

**The Extended Projection Principle in Universal Grammar:  
Expletives in Hindi**

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**MASTER OF PHILOSOPHY**

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## Certificate

This Dissertation entitled "The Extended Projection Principle in Universal Grammar: Expletives in Hindi" submitted by Ms. Rachna Sinha, Centre of Linguistics & English, School of Language, Literature & Culture Studies, Jawaharlal Nehru University, New Delhi, for the award of the degree of **Master of Philosophy** is an original work and has not been submitted so far in part or in full for any other degree or diploma of any other University.

This may be placed before the examiners for the evaluation for the award of the degree of **Master of Philosophy**.



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*TO,*

*Mummy, Papa and Nishant*

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## KEY TO PRONOUNCIATION

a	:	as in <i>bird</i> .
aa	:	as in <i>father</i>
i	:	as in <i>kin</i>
ii	:	as in <i>keen</i>
u	:	as in <i>bull</i>
uu	:	as in <i>cool</i>
e	:	as in <i>cake</i>
ae	:	as in <i>bat</i>
o	:	as in <i>boat</i>
ow	:	as in <i>ball</i>
k	:	as in <i>cat</i>
kh	:	aspirated k
g	:	as in <i>goat</i>
gh	:	aspirated g
c	:	as in <i>chair</i>
ch	:	aspirated c
j	:	as in <i>joker</i>
jh	:	aspirated j
T	:	as in <i>tin</i>
Th	:	aspirated T
D	:	as in <i>dog</i>
Dh	:	aspirated D
t	:	voiceless dental stop
th	:	aspirated t
d	:	voiced dental stop
dh	:	aspirated d
n	:	as in <i>name</i>
p	:	as in <i>pin</i>
ph	:	aspirated p
b	:	as in <i>ball</i>
bh	:	aspirated b
m	:	as in <i>my</i>
y	:	as in <i>yatch</i>
r	:	as in <i>rat</i>
l	:	as in <i>lamp</i>
w	:	as in <i>watch</i>
s	:	as in <i>sell</i>
sh	:	as in <i>she</i>
h	:	as in <i>him</i>

## ABBREVIATIONS USED

(pr.)	:	present tense
(fut.)	:	future tense
(pst.)	:	past tense
(cont.)	:	continuous aspect
(perf.)	:	perfective aspect
(erg.)	:	ergative Case
(acc.)	:	accusative Case
Spec,	:	specifier
PM	:	phrase marker
TP	:	tense phrase
VP	:	verb phrase
CP	:	complementizer phrase
DP	:	noun phrase

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## CHAPTER 1

### OVERVIEW

#### 1.0: INTRODUCTION

This dissertation aims to study the non-canonical position of the Hindi complement clause in construction with an expletive in the canonical object position. The absence of subject expletives in Hindi constructions involving raising verbs and weather predicates will also be studied.

Hindi poses intensely theoretical and empirical questions for word order and the account of expletives in natural language. Consider first the use of expletives associated with finite clausal complements. Hindi is an SOV language but the clausal complement surfaces obligatorily displaced from the canonical position which may be optionally occupied by expletive elements like *ye* (this), *aesa* (like this) and *is baat ko* (this thing). The use of these elements, when accompanied by the correct intonation (that of stress on these elements), results in a difference in the pragmatic effect. For example, a question like (1) will elicit the response (2) but if the question is (3), the response will be (4) with the correct intonation or, alternatively, (5) with the same intonation. Noteworthy is the fact that, when uttered without the said intonation, (4) can be the answer for (1).

- (1) tumhaarii icchaa kyaa hae  
your desire what is  
'What is your desire?'



(2) mae caahtaa hUU [CP kii tum aa jao]  
I want (pr.) that you come V<sub>2</sub>  
'I want that you come.'

(3) tum kyaa caahte ho  
you what want (pr.)  
'What do you want?'

(4) mae ye caahtaa hUU [CP kii tum aa jao]  
I this want (pr.) that you come V<sub>2</sub>  
'I want you to come.'

(5) mae caahtaa hUU [CP kii tum aa jao]  
I want (pr.) that you come V<sub>2</sub>  
'I want you to come.'

The use of these expletive elements, when accompanied by a particular intonation, causes a specific pragmatic effect of presupposition-assertion. By this mechanism, the information in the complement clause is emphasised. The same effect is also produced without the use of these elements, if the correct intonation is used. On the other hand, without this intonation, the said effect is absent despite the use of these elements in the preverbal position. This means that the said pragmatic effect uses the device of intonation obligatorily and that of these expletive elements in the preverbal position optionally. The presence of these elements does not necessarily cause the said pragmatic effect.

It is also to be noted that these expletive elements can be used only if the complement clause is finite. For example,

- (6) \*mae ye caahtaa hUU [CP kii tumhaara so jaanaa]  
I this want (pr.) that your sleeping V<sub>2</sub>  
'I want your sleeping.'

In current research on language design [Chomsky (1998, 1999)], the sole cause both of displacement and Merger of expletive is the EPP-feature<sup>1</sup>. It is, therefore, theoretically relevant that we try to work out how the seemingly “extraposed” complement clause in Hindi can be explained in terms of the EPP. As far as *ye* is considered, the first task is to work out the interpretative consequences of considering it an expletive vs. a resumptive element. If it is a “pure expletive” element, how can the pragmatic effects involved with its usage be explained, since in such a case, it should be “semantically vacuous”.

The case of Hindi is also useful in another respect. It lacks expletives in the subject position both in raising and weather predicate contexts. For example,

- (7) lagtaa hae [CP kii wo aayegii ]  
seems (pr.) that she come(fut.)  
'It seems that she will come.'

---

<sup>1</sup> EPP used to be a mnemonic for the Extended Projection Principle in Chomsky (1981), a requirement that every sentence have a subject. As we shall see below, this is no longer the sense in which this mnemonic is used.

Hindi weather predicate constructions also demand scrutiny. They too lack the Merger of an overt expletive. For example,

- (8) \*ye baarish ho rahii hae  
this rain happen (cont.) (pr.)  
'It is raining.'

Hindi is a null subject language. Possible courses of action can be to explore the possibility of the presence of null expletives, as indicated by Rizzi (1996), or to scrutinise more closely the nature of the EPP feature of T. This is because the possibility of T being a substantive category has been indicated in Chomsky (1999). If this is the case, then the EPP feature, which belongs only to functional categories, cannot be assigned to it. In such an event, the explanation for the trigger of subject expletives will change and the Hindi case will have to be looked into accordingly.

