4.0 Introduction

In Hindi, an NP which appears in a preverbal position in the matrix clause, and which seems to behave in many respects like a matrix object, may nevertheless receive its theta role from a theta position in the embedded clause. Let us call this phenomenon "raising". This raising phenomenon is illustrated in (1). ¹

(1) māi jon-ko jaantaa hūū ki e acchaa hai


"I know that John is good"

(Lit. "I know John that (he) is good")

Here, the subject of the embedded clause appears in the preverbal position in the matrix clause. It has been assigned an accusative Case as if it is the object of the matrix verb, though it is not.

In the principles-and-parameters framework, various theories interact to exclude subject-to-object raising. Consider the following English sentence:

(2) I believe him to be good.
Early transformationalists had sought to account for the accusative Case on the embedded subject by postulating a Raising-to-Object rule which moved the embedded subject to the matrix object position. Postal (1974) represents the most extensive attempt to justify the existence of such a rule in English (and other languages). However, in the GB framework (as we said), such a rule is theoretically impossible. Given the Projection Principle, all complement positions are Q-positions. Moving a Q-marked subject into a complement position violates the Q-criterion. The raised NP will receive two theta roles -- once as subject of the embedded verb, and again as object of the matrix verb. In fact, there cannot be an empty direct object position at D-structure for the embedded subject to move into, since all Q-positions must be filled by arguments at D-structure.

Keeping in view the above theoretical considerations, we attempt to answer the following question in this chapter: how can the raising facts of Hindi be accounted for in the principles and parameters approach? We will propose an analysis and try to show that the raising facts of Hindi do not violate any of the central principles of the principles and parameters approach as outlined in Chomsky (1981).
4.1. Raising in Hindi

This part of the chapter is organized into two sections. Section 4.1.1 deals with the question: which category of verbs in Hindi allows raising? Section 4.1.2 gives further facts about raising in Hindi.

4.1.1 Raising Verbs in Hindi

In this section, we shall show that raising in Hindi is not a lexically governed rule, and that therefore, there is no special class of "raising verbs" in Hindi. Raising is permissible from any finite CP complement.

Transitive verbs are either ditransitive or monotransitive. In the class of ditransitive verbs in Hindi, some verbs like denaa 'give' take only NPs as objects. For example:

(3) jon-ne bil-ko ek kalam dii
    "John gave a pen to Bill"

Some ditransitive verbs like kahana 'say', puuchanaa 'ask' etc., take an NP as their indirect object; but as a direct object they may take a CP complement, as shown in (4).
Although there is an embedded CP complement with such verbs, raising is not possible. Sentence (5) is ruled out.

(5) *jon bill-ko meerii-ko kahataa hai
   [CP ki t1 acchi hai]
   "John says to Bill that Mary is good"

The indirect object NP is at times optional as in (6-7).

(6) raajaa-ne (jaasuus-ko) sajaa dii
   King-erg. spy-dat. punishment-acc. give-p.obj.agr.
   "The King punished (the spy)"

(7) jon (bill-ko) kahataa hai ki merii
    [CP ki t1 lambii hai]
    "John says (to Bill) that Mary is tall"
When the matrix indirect object position is unfilled, the embedded subject can be raised. Thus, sentence (9) can be said to have been derived from (8).

(8) jon kahataa hai ki meerii
    John-nom. say-mas. be-pr.3p.sg that Mary-nom.
    bahut acchii hai
    very good-fem. be-pr.3p.sg.
    "John says that Mary is very good"

(9) jon meerii-ko.1 kahataa hai ki ti
    bahut acchi hai
    very good-fem. be-pr.3p.sg.

But the derivation of (9) from (8) is problematic, if we are thinking in terms of a movement of the embedded subject into an "empty" indirect object position in the matrix VP. This is because the indirect object position (albeit optionally realized) is a theta-position at D-structure. If the position is generated, it must be assigned the indirect object's 9-role at D-structure. Hence this is not a movement configuration. Yet (9) is grammatical. (We will show in section 4.6 how the surface configuration can be generated without recourse to any movement rule.)
Some verbs like laanaa 'bring', khooolnaa 'open' which belong to the class of monotransitives, take only NPs as objects.

(10) a. wah laDkaa ciTTii laataa hai
that boy-nom. letter-bring-mas. be-pr. 3p.sg.
"That boy brings letters"

b. mai darwaazaa khooltaa huu
I-nom. door-open be-pr. 1p.sg.
"I open the door"

The question of raising does not arise with such monotransitive verbs. But within the class of mono-transitive verbs, there are verbs like soocana 'think' which may take a CP complement as in (11).

(11) mai soocataa huu ki raaj parikshaa
I-nom. think-mas. be-pr. that Raj-nom. examination 1p.sg.

me acchaa karegaa
in well do-fu.3p.mas.
"I think that Raj will do well in the examination"

The embedded subject NP can be raised in (11) as is evident from (12).

(12) mai raaj-koi soocataa huu ki t
I-nom. Raj-acc. think-mas. be-pr.1p.sg. that
parikshaa me acchaa karegaa
examination in well do-fu.3p.mas.
Raising is allowed with other (similar) monotransitive verbs, such as jaananaa 'know', dekhanaa 'see', caahanaa 'want' maananaa 'consider' etc. Each takes a CP complement. Consider (13)-(14).

(13) a.  
   mai jaantaa huu [CP ki raaj
   I-nom. know-mas. be-pr.1p.sg. that Raj-nom. caalaak hai]
   clever be-pr.3p.sg.
   "I know that Raj is clever"

   b.  
   mai raaj-ko j aantaa huu ki ti
   I-nom. Raj-acc. know-mas. be-pr. that 1p.sg. caalaak hai
   clever be-pr.3p.sg.

(14) a.  
   mai dekhataa huu [CP ki merii
   I-nom. see-mas. be-pr.1p.sg. that Mary ghar jaa rahii hai]
   home go ing be-pr.3p.sg.
   "I see that Mary is going home"

   b.  
   mai merii-ko j dekhataa huu ki ti
   I-nom. Mary-acc. see-mas. be-pr. that 1p.sg. ghar jaa rahii hai
   home go ing be-pr.3p.sg.
Incidentally, such verbs can take NPs also as their object.

(15) a. māi jon-ko jaantaa hūū
   "I know John"

b. māi meerii-ko dekhataa hūū
   I-nom. Mary-acc. see-mas. be-pr.1p.sg.
   "I see Mary"

By elimination, we can conclude that raising occurs with all such verbs which can take a CP complement. The ungrammaticality of (5) may be attributed to "double-ko-constraint", i.e., a constraint that more than one NP marked for -ko cannot appear in the same VP (Saksena (1983)). The sentence in (5) will be completely acceptable if there is an NP-se as the indirect object instead of an NP-ko.

(16) jon bil-se meerii-ko; kʰahtaa hai
    [CP ki t1 acchii hai]
    that good-fem.be-pr.3p.sg.

   "John says to Bill that Mary is good"

In the sentence (16), meerii ko can even precede bil se without affecting the grammaticality of the sentence. This may be due to the fact that Hindi freely allows scrambling.
4.1.2 Further Facts about Raising

Raising facts in Hindi should be looked at also from five other points of view: (i) raising of subjects vs. non-subjects, or nominative vs. other Cases, (ii) resumptive pronoun vs. empty category, (iii) animate vs. inanimate NPs, (iv) raising of a question word, and (v) parallelism with Magahi. In the following subsections we will consider raising in Hindi from these angles.

4.1.2.1 Nominative vs. other Cases

The raising of nominative NP appear to be the most acceptable while raising of NPs marked for other Cases produce judgements which vary. This is illustrated in sentences (17)–(25).

Here, in (17) a nominative NP has been raised.

(17) mai jon-ko₁ maantaa hūu
[CP ki t₁ widwaan hai] that scholar be-pr.3p.sg.
"I consider John to be a scholar"

In (18) an accusative NP has been raised.
(18) *maï bil-koₙ caahataa huu
    [ ki jon t₁ pukaaree]
    that John-nom. call-fu.3p.sg.

    "I want John to call Bill"

In (19) an NP marked for dative has been raised.

(19) *maï amit-koₙ jaantii huu
    [ ki raaj t₁ paisaa detaa hai]
    that Raj-nom. money-acc. give-mas. be-pr.3p.sg.

    "I know that Raj gives money to Amit"

In (20) an NP-marked for instrumental is raised.

(20) *maï raam-koₙ jaantaa huu
    I-nom. Ram-acc. know-mas. be-pr.1p.sg.
    [ ki raawan t₁ haar gayaa thaa]
    that Ravan-nom. defeat -ed be-p.3p.sg.

    "I know that Ravan was defeated by Ram"

In (21) an NP Case-marked for ablative (source) is raised.

(21) *maï himaalay-koₙ jaantaa huu
    [ ki gaggaa t₁ nikaltii hai]
    that Ganga-nom. emanate-fem. be-pr.3p.sg.

    "I know that the Ganga emanates from the Himalayas"
In (22) an NP marked for locative is raised.

(22) *mai wan-ko j jaantaa huu
I-nom. forest-acc. know-mas. be-pr.1p.sg.
[ ki sher t rahataa hai]
that lion-nom. live-mas. be-pr.3p.sg.

"I know that lions live in forests"

In (23) an NP marked for genitive has been raised.

(23) *mai jon-ko j jaantaa huu [ ki
I-nom. John-acc. know-mas. be-pr.1p.sg. that
[ NP t aadat] acchii nahii hai]
habit-nom. good-fem. not be-pr.3p.sg.

"I know that John's habit is not good"

NPs marked for vocative probably do not occur in the embedded clause of a raising verb; hence, raising does not apply to them, as shown in (24).

(24) a. *mai jaantaa huu [ ki he raajaa
I-nom. know-mas. be-pr. that voc. king
lp.sg.
tum nirdayi ho]
you-nom. unkind be-pr.2p.sg.

