would be able to motivate the genitive transformation without a specific rule. It has been suggested that the presence of two contiguous NPs automatically causes the occurrence of a postposition. It may be the case that the NP node dominating the adverbial subject is preserved during the Adverb Lowering transformation and triggers the genitive insertion, but this must wait for more extensive research.
I wish to thank K. V. Subbarao, T. Bhatia and O. N. Koul for their invaluable help as my informants. Much gratitude is due to the above and to Dr. Yamuna Kachru for many hours of discussion which contributed greatly to the ideas expressed in this paper.

1In this sentence, the question word is obligatorily deleted. If it were present, the sentence would be multiply ambiguous. This seems to represent some type of culturally-conditioned rule: this particular sentence is not ambiguous because it is used only in one situation and the deleted items are therefore recoverable.

2This may be deviant either because party is a borrowed term or because, as in English, it represents an event rather than a place.

3Note that waalaa does not cause inflection of the adjective to the oblique case. Since this may be a slightly different process and it is not fundamental to my position, I will not discuss it at this time.

4In an unpublished paper, I have discussed the possibility of predicting the occurrence of the two lexical items of and with in device sentences in English on the basis of the presence or absence of negation in the semantic representation of the verb. Note the following: rob the woman of the jewels (the woman does not have the jewels); load the wagon with apples (the wagon has apples).
REFERENCES


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\[ \text{jaan ke } ghar \ \bar{m} \]
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       {theme.}

*māi ne us baaraa ke wishay mē socaa. I that matter about thought

I am now going to suggest three possible tree structures. Although a complete formulation of the rules necessary to generate the surface structures is far beyond the scope of this paper, the trees are much closer to the semantic structures of the ke baare mē sentences than anything Sinha suggests, and they reflect the correct semantic
relationships between sentences, which Sinha's do not:

130. I asked who he was.

māi ne (ye) puuchaa ki wo kaun hai.

Note that the kaa-naa complementizer can not apply to the embedded sentence because there is a WH-element in it. The ye, it, is optionally deletable.

131. I asked about him.

māi ne us ke baare mē puuchaa.
In this sentence, the lowest occurrence of baaraa is deleted under identity. The genitive transformation applies, yielding us ke. The it must be deleted in this sentence.

132. I asked about him as to who he was.

māī ne us ke baare mē (ye) puuchaa ki wo kaun hai.

In this sentence, only the ki complementizer can apply to the most deeply embedded sentence because it is a question. Again, the two occurrences of baaraa reduce to one under identity and the genitive transformation applies. The it is deletable.

The problems created by having two different sources for the same structure are avoided, as well as the problems of deleting irrecoverable blocks of semantic material. Furthermore, these trees give a reasonable
explanation for the synonymity and distinction of sentence pairs, many of which are confused in Sinha's analysis.

One of the fundamental points of my analysis is that only the ki complementizer can occur with embedded questions. This prevents the generation of sentences such as 110, 111, 112 above.

It may be possible that a comprehensive study, which would cover a larger range of patterns in the language, would be able to motivate the genitive transformation without a specific rule. It has been suggested that the presence of two contiguous NPs automatically causes the occurrence of a postposition. It may be the case that the NP node dominating the adverbial subject is preserved during the Adverb Lowering transformation and triggers the genitive insertion, but this must wait for more extensive research.
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1 In this sentence, the question word is obligatorily deleted. If it were present, the sentence would be multiply ambiguous. This seems to represent some type of culturally-conditioned rule: this particular sentence is not ambiguous because it is used only in one situation and the deleted items are therefore recoverable.

2 This may be deviant either because party is a borrowed term or because, as in English, it represents an event rather than a place.

3 Note that waalaa does not cause inflection of the adjective to the oblique case. Since this may be a slightly different process and it is not fundamental to my position, I will not discuss it at this time.

4 In an unpublished paper, I have discussed the possibility of predicting the occurrence of the two lexical items of and with in device sentences in English on the basis of the presence or absence of negation in the semantic representation of the verb. Note the following: rob the woman of the jewels (the woman does not have the jewels); load the wagon with apples (the wagon has apples).
REFERENCES


