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A Reanalysis of Long Distance Agreement in Urdu

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1 Introduction

The problem tackled in this paper is the possibility of ‘long distance’ agreement in both Urdu and Hindi, two very closely related South Asian languages. The basic pattern of ‘long-distance’ agreement is illustrated in (1).¹ Here the object embedded in the infinitival complement (*gaarii* ‘car’ and *ṭāgaa* ‘tonga’² in (1a) and (1b) respectively) determines the agreement morphology on the infinitive predicate (*calaa-nii* vs. *calaa-naa* ‘to drive’), and is ultimately responsible for the agreement morphology on the matrix verb. Because agreement in Urdu/Hindi is clause bound in all other constructions, the pattern in (1) is exceptional and in need of an explanation.

- (1) a. naadyaa-ko [gaarii calaa-nii] aa-tii hai
Nadya.(F)-Dat car.F-Nom drive-Inf.F.Sg come-Impf.F.Sg is
‘Nadya knows how to drive a car.’
- b. naadyaa-ko [ṭāgaa calaa-naa] aa-taa hai
Nadya.(F)-Dat tonga.M-Nom drive-Inf.M.Sg come-Impf.M.Sg is
‘Nadya knows how to drive a tonga.’

Mahajan (1989, 1990) and Davison (1985, 1988, 1990, 1991) represent two differing lines of research which have been concerned with ‘long distance’ agreement in Hindi. Both approaches attempt to bring long distance agreement in line with agreement in simple clauses. Neither approach, however, can explain the range of data presented in this paper.

I argue that if the infinitive constituents in (1) are analyzed as NPs (as demonstrated in Butt 1993a), rather than as CPs or VPs, as has been the case previously, and if agreement is taken to be with nominative argument NPs, ‘long distance’ agreement follows from the same principles as agreement in simple clauses. Furthermore, the percolation of agreement observed in (1) is optional. Previous approaches to agreement in Urdu/Hindi have not been able to satisfactorily explain this optionality, or why infinitives are able to take either verbal or nominal arguments. I present evidence that there are three different kinds of infinitive NPs. In one kind the embedded object forms a ‘compound’ with the infinitive and therefore does not trigger agreement. In examples like (1), on the other hand, the lower object does not participate in compounding and does trigger ‘long distance’ agreement. The third type of infinitive is unlike the other two in that it takes genitive (nominal rather

than verbal) arguments and does not give rise to ‘long distance’ agreement. I argue that this infinitive displays only nominal properties because it enters the syntax as a noun. In contrast, the other two infinitives are nominalized in the syntax, and as such display both verbal and nominal properties.

2 Agreement in Simple Cases

The generalization for agreement in simple clauses can be described as follows (see T. Mohanan 1992, Gair and Wali 1989, etc.).

- A verb can only agree with one of its nominative arguments.
- If both the subject and object are nominative, the verb agrees with the subject.
- If there is no nominative argument, the verb carries the ‘default’ masculine singular inflection *-aa*.

Nominative case in Urdu is the only case that is phonologically null. It is a ‘direct’ case in that it only appears on subjects and objects. Urdu is an ergative language, but it does not follow the ergative/absolutive pattern commonly postulated for ergative languages (Pandharipande and Kachru 1977, T. Mohanan 1993). Given this information, it is immediately apparent that the simple sentences in (2) follow the above generalizations about agreement.

- (2) a. **naadyaa** **xat** **lik^h-tii** **hai**
 Nadya.(F)-Nom letter.(M)-Nom write-Impf.F.Sg is
 ‘Nadya writes a letter.’
- b. **naadyaa-ne** **xat** **lik^h-aa** **hai**
 Nadya.(F)-Erg letter.(M)-Nom write-Perf.M.Sg is
 ‘Nadya has written a letter.’
- c. **naadyaa-ne** **ciṭṭ^hii** **lik^h-ii** **hai**
 Nadya.(F)-Erg note.F-Nom write-Perf.F.Sg is
 ‘Nadya has written a note.’
- d. **naadyaa-ne** **ciṭṭ^hii-ko** **lik^h-aa** **hai**
 Nadya.(F)-Erg note.F-Acc write-Perf.M.Sg is
 ‘Nadya has written a (particular) note.’