"I know, O King, that you are unkind"
4.1.2.2 Resumptive Pronoun vs. Empty Position

In 4.1.2.1 raising was shown as leaving traces. While sentence (17) is fully acceptable, (18)-(23) are completely out. But once a resumptive pronoun is inserted in place of the empty position left behind after raising, all sentences improve in acceptability. This is shown in (25). ((25a), which shows the raising of an embedded nominative NP, will be fully acceptable even without the resumptive pronoun, as already shown in 4.1.2.1.)

(25) a. mai jon-ko i maantaa huu
   [ ki wah wiidwaan hai]  
   that he-nom. scholar be-pr.3p.sg.
   "I consider John to be a scholar"

b. mai bill-ko cahataa huu
   [ki jon usko pukaare]  
   "I want John to call Bill"
c. mai amit-ko₁ jaantaa hūū [ ki
raaj usko₁ paisaa detaa hai]
"I know that Raj gives money to Amit"

d. mai raam-ko₁ jaantaa hūū [ ki
I-nom. Ram-acc. know-mas. be-pr.₁p.sg.
raavan usse₁ haaraq gayaa thaa]
"I know that Ravan was defeated by Ram"

e. ? mai himaalay-ko₁ jaantaa hūū
[ ki gaggaₐ usse₁ nikalti hai]
that Ganga-nom. it-sour. emanate-fem. be-pr.₃p.sg.
"I know that the Ganga emanates from the Himalayas"

f. ? mai wan-ko₁ jaantaa hūū [ ki
I-nom. forest-acc. know-mas. be-pr.₁p.sg.
sheṛ usme₁ rahataa hai]
lion-nom. it-loc. live-mas. be-pr.₃p.sg.
"I know that lions live in forests"

f. mai jon-ko₁ jaantaa hūū [ ki
"I know that John lives in"
4.1.2.3 Animate vs. Inanimate

In 4.1.2.2 it was shown that the insertion of a resumptive pronoun in place of the empty position improves the degree of acceptability of the sentences. Yet another peculiarity of raising is that the matrix verb seems to select the raised NP with regard to animacy/inanimacy. Where this selectional restriction is not observed, even the insertion of a resumptive pronoun does not improve the sentence. The strangeness of this restriction lies in the fact that when an NP is raised from an embedded clause the matrix verb, which obviously does not θ-mark it, should not "select" it; it should be indifferent to its status regarding animacy/inanimacy. But it does not appear to be so. Consider the verb jaananaa 'to know', which often selects an animate NP as its object.

(26) a. mai jon ko jaanta ā huū
    "I know John"

b. *mai patthar ko jaanta ā huū
    I-nom. stone acc. know be-pr.1p.sg.
    "I know the stone"
Consider the contrast between (a) and (b) of (27-29). (a) shows the raising of [+animate] NPs while (b) shows the raising of [-animate] NPs, the matrix verb being jaananaa "to know" which selects an animate object NP.

(27) a. māi sher-koₐ jaanta hūu
   I-nom. lion.acc. know-mas. be-pr.1p.sg.
   [ki wahₐ jaŋgal-ka-raja hai]
   that he-nom. forest-gen-king be-pr.3p.sg.
   "I know that the lion is the king of forest"

b. ?*māi is patthar-koₐ jaantaa hūu
   I-nom. this stone.acc. know-mas. be-pr.1p.sg.
   [ki yah₁ bahut halka hai]
   that this-nom. very light be-pr.3p.sg.
   "I know that this stone is very light"

(28) a. māi merii-koₐ jaantaa hūu [ki jon
   1p.sg.
   uskoₐ ciDhaataa hai]
   her.acc. tease be-pr.3p.sg.
   "I know that John teases Mary"
b. ?* mæi is kitaab-ko₁ jaantaa huu
   I-nom. this book-acc. know-mas be-pr.1p.sg.
   [ki jon isko₁ pāDhataa hai]
   that John-nom. this-acc read be-pr.3p.sg.
   "I know that John reads this book"

(29) a. mæi merii-ko₁ jaantaa huu [ ki
   I-nom. Mary-acc. know-mas. be-pr.1p.sg. that
   jon usko₁ upahaar detaa hai]
   mas.
   "I know that John gives presents to Mary"

b. ?* mæi patthar-ko₁ jaantaa huu
   I-nom. stone-acc. know-mas. be-pr.1p.sg.
   [ki bacce usko₁ phekte hai]
   that children- that- throw- be-pr.3p.pl.
   nom. acc. mas.pl.
   "I know that children throw the stones"

The sentences in (b) are out precisely because the verb
selects an animate object NP. With any other verb which does
not observe the animate/inanimate distinction as jaananaa
does, (27b), (28b) and (29b) will be perfectly acceptable.
Some such verbs are caahanaa "want", maananaa "consider",
dekhanaa "see" and so on. Consider (30).
(30) a. mā is patthar-ko₁ caahataa hūū
   I-nom. this stone-acc. want be-pr.1p.sg.
   [ki yah₁ TuuT jaay]
   that this break expl(icator)-fu.3p.sg.
   "I want that this stone should break"

b. mā is kitaab-ko₁ caahataa hūū
   I-nom. this book-acc. want be-pr.1p.sg.
   [ki jon isko₁ paDhe]
   that John this-acc. read
   "I want that John should read this book"

c. mā us patthar-ko₁ caahataa hūū
   I-nom. that stone-acc. want be-pr.1p.sg.
   [ki bacce usko₁ phek dē ]
   that children that-acc. throw expl.Fu.3p.pl.
   "I want that children throw that stone"

It is a puzzle why a verb should be sensitive to a sub-
constituent of the category it selects. In section 4.4.2
we show that a verb does, at times, show sensitivity to
a sub-constituent of the category it selects. (We do not,
however, offer a solution to this puzzle.)
4.1.2.4 Raising of a Question-Word

A question word can also be raised from an embedded CP complement as shown in (31).

(31) a. mā́i kisko₁ maantaa hū́ū
    I-nom. who-acc. consider-mas. be-pr.1p.sg.
    \[CP ki wah₁ widwaan hai\]
    that he learned be-pr.3p.sg.
    "Who do I consider learned"

b. mā́i kisko₁ caahtaa hū́ū
    I-nom. who-acc. want-mas. be-pr.1p.sg.
    \[CP ki jon usko₁ pukaare\]
    that John he-acc. call-Fu.3p.sg.
    "Who do I want John to call"

c. mā́i kisko₁ jaantaa hū́ū
    I-nom. who-acc. know-mas. be-pr.3p.sg.
    \[CP ki merii usko₁ paise detii hai\]
    that Mary he-dat. money give fem. be-pr.3p.sg.
    "Who do I know that Mary gives money"

Note here that the raising makes the sentence a matrix (i.e. direct) question. Thus, contrast (31a-c) with (31d).
(31) d. tum jaante ho [ki jon ne kisko you-nom. know be-pr. that John-erg. who -dat paise diye] money gave

"You know whom John gave the money"

4.1.2.5 Parallelism with Magahi

We have seen that the raising of a nominative NP in Hindi is absolutely fine (with or without a resumptive pronoun), while raising of NPs marked for other Cases is acceptable when a resumptive pronoun is substituted for the resulting trace. Exactly the same thing happens in Magahi. Let us have a look at the following Magahi sentences.

(32) a. ham jon -kei caaha hiai
    [Cp ki t₁/u bhatwaa khaa lei]
    that he-nom. rice-acc. eat expl.Fu.3p.sg.
    "I want John to eat the rice"
    (Lit. "I want John that (he) should eat the rice")

b. ham raaj -kei soca hiai
    [Cp ki jon *t₁/okraa pukaarai]
    that John-nom. he-acc. call-Fu.3p.sg.
    "I think that John should call Raj"
    (Lit. "I think Raj that John should call him"
You know that Raj gives money to Amit"  
(Lit. "You know Amit that Raj gives him money"

In (32a, b, c), a subject, an object and an indirect object (respectively) have been raised. The sentences in (32b, c) show that the raising of a non-nominative NP is acceptable when a resumptive pronoun replaces the trace. The same thing can be shown for NPs marked for instrumental, ablative, locative and genitive. Thus, there is an exact parallelism between Magahi and Hindi with regard to raising. It may be the case that the raising phenomenon in Bihari Hindi is a case of transfer from the various regional dialects of Bihar.² Hindi as spoken in Bihar lies somewhere between Standard Hindi and the regional dialects of the State. So, while raising in Bihari Hindi is influenced by the regional dialects, conscious judgment on it by the native speakers is normally influenced by Standard Hindi which generally disallows raising (but see fn.1).
To sum up, any Case-marked NP (except for the vocative, for obvious reasons) can be raised out of an embedded clause if a resumptive pronoun takes the place of the trace left by raising.

4.2 A Raising Analysis and Alternatives

Hitherto we have more or less assumed a raising analysis of the facts under consideration, and in our examples we have shown raising leaving a trace in the embedded clause. We now proceed to examine whether this assumption is correct, and to explore alternatives. We will first show that a number of arguments can be given for a raising analysis. But, subsequently, we will show that there are overwhelming arguments against a raising analysis. We will ultimately propose a non-movement analysis of "raising".

4.2.1 Arguments for Raising

There are three major arguments for a raising analysis of the facts under study. They are (i) word order, (ii) Case-marking of the NP and (iii) Thematic role of the NP. Though they are fairly obvious arguments, we give them for the sake of completeness.

(i) **Word Order**: The position of the NP suggests that raising has taken place. In (33a) 'bil' which is the subject of the embedded CP complement occurs in the subject position of the
embedded clause. But in (33b), where raising is supposed to have taken place, 'bil' occurs outside the embedded clause in the domain of the matrix verb.