Thus, the theoretical, empirical and conceptual issues which we seek to resolve are:

- A) We have to consider the status of the EPP. This is the most crucial task as we require this in the explanation of the displaced complement clause, absence of subject expletives and absence of expletives in weather predicates.
- B) We need to determine the status of extraposition in the Minimalist theory of language design. The obvious step related to this will be to see how theoretically viable is the extraposition analysis. This is necessary to resolve the question about why the Hindi finite complement clause surfaces in the non-canonical position. Is this configuration the result of movement to the

right of the verb? What are the legibility conditions that force such movement?

C) Any structure which is created must meet the explanatory adequacy of being able to describe the various grammatical relations that are effected, with reference to the current proposals about the language design.

D) We need to establish the nature of the elements like *ye*. Either it is an expletive or a resumptive pronoun. We also have to account for the optional presence and pragmatic effect associated with it. If the internal argument theta role is assigned to the complement clause, what is the identity of *ye*?

E) The nature of the EPP feature of T has to be studied critically to account for the lack of subject expletives and absence of expletives in the weather predicate constructions in Hindi.

## 2.0: *THEORY*

### 2.1: *THE EPP AND EXPLETIVES-CHANGING DIMENSIONS*

In Chomsky (1981), the EPP is motivated mainly in terms of providing an explanatory account of expletives and empty categories in subject position (pro/PRO).

(9) THE EXTENDED PROJECTION PRINCIPLE (CHOMSKY, 1981):

Sentences must have a grammatical subject.

This kind of explanation is adequate in the absence of an elaborated theory of functional categories and their differences from lexical categories. The

EPP here is only a structural necessity of the sentential level. Expletives and the empty categories in the subject position are introduced in terms of Merge rather than Move. The expletive in this explanation is a “dummy subject”, lacking a theta role. Its presence is only due to the structural requirement of sentences enforced by the EPP.

EPP in Chomsky (1989) is in accordance with the theory that locates the motivations for syntactic operations in  $X^0$  categories (whether lexical or functional). The concept of the EPP in Chomsky (1989) seeks to derive the structural requirements of sentences. It distinguishes functional categories from lexical categories. Functional categories are targeted by Move and IP is special in that it can also be targeted by Merge in its specifier position. The EPP gets more integrated in the Move- $\alpha$  system, but not completely as it is not a trigger for Move as Case is (raising, for example, is not triggered by the EPP). However, it is a trigger for Merge.

In Chomsky (1992), interface levels are eliminated. Constructions do not converge at the interface if features are not checked. All displacement is motivated by feature checking requirement of  $X^0$  elements. As a consequence, EPP has to be construed as a feature of an  $X^0$  category. It is a feature of the functional projection T. In this kind of explanation, EPP can explain Merger and it can also induce successive cyclic A-movement on its own (without any Case motivation). The gradual shift is in the EPP becoming less and less unique. Attempting to explain it as a feature of a functional projection is an attempt to integrate it in the general theory of principles and parameters of language design. However, even here the EPP retains its unique sentential characteristics in that there is no adequate

explanation as to why and how this feature is motivated by the Bare Output Conditions and/or morphological properties of T. Chomsky (1989) can be seen as the initiation of minimalist reinterpretation. Within the activated IP structure, there is a division in the position targeted for Case and for agreement. This opens the path of making the EPP a distinct motivation altogether.

Chomsky (1995) makes the EPP a morphological property and so it remains a trigger for movement. However, many new dimensions are also added to it.

(12) THE EPP IN CHOMSKY (1995:232)

The EPP is a strong D-feature of T.

The assumption here is that displacement of elements in the overt syntax is primarily caused by strong features (Chomsky,1995:233), which has two properties. It triggers an overt operation, before spell out and it induces cyclicity.

This reinterpretation of the EPP-feature as a morphological property of T has significant consequences for an understanding of expletives. Recall that the EPP of Chomsky (1981) was motivated mainly by the expletives, but that definition does not define the formal properties of expletives. This does, as expletives must be null elements if they are to satisfy the EPP. So, expletives have neither case nor  $\phi$ -features (Chomsky,1995:287), they are non arguments (Chomsky,1995:347), and are elements with no formal or semantic features apart from their categorial features [i.e., they are D-element,

(Chomsky,1995:364)].

The characterisation of EPP in Chomsky (1995) as a strong D-feature, however, suggests that there can be a parametric choice of the EPP in terms of strength of T. It is predicted that the absence of expletives must be explained when either the EPP feature of T is weak or when the strong D-feature has already been erased by substitution of subject (Chomsky,1995:370). This weakening of the EPP feature gives rise to many problems.

a) If, as proposed by Chomsky (1995:349-355), AGR categories are to be eliminated on the grounds of conceptual necessity, then T is the only relevant head for nominative Case checking. In this case, in a language with weak EPP feature but in which nominative Case is checked overtly, the weak/strong distinction of the EPP feature is lost.

b) We can expect languages to have weak expletives, i.e. multiple specifier constructions in which the associate raises but the expletive stays in situ.

c) Even clauses seem to satisfy the EPP, for example,

(13) [That Appu is mad] does not surprise me

In this example it is the clause that occupies the [Spec, T] position, thereby satisfying the EPP. A clause cannot have a D-feature as it can only be associated with certain types of lexical categories i.e. nominals. Then how does it satisfy the EPP?

Till Chomsky (1995) the EPP is necessarily a feature of T. Boeckx (1998), citing Chomsky (1995,Fall lectures), views it as the “Universal Thematization Requirement”.

(14) Universal Thematization Requirement is the need for every sentence to have a theme.

In such an explanation, the expletive will indicate the theme, as pointed out in Kidwai (1999). Boeckx suggests that the expletive contains some discourse driven information. Thus, the EPP becomes more interface driven in this approach. An interpretative reason is assigned to it. Boeckx traces this concept to the traditional grammar, in the Port Royal reformulation of Abelard's conception of the copula. Uriagereka (1995a,b) develops an analysis of the EPP in terms of specificity and puts expletives along with many other topicalized elements in a distinct position (FP), at the edge of the sentence. Citing this work, Boeckx concludes that the expletive can be seen as having a surface effect linked to the speech moment referring to the given point in time and space and thus have the feature [+specific]. Thus the EPP grounds the sentence in space and time (and is thus the feature of T) i.e. the context. As we will realize, in this kind of explanation, the concept of the EPP gets considerably integrated in the interpretation of the sentence. However, it is difficult to give a structural definition along these lines. After all, what forces a theme to occupy the sentence initial position and how does a theme get indicated by "dummy elements"? Also, it is difficult to integrate this concept with the understanding of the EPP in Chomsky (1998 and 1999) i.e. as a feature that triggers displacement operations in natural language. The next subsection details the theoretical framework in which this view is articulated and which also forms the basis of the explanations in this dissertation.