In (3a) the subject *Nadya* is nominative and feminine. The object *xat* ‘letter’ is nominative and masculine. As the subject takes precedence over the object, the verb *lik^h-tii* ‘write’ agrees with the feminine subject. In (2b) and (2c) the subject is ergative and therefore not available for agreement. The verb instead agrees with the nominative object. Neither the subject nor the object are nominative in (2d), so the verb *lik^h-aa* ‘write’ carries the ‘default’ masculine singular *-aa* morphology.

Agreement is not possible out of finite embedded clauses or other embedded nonfinite clauses in Urdu/Hindi. Although I do not demonstrate it here, subcategorized infinitives are the only type of embedded clause which allow long distance agreement. I argue that infinitives differ from other nonfinite and finite clauses precisely because infinitives are NPs and are able to fill argument positions of a predicate. If infinitive constituents are analyzed as NPs, and if agreement is taken to be possible only with nominative arguments, 'long distance' agreement follows from the same principles as agreement in simple clauses. The next section examines further cases of infinitive agreement and shows how the data is explained under this basic approach.

3 Infinitive Data

3.1 Previously Known Facts

The data presented in this section have been noted previously either by Mahajan (1989,1990) or Davison (1985, 1988, 1990, 1991), or both. As a language with object agreement, Urdu/Hindi poses problems for theories of syntax which assume that agreement is a characteristic of subjects. The challenge, then, is not only to bring long distance in line with cases of local agreement, but also to successfully formulate an analysis of local agreement.

Mahajan (1990) does this by making use of both a Spec of Agr_s and a Spec of Agr_o within AgrP, and by formulating the basic pattern of agreement for simple clauses as follows. As perfect participles and psych verbs have ergative and dative (overtly case marked) subjects, and it is primarily in these constructions that agreement with a nominative object is possible, he takes perfect participles and psych verbs to be non Case assigning verbs. Objects of non Case assigning verbs must move to Spec of Agr_o in order to receive structural Case. Once they have moved to the Spec of Agr_o, they trigger verb agreement. Mahajan thus employs AgrP and movement for Case reasons to arrive at the essential generalization that verbs can only agree with NPs not overtly marked with a case clitic. Infinitives are taken to be somewhat like perfectives and psych predicates in that they are optionally non Case assigning. The optionality of Case assignment is primarily designed to account for the optionality of 'long distance' agreement, which will be illustrated shortly.

As will become clear, there are several disadvantages inherent to this approach. For one, the assumption that psych predicates and perfective participles are non Case assigning, and infinitives only optionally non Case assigning, is stipulative. On the other hand, Mahajan's analysis has the advantage that agreement is taken to be a purely local phenomenon.

Davison (1991) analyzes infinitives as CP arguments of the matrix verb. Agreement is taken to be a case of ϕ feature percolation. Arguments carry ϕ feature specifications, which are percolated upward along with a theta-grid

(Speas 1990). Case clitics block ϕ features. If more than one ϕ feature is percolated upward, only the leftmost one results in agreement on the verb. Because infinitive constituents satisfy an argument position in the theta-grid of the matrix verb, the ϕ features get percolated upwards in these CPs. Percolation of ϕ features cannot take place out of non-argument CPs.

Although Davison's approach accounts for a wider range of data than Mahajan's theory of agreement, there are some issues which do not receive a satisfactory explanation. For example, there are finite CPs, such as "that" clauses, which parallel the function of some infinitives. If the infinitive CP can be analyzed as an argument of the matrix verb, finite CP complements could be analyzed as satisfying an argument position as well. However, 'long distance' agreement never takes place out of finite CPs. As with Mahajan's analysis, the primary advantage of Davison's approach is that the long distance percolation of features does not differ from local agreement. Furthermore, the possible argument status of infinitive constituents is recognized.

In the next few sections I present the facts previously noted about infinitives and briefly show how the data are accounted for under my basic approach to infinitives and agreement.