(33) a. \( \tilde{m}a \) caahataa \( h\ddot{u}u \) [ ki \( \tilde{b}il \) ghar \\
I-nom. want-mas. be-pr. that Bill-nom. house-acc. \\
1p.sg. \\
calaa jaay ] \\
go-mas. expl.Fu.3p.sg. \\
"I want Bill to go home"

b. \( \tilde{m}a \) bil-ko\( _1 \) caahataa \( h\ddot{u}u \) [ ki t\( _1 \) \\
I-nom. Bill-acc. want-mas. be-pr. that \\
1p.sg. \\
ghar calaa jaay] \\
home-acc. go-mas. expl.Fu.3p.sg. \\
"I want Bill to go home"

(ii) Case-marking of the NP: In (33a), the subject of the embedded clause, 'bil' is marked for the nominative Case (\( \emptyset \)). But in (33b), 'bil-ko', which is still interpreted as the subject of the embedded clause, is marked for accusative Case '-ko' as if it were the direct object of the main verb. The occurrence of accusative Case on the subject NP is most easily explained if we postulate that raising has occurred.
(iii) **Thematic role of the NP:** The third argument for a raising analysis is derived from the subcategorization (or argument structure of the matrix verbs and the interaction of it with the Projection Principle and the Theta-Theory (Chomsky (1981, 1982)). How do we explain the ungrammaticality of (34)?

(34) *maī bil-ko jaantaa hūū [ ki merii
I-nom. Bill-acc. know-mas. be-pr. that Mary-nom. 
acchii nahiī hai]
good-fem. not be-pr.3p.sg.
"I know Bill that Mary is not good"

(cf. maī bil-ko kahataa hūū [ ki
I-nom. Bill-dat. say-mas. be-pr. that 
merii acchii nahiī hai ]
Mary-nom. good-fem. not be-pr.3p.sg.
"I say to Bill that Mary is not good")

The verb jaananaa 'know' is monotransitive; therefore, it cannot take two objects. Thus, while sentences (35a-b) are acceptable:
(35) a. māi bil-ko jaantaa hū
   "I know Bill"

   b. māi jaantaa hū [ ki bil
   I-nom. know-mas. be-pr. that Bill-nom.
   ek acchaa khilaadī hai]
   a good-mas. player be-pr.3p.sg.

   "I know that Bill is a good player"

(34) is ungrammatical because the matrix V will assign a
θ-role either to the CP complement or to the NP object, but
not to both. But (36), which is apparently a structure like
(34), is perfectly acceptable.

(36) māi bil-ko jaantaa hū [ ki acchaa
   I-nom. Bill-acc. know-mas. be-pr. that good-mas.
   khilaadī hai]
   player be-pr.3p.sg.

   "I know that Bill is a good player"

We can explain this if we say that the NP object 'bil-ko'
receives its θ-role from the embedded subject position.
Though we gave examples involving raising of an embedded subject, all the arguments given above will hold for the raising of a non-subject also.

4.2.2 Arguments for a Trace in the Embedded Clause

In the examples given hitherto, we have assumed a trace in the embedded clause, coindexed with the raised NP. There are three arguments which appear to justify this assumption.

In Section 4.2.1 we pointed out that the raised NP receives a $\Theta$-role from the position in the embedded clause out of which it is raised. A $\Theta$-role will be transmitted to the raised NP from its corresponding position in the embedded clause if it leaves a trace which is co-indexed with it.

The second fact which argues for the creation of a trace is related to person marking on the embedded verb as a result of Subject-Verb agreement. In the embedded clauses of the sentences in (37), the Verb bears a relevant person-marker as a result of an agreement rule between a head and its subject.
(37) a.  māi merīi-ko₁ caahataa ħūū  
[ kī tī ghar calii jaay]  
that home go-Fem. expl.Fu.3p.sg.  
"I want Mary to go home"  

b.  māi tumko₁ caahataa ħūū  
I-nom. you-a.č. want-mas. be-pr.1p.sg.  
[ kī tī ghar cale jao]  
that home go expl.Fu.2p.sg.  
"I want you to go home"  

c.  māi apne-ko₁ caahataa ħūū  
I-nom. myself-acc. want-mas. be-pr.1p.sg.  
[ kī tī ghar calaa jaāūu]  
that home go-mas. expl.Fu.1p.sg.  
"I want myself to go home"  

If we assume that the embedded subject is the trace of the raised NP, it will be easy to explain how the agreement rule, which applies locally, will apply here.

The third argument derives from the nature of Case-marked traces which are treated as variables. In studies of the resumptive pronoun phenomenon, it has been noticed that a variable (i.e. a Case-marked trace) is optionally replaced
by a resumptive pronoun. The very fact that a resumptive pronoun can appear in the embedded subject position (and other non-subject positions (see section 4.1.2.2)) suggests that there is a trace in that position. 3

To sum up, the facts of 0-role assignment to the raised NP, subject-verb agreement and the resumptive pronoun phenomenon seem to argue strongly in favour of a trace in the embedded clause coindexed with the raised NP.

4.2.3 Raising in Quechua: Lefebvre and Muysken's Proposal

Assuming (for the time being) that the raising analysis of the facts under discussion is correct, we are immediately faced with the question: What is the landing site of the moved element? In other words, what position does the raised NP occupy at S-structure? Also, how does this NP get Case-marked accusative? Before attempting to answer these questions, let us take a look at a very interesting raising phenomenon in Cuzco Quechua, and the proposed analysis of it by Lefebvre and Muysken (1982). In Quechua, a Case-marked element can be raised from an embedded subordinate clause. This raised element appears in the matrix VP with double Case-marking — one assigned in the embedded clause and the other assigned by the matrix verb.
(38) a. mariyacha muna-n [xwancha-q platanu
Maria want 3 Juan gen banana
ranti-na-n-ta]
buy-NOM.3 acc.

b. mariyacha xwancha-q-ta1 muna-n [e1 platanu
Maria Juan gen.acc. want 3 banana
ranti-na-n-ta]
buy-NOM.3 acc.

"Maria wants Juan to buy bananas"
(NOM = Nominalizing suffix)

Any number of Case-marked elements may be raised within the same sentence with the restriction for some speakers that they do not include both the subject and the object at the same time.

(39) mariyacha xosecha-q-ta platanu-ta merkadu-pi
Maria Jose gen.acc. banana acc. market loc.
muna-n [ranti-na-n-ta]
want 3 buy NOM 3 acc.

Raising may occur with any verb which is a Case assigner provided that it is also an embedding verb.

To explain the facts of raising in Cuzco Quechua, Lefebvre and Muysken (1982) posit a COMP-like CASE position on S' and other values of X at the three-bar level. They
propose a base rule of type (40) for (Cuzco) Quechua, where the position for T(Tense) corresponds to the normal complementizer position, and it is followed by a position for Case.

(40) $S' \rightarrow \ldots S [\pm T] [\infty \text{CASE}]$

Out of a number of arguments for a COMP-like CASE position on $S'$, the existence of Case-marked lexical complementizers occurring at the $S'$ level constitutes, in their opinion, a very strong argument.

(41) mariacha muna-n xosecha platanu-ta ranti-nqa
   Maria want 3 Jose banana acc. buy 3 Fu
   chay-ta
   COMP acc.
   "Maria wants Jose to buy bananas"

According to this proposal, a Case-marked NP moves with its Case from its position in the embedded clause, passes through the COMP-like CASE-position at the $S'$ level, and is assigned another Case the moment it passes through the CASE position. The second Case assigned to the moved element is the same as that of the source constituent the element is moved out of (I.e., since the embedded clause is the matrix verb's direct object, the element raised out of the embedded clause is given the direct object's Case, namely accusative.) This proposal,
if interpreted in terms of a tree diagram, can be shown as in (42). (The arrow shows the movement of the NP.)

\[ (42) \]

They assume this solution to be the correct analysis of Case reassignment for raising across syntactic categories. (Note that the raised NP bears two Case-markings.) They seek support for this proposal from the fact that Case assignment into COMP has been suggested by Hayne (1980), Chomsky (1981) and Groos and Van Reimsdijk (1981). Regarding the landing site of the raised element, they assume that Quechua allows non-theta positions to be generated in the verbal projection.
4.2.4 Analysis of Raising in Hindi

Let us now see if, by adopting Lefebvre and Myusken's proposal (in part) for Hindi too, the raising phenomenon in Hindi can be accounted for. We can make the assumptions that in Hindi also, (i) there is a COMP-like CASE position on CP and other values of X at the three-bar level, (ii) the raised NP passes through this COMP-like CASE position of its source constituent, (iii) the raised NP inherits another Case while passing through the position and (iv) the raised NP inherits the same Case as the Case of the constituent the NP is raised out of.

The assumption that Hindi too has a COMP-like CASE position on CP and other values of X at the three-bar level can be made if we accept that such a position is a parameter of UG: languages may or may not have an overt CASE position on CP and X"'.

We can assume that the Case-marked NP moves out of the embedded clause with its Case. When it passes through the CASE position of CP, it is also marked for the accusative Case; therefore, it is now doubly Case-marked. Since we do not hold that "Case conflict" is prohibited by the theory (see Chapter 2) there is no particular problem here. But in surface realization
It is only the "outermost" Case -- i.e. the accusative Case assigned in the CASE position of CP -- which is retained; the earlier Case is apparently deleted. We have the following paradigm:

<table>
<thead>
<tr>
<th>Case assigned in the D-structure position</th>
<th>Case assigned in the CASE position of CP</th>
<th>Surface Case</th>
</tr>
</thead>
<tbody>
<tr>
<td>(i) nom. (Ø)</td>
<td>acc. (ko)</td>
<td>acc. (ko)</td>
</tr>
<tr>
<td>(ii) acc., dat. (ko)</td>
<td>acc. (ko)</td>
<td>acc. (ko)</td>
</tr>
<tr>
<td>(iii) oblique -- e.g. loc. (-me), ablative (-se), instr. (-se)</td>
<td>acc. (ko)</td>
<td>acc. (ko)</td>
</tr>
</tbody>
</table>

In (i), it is impossible to say if there is deletion, since the nominative Case-marker is 'Ø'. In (ii) (again), there may be no deletion, but rather a "coalescence" of two ko's into one. It is in (iii) that we can definitely say that there is deletion, since the oblique Case is suppressed. We may note the difference from Quechua in this respect: in Quechua, the oblique Case is retained and the accusative Case is deleted. (See the Quechua paradigm, given in (122) of Chapter 2.) Since oblique Cases have semantic content (such as "location", "source", "instrument" etc.), their deletion may be looked on as constituting non-recoverable deletion and therefore, disallowed in some languages. Thus Quechua does not allow their deletion. In Hindi raising, their deletion is permitted only if a
resumptive pronoun in the D-structure position of the raised element overtly realizes the oblique Case. Thus we have an explanation (now) of why sentences (18)-(23) are ungrammatical, while the corresponding sentences in (25) are fine.