### *2.2.1: MINIMALIST INQUIRIES: CHOMSKY (1998 AND 1999)*

In Chomsky (1998 and 1999), the central quest is to discover the extent to which the human faculty of language, “FL”, is an optimal solution to minimal design specifications. These can be considered to be legibility conditions or bare output conditions that make the generated expressions legible to systems that access these objects at the interface (the point of interaction between “FL” and the external systems). Language is held to be an optimal solution to such conditions according to the strongest minimalist thesis which serves as a standard for true explanation (Chomsky,1999:1). Thus, if empirical evidence falls short of this, explanation has to be given in terms of mechanisms which would not be found in a more perfect system which satisfies just the legibility conditions. If the empirical evidence requires such mechanisms which are “imperfections”, they call for some independent account. These considerations give rise to the Uniformity Principle (Chomsky,1999:2), by which

(15) Languages are assumed to be uniform, with variety restricted to easily detectable properties of utterances.

Thus, the concept of strength and weakness of features, which earlier was the root of explaining parametric variation, is to be abandoned. All principles governing language should be derivable from bare output conditions. In order to reduce the computational complexity, levels apart from the interface levels are eliminated and the Inclusiveness Condition holds (Chomsky,1998:27,33) according to which,

(16) No new features are introduced by the computation. Inclusiveness holds of narrow syntax, and each feature is interpreted at the level LF or associated with phonetic features by the phonological component. The new features referred to are the indices, traces, etc.

The human faculty of language specifies the features  $F$  that are available to fix each particular language  $L$ .  $L$  is the derivational procedure mapping  $F$  to  $\{EXP\}$ . The expression  $\{EXP\}$  is a set of interface representational.  $L$  makes a one time selection of  $F'$ , i.e. the features available to fix that particular language.  $F'$  is assembled to LEX which consists of the lexical items LIs. Further, as explained in Chomsky (1998:8), for generating individual derivations,  $L$  makes a one time selection of the lexical array, LA, (a collection of LIs, a “numeration” if some are selected more than once) from LEX and maps LA to  $\{EXP\}$ . LA consists of lexical items and core functional categories. The collection of LIs in LA have a once and for all collection of phonological, semantic and formal features.

The most fundamental operation of the computational system is Merge which proceeds on the basis of lexical array.

(17) DEFINITION OF MERGE IN CHOMSKY (1999:2)

In the operation Merge, two syntactic objects  $\alpha$  and  $\beta$  form the new object  $r = \{\alpha, \beta\}$ . It is assumed that  $r$  is of some determinate type: it has label  $LB(r)$ . In the best case  $LB(r) = LB(\alpha)$  or  $LB(\beta)$ . Merge yields two natural relations; sister and immediately contain.

### 2.2.2: COMPUTATION: CFCs, PHASES AND THE EPP

Chomsky (1998:15) describes the LIs as falling into two main categories: substantive<sup>2</sup> and functional. The core functional categories, CFCs, are C (expressing force/mood), T (tense/event structure), and  $v^*$ , the “light verb” head of transitive constructions. Chomsky (1998:15) describes the selectional properties of CFCs. It is assumed that C can be unselected (root), while  $v^*$  and T cannot be so. C is selected by substantive categories,  $v^*$  only by a functional category. T is selected by either a functional category i.e.C or a substantive category i.e.V. If T is selected by C it has a full complement of  $\phi$  features, if by V it is defective ( $T_{def}$ ). C selects T, and T and  $v^*$  select verbal elements.  $v^*$  may also select a nominal phrase as its external argument (EA) i.e. [Spec,  $v^*$ ].

All CFCs may have  $\phi$  features (obligatory for T,  $v^*$ ). These are uninterpretable, constituting the core of the systems of (structural) Case-agreement and dislocation (Move). Each CFC also has an extra specifier beyond its s-selection: for C, a raised wh-phrase, for T, the surface subject, for  $v^*$ , the phrase raised by object shift. Thus, the structure of a CFC is:

(18) [XP [ (EA) H YP ] ]

---

<sup>2</sup> One thing we will notice immediately is the difference in the characterization of T in Chomsky (1998) and Chomsky (1999). It is hinted in Chomsky (1999) that T could be a substantive category. If we take it as a substantive category, we will have to define the features associated with it. This aspect is going to be of consequence when we discuss the lack of subject expletives in Hindi.

Related to the concept of CFC is the concept of a “phase”. With its commitment to this model of UG, the derivation proceeds in terms of an unit which is a phase.

(19) DEFINITION OF A PHASE IN CHOMSKY (1999:9)

“The derivation of {EXP} proceeds by phase where each phase is determined by a subarray  $LA_1$  of  $LA$ , placed in ‘active memory’. When the computation exhausts  $LA_1$ , forming the syntactic object  $K$ ,  $L$  returns to  $LA$ , either extending  $K$  to  $K'$  or forming an independent structure  $M$  to be assimilated later to  $K$  or to some extension of  $K$ . Derivation is assumed to be strictly cyclic...”

Thus, a phase is equated with  $LA_1$ , i.e., part of the lexical array. In order to decrease computational complexity, the computational system makes a one time selection of  $LA$  from the lexicon. As (19) above suggests, the computational system accesses subarrays of  $LA$  in a cyclic manner, i.e., in phases. Further, as Chomsky (1999:9) explains, for a phase to be easily identifiable, it must contain at least one lexical item that will label it. On the assumption that functional categories head substantive categories (nominal, verbal and perhaps  $T$  as well), each phase will also have a functional category that will be the head of the phase. Thus, phasal units are essentially determined by the structure of CFCs. This, along with the evidence in Chomsky (1998), showing that phases are “propositional”, concludes that verbal phrases with full argument structure ( $v^*P$ ) and  $CP$  with force indicators can be viewed as phases.  $TP$ s or weak verbal phrases without arguments are not phases.