3.1.1 Blocking of Agreement by Case

Long distance agreement is blocked when there is a case clitic on the infinitive, as in (3). The embedded feminine object *gaarii* 'car' is nominative, but does not trigger agreement on either the infinitive or the matrix verb.

- (3) anjum-ne saddaf-ko [gaarii calaa-ne]-ko
 Anjum.(F)-Erg Saddaf.(F)-Dat car.(F)-Nom drive-Inf.Obl-Acc
 kah-aa
 say-Perf.M.Sg
 'Anjum told Saddaf to drive a car.'

Under my approach, the pattern of agreement in (3) is expected. The matrix verb has default masculine singular *-aa* morphology because there is no nominative NP in the matrix clause it can agree with: the subject and indirect object NPs as well as the infinitive constituent *gaarii calaa-ne-ko* 'to drive a car' are all non-nominative. Additionally, the infinitive predicate *calaa-ne* 'to drive' cannot show agreement with its nominative object because the presence of the case clitic *-ko* induces the oblique inflection *-ne*.

3.1.2 Matrix plus Embedded Agreement

The matrix verb and the infinitive predicate can agree with different arguments. In (4) the infinitive predicate agrees with its nominative object *roṭii*

‘bread’ and the matrix verb agrees with the subject *Ram*. The grammaticality of (4) is again expected under my approach. The infinitive predicate agrees with its only nominative argument, while the matrix verb agrees with its highest nominative argument, the subject.

- (4) raam [roṭii k^haa-nii] caah-taa t^haa
 Ram.(M)-Nom bread.F-Nom eat-Inf.F.Sg want-Impf.M.Sg was
 ‘Ram wanted to eat the bread.’

For Mahajan (1990) the possibility of simultaneous matrix and embedded agreement is problematic. As the trace of the matrix nominative subject in these sentences already occupies a position in AgrP, the lower object cannot move to a matrix Spec of Agr position.³ Therefore, the sentence in (4) is predicted to be ungrammatical under Mahajan’s approach.⁴

3.1.3 Genitive Arguments

Another kind of infinitive, a gerundive form shown in (5a), takes nominal arguments. The matrix verb *lag-taa* ‘seem’ here agrees with the infinitive, but the infinitive *kaṛaknaa* ‘crackling’ does not show agreement with its feminine argument *bijlii* ‘lightning’. Rather, the genitive clitic *-kaa*, which behaves like an adjective in Urdu in that it always agrees with the head noun, agrees with the infinitive. Example (5b) contrasts minimally with (5a) (both these examples are adapted from Davison (1990)). Here the embedded argument is nominative and the effect of ‘long distance’ agreement is observed.

- (5) a. adnaan-ko [bijlii-kaa kaṛaknaa] acc^haa nahī
 Adnan.(M)-Dat lightning.F-Gen.M crackle.Inf.M good.M not
lag-taa
 attached-Impf.M.Sg
 ‘Adnan does not like the crackling of lightning.’
- b. adnaan-ko [bijlii kaṛak-nii] acc^hii nahī
 Adnan.(M)-Dat lightning.F-Nom crackle-Inf.F good.F not
lag-tii
 attached-Impf.F.Sg
 ‘Adnan does not like lightning crackling.’

Mahajan (1990, 1991) does not discuss the data in (5). Davison presents these examples, but does not ultimately formulate an account of the data. I argue that the crucial difference between (5a) and (5b) is that in (5a) the infinitive is a ‘true’ noun. It is formed in the lexicon as a masculine noun and takes a genitive argument. Some evidence for this view comes from the fact that the infinitive in (5a) can be modified by an adjective, while the verbal noun infinitive in (5b) can only be modified by an adverb.

3.1.4 Optionality of Agreement

A more puzzling phenomenon is illustrated in (6) and (7). The sentence in (6) is an instance of long distance agreement. However, as (7) shows, the agreement between the infinitive predicate and its nominative object *gaarii* ‘car’ is optional.

(6) naadyaa-ko [gaarii calaa-nii] aa-tii hai
 Nadya.(F)-Dat car.F-Nom drive-Inf.F.Sg come-Impf.F.Sg is
 ‘Nadya knows how to drive a car.’