We may note that there is a small complication in a Hindi sentence like (1) (repeated below), namely an extraposition rule.

(1) māi jon-koī jaantaa huū [CP ki t₁
I-nom. John-acc. know-mas. be-pr.1p.sg. that
acchaa hai]
good-mas. be-pr.3p.sg.

"I know that John is good"

The CP embedded clause is generated at D-structure in the matrix object position but is extraposed leaving a co-indexed trace, as shown in (44a-b),

(44) a. māi [CP ki jon acchaa hai] jaantaa huū
     b. māi t₁ jaantaa huū [CP₁ ki jon acchaa hai]

This fact (however) is not a serious problem for our analysis. An accusative Case will be assigned to the index of the trace t by the matrix verb, which will be transmitted to the index of the CP complement. The accusative Case thus transmitted to the extraposed CP will lie in an abstract form in the CASE
position of CP as it cannot be morphologically realized on a sentential complement in Hindi. When the nominative NP 'jon' of the embedded clause is raised, it first goes to the CASE position of CP where it will acquire the accusative Case already present there.

4.3 Movement Analysis of Raising: Some Problems

In this section we will show that there are a number of problems plaguing the movement analysis, which force us to abandon it and look elsewhere for an analysis of the "raising" phenomenon.

4.3.1 The Landing Site of the Raised NP

First, what is the landing site of the raised NP? Lefebvre and Muysken (1982) (we think) do not really solve this problem. They claim that Quechua allows non-Theta positions to be generated in the verbal projection. The raised elements -- recall that any number of elements can be raised in Quechua -- are supposed to go into these empty positions in the VP. But such a claim makes a mockery of the Projection Principle. The Projection Principle entails that there are no positions available in the VP except those which are projected from the verb's argument structure (and which, for that reason, the verb theta-marks). Thus this particular claim of Lefebvre and Muysken cannot be entertained within the GB framework.
One might try to save the rest of their analysis by positing that the raised elements are adjoined to the VP. But we shall see that such a solution is also problematic, at least, when extrapolated to Hindi.

4.3.2 Can a Variable Transmit a Theta-role?

The trace left by the raised element in the D-structure position is a Case-marked trace, which is, moreover, Ā-bound. (Recall that this trace is locally bound by an intermediate trace in the CASE position of the embedded CP.) The trace (therefore) must be presumed to be a variable. But a variable (as we know) does not transmit its theta-role to the antecedent. Therefore the raised elements will not be theta-marked; if they are arguments, this will violate the Theta criterion.

4.3.3 Is an "Ā-to-Ā" Movement Permissible?

Lefebvre and Muysken claim that the landing sites of the raised elements in Quechua are non-theta-marked Ā-positions. This means that the raised element, in the second lap of its journey, moves from an Ā-position (namely the CASE position of the embedded CP) to an Ā position. But a movement from an Ā-position to an Ā-position is disallowed in the theory for well-known reasons (see Chomsky (1981)).
4.3.4 Variables and Resumptive Pronouns

We said that the trace left behind by "raising" in Hindi could be replaced by a resumptive pronoun; and that, while this replacement was optional for a nominative trace, it was obligatory for a non-nominative trace. Thus consider (45) and (46):

(45) a. mai jon koj jaantaa huu [ki ti
I-nom. John-acc. know be-pr.1p.sg. that
kitaab paDhtaa hai]
book read be-pr.3p.sg.
"I know that John reads a book"
(Lit. "I know John that reads a book")

b. *? tum bil koj kahte ho [ki merii ti
you- Bill-acc. say be-pr.2p.sg that Mary
nom.
bahut pyaar kartii hai]
very love-fem. be-pr.3p.sg.
"You say that Mary loves Bill very much"
(Lit. "You say Bill that Mary loves")

(46) a. mai jon koj jaantaa huu [ki wah_ kitaab paDhtaa hai]
he-nom.

b. tum bil koj kahte ho [ki merii uskoj bahut pyaar
kartii hai] him-acc.
While (45a) and (46a) are equally acceptable, (45b) is unacceptable for most speakers; they accept only the version with the resumptive pronoun, (46b). The difference between the (a) and (b) sentences is that a subject NP is raised in (a), and an object NP is raised in (b).

As is well-known, a resumptive pronoun replaces a variable, never an NP-trace. Therefore, we suggested (earlier) that the fact that a resumptive pronoun can appear in the D-structure position of the "raised" element can be taken as evidence that the trace is a variable.

Now, languages differ with regard to the availability of the resumptive pronoun strategy. Thus English does not have it. Consider a clear case of movement in English, namely, Topicalization. This is currently analyzed as involving the movement of an empty operator from the D-structure position to a COMP adjacent to the TOPIC, followed by the coindexing of the operator and the element in the TOPIC (Chomsky, 1977, 1981). Thus (47a) has the S-structure (47b):

(47) a. Him, I believe you dislike.

   b. \[\text{TOP} \text{ Him}_i] \ [S_i \ O_i \ [S_i \ I \ believe \ [S_i \ t_i \ [S_i \ you \ dislike \ t_i]]]]}
Now, the variable here cannot be replaced by a resumptive pronoun, cf.

(48) *Him, I believe you dislike him

Topicalization contrasts with Left Dislocation as regards a resumptive pronoun. A pronoun coindexed with the left-dislocated element is not only permitted but obligatory in English, cf.

(49) Bill! I like him.

This is because Left Dislocation does not involve any movement; therefore the pronoun does not replace a variable but is simply a "regular" pronoun which is coindexed with the left dislocated element for reasons of full interpretation.

A careful examination of Hindi will tell us that Hindi also does not allow the replacement of a variable by a resumptive pronoun. Let us take a clear case of movement to an A-position in Hindi, namely, the topicalization of a relative pronoun. Consider the following data:

(50) a. mai [\text{NP jon ko[\text{[T jo_i]} [\text{Cp ki t_i acchaa hai }]]}]
jaantaa huu
know be-pr.lp.sg.
"I know John who is good"
(50a) and (51a) show topicalization of a relative pronoun leaving a variable. In (50b) and (51c), the relative pronouns stay in their D-structure position. (51b) is a case of scrambling with the relative pronoun adjoined to the IP (Saito (1985)) and (probably) leaving a trace which again is a variable. In all the sentences of (50-51) ki can be optionally deleted. In non-relative sentences too, any NP or PP can be topicalized (or scrambled -- it is difficult to tell).
(52) a. \( \text{bil ko}_{i} \, \text{mai} \, \text{ti} \, \text{jaantaa} \, \text{hui} \)  
Bill - acc.  I - nom.  know  be-pr.lp.sg.  
"Bill, I know"

b. \( \text{jon ko}_{i} \, \text{mai} \, \text{ne} \, \text{ti} \, \text{ek} \, \text{kitaab} \, \text{dii} \, \text{hai} \)  
"John, I gave a book to"

c. \( \text{pe}_{i} \, \text{par}_{i} \, \text{mai} \, \text{ne} \, \text{ti} \, \text{ek} \, \text{saap} \, \text{dekhaa} \, \text{thaa} \)  
tree  on  I  erg.  a  snake  see-perf.  be-p.  lp.sg.  
"On the tree I saw a snake"

In all these instances of movement to an \( \tilde{A} \)-position (leaving a variable), we find that resumptive pronoun is disallowed:

(53) a. \( \text{*mai} \, [\text{jon ko}_{i} \, \text{ki} \, \text{wah}_{i} \, \text{accha} \, \text{hai}] \, \text{jaantaa} \, \text{hui} \)  
he-nom.

b. \( \text{*mai} \, [\text{jon ko}_{i} \, \text{ki} \, \text{jisko}_{i} \, \text{ma}\tilde{i} \, \text{ne} \, \text{kal} \, \text{usko}_{i} \, \text{dekhaa} \)  
he-acc. thaa]] \, \text{jaantaa} \, \text{hui} \)

c. \( \text{*mai} \, [\text{jon ko}_{i} \, \text{ki} \, \text{jisko}_{i} \, \text{ma}\tilde{i} \, \text{ne} \, \text{kal} \, \text{usko}_{i} \, \text{dekhaa} \)  
he-acc. thaa]] \, \text{jaantaa} \, \text{hui} \)

d. \( \text{*bil ko}_{i} \, \text{mai} \, \text{usko}_{i} \, \text{jaantaa} \, \text{hui} \)  
he-acc.

e. \( \text{*jon ko}_{i} \, \text{mai} \, \text{ne} \, \text{usko}_{i} \, \text{ek} \, \text{kitaab} \, \text{dii} \, \text{thii} \)  
he-acc.
A left-dislocation construction (however) permits a resumptive pronoun, as expected, cf.

(54) a. bil₁ waṉ₁ merii se pyaar kartaa hai
    Bill he Mary with love do be-pr. 3p.sg.
    "Bill, he loves Mary"

b. jon₁ maṉ₁ usko₁ jaantaa huṉu
    John I him know be-pr. 1p.sg.
    "John, I know him"

The reason (as we said) is that there is no movement involved in left-dislocation structures, whereas topicalization involves movement.

Another fact that should be brought to the reader's notice is that in topicalization a resumptive pronoun is always disallowed irrespective of the length of the intervening string between the topic NP and the topicalized position.