The EPP feature is associated with the CFCs in the manner described in Chomsky (1998:23)

(20) The head H of phase PH may be assigned an EPP and P-feature

The EPP feature of T is universal while that of  $v^*/C$  varies parametrically among languages and is optional when available. The EPP feature of an element  $\alpha$  requires Merge in the specifier of LB ( $\alpha$ ). Referring to the extra specifier of CFCs mentioned earlier, the said property of T is the EPP feature. By analogy, the corresponding properties of C and  $v^*$  are called EPP features, determining positions not forced by the Projection Principle. Thus, the extra specifiers of CFCs are the EPP specifiers. As described in Chomsky (1998:15), EPP features are uninterpretable (non-semantic, hence the name), though the configuration they establish has effects for interpretation.

The descriptions of EPP and P features are different in Chomsky (1998) and Chomsky (1999). Chomsky (1998:22) says that the P features are force, topic focus etc. They belong to the peripheral system and are responsible for indirect feature driven A' movement. However, later in Chomsky (1998:23), it is said that the P feature may well be redundant. "The P feature should be redundant, a reflex of the EPP feature if H does not have an appropriate  $\phi$  features (say, the Q feature of interrogative C). The two features are introduced to allow the general theory of Movement to apply without change in this case".

Thus, the P feature is the locus of encoding the "effects on interpretation" of the EPP feature (whenever it has such an effect). If the interpretative

effects of the EPP feature and the P feature are distinct, then the P feature of the phase will be assigned independently. So, there are three possible cases. In the configuration,

(21) [XP [ (EA) H YP ]]

XP can be either without an interpretative effect or can encode both EPP and P features, where P feature is the locus of encoding the interpretative effects of the EPP feature or can encode the interpretative effects of the EPP distinctly from that of the P feature. In such an event, it is not clear where the P feature will encode its interpretative effects. From the argument it appears that it will do it in a position distinct from XP.

Chomsky (1999) apparently recognising this ambiguity, eschews setting up an independent P feature and ends up replacing it by INT, associated with the EPP feature. Also, an additional dimension of the EPP feature of  $v^*$  being obligatorily associated with “an effect on the outcome” is added. As Chomsky (1999:28) describes:

(22)  $v^*$  is assigned an EPP feature only if it has an effect on the outcome.

(23) The EPP position of  $v^*$  is assigned INT

Actually the EPP feature of  $v^*$  is therefore licensed by the P feature. This is because INT is the “surface semantic interpretation”. It belongs to narrow syntax unlike what the term “surface” might suggest. As Chomsky (1999:11) clarifies,

(24) Surface semantic effects are restricted to narrow syntax.

### 2.2.3: GRAMMATICAL RELATIONS: CASE AND AGREEMENT

We have discussed the concept of phase and what elements constitute a phase in the last subsection. In this section we discuss the interactions that take place among the elements of a phase i.e., the Case-agreement licensing that takes place through the relation of Agree or Merge/Move.

(25) DEFINITION OF “AGREE”, CHOMSKY (1999:3):

The relation Agree holds between  $\alpha$  and  $\beta$  where  $\alpha$  has interpretable inflectional features and  $\beta$  has uninterpretable ones. The uninterpretable features of  $\beta$  are “valued” under Agree.

The presence of uninterpretable features makes an element “active”. The activated element is the “Probe” and it seeks a “Matching Goal” within its domain. This is because the uninterpretable features are “unvalued” and they receive value only under Agree (Chomsky,1999:4). As far as Match is concerned, it refers to the valuing of uninterpretable features in the relationship of Agree with similar interpretable features. As given in Chomsky (1999:4):

(26) Match is non-distinctness: same feature, independently of value.

Let us consider an English example to clarify this.

(27) [<sub>TP</sub> I [<sub>v\*P</sub> saw a man ]]

The uninterpretable Case features of the subject and object noun phrases render them active. Their interpretable  $\phi$  features value the uninterpretable  $\phi$  features of T and v\* respectively under the relation Agree (through Match). Case itself is not matched but deletes under the matching of  $\phi$  features (Chomsky,1999:4). The subject noun phrase (“I” in the example under consideration) has to move to [Spec, T] because of the EPP feature of T which cannot be valued simply by Agree. It requires Merger of an element in the specifier of the head that bears this feature. Agree removes the uninterpretable features from narrow syntax and so the derivation converges at LF but these features remain intact for the phonological component.

It will be obvious that Agree is a relation that can be stated only on the structures derived by Merge. By itself the Agree relation does not need movement of XPs. It is, however, basic to identifying the XPs to be moved (to satisfy the EPP) as the Goal is made visible to Move by the Probe-Goal relation.

(28) DEFINITION OF “MOVE”, CHOMSKY (1999:7):

The combination of Agree, pied pipe and Merge is the composite operation Move.

Move is more complex and less economical (i.e. costly). So, in order to decrease the computational complexity and for economy consideration, Merge is favoured unless such a decision leads to a crash of the derivation.



Thus, the highlights of the discussion above can be summarised as:

- a) Agree licenses in situ.
- b) Move happens only because of the EPP. Agree can't license EPP.
- c) Agree identifies the Goal for Move.
- d) Movement involves piedpiping.
- e) Merge is cheaper than Move. So, in order to satisfy the EPP, if there is an expletive in the numeration, its Merger is cheaper. In case there is no expletive, movement of subject (or object) takes place.

#### 2.2.4: CYCLICITY AND DERIVATION

We have seen that the derivation proceeds in terms of phasal units and the relations that hold among the elements that constitute these units. However, as explained before, these phasal units constitute only a part (i.e.  $LA_1$ ) of the lexical array, LA, for generating the expression {EXP}. Referring to definition (19) of the phase, we have to account for how K' or M get related to each other in the course of the cyclic derivation. In other words, we have to account for how the subsequent phases in the course of the cyclic derivation get linked to each other in order to generate the expression {EXP}. This is done in this subsection.

Chomsky (1999) suggests that the answers to these questions originate in the recognition of a distinction between strong and weak phases. Strong phases are "potential targets for movement". As it is the EPP feature that causes movement, the presence/absence of the EPP feature determines the nature of a phase. CP and v\*P phases are strong while the others are weak. Strong

phases are subject to the Phase Impenetrability Condition (PIC), which establishes cyclicity.

(29) PIC IN CHOMSKY (1999:10) FOR STRONG PHASES (HP) WITH HEAD (H):

The domain of H is not accessible to operations outside HP, but only H and its edge.