(7) naadyaa-ko [gaarii calaa-naa] aa-taa hai
 Nadya.(F)-Dat car.F-Nom drive-Inf.M.Sg come-Impf.M.Sg is
 ‘Nadya knows how to drive a car.’

Mahajan (1990) accounts for the data in (6) and (7) by taking infinitives to be optionally non Case assigning. When no Case is assigned, the lower object must move to the matrix Spec of Agr_o to receive Case. Its trace in the lower clause triggers agreement with the infinitive, and its presence in the matrix clause triggers agreement there. When Case is assigned, the lower object does not move and no long distance agreement effects arise. However, such a stipulation of optional Case assignment, or a stipulation of optional agreement is not well motivated, nor is it ultimately desirable.

Both Mahajan (1989) and Davison (1988) (attributed to Hook (1979:29–30)) also observe that in (6) the object *gaarii* ‘car’ is more specific than the object *gaarii* ‘car’ in (7). I argue that this difference in specificity is directly attributable to the fact that (7) represents an ‘compounded’ structure while (6) does not. Example (7) denotes abstract ‘car-driving’, while (6) refers to ‘driving a car’. The data in the following section substantiate this argument.

3.2 A Case of ‘Compounding’

3.2.1. Scrambling Differences

The sentences in (8) and (9) illustrate a difference in scrambling possibilities between the agreeing and nonagreeing infinitives in (6) and (7). In the case of long distance agreement, it is possible to scramble either the entire infinitive constituent *gaarii calaa-nii* ‘driving a car’, or just the embedded object *gaarii* ‘car’ to the front of the sentence. This is illustrated in (8a) and (8b).

(8) a. [gaarii calaa-nii] [naadyaa-ko] [aa-tii hai]
 car.F-Nom drive-Inf.F.Sg Nadya.(F)-Dat come-Impf.F.Sg is
 ‘Nadya knows how to drive a car.’

b. [gaarii] [naadyaa-ko] [calaa-nii aa-tii hai]
 car.F-Nom Nadya.(F)-Dat drive-Inf.F.Sg come-Impf.F.Sg is
 ‘Nadya knows how to drive a car.’

(9) a. [gaarii calaa-naa] [naadyaa-ko] [aa-taa hai]
 car.F-Nom drive-Inf.M.Sg Nadya.(F)-Dat come-Impf.M.Sg is
 ‘Nadya knows car-driving.’

b. *[gaarii] [naadyaa-ko] [calaa-naa aa-taa hai]
 car.F-Nom Nadya.(F)-Dat drive-Inf.M.Sg come-Impf.M.Sg is
 ‘Nadya knows car-driving.’

When the infinitive does not agree with its object, the scrambling possibilities differ. Although it is still possible to scramble the entire infinitive constituent to the front of the sentence in (9a), example (9b) shows that it is not possible to scramble the embedded object by itself. This suggests that in the nonagreeing example in (9), the embedded object and the infinitive form a type of compound.

3.2.2 Modification

While it is possible to modify the embedded object with a modifier expressing specificity when it agrees with the infinitive, this is not possible when the object and the infinitive show no agreement. In (10) the infinitive agrees with the object *gaarii* ‘car’. In this case, modification with a genitive NP is possible.

(10) naadyaa-ko [adnaan-kii gaarii calaa-nii]
 Nadya.(F)-Dat Adnan.(M)-Gen.F.Sg car.F-Nom drive-Inf.F.Sg
 aa-tii hai
 come-Impf.F.Sg is
 ‘Nadya knows how to drive Adnan’s car.’

(11) *naadyaa-ko [adnaan-kii gaarii calaa-naa]
 Nadya.(F)-Dat Adnan.(M)-Gen.F.Sg car.F-Nom drive-Inf.M.Sg
 aa-taa hai
 come-Impf.M.Sg is
 ‘Nadya knows how to drive Adnan’s car.’

On the other hand, when the infinitive does not agree with its object *gaarii* ‘car’ in (11), it is not possible to modify that object. This again indicates that the *gaarii* ‘car’ in (11) and the infinitive predicate form a type of compound.