(55) *bil-kon₁ merii jaantii hai [ ki jon
    Bill-acc. Mary know be-pr.3p.sg. that John
    soctaa hai [ ki jen usko₁ pyaar kartii hai]]
    think be-pr. that Jane he- love do 'be-pr.
    3p.sg. acc. 3p.sg.
    "Mary knows that John thinks that Jane loves Bill"
Concluding, we can say that a variable resulting from movement cannot be replaced by a resumptive pronoun in Hindi. But then, it is intriguing why a variable resulting from "raising" should behave differently, cf. (45) and (46). The conclusion is obvious: there is no movement involved in (45) and (46). The question now is: what is the status of the pronoun in (46)? Conversely, what is the status of the Empty Category in (45)?

The nature of the empty category in (45) becomes clear if we recall that Hindi is a pro-drop language. Hence, we can have both pro and a phonetically realized pronominal in the subject position of the embedded clause in (45a). What seems to be a trace in (45a) is in fact a pro, and what seems to be a resumptive pronoun in (46a) is in fact a phonetically realized pronominal in place of pro. Thus (45a) and (46a) will have the structures shown in (56a) and (56b), respectively.

\[(56)\]
\[\begin{align*}
\text{a. } & \text{mai jon ko\textsubscript{i} jaanta h\textsubscript{ii} [ki pro\textsubscript{i} kitaab pa\textsubscript{Dhta}a hai]} \\
\text{b. } & \text{mai jon ko\textsubscript{i} jaanta h\textsubscript{ii}[ki wahi kitaab pa\textsubscript{Dhta}a hai]}
\end{align*}\]

If we think in terms of non-movement and the pro-drop phenomenon, we will be able to explain the asymmetry between "raising" of a nominative and a non-nominative NP. In section 4.1.2.1 we showed that the "raising" of a nominative NP from the embedded subject position produced a perfectly acceptable sentence while "raising" of an NP marked for accusative, dative etc.,
produced nearly unacceptable or completely unacceptable sentences (cf. (17-23)). It was also shown in section 4.1.2.2 that the "raising" of a nominative NP was acceptable with or without a resumptive pronoun while the "raising" of a non-nominative NP improved in acceptability once the trace left behind was replaced by a resumptive pronoun (cf. (25a-g)). The reason is simple. There is no movement involved in any of the sentences given as examples of "raising". The "raising" of a nominative NP is perfectly acceptable because there is a pro in the subject position of such sentences. And because pro cannot occur in non-subject positions, the "raising" of an NP from such positions gives wrong results. Since pro can be replaced by a pronominal with phonetic content, it does not matter whether there is an empty pronominal (pro) or a pronominal with phonetic content in the subject position of the embedded clause. And since there must be a pronominal with phonetic content in the object and other non-subject positions, the sentences which appeared to have traces in such positions improved in acceptability once such a pronominal was inserted into the relevant positions.

The arguments used for showing movement and trace in "raising" sentences can now be seen to be fallacious. The "raised" NP in fact surfaces in its D-structure position and is Case-marked by the matrix verb. For some reason the pro or the lexical pronoun is obligatorily co-indexed with jon-ko in (56a-b). (We will return to a revised analysis as also the obligatory co-indexing of the embedded pronominal with what appears to be the object of the matrix verb later in the chapter.)
4.3.5 Extraposition, V-to-INFL Movement and "Raising"

Another problem for the movement analysis arises from the interaction of "raising" with the extraposition of tensed CP complements of verbs. It is a well-known fact that tensed CP complements are extraposed in Hindi. Let us show such extraposition as right adjunction to the matrix VP. From within this adjoined CP a Case-marked NP can be "raised". Let us say (for concreteness) that the "raised" NP is left adjoined to the matrix VP. This is shown below (ignoring details).

(57)

```
( 57)                  IP
      |                   NP
      |                   I'
      |                  mai
      |                   I
      |                   NP
      |                   VP
      |                   Tense
      |                   AGR
      |                  pre
      |                   VP
      |                   joi ko
        |                   VP
        |                   CP
        |                   [ki wah/ti kitaab
        |                   he book
        |                   paDhtaa hai]
        |                   read be-pr.3p.sg.
        |                   t j
        |                   jaanta
        |                   know
```

"I know that John reads a book"
In this structure, jon ko c-commands its trace in the embedded clause, and therefore there is no problem.

But there is evidence showing that the extraposed CP complement is not adjoined to the matrix VP, but right-adjoined to the matrix clause. The evidence is indirect, from Verb Raising. In Hindi (and apparently in all Indian languages), V raises to INFL (rather than the other way round). Some justification for such an assumption comes from the position of a negative element and of adverbials. Consider the following sentences:

(58) a. māi ne rooTiī nāhī khaayii
    I erg. bread not eat-Past
    "I did not eat bread"

b. *māi ne nāhī rooTiī khaayii
    I erg. not bread eat-Past

c. *māi ne rooTiī khaayii nāhī
    I erg. bread eat-past not

If we leave out stylistic variations and scrambling, the most favoured position for a negative element is between the object argument and the verb as shown in (58a). (58b-c) may be acceptable in very special contexts (involving heavy focus). Otherwise, for a statement without any extra semantic nuance,
only (58a) is acceptable. Following Chomsky (1988) and Pollock (1989), we can assume that Neg is generated as the head of a Neg-P which comes "between" INFL and VP.

(59) IP
   /  \
  NP  I
  / \\
mai ne NEG P
   /
   VP
   / \\
  NP V
  / \\
rooTii

If the verb does not move to the INFL, then INFL should lower to the verb. If INFL lowers, then what we get is (58c) which is ungrammatical. (58b) is ruled out because the VP complement of the negative element cannot occur to the right of the negative element, Hindi being a head-final language. Thus, to get a well-formed sentence like (58a), the verb must raise to the INFL. This way, Hindi patterns with French, where V moves to INFL and the negative element does not block this movement (See Pollock (1989)).
The same argument can be repeated using the position of adverbials as evidence. Consider (60).

(60) a. mai ne ruk ruk kar rooTii khaayii
    I erg. stop stop having bread eat-past
    "I ate bread slowly"

    b. mai ne rooTii ruk ruk kar khaayii
    I erg. bread stop stop having eat-past

    c. *mai ne rooTii khaayii ruk ruk kar
    I erg. bread eat-past stop stop having

Again, if we ignore contexts of heavy focus, only (60a-b) are acceptable. (60a-b) show that the adverbial can be generated either to the left or to the right of VP, in an adjoined position. If it is left-adjoined to VP, we get (60a), which, incidentally, does not prove that the verb raises to INFL. But look at the D-structure representation of (60b).

(61)
If the verb does not raise to INFL, and instead the INFL lowers to the verb, then we get (60c) which is ungrammatical. Only when the verb raises to INFL do we get (60b), which is acceptable.  

Now, the fact that the verb moves to INFL in Hindi leads us to conclude that an extraposed sentential complement should be adjoined to IP and not VP (also see Davison (1989) for a similar proposal). Consider (62a), and its D-structure representation shown in (62b).

(62) a. मैं कहता हूँ [कि बिल किताब पढ़ता है]  
I say be-pr. that Bill book read be-pr.  
1p.sg. 3p.sg.  
"I say that Bill reads a book"

b. मैं [कि बिल किताब पढ़ता है] कहता हूँ  
I that Bill book read be-pr. say be-pr.  
3p.sg. 1p.sg.  

If the sentential complement is extraposed to a VP-adjunction site, then the linear order that we get after V-movement to INFL will be exactly the same as that of the D-structure representation, which will be ungrammatical. To get (62a) the extraposition of the complement should be to IP.
Coming back to the way we represented "raising" and extraposition in (57), we can see that it was wrong in one important respect: the extraposed clause should be adjoined to the matrix IP, as shown in (64):
In this structure, jon ko does not C-command its Trace in the subject position of the extraposed CP, or the intermediate trace in the CASE position of the extraposed CP. The conclusion we can draw is that the relation between jon ko and the empty position in the embedded complement is not the antecedent-trace relation, which requires C-command, but a relation like that between a pronoun and its antecedent, which does not require C-command.

In view of the facts stated above, we must abandon the movement analysis of the so-called "raising" data in Hindi. (We can of course also abandon the proposal of a COMP-like CASE position on CP, and other paraphernalia of the Lefebvre-Muysken analysis.) The remaining problems are: where is the "raised" element generated? And how does an NP, which is not the real object of the matrix verb, come to be assigned accusative Case by the matrix verb?

4.4 A Small-Clause Analysis of "Raising"

In this section we will try and see if the "raising" facts of Hindi can be explained in terms of small clauses. In particular, we will postulate that the "raised" element and the embedded clause together form a small clause. This will entail the position that a tensed CP can occur in the predicate position of a small clause. In the course of defending this position, we will give a critique of Stowell's analysis of
small clauses and dispute one of his central claims. At the end of this section, we will review our analysis of "raising" in terms of small clauses and show that this analysis is not strong enough to withstand objections.

4.4.1 Tensed CP as Predicate of a Small Clause

Chomsky (1981) has proposed that any clausally interpreted construction at LF is a constituent in syntax. In the sentence (56) repeated here

(56) mai jon -ko jaanta ha [CP ki pro/wah CP
I-nom. John-acc. know be-pr. that he
kitaab padhtaa hai]
book read be-pr.
3p.sg.
"I know that John reads a book"

it is not the case that jon and the extraposed CP are two independent unrelated constituents. The reason is that jaanta is a monotransitive verb and hence it must have just one object complement. But in (56) we see that there are two constituents vying with each other for the same position. Since the sentence is perfectly fine, these two competing elements must be sub-parts of a larger constituent. In other words (56) must have a D-structure somewhat like (65).
(65) \[ \tilde{\text{mai}} \left[ \begin{array}{c} \text{jon} \\ \text{ko}_1 \\ \text{CP} \\ \text{ki} \\ \text{pro}_1 \\ \text{wah}_1 \\ \text{kitaab} \\ \text{padhtaa} \\ \text{hai} \\ ] \\ \text{jaantaa} \\ \tilde{\text{h}} \tilde{\text{u}} \tilde{\text{u}} \right] \]

So, the question reduces itself to determining the status of \( \prec \) in (65). We cannot treat \( \prec \) on the lines of \([\text{the fact} \ [\text{that he is a fool}]]\), i.e., as a head-complement relation; for one thing, the CP cannot be a complement of \textit{jon} because canonical government is to the left in Hindi. Suppose we treat \( \prec \) as a small clause. In the literature a small clause has been assigned the following structure:

(66) \[ \left[ \begin{array}{c} \text{SC} \\ \text{NP} \\ \text{XP} \end{array} \right] \]

where \( X \) can be \( V, A, P \) or \( N \), as shown below.