The “edge” refers to either the specifiers or the adjoined elements. The accessibility of H and its edge, however, is limited only till the next strong phase. By doing this, in the structure (30),

(30)  $[_{ZP} [_{HP} \alpha [ H YP ] ] ]$

it is ensured that in raising constructions we get the notion of the chain. Because two phases are spelled out as a unit, one can get the notion of which occurrence of  $\alpha$  is the head of the chain.

ZP, in the structure (30) above, is the strong phase. In effect, H and its edge  $\alpha$  belong to ZP for purposes of spell out. YP is spelled out at the level HP. If H and  $\alpha$  remain in situ, they are also spelled out. Otherwise, their status is determined in the same way at the next strong phase ZP<sup>3</sup>.

Suppose further that the computation L completes HP and moves on to a

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<sup>3</sup> The uninterpretable features which are valued remain until the phase level. At this level the whole phase is “handed over” to the phonological component. The valued features disappear from narrow syntax, permitting convergence at LF. However, they may have phonetic effects.

stage  $\epsilon$  beyond HP. As explained in Chomsky (1999:11), PIC distinguishes between  $\epsilon=ZP$  and  $\epsilon$  within ZP, for example  $Z=TP$ . The Probe T can access an element of the domain YP of HP but with  $\epsilon=ZP$  (so that  $Z=C$ ), the Probe Z cannot access the domain YP. Also, if  $Z=C$ , then its complement TP will be immune to extraction to a strong phase beyond CP and only the edge or head of HP (a strong phase CP or  $v^*P$ ) is accessible for extraction to Z. The same thing holds if  $Z=v^*$ . This is applicable also to the relation Agree.

This is following the assumption in Chomsky (1999:10),

(31) Interpretation/evaluation for  $PH_1$  is at the next relevant phase  $PH_2$

and that “interpretation/evaluation is uniformly at the next higher phase, with spell out just a special case”. Also that “the effects of spell out are determined at the next higher strong phase CP or  $v^*P$ ”.

Since we are dealing with the major theoretical issues in this section, it is necessary to discuss “extraposition”. The reason for this is that many explanations for the Hindi problem we are dealing with make use of this concept. In the next subsection, we discuss the nature of extraposition in the theoretical framework we are following.

### 2.2.5: *MOVE AT PF*

The theoretical framework we are pursuing permits movement of some more types (though not belonging to narrow syntax), apart from the

movement associated with the EPP. One such movement is that of extraposition. Chomsky (1995:333) states that extraposition might not belong to the framework of the principles and parameters of narrow syntax. Chomsky (1999:16) also describes a movement similar to extraposition. This is the Thematization/Extraction operation governed by the TH/EX rule. This is used to explain English unaccusative/passive constructions involving the extraction of the direct object to the edge of a construction by an obligatory rule i.e. the TH/EX rule. Chomsky needs TH/EX to explain something start from his account of unaccusatives which forces him to take the direct object's surface position as an extraposed one.

(32) DEFINITION OF TH/EX IN CHOMSKY (1999:16):

TH/EX is an operation of the phonological component, irrelevant for surface semantic effects (specificity etc.) normally associated with displacement to the edge.

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After the application of TH/EX at a relevant stage of the cycle, the narrow syntactic operation proceeds unchanged except for the fact that the copy of the element that underwent TH/EX is phonologically empty even prior to the strong phase level. Chomsky (1999:18) explains that TH/EX Moves an element rightward or leftward leaving a copy without phonological features, presumably adjunction to VP and substitution in [Spec, V] respectively, if a weak phase has a counterpart to the EPP. These "copies" or traces of TH/EX are inaccessible to Move but accessible to some other operations. These "other operations" are Agree or those at LF-interface.

Before we move on to the next section, it is necessary to note some issues in



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the theoretical framework under consideration that need more explanation. All of them are related to the EPP and contribute to its mystery. As a result they become exceedingly important for our purposes.

A) The uninterpretable EPP feature does not behave like other uninterpretable features. It cannot be valued simply by the relation Agree. It involves either Agree and Merge or Agree, Piedpipe and Merge. Why is it so? Is it because it is assigned INT?

B) The EPP position of  $v^*$  is assigned INT or the surface semantic interpretation. There seems to be an incongruence (or so it appears at this stage) between the pragmatic effects the EPP position encodes and the nature of the element which occupies this position. If the EPP position is assigned INT, how is it that “dummy subjects” or semantically vacuous elements, i.e., expletives, satisfy the EPP? This is to say that if the EPP can sometimes be the locus of some pragmatic interpretation, how do expletives, which encode only structural motivation, satisfy it?

C) There is a case in the fact that the assignment of the EPP feature to T and to C/ $v^*$  is different (former-universally, latter-optionally). As said before, while C and  $v^*$  are definitely functional categories, T could be a substantive category, according to Chomsky (1999). Why, then, should it have an EPP feature at all? This question is pertinent since the unexplained assignment of the EPP feature, which is the only criteria for identifying a strong phase, does not make TP a strong phase despite its presence. On the other hand, if we conclude from these arguments that T does not have an EPP feature, it is necessary to provide alternative explanation to all the cases in which the EPP feature of T is taken as the basis of the explanation.

D) The question that arises regarding the TH/EX rule is whether all kinds of extraposition or rightward adjunction can be regarded as instances of the

operation of this rule. For our purposes, it needs to be analysed whether the TH/EX rule can be regarded as the explanation for the non-canonical position of the Hindi finite complement clause.

### *3.0: POSSIBLE ANALYSES OF THE EMPIRICAL FACTS*

This Section attempts to point out some possible direction of analyses of the empirical facts regarding the case at hand. An important issue to which the empirical questions raised in section 1. of this chapter are related is to derive the non-canonical position of the Hindi complement clause. 3.1.1 and 3.1.2 points out two possible analyses for this issue. There is also a need to explain elements like *ye*, which optionally occupy the preverbal position. 3.2 suggests a possible direction of explanation in this respect. 3.3 explores the possible directions of analysis regarding the explanation for the lack of subject expletives in Hindi raising and weather predicate constructions. 3.4 points out some more possible directions of analysis.

### *3.1: DERIVING EXTRAPOSITION*

Explanation for the extraposition analysis for the non-canonical position of the finite complement clause exists along two lines—one describes it as a syntactic operation (Dayal, 1996), and the other describes it as a post syntactic operation (Chomsky, 1999). This section introduces these ideas very briefly and Chapter 2 discusses them in detail.