4 Analysis

The analysis of infinitive agreement presented here contains the advantages of previous approaches in that 'long distance' agreement is taken to be a case of successive local agreement. If infinitives are NPs, the possibility that they can function as arguments of a predicate follows immediately. Furthermore, if agreement is with nominative arguments, the 'long distance' agreement facts can be accounted for in exactly the same manner as local agreement.

In the theory of Lexical Functional Grammar (LFG), agreement is stated at the level of *f*(unctional)-structure. This level contains the representation of the grammatical relations of a given clause and also encodes such information as tense, aspect, gender, number and case. The agreement facts for Urdu can easily be accounted for within LFG. In Urdu, a given expression can only be wellformed if the predicate agrees with a nominative argument. This is 'checked' at *f*-structure. If there is more than one nominative argument in an expression, the predicate must agree with the higher one. The notion of 'higher' is ultimately derived from a thematic hierarchy (Bresnan and Kanerva 1989) from which theta roles are mapped on to grammatical relations at *f*-structure. Thus, a given PRED(icate) at *f*-structure must agree with a nominative argument (SUBJ(ect), OBJ(ect)).

The apparent optionality of agreement, repeated here in (12) and (13), follows from the fact that there are two infinitive constituents which differ structurally. The embedded object in (13) forms a compound with the infinitive, while the embedded object in (12) does not.

(12) naadyaa-ko [gaarii calaa-nii] aa-tii hai
 Nadya.(F)-Dat car.F-Nom drive-Inf.F.Sg come-Impf.F.Sg is
 'Nadya knows how to drive a car.'

(13) naadyaa-ko [gaarii calaa-naa] aa-taa hai
 Nadya.(F)-Dat car.F-Nom drive-Inf.M.Sg come-Impf.M.Sg is
 'Nadya knows car-driving.'

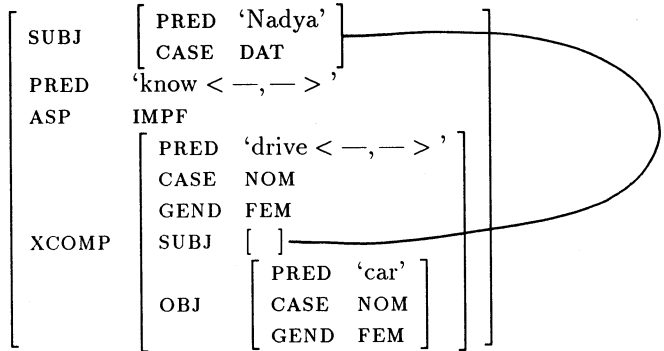
The infinitive in (13) does not represent the kind of compounding familiar from English. It is possible in Urdu, unlike in English, to have material intervene between the *gaarii* 'car' and the infinitive *calaa-naa* 'drive' in (13). The compounding in (13) therefore cannot be lexical, but must be analyzed as occurring in the syntax. Example (13) also cannot be analyzed as a form of incorporation (see T. Mohanan (1992) on noun incorporation in Hindi).

Butt (1993b) proposes an elaborated *a*(rgument)-structure based on Jackendoff (1990) and formulates *a*-structure processes which account for complex predicate formation. Under this approach, an *a*-structure process similar to the ones needed for complex predicates allows the compounding of the lowest argument with its predicate (see Kim 1993). As I do not have the space

here for a detailed presentation, I simply assume a-structure compounding for the purposes of this paper.

The f-structure corresponding to the non-compounded infinitive in (12) is shown in (14). The infinitive constituent *gaarii calaa-nii* ‘to drive a car’ is represented as an XCOMP (complement) of the matrix predicate *aa-tii* ‘know’. The XCOMP PRED ‘drive’ must agree with the embedded XCOMP OBJ ‘car’ in (14) because the object is nominative and an argument of the XCOMP PRED. In turn, the matrix PRED ‘know’ agrees with its nominative XCOMP argument.

(14)



I do not have the space here to provide an elaborate phrase structure (c-structure) representation corresponding to the f-structure in (14). However, I take the internal structure of the infinitive NP to be roughly as in (15).