(67) a. \( \text{I saw} \left[ \begin{array}{c} \text{SC} \\ \text{him} \\ \text{go} \end{array} \right] \)

b. \( \text{I believe} \left[ \begin{array}{c} \text{SC} \\ \text{John} \\ \text{intelligent} \end{array} \right] \)

c. \( \text{I saw} \left[ \begin{array}{c} \text{SC} \\ \text{Bill} \\ \text{on the floor} \end{array} \right] \)

d. \( \text{I consider} \left[ \begin{array}{c} \text{SC} \\ \text{Mary} \\ \text{a good girl} \end{array} \right] \)

Kayne (1985) has argued that particle constructions in English can be explained with the help of the small clause structure. He has argued that the sentences in (68) have small clauses at D-structure.
(68) a. John looked up the information
    b. She pointed out that he was wrong
    c. There turned out to be a problem
    d. He ended up a linguist

The D-structure of the sentences in (68) is postulated to be as shown in (69).

(69) a. John looked \([_{SC \ [_{NP \ the \ information}}_{SC}] \ up]\]
    b. She pointed \([_{SC \ [_{CP \ that \ he \ was \ wrong}}_{CP}] \ out]\]
    c. there \([_{SC \ [_{CP \ there \ to \ be \ a \ problem}}_{CP}] \ out]\]
    d. ended \([_{SC \ [_{SC \ he \ a \ linguist}}_{SC}] \ up]\]

The S-structure derivation is as follows:

(70) a. John looked \([_{SC \ [_{e} \ up} \ [_{the \ information}]}_{i}\]
    b. She pointed \([_{SC \ [_{e} \ out} \ [_{CP \ that \ he \ was \ wrong}]}_{i}\]
    c. there \([_{e} \ turned \ [_{e} \ out} \ [_{e} \ to \ be \ a \ problem]}_{i}\]
    d. He \([_{e} \ ended \ [_{e} \ up} \ [_{e} \ a \ linguist]}_{j}\]

The main contention of Kayne, by implication, is that the small clause can have a structure like

(71) \([_{Xr \ Prt}]}\]

where XP can be a category other than NP; what is of particular interest to us is that it can be a CP (tensed or infinitival).
But at S-structure $[XP \text{ Prt}]$ is ill-formed for $XP = \text{tensed CP}$, infinitival CP with raising and small clause with raising, hence the extraposition shown in (70). Tensed CP is excluded from the subject position of SC because tensed CPs are excluded from subject position altogether (cf. Emonds (1976), Koster (1978) and Stowell (1981)). Infinitival CPs with raising and small clauses with raising are excluded because of ECP violations. $(XP = \text{PP or Adv. is also excluded because of a general principle; see Kayne (1985) for details).$

The point that emerges out of this discussion is that $X$ in the subject XP of a small clause may have any value, and independent principles of grammar like theta theory, Case theory and so on will rule out a particular value of $X$.

Now conflating (66) and (71), we get the following generalized structure for small clauses:

(72) $[\text{SC} \quad XP \quad XP]$

The issue that should be settled is what values the predicate XP can have in (72). In particular, can it be a tensed CP? A ready answer to this is provided by Williams (1980). In formulating a theory of predication, he examines the various environments in which a predicate can occur, the conditions on predication and the categories which can function as predicates. The condition on predication is as given below:
(73) In PS (= Predicate Structure) NP must c-command any predicate or trace co-indexed with it.

The argument-predicate relation (the predication relation) is indicated by coindexing at the level of Predicate Structure, which is derived from S-structure by the application of predication rules. Any category, according to Williams, can be a predicate.

(74) AP: John made Bill \(_i\) \([_{AP_i} \text{sick}]\)

NP: John made Bill \(_i\) \([_{NP_i} \text{a doctor}]\)

PP: John kept it \(_i\) \([_{PP_i} \text{near him}]\)

VP: John \(_i\) \([_{VP_i} \text{died}]\)

"AP, NP, PP and VP are the simple, or headed, predicates," (p.206). IP and CP can also be predicates, which he calls complex predicates. He defines the following to be complex predicates:

(75) \([_{IP \text{ PRO VP}}]\)

(76) \([_{CP \{\text{PRO} \text{ WH}\} IP}]\)

In (75), PRO is "the predicate variable, that is, the open position in IP which makes it a one-place predicate" (p.209). Similarly, in (76), PRO or WH is the predicate variable.
Examples of (75) are instances of obligatory control, such as occur with verbs like promise. (He assumes that promise specifies that its complement is a predicate.)

(77) John promised Bill \( [\text{CP} \ [\text{IP}_i \ \text{PRO} \text{to leave}]] \)

An example of (76) is provided by purpose clauses.

(78) I bought it to read.

Chomsky (1980) analyses purpose clauses in terms of Wh-movement of PRO. Thus (78) has the S-structure representation shown in (79).

(79) a. I bought it \( [\text{CP} \ \text{PRO}_i \ [\text{PRO} \text{to read} \_i]] \)

Williams considers such purpose clauses as examples of predication. The purpose clause will be co-indexed with it as PS.

(79) b. I bought it\_i \( [\text{CP}_i \ \text{PRO}_i \ [\text{PRO} \text{to read} \_i]] \)

Williams treats relative clauses, too, as examples of complex predicates with N' antecedents; again, the clefted clause in a cleft construction is a complex predicate.

After this discussion on predication, let us come back to the structure of a small clause namely (72) repeated here.

(72) \( [\text{SC} \ \text{XP} \ \text{XP}] \)

We are now in a position to say that the XP in the predicate position can be any category -- NP, AP, VP, PP, CP or IP.
In particular, a tensed CP should not be barred from the predicate position of a small clause. If we are ready to accept this, then we are in a position to explain the "raising" phenomenon in Hindi in "non-raising" terms. For (1) (repeated here) we can now assign the D-structure representation (80), where the small clause is the complement of the matrix V, and for the predicate of the small clause we have a tensed CP.

(1) mā́i jon ko jaantaa hū́ ū [CP ki acchaa hai]

(80) mā́i [SC jon ko [CP ki wah/pro acchaa hai]] jaantaa hū́ ū

The matrix verb jaananaa governs and Case-marks the subject of the small clause, Jon. The predicate CP, because it occurs in a governed position (the small clause boundary being transparent), is extraposed and adjoined to the matrix IP (cf. Davison (1989)). Thus we get the following S-structure of (1).

(81) mā́i [SC jon ko ti ] jaantaa hū́ ū [CPi ki wah/pro acchaa hai]

At PS, (81) will be assigned the following structure.

(82) mā́i [SC jon ko ti ] jaantaa hū́ ū [CPi ki wah/pro acchaa hai]
At PS, the extraposed CP as well as its trace bears the same index as the NP [jon ko], i.e., the index "i". We see that at PS the c-command condition obtains between jon and the trace of its predicate which will establish the subject-predicate relation between jon and ki wah/pro accha hai.

4.4.2 Stowell's Analysis of Small Clauses

But a structure like (83),

(83) \[ \text{[SC NP CP]} \]

runs into a problem if we take Stowell's (1983) analysis of small clauses. Stowell considers a small clause a projection of the lexical head of the predicate. Thus, in (84-87), he gives the small clauses a categorial label according to the lexical head of the predicate, with an NP in the specifier position.

(84) a. John finds \([_AP \text{ Bill [absolutely crazy]}]\)

b. Alexandra proved \([_AP \text{ the theory [false]}]\)

c. We consider \([_AP \text{ it [unlikely that John will win]}]\)

(85) a. I expect \([_PP \text{ that man [off my ship]}]\)

b. The Captain allowed \([_PP \text{ him [into the control room]}]\)
His argument is that the matrix verb subcategorizes for the small clause predicate. If the small clause were really S, then, according to him, the matrix verb should not specify the categorial features of any subconstituent other than the entire clause. That is, the matrix verb should be indifferent to the categorial status of the SC predicate. But it is not. He gives the following ungrammatical examples to prove the point:

(86) a. Mary had \([_{VP}\ her\ brother\ [open\ the\ door]]\)
    b. Nobody heard \([_{VP}\ it\ [rain\ (last\ night)]\])

(87) a. We all feared \([_{VP}\ John\ [killed\ by\ the\ enemy]]\)
    b. I don’t want \([_{VP}\ advantage\ [taken\ of\ John]]\)

According to his claim, the prediction is that the matrix verb will not be sensitive to the predicate of its IP or CP complement. But this proves to be false. Consider the following sentences:

(88) a. *I consider \([_{John\ [off\ my\ ship]}\] (cf. 84c)
    b. *I proved \([_{the\ weapon\ [in\ his\ possession]}\] (cf. 84b)
    c. *I expect \([_{that\ man\ [very\ stupid]}\] (cf. 85a)
    d. *We all feared \([_{John\ [unfriendly]}\] (cf. 87a)

(89) a. *I consider \([_{IP}\ John\ to\ be\ running\ in\ a\ race}\]
    b. *I consider \([_{CP}\ that\ John\ is\ running\ in\ a\ race}\]
    c. I consider \([_{IP}\ John\ to\ be\ honest}\]
    d. I consider \([_{CP}\ that\ John\ is\ honest}\]
e. I consider \[ \text{CP \ that \ you \ are \ not \ to \ blame} \]

f. I consider \[ \text{\_\_ \ John \ off \ his \ senses} \]