### 3.1.1: *THE EXTRAPOSITION ANALYSIS*

Dayal (1996) offers an explanation of the Hindi complement clause. It is suggested that it is an extraposed clause. Elements like *ye* in the canonical object position are regarded as the place holders for the object or resumptive pronouns. The obvious questions this analysis faces are:

- a) What is the motivation for extraposing the complement clause?
- b) Why do some constructions with *ye* have specific pragmatic effects?

These issues are discussed in detail in Chapter 2.

Chomsky's account of TH/EX, as discussed in 2.2.5, is also a kind of extraposition. This also will not apply to Hindi because of reasons like:

- a) It is not clear under what condition the TH/EX rule applies.
- b) TH/EX has no surface semantic effects.
- c) The trace of TH/EX is accessible for some interface driven operations.

### 3.1.2: *MSO AND MERGING IN PARALLEL*

In 2.2.4 we looked at the proposal regarding cyclic spell out in Chomsky (1999). There is another version of cyclic spell out in Uriagereka (1999). Like Chomsky (1999), Uriagereka (1999) assumes a dynamically split model in which the interpretative component is accessed in the form of successive derivational cascade. This approach is appealing in the current theory of language design, in which there are no levels like the S-structure at which the entire derivation proceeds to access the interpretative component.

Uriagereka (1999) seeks to derive Kayne's Linear Correspondence Axiom with the help of his proposals of Multiple Spell Out (MSO) by which units akin to Chomsky's lexical subarrays are shipped to the PF component. Uriagereka identifies the derivational stage at which spell out happens as the "command unit or (CU)". A command unit is obtained if elements are Merged to an already Merged Phrase Marker (PM). Its emergence is through the continuous application of Merge.

The driving question behind the birth of this idea is about how derivations involving more than one CU are linearized. It is assumed that since beyond CUs there is no way to collapse them into a given linearization, linearization is done in various steps, each of which involves only CUs. So, in order to finally have a unified and linearized object, we need a mechanism to relate an already spelled out structure to the still "active" PM. Uriagereka (1999:3) gives two versions of his idea of MSO.

(33) THE CONSERVATIVE PROPOSAL OF MSO, URIAGEREKA (1999):

The Conservative proposal is based on the fact that the collapsed Merge structure is no longer phrasal after spell out; in essence, the PM that has undergone spell out is like a giant lexical compound whose syntactic terms are obviously interpretable but are not accessible to movement, ellipsis, and so forth.

(34) THE RADICAL PROPOSAL OF MSO, URIAGEREKA (1999):

The Radical proposal assumes that each spelled out CU actually does not even Merge to the rest of the structure, the final process of inter-phrasal



association being done in the performative components.

MSO or any similar idea seems promising for the Hindi problem because in Hindi the structure of a sentence with a finite clausal complement involves complements displaced from their canonical positions. This makes the issue of linearization crucial. If structures can be built separately and then later Merged or linearized, the Hindi case can perhaps be accounted for. We work this out in detail in Chapter 2.

### *3.2: THE EPP FEATURE OF $v^*$ AND $ye$*

Apart from the non-canonical positioning of the finite complement clause, the optional presence and pragmatic effect of  $ye$  in the canonical object position also requires explanation.

The pragmatic effect which is sometimes associated with  $ye$  and the preverbal position it occupies, indicates a possible relation with the EPP feature of  $v^*$ . The EPP position of  $v^*$  is assigned INT and this falls in line with the pragmatic effects sometimes associated with  $ye$ . However, the optionality in the presence of  $ye$  and in the pragmatic effect associated with it has also to be accounted for. This proposal is worked out in detail in Chapter 2.

### 3.3: EXPLORING THE NATURE OF T

The universality of the EPP feature of poses a problem for Hindi. Hindi is a null subject language. There are no subject expletives in Hindi. Do we say that like null subjects there are also null expletives, as proposed by Rizzi (1986)? Also, if T is a substantive category, the possibility indicated in Chomsky (1999), should it have an EPP feature at all? If not, then how do we explain the movement of the external argument to [Spec, T]?

The possibility of the presence of null expletives and the possible substantive nature of T will be worked out in Chapter 3.

### 3.4: SOME MORE DIRECTIONS FOR THE ANALYSIS

There are some more potential directions of analyses for the Hindi finite complement clause.

If the assignment of accusative Case by  $v^*$  is made obligatory, a clause, which cannot be assigned Case, cannot remain in the canonical object position. Thus, this can become the reason for the non-canonical position of the Hindi finite complement clause. The presence of *ye* can be explained as is indicated by 3.2.

Another possible direction of explanation can be to explore the idea of directionality. It is noteworthy that the displaced finite complement clause in Hindi is head initial whereas Hindi is a head final language. Examples

#### 4.0: *OUTLINE OF THE DISSERTATION*

The first Chapter explains the issue at hand and the major theoretical concepts and also points out the possible directions of the solution.

The second Chapter explores the directions outlined in 3.1.1-3.2, all of which deal with the non-canonical position of the complement clause in Hindi and the optional presence and pragmatic effect of *ye* in the preverbal position. The extraposition analysis of Dayal (1996) and the concepts of TH/EX and MSO are critically analysed. The possibility of relating the presence of *ye* to the EPP feature of  $v^*$  is worked out. Cross linguistic implications of the proposals are also considered, especially with reference to wh scope interpretation.

The third Chapter deals with the absence of expletives in raising and weather predicate constructions in Hindi. For this purpose the proposed substantive nature of T is examined.

The fourth Chapter concludes the dissertation by reconsidering the problems raised in this chapter and going through the proposals developed regarding them in the course of Chapters 2 and 3.

## 5.0: CONCLUSION

The first chapter explains the questions raised by the Hindi finite complement clause and raising and weather predicate constructions. It gives an outline of the changing dimensions of the EPP and also of the major concepts in the theoretical framework of the natural language suggested by Chomsky (1998and1999), which forms the basis of the explanations in this dissertation. A brief description is given of the structure of the unit in terms of which the derivational system of language proceeds, the basic relation and operations the LIs enter into, the way in which they are handed over to the phonological component from narrow syntax and receive interpretation. The status of an extraposition analysis in the theoretical framework suggested by Chomsky (1998and1999) is also examined. The attempt is to just introduce the basic concepts, especially those which are needed the most in our subsequent chapters, and the theoretical and empirical problems, as exploring them in detail is beyond the possible scope of this chapter. Finally, a glimpse of the possible directions of analysis and the outline of the dissertation is also given.

## CHAPTER 2

### COMPLEMENTATION IN HINDI

#### INTRODUCTION:

The objective of this chapter is to account for the non-canonical position of the finite complement clause in Hindi. The solution developed during the course of this chapter is that the finite complement clause is not Merged in the canonical object position at all and is linearized in the position following the matrix clause.