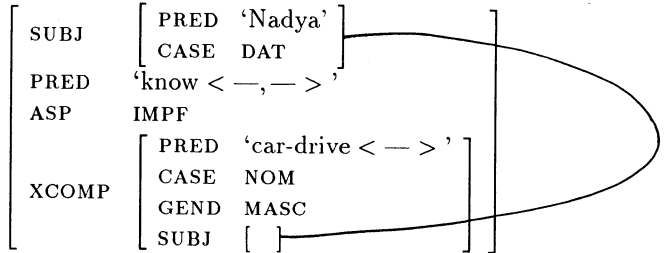
(15) [NP [NP *gaarii*] [N [V *calaa-*] [CL *-nii*]]]

The infinitive in (15) is represented as a verb *calaa* ‘drive’, which has been nominalized by the infinitive clitic *-nii*. The infinitive predicate *calaa-nii* ‘to drive’ is thus a verbal noun. Although it heads a constituent which has nominal properties, the arguments of the infinitive predicate can appear in direct (nominative, accusative) case, rather than being marked by the genitive, as is generally the case for arguments of nominals.

The compounded infinitive does not differ substantially from the non-compounded infinitive in terms of phrase structure. The only difference that must be expressed within LFG at c(onstituent)-structure is that both the embedded NP *gaarii* ‘car’ and the infinitive *calaa-naa* ‘to drive’ must be annotated as heads, which combine to form a compound.

The f-structure for the compounded infinitive is shown in (16). The crucial difference between this f-structure and the f-structure representing the non-compounded infinitive is that here the infinitive predicate *calaa-naa* ‘to drive’ does not have an object argument. Rather, the object *car*, forms a compounded XCOMP PRED with the infinitive ‘drive’.

(16)



Since the XCOMP SUBJ is controlled by the matrix subject, and is therefore 'empty', there is no nominative argument that the XCOMP PRED *car-drive* can agree with. The agreement feature of the XCOMP must therefore be the default masculine. The matrix PRED 'know', however, does agree with the nominative masculine XCOMP. The impossibility of 'long distance' agreement in this construction is thus directly attributable to compounding.

At this point, only the infinitive in (17), which takes genitive arguments remains to be accounted for. As (18) illustrates, this infinitive is not nominalized in the syntax. It is a noun which is formed in the lexicon.

- (17) *adnaan-ko [bijlii-kaa karak-naa] acc^haa nahī*
 Adnan.(M)-Dat lightning.F-Gen.M crackle-Inf.M good.M not
lag-taa
 attached-Impf.M.Sg
 'Adnan does not like the crackling of lightning.'

- (18) [NP [NP *bijlii-kaa*] [N *karāaknaa*]]

The genitive clitic *-kaa* agrees with the masculine head noun *karāaknaa* 'crackling'. Since the infinitive constituent is an argument of the matrix verb *lag-taa* 'seem', the matrix verb must agree with the infinitive constituent. Finally, the representation of the infinitive in (18) as a 'true' noun, which is formed in the lexicon, accounts for the fact that it can be modified by an adjective (as in 'the **loud** crackling of lightning') while the verbal noun infinitive in (15) can only be modified by an adverb.

5 Conclusion

The account of 'long distance' agreement in Urdu presented here accounts for a wider range of facts in a simpler fashion than previously possible. At the same time, it retains the crucial insights of Mahajan (1990) and Davison (1991) that agreement in infinitives is essentially a case of successive local agreement

and that infinitive constituents have argument status (Davison 1991). 'Long distance' agreement in Urdu can only take place with embedded infinitive constituents. If infinitives are analyzed as NPs which fill argument positions, and agreement is taken to be with nominative arguments, long distance agreement can be reanalyzed as successive local agreement.