The verb consider subcategorizes for an IP or a CP complement. Yet (89a-b) are ungrammatical even though the subcategorization condition is fulfilled. On the other hand, (89c-e) are grammatical. The obvious reason seems to be that the verb consider is sensitive to the predicate of its CP (or IP) complement. But can we distinguish (say) the CP complements of (89b) and (89d) in terms of category labels? Such a move is prima facie false. Evidently, the fact that a verb seems to be sensitive to the predicate of its complement, does not become a basis for assigning a categorial label to its complement. Indeed, we can deal with data like (88)-(89) in the following way. Chomsky (1986b) argues that lexical entries should specify just S-selection (as part of the semantic characterization of an item) and transitivity, and they need not specify C-selection (categorial selection) as it would follow from S-selection. Let us say that S-selection, just as it distinguishes between different classes of "terms" in terms of such features as [+Animate], [+Abstract] etc., also distinguishes between different classes of "propositions". Thus there are propositions which predicate an attribute ("John is honest") and those which predicate an action ("John ran"). It seems to be clear that consider requires a
proposition which predicates an attribute as its complement. Consider again (88a) and (89f), repeated below:

(88) a. *I consider [John [pp off my ship]]
(89) f. I consider [ John [pp off his senses]]

In (88a) off my ship is a projection of the preposition off; Stowell claims that [John [off my ship]] is also a PP with John in the specifier position. Since consider does not subcategorize for a PP, the example is ruled out. On the same line of analysis (89f) should also be ruled out, since off his senses is very much a PP. But it is acceptable. Obviously, the reason is that off his senses has an idiomatic meaning as an attribute.

Incidentally, small clauses are not the only categories with respect to which a matrix verb shows sensitivity to a subconstituent of its complement. Abney (1987) proposes a unified structure of NPs and gerunds in his DP-analysis of Noun phrases. In his analysis, the head D (=Determiner) has a choice between an NP and a VP as its complement.

(90)
Thus, we can get both

(91) a. John's pen
    b. John's going (to the market)

Now, a verb selecting a DP should not be sensitive to a sub-
part of it (i.e., it should be insensitive to whether D selects
an NP or a VP). But this is not the case.

(92) a. I want [DP John's pen]
    b. *I want [DP John's going]

Concluding this section, we can say that Stowell's
analysis of the small clause cannot be sustained in view of the
discussion above; and therefore, it is not a problem for
postulating a CP as the predicate of a small clause.

4.4.3 Problems of the Small-Clause Analysis of "Raising"

Nevertheless, the analysis of the "raising" data in Hindi
in terms of a small clause, must be rejected, for reasons
having to do with theta-marking. We suggested that the
predicate of a small clause could be a tensed CP also, and
the subject an NP.

(93) [SC NP CP]
The NP argument in the subject position will require a theta-role. In the following D-structure representations, where the verb subcategorizes a small clause, it is the predicate which assigns a theta-role to the subject.

(94) a. e seems \([sc \text{John sad}]\)
   b. e be [John a doctor]

On the same token we must say that the tensed CP in the predicate position in (80) will assign a theta-role to the NP in the subject position. But this seems a bit bizarre. Can a proposition assign a theta-role? If we say yes, we commit ourselves to a kind of oddity. And it is this oddity which makes the small-clause analysis of "raising" in Hindi suspect.

Recall that for saying that a tensed CP can be a predicate, we drew crucial support from Williams' (1980) analysis of predication. Now, Williams distinguishes between two kinds of predicates, simple predicates (like an AP, a predicate nominal, a VP) and complex predicates (like a relative clause or a purpose clause). What Williams does not seem to realize (or stress) is that there is a difference in theta-marking between these classes. While a simple predicate invariably theta-marks its antecedent, a complex predicate does not theta-mark its antecedent. Thus, the head of a relative clause does not get its theta-role from the relative clause. This suggests that Williams' generalization of the predication relation to the so-called
complex predicates may in fact be incorrect.

However this may be, let us note that if we admit that the embedded CP in a structure like (1) does not theta-mark the "raised" NP, what we have now is not a clausal structure but a "head-modifier" structure. Williams' complex predicates are all modifiers of a head (in a sense). The suggestion now would be that "raising" in Hindi is like relativization. Now, such a suggestion has indeed been entertained (and rejected) in the case of "raising" in some Romance languages such as Spanish and Italian. We briefly look at the analyses proposed for Spanish and Italian "raising" in the next section.

4.5 "Raising" in Other Languages

The "raising" phenomenon witnessed in Hindi has a near counterpart in other languages too (apart from Quechua). Thus, in Spanish and Italian, there are certain verbs which take sentential complements. The subject of the embedded clause is always null. And in the matrix VP there is an accusative NP which is coreferential with the null embedded subject. It is mainly perception verbs like vedere 'see', sentire 'hear' and some non-perception verbs like conoscere 'know', scoprire 'uncover', lasciare 'leave' in Italian which exhibit this phenomenon.
Spanish

(95) a. lo vi que andaba Cabizbajo
him I saw that was walking depressed
acc.
"I saw him walking depressed"

b. vi a paco que examinaba la herida
I saw to paco that was examining the wound
\"I saw Paco examining his wound\"

(Suñer (1983, 1984))

Italian

(96) a. Ho visto Luisella che ballava come una matta
"I saw Luisella that was dancing like a crazy person"

b. Ho sentito Piero che cantava con i bambini
"I heard Piero that was singing with the children"

c. Lascio i bambini che giocano con il cane
"I leave the children that play with the dog"

d. Ho conosciuto Massimo che era molto nevrotico
"I knew (met) Massimo that was very neurotic"

(Hyams (1986))
Romanian also exhibits this phenomenon.

**Romanian**

(97) a. L-am văzut că mi minca măvul

him-acc have that me was eating the apple seen

"I saw him eating my apple"

b. Am lasat-o să termine propoziția

have let her that finish the sentence

"I let her finish the sentence"

(Suñer (1983, 1984))

In the sentences (95-97), a null subject is obligatory in the embedded subject position and it must co-refer with the matrix "object". A lexical pronominal, even if it co-refers with the matrix "object", makes the sentence ungrammatical.

(98) *Ho visto Luisella che lei ballava come una matta

"I saw Luisella that she was dancing like a crazy person"

These sentences have been analyzed in terms of raising-to-object, relativization and control.

Westphal (n.d.) gives a raising-to-object explanation, i.e., the embedded subject is raised to the matrix object position. But this analysis (as we said) cannot be entertained in a theory which contains the projection principle and the theta criterion.
An analysis on the lines of relativization is also rejected by Suner (1982), taking a cue from Kayne (1981) for French. The main contention of Suner (as well as Kayne) is that (i) relativization of a subject as well as object is possible whereas in (95-97) there cannot be a gap (or null object) in the object position; (ii) the matrix "object" in (95-97) may be cliticized while the head of a relative clause does not cliticize; and (iii) the head of a relative clause may not be passivized while the matrix "object" in (95-97) can be passivized. As an alternative to the relativization analysis, Suner (as also Kayne) has proposed the control analysis. This analysis explains the subject-object asymmetry, the cliticization facts as also the passivization facts. This will also explain why in Italian, the clitic pronoun -- the impersonal si -- which freely occurs in tensed sentences, cannot appear in embedded sentences of parallel constructions like (96). This is so because the impersonal si cannot appear in control structures (Rizzi (1976), Burzio (1981)).

Suner's analysis in terms of control, however, faces many problems. The first problem relates to the nature of the null subject in the embedded subject position. The big PRO, the null pronominal-anaphor, which is subject to control, cannot occur there as the position is governed. Hence, Suner proposes
that it is the null pronominal pro which occurs there, Italian
and Spanish being pro-drop languages. The S-structure
representation that we get on this proposal is shown in (99).

(99) Ho visto Luisella [che [pro^1 AGR^1 ballava come una matta]]

A pro, however, can be freely replaced by a pronominal with a
phonetic matrix. If there is a referential pro in the embedded
subject position in (99), then it is inexplicable why a
lexical pronoun cannot occur there (cf. 98). The second
problem with Suner's analysis relates to the obligatory co-
indexing of the embedded subject pro with the matrix object.
A pronominal is not subject to control, whereas the embedded
subject pro must be controlled by the matrix object. Suner
does not provide any explanation of this idiosyncracy. The
third problem is related to control into an opaque domain.
As the binding conditions predict, a PRO can be controlled
only if it is in a non-tensed sentence which is transparent
to control. But in the sentences (95-97), the matrix object
controls a position in an embedded tensed clause which is an
opaque domain.

Hyams (1986) proposes a different analysis of the sentences
in (95-97) and claims that her analysis does not face those
problems which Suner's analysis faced. She bases her analysis
on Rizzi's (1982) proposal for a pro-drop language. Rizzi assumes that the INFL is [+pronominal] in pro-drop languages. Since it is a pronominal it acquires clitic-like properties, i.e., it absorbs the theta-role and Case which would otherwise be assigned to the subject position. It allows an [NP e] in the subject position as it happens to be a proper-governor. On the basis of this assumption by Rizzi, Hyams proposes that a null expletive element ex occurs in the embedded subject position as it is a non-theta position. Since the INFL is ungoverned and [+pronominal], a PRO can occur there, which she calls AG/PRO. She claims that it is AG/PRO which is controlled by the matrix object. Coming to the problems faced by Suner's analysis, a lexical pronoun cannot occur in the embedded subject position as the position happens to be a non-theta position. The second problem faced by Suner's analysis was that the embedded subject pro must have the matrix object as its antecedent whereas a lexical pronoun does not require an antecedent. Hyams claims that the question does not arise. There is no pro in the embedded subject position. The third problem was related to control into an opaque domain. Hyams claims that the domain is no more opaque. "The object controls AG/PRO in INFL. INFL, like COMP and the subject position of infinitivals, is an un-governed position. A perception verb is lexically specified
as assigning control to its object. The object will control the only element which is accessible to it, namely, AG/PRO. The situation is entirely parallel to control in infinitivals. Although control into infinitivals is possible in both English and Italian, control into a tensed subordinate clause occurs only in those languages in which INFL contains AG/PRO", i.e., in pro-drop languages (Hyams (1986:42)).