Section 1 discusses how the displacement analysis, as extraposition of the finite complement clause, is not tenable, by examining two possible analyses—Dayal’s syntactic displacement and Chomsky’s PF displacement. Section 2 attempts to explain the non-canonical position of the Hindi finite complement clause from design properties of language. For this purpose, the theory of MSO in Uriagereka (1999) and Chomsky (1998 and 1999) is explored and a spell out by phase approach is argued for. The implications of this on the cyclic derivation is also worked out. Section 3 studies the implications this approach has for the Hindi finite complement clause constructions and shows that it yields a satisfactory design solution to the problem. Section 4 considers the positioning and pragmatic effects of the (optional) preverbal *ye* and the issues of linearization and interpretation of the two clauses. Section 5 concludes the analysis by explaining the crosslinguistic implications of these proposals, with special focus on wh-interpretation.

## **1.0 HINDI FINITE COMPLEMENTS AND THE EXTRAPOSITION ANALYSIS**

An extraposition analysis of the Hindi finite complement clause can be articulated in two ways. The first would be to describe it as a narrow syntactic phenomenon (Dayal, 1996), in which either the clause is extraposed to the right of the verb or it is base generated in the extraposed position. The second analysis would view it as a postsyntactic phenomenon in the light of the proposals made by Chomsky (1999). This section attempts to study both these approaches critically.

### *1.1 Syntactic Extraposition/Base Generation: Dayal (1996)*

Dayal (1996) explains the rightward positioning of the finite complement clause in terms of extraposition, derived as follows:

- (1) STRUCTURE OF BASE GENERATION ACCORDING TO DAYAL (1996:41):  
[<sub>CP/IP</sub> [<sub>IP</sub> [<sub>VP</sub> cunnu [ kii sab khush rahE] caahtaa hae ]]]  
Cunnu that everyone happy stay wants is  
'Cunnu wants that everybody stay happy.'

- (2) EXTRAPOSITION:

[<sub>CP</sub>[<sub>IP</sub>[<sub>VP</sub> cunnuu t<sub>i</sub> caahtaa hae ]][<sub>CP<sub>i</sub></sub> ki sab khush rahE]]  
 Cunnu wants is that everyone happy stay  
 'Cunnu wants that everybody stay happy.'

The motivation for extraposition is the Case Resistance Principle (CRP) of Stowell (1991) and the fact that finite clauses bear a case assigning feature i.e., they are [+ Tense].

(3) THE CASE RESISTANCE PRINCIPLE, STOWELL (1981: 146):

Case may not be assigned to a category bearing a case assigning feature.<sup>1</sup>

Dayal argues that the finite complement clause is either extraposed to the position adjoined to the matrix clause, or, if an overt pronoun is present in the canonical object position, it is base generated in the adjoined position. In either case, it is a barrier for binding and government chains formed by wh-movement at LF.

(4) [<sub>CP</sub> [<sub>IP</sub> [<sub>VP</sub> this<sub>i</sub> ] ] [<sub>CP<sub>i</sub></sub> ] ]  
 ———— X ————

(5) [<sub>CP</sub> [<sub>IP</sub> [<sub>VP</sub> t<sub>i</sub> ] ] [<sub>CP<sub>i</sub></sub> ] ]  
 ———— X ————

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<sup>1</sup> In the explanation in Stowell (1981:156) the complement clause is extraposed and Case is assigned to its trace. The trace is the head of the A-chain which receives the theta role. If Case assignment is made optional, the condition on theta role assignment, stated in (i), is violated.

(i) theta roles may be assigned to A-positions which are associated with PRO or Case. Thus, if Case assignment is made optional, the theta criterion is violated.

This explains the narrow scope readings obtained for the wh-elements in finite complements as these form adjunct islands for wh-movement at LF. For example,

- (6) tumne kahaa koun aayegaa.  
You said who come(fut.)  
'You asked who will come.'

A potential problem for this explanation of the Hindi finite complement clause is posed by constructions such as (7):

- (7) koun tum socte ho kii aayegaa.  
Who you think (pr.) that come(fut.)  
'Who do you think will come?'

Dayal (1996: 41-49) argues that this is extraction, a long distance scrambling operation (adjunction to matrix IP), which must take place prior to extraposition, i.e., the wh-element is scrambled at the stage of the derivation in which the clause is in the base generated preverbal argument position. This claim is supported by the fact that in clauses in which *ye* occupies the preverbal position, wh scrambling, as (8) shows, is barred.

- (8) \* koun tum ye socte ho kii aayegaa.  
Who you this think (pr.) that come(fut.)  
'Who do you think will come?'



This is expected because in this case the complement clause is base generated in the extraposed position. No movement can take place out of these complement clauses as it would be a violation of subjacency at LF.

The case, however, is different for the non-finite complement clauses in which the embedded wh-element gets a wide scope. For example,

- (9) tum [ kyaa karnaa ] jaante ho?  
 You what to do know (pr.)  
 ‘What do you know to do?’

Dayal argues that Hindi non-finite complement clauses are gerunds (i.e., DPs), and so can appear in Case marked object position. Also, since gerunds are nominalised IPs, there is no specifier position inside the gerund that the wh-element could target and so the embedded wh-element has to **M**ove to matrix [Spec, CP] at LF. The position in which the gerund appears is L-marked by the verb in terms of Chomsky (1986a), so it does not constitute a barrier for wh-extraction.

- (10) [CP what<sub>i</sub> [IP you [DP PRO t<sub>i</sub> doing ] know ]]

This also explains the impossibility of having a narrow scope reading for the wh-element embedded inside the non-finite complement clauses. For example,

- (11) \* wo [ kyaa karnaa ] puuch rahaa thaa  
 he what to do ask (cont.) was  
 ‘What was he asking to do?’

An important thing to be noted in Hindi finite complement clause constructions is that the element in preverbal position and the CP in the adjoined position share their reference and the pronoun in the preverbal position has a specific semantic effect of specificity. As far as the sharing of reference is concerned, according to Dayal, the relationship between the two is established through a “semantic reconstruction of extraposed elements” in the interpretive component (and not in the narrow syntax). In Dayal’s account, the pronominal in the canonical object position is neither a spell out of a trace (i.e. of the trace of the complement clause) nor an expletive. This is because it has a specific semantic effect which an expletive or a spelled out trace is argued not to have. Following Rothstein (1995), Dayal identifies it as a pronoun since it appears in a Case marked and theta marked position and has semantic content. It is a free pronoun and denotes specific entities that are recoverable from the discourse, “the adjoined phrase being licensed via predication” (1996: 45). As the pronoun refers to some facts already mentioned in the discourse, it contributes an aspect of specificity to the sentence.