Three differing kinds of infinitive constituents were identified. One type of infinitive is analyzed as a masculine noun which is formed in the lexicon. It therefore takes genitive arguments and does not give rise to the effect of long distance agreement. The other two types of infinitives are verbs which are nominalized in the syntax. One of these infinitive constituents is a compound, which is formed by an NP and the infinitive verbal noun. This type does not trigger agreement because there is no nominative argument at f-structure which the infinitive could agree with. The third type of infinitive contains an embedded object NP that is not compounded. This object NP does trigger agreement and gives rise to the appearance of long distance agreement in Urdu.

Notes

* Many thanks go to Peter Sells and Tracy King for helping me wrestle with the material in this paper, and to Alice Davison for directing my attention towards this problem in the first place.

1 Abbreviations used in this paper are as follows. F = feminine; M = masculine; Erg = ergative; Nom = nominative; Gen = genitive; Dat = dative; Acc = accusative; Inst = instrumental; Loc = locative; Inf = infinitive; Obl = oblique; Perf = perfect; Impf = imperfect; Sg = singular; Pres = present.

2 A tonga is a two-wheeled horse-drawn carriage.

3 Spec of Agr_s and Spec of Agr_o cannot be filled at the same time because it is impossible to have both subject and object agreement simultaneously in a clause. Mahajan postulates that Spec of Agr_o may simply be missing in these cases as specifiers can be optional (Fukui and Speas 1986).

4 Mahajan proposes an explanation by which imperfective participles govern the lower Spec of Agr_o. When the infinitive does not assign Case to the lower object, the object can move to the lower Spec of Agr_o to receive Case and thus show agreement with the infinitive, but not with the matrix verb. This explanation does not follow independently from any further data in Hindi.

References

- Bresnan, Joan (Ed.). 1982. *The Mental Representation of Grammatical Relations*. Cambridge, MA: MIT Press.
- Bresnan, Joan and Jonni Kanerva. 1989. On locative inversion in Chicheŵa. *Linguistics Inquiry* 20:1-50.
- Butt, Miriam. 1993a. Hindi/Urdu Infinitives as NPs. *South Asian*

Language Review Vol. III(1).

- Butt, Miriam. 1993b. Structure of Complex Predicates. Dissertation in progress, Stanford University.
- Davison, Alice. 1985. Case and Control in Hindi-Urdu. *Studies in the Linguistic Sciences* 15(2):9-23.
- Davison, Alice. 1988. Constituent structure and the realization of agreement features. In *Proceedings of CLS* 24, 41-53.
- Davison, Alice. 1990. Long distance syntactic anaphors in Hindi-Urdu. Presented at Delhi University Conference on Pronouns and Anaphors.
- Davison, Alice. 1991. Feature percolation and agreement in Hindi-Urdu. Presented at South Asian Conference, University of Wisconsin.
- Fukui, N. and M. Speas. 1986. Specifiers and Projections. *MIT Working Papers in Linguistics* 8:128-172.
- Gair, James and Kashi Wali. 1989. Hindi agreement as anaphor. *Linguistics* 27:45-70.
- Hook, Peter. 1979. *Hindi structures: Intermediate level*. University of Michigan: Center for South and Southeast Asian Studies.
- Jackendoff, Ray. 1990. *Semantic Structures*. Cambridge, MA: The MIT Press.
- Kim, Yookyung. 1993. Verbal compounding in Korean. Presented at BLS 19.
- Mahajan, Anoop. 1989. Agreement and Agreement Phrases. *MIT Working Papers in Linguistics* 10:217-252.
- Mahajan, Anoop. 1990. *The A/A-Bar Distinction and Movement Theory*. PhD dissertation, MIT.
- Mohanan, Tara. 1990. *Arguments in Hindi*. PhD dissertation. Stanford University.
- Mohanan, Tara. 1992. Wordhood and Lexicality: Noun Incorporation in Hindi. To appear in *Natural Language and Linguistic Theory*.
- Mohanan, Tara. 1993. Case alternation on objects in Hindi. *South Asian Language Review* Vol. III(1).
- Pandharipande, R. and Y. Kachru. 1977. Relational grammar, ergativity, and Hindi-Urdu. *Lingua* 41:217-238.
- Speas, Margaret. 1990. *Phrase Structure in Natural Language*. Kluwer Academic Publishers: Dordrecht.