Whatever may be the relative merits of Suner's and Hyam's analyses, neither can be adopted for explaining the "raising" data in Hindi for the simple reason that in the embedded subject position (cf, (56)) both pro as well as a lexical pronoun can occur. Moreover, the "raising" data in Hindi do not seem to observe the subject-object asymmetry, a major reason for Suner and Kayne adopting the control analysis. We would, therefore, look for an analysis on a different line in the following section.

4.6 A Topic Phrase Analysis of "Raising"

Our discussion of various analyses of "raising" in Hindi has not been so fruitful till now. We considered three analyses in the preceding sections and saw that each had some deficiency; as such none could be adopted to explain "raising" in Hindi. In this section we will try yet another analysis and suggest that this is better than any of the analyses proposed in the preceding sections.
Our discussion has established certain conditions which the "correct" analysis should meet. Thus we know that the relation between the "raised" element and the embedded CP cannot be a head-modifier relation. This is because the head is not theta-marked by the modifier but must get its theta-role from some other source in the sentence. But we know that the "raised" NP has no other source for a theta-role; its only theta-role must come from the embedded clause. We also know, on the other hand, that the "raised" NP cannot be generated in the embedded clause and moved out, for reasons that we have discussed in some detail. The question now is: Is there any structure in which these seemingly contradictory demands are met? That is, is there a structure, in which an NP is generated outside a clause, and yet the only theta-role the NP is interpreted as having is a theta-role within the clause? We wish to point out that a Topic phrase vis-a-vis the clause in its c-command domain is such a structure. Our solution may be in this direction.

Before we proceed, we must take note of some recent rethinking regarding Topicalization. Chomsky (1977) proposed that a topicalized phrase is generated under an S node, which has S as its other daughter.
This configuration with a COMP adjacent to TOPIC was important for Chomsky's wh-movement analysis of Topicalization; for, according to this analysis, an empty operator (a wh-element with no phonetic content) is moved from the S into this COMP and coindexed with the element in TOPIC, giving the latter its interpretation. It had been noticed, however, that Topicalization in an embedded clause was marginally possible in English, and that, when this happened, the topicalized element followed COMP instead of preceding it.

(101) I don't think that this book, I will ever finish

To accommodate this fact, Chomsky (1977) suggested that \( S \) could occur both on the left- and right-hand side of the expansion rules:

(102) \[
S \rightarrow \text{TOPIC} \ S \\
\bar{3} \rightarrow \{\text{COMP} \ S\} \\
\]

This solution, however, is messy, and makes a lot of wrong predictions.
Recently, Lasnik and Saito (1991) have suggested that what is now commonly referred to as Topicalization in English is a rule of S-adjunction, not very different from Scrambling in Japanese. The S-structure of (101), then, is the following:

\begin{equation}
(103) \text{I don't think} [S \text{ that } [S \text{ this book} [S \text{ I will ever finish } t_1]]]
\end{equation}

The trace here is that of the topicalized phrase, not that of a wh-element. For long-distance Topicalization, however, the topicalized phrase must move through the intermediate COMP's like a wh-element (for some reason); and this accounts for the Island Constraints applying to Topicalization.

Lasnik and Saito suggest that a base-generated TOPIC position (like under $\bar{S}$, in Chomsky's proposal) is indeed appropriate for another structure, namely, Left Dislocation. Here there is no movement, a pronoun in S is interpreted as coreferential with the Topic phrase -- and there are no island effects.

Lasnik and Saito claim that Left Dislocation is possible only in the matrix clause. But we wish to suggest that this is incorrect, and that Left Dislocation is possible in an embedded clause in Hindi. We propose that a "raising" construction like (46) has the following D-structure:
Now, case assignment to jon should not be a problem. The verb L-marks the Topic Phrase. Hence, TP is not a barrier to government by V. The configuration now resembles the Exceptional Case-marking context where a matrix V assigns Case to the NP in the SPEC of the embedded IP. Here, V will assign Case to the SPEC of TP. And jon will get an accusative Case from the verb jaantaa.

Note that when Left Dislocation takes place in the matrix clause (as in English), the left dislocated NP has no Case but is in its "citation" form. This is because nothing Case-marks it in that position. One of the distinctions between
Left Dislocation and Topicalization (in fact) is that the topicalized NP exhibits the Case of its trace in the S, but the left-dislocated element does not show the Case of its coindexed pronoun. This is now neatly explained in terms of movement vs. base-generation. Now in Hindi, the fact that the "raised" NP never exhibits any Case except the invariable accusative Case assigned by the matrix verb, is explained by our claims that we are dealing here with instances of Left Dislocation (and not movement).

As proposed earlier in 4.3.5, the embedded CP will be adjoined to the matrix IP. Thus, the S-structure representation that we get will be as shown below:
The NP generated in the Spec of TP can have a co-indexed pronominal in any position within the extraposed CP, since no principle of the binding theory prevents this.

Two questions arise. Is the trace left by the extraposition of CP properly governed? We could assume that T is a proper governor. But better than this, we can say that since T is "empty" (lexically unfilled), the Minimality Principle does not prevent the matrix V from directly governing (and properly governing) the trace. The second question is not peculiar to "raising" constructions: why must a tensed CP complement extrapose? Davison (1989) suggests that a tensed CP cannot stay in a governed position in Hindi. The same explanation will suffice here. The D-structure position of the CP (in (104)) is governed, either by T, or by the matrix V (as we suggested above).

4.7 Binding of the Pronominal

In sentences in (46) (repeated here),

(46) a. māi jon - ko₁ jaantaa huu [CP ki wah₁/*j
 I-nom. John - acc. know be-pr. that he
 kitaab padhtaa hai ]
 book read be-pr.
 3p.sg.

"I know that John reads a book"

(Lit. "I know John that he reads a book")
b. tum bil-koj kahte ho [cp ki merii
you Bill-acc. say be-pr. that Mary-nom.
2p.sg.
usko/*j bahut pyaar kartii hai]
he-acc. very love be-pr.3p.sg.

"You say that Mary loves Bill very much"
(Lit."You say Bill that Mary loves very much")

the pronominal wah must be coindexed with jon in (46a) and
the pronominal usko must be co-indexed with bil in (46b).
A different index on wah and usko other than that of jon and
bil respectively will make the sentences completely unacceptable.
Since Principle B of the binding theory only requires disjoint
reference in a certain domain, and no other binding principle
applies to pronouns, this obligatory co-indexing of wah and
usko with jon and bil respectively may appear to need some
explanation.

But our Left Dislocation analysis of "raising" comes to
our rescue here also. All Left Dislocation structures have
the same requirement, cf.

(106) a. Bill, I'm sure that Mary likes him/*j

b. *Bill, I'm sure that Mary likes Peter.

In (106a), him must have the index of Bill; with any other
index, the sentence is out. (106b) is out because there is no
pronoun coindexed with the left-dislocated NP Bill. We can explain this requirement in terms of a principle of Full Interpretation (Chomsky 1986b:95-101). A left-dislocated element is not assigned a theta-role in its base-generated position; it is (as it were) just "mentioned". Now, for it to be integrated into the interpretation of the sentence (and for the "mention" to be justified), it must be given a role in the sentence -- even if indirectly, through a coindexed pronoun. Otherwise, the structure is disallowed for the same reason that vacuous quantification is disallowed in natural language.

We see now that the requirement of a pronominal coindexed with the "raised" NP in the embedded CP, far from being a problem, confirms our analysis of "raising" in terms of Left Dislocation.

...
NOTES

1 The data of "raising" given in Chapters IV and V are from Bihari Hindi, which is spoken under the strong influence of other regional languages like Magahi, Bhojpuri and Maithili; but many speakers of Standard Hindi have found the data quite acceptable in their dialect.

2 With respect to Standard Hindi there are three major dialectal areas in Bihar -- Magadh where Magahi is spoken, Bhojpur where Bhojpuri is spoken and Mithila where Maithili is spoken. A large geographical portion of Bihar called Chotanagpur is inhabited by the tribals whose languages belong to a different family altogether.

To my knowledge, the other two dialects -- Bhojpuri and Maithili -- also exhibit this raising phenomenon.

I happen to be a native speaker of Magahi.

For a detailed linguistic description of Bihar see Grierson (1903).

3 This argument (however) cuts both ways. If the trace is a variable, it will not pass on its theta-role to the antecedent, since only an NP-trace can do this. On the other hand, if the trace is an NP-trace, it cannot normally be replaced by a resumptive pronoun.
It is immaterial for our argument whether the relative pronoun moves to a **TOPIC** position (as shown in (50a) and (51a)), or to a "second position" in **COMP** which is to the left of **ki**. There is good reason to believe that **ki** is a **wh**-element which is in **SPEC, CP** (see Davison (1989), Balm (1990)); and there is also evidence that there are two positions available in **SPEC, CP** -- one for relative pronouns and one for question-words (see Reinhart (1981)). But we will not discuss this question further, but simply show **jo** as topicized.

Another way to derive (60b) is to say that the adverbial is generated only to the left of **VP** in an adjoined position, and that **root** raises and adjoins to **VP**, in a pre-adverbial position. But the motivation for such adjunction is not clear. Hence, the sentence can be explained only if we posit that the adverbial can be generated also to the right of **VP**.

See also Safir (1983). He shows that there are some PPs which can occur in subject position. He terms them Honorary NPs. He points out that certain PPs (seemingly referential) are possible in the subject position of IPs, and in the subject position of certain particle headed small clauses:

(i) Is under the bed a good hiding place?

(ii) ? I bet they pick [under the bed out] as their new hiding place.