Dayal’s account of the non-canonical position of the Hindi finite complement clause can be summarised in the following points:

- a) CRP and the condition on theta assignment constitute the reason behind the positioning of the finite complement clause to the right of the verb.
- b) Two separate accounts exist for explaining the rightward positioning of the finite complement clause i.e., base generation (when an overt pronoun is also present) and extraposition.

- c) Extraction precedes extraposition when the canonical object position is not occupied by an overt pronoun.
- d) The account for the shared reference between the finite complement clause and the overt pronoun is established in the interpretive (C-I) component and not syntactically.

When viewed in the light of the theoretical framework suggested by Chomsky (1998 and 1999), this explanation, however, faces the following problems:

- a) In a minimalist program of inquiry, the theoretical status of the CRP is at best unclear. The content of the CRP must be derivable either from design properties (for example, considerations of economy) or from bare output conditions, if it is to be the motivation for extraposition. Furthermore, for the CRP to be so construed, it must be shown as related to an EPP feature of a core functional category, as current theory considers the EPP as the sole motivation for syntactic movement. It however appears difficult to achieve this in the case of extraposition, as EPP features by definition require displacement into the syntactic domain of the CFC, rather than away from it. This account also doesn't specify which property of the finite complement clause makes it a good "goal" for displacement and what the "probe" in this context is.
- b) Aside from the lack of economy in deriving the position of the Hindi finite complement from two sources, this account obliterates the fact that derivations with or without *ye* in such contexts differs only in that the presence of *ye* triggers a specific pragmatic effect.
- c) The status of "semantic reconstruction" to explain the sharing of reference by *ye* and the extraposed clause is theoretically unclear. Even if the semantic

association of the extraposed clause with the matrix predicate is established in the C-I component, the syntax clearly marks the “site” for this reconstruction by the use of *ye*. How and why does *ye* succeed in doing so? It is also to be noted that Dayal’s account cannot explain the absence of this pragmatic effect in some constructions despite the presence of *ye* and the presence of the pragmatic effect in some constructions without the presence of *ye* (as described in chapter 1). Presumably, pragmatic effects are best explained by mechanisms that impose felicity conditions on the output of narrow syntax and do not necessitate individual syntactic derivations.

### *1.2: POST SYNTACTIC EXTRAPOSITION: CHOMSKY (1999)*

In his analysis of Case-licensing in unaccusatives/passives, Chomsky (1999: 16) proposes a displacement rule like extraposition which he terms Thematization/Extraction rule (TH/EX). TH/EX is a rule of the phonological component that displaces the DO to the right or left edge position, as in (12)-(14). Chomsky suggests that TH/EX is a response to a language-specific ban on surface structures of the form [V-DO] in unaccusative/passive constructions in SVO English.

(12) \* There were placed several packages on the table

(13) There were several packages placed on the table

(14) There were placed on the table several packages

As this operation does not yield the surface semantic effects (specificity etc.) associated with other displacement operations, Chomsky (1999: 16) suggests that

(15) TH/EX is an operation of the phonological component.

This makes it irrelevant for surface semantic effects. After the application of TH/EX at a relevant stage of the cycle, the narrow syntactic operation proceeds unchanged except for the fact that the copy of the element that underwent TH/EX is phonologically empty even prior to the strong phase level. It is explained that TH/EX moves an element rightward leaving a copy without phonological features. In Chomsky's account, the base (phonologically null) copy of the unaccusative DO is inaccessible to Move, but other operations like Agree may continue to access it in the course of the computation.

Our concern is to explore whether TH/EX can be a plausible explanation for the non-canonical position of the Hindi complement clause. The following reasons suggest it cannot be.

a) Chomsky (1999) does not specify the condition in which TH/EX is an option for the PF component, merely constraining it to apply only to unaccusatives/passives. Also, as Hindi finite complements are not unaccusatives/passives, they are not eligible for TH/EX [if it exists at all -see Kidwai (2000) ].

b) Chomsky's account crucially relies on the accessibility of the trace of TH/EXs (not the TH/EX undergone structure) to Agree and LF interpretative mechanisms. However, for Hindi there is evidence that both

binding and wh-scope make reference not to the copy of the finite complement clause but to its “derived position”.

(16) \* mae<sub>i</sub> ne kahaa [ kii apnii<sub>i</sub> kitaab le aao ]  
I (erg.) said that own book bring + V<sub>2</sub>  
'I<sub>i</sub> said that bring own<sub>i</sub> book.'

(17) tumne kahaa [kii koun aayegaa]  
you said that who come(fut.)  
'you asked who will come.'

The reflexive in (16) cannot be bound by the matrix subject. If the displacement of the finite complement clause is the TH/EX operation, reflexive binding in the copy of the “TH/EXed” clause should have been possible. Similarly, if wh-scope interpretation targeted the copy of the extraposed clause, we would, contrary to fact, expect that embedded wh in Hindi be accessible to a wide scope interpretation.

So, it appears that the extraposition analysis of Hindi finite complement clauses does not explain the facts, whether we take Dayal’s view of it as a syntactic operation or whether we do it through the operation of TH/EX, which is essentially a phonological displacement operation with syntactic consequences. As we have just shown, the latter proposal cannot be adopted for Hindi and so the Hindi extraposition facts must be explained with reference to the narrow syntax. However, it is generally problematic to derive extraposition syntactically because it does not seem to derive from legibility conditions at the interface. As the only other source (other than

displacement) for word order variation in UG is the options provided by language design, we must look toward the theory of design for a possible explanation. The next section suggests an explanation that makes reference to the theory of multiple spell out or MSO.

## *2.0: MULTIPLE DERIVATION AND SPELL OUT BY PHASE*

Section 1 showed that an extraposition analysis cannot account for the position of the Hindi finite complement clause. In this section, I analyse whether the account can be formulated in terms of design properties, more specifically, from an MSO account of derivations. The next section, summarising Uriagereka's proposal, proposes to show that it is possible to gel it with Chomsky's.

### *2.1: MULTIPLE SPELL OUT BY PHASE: URIAGEREKA (1999)*

Uriagereka (1999) demonstrates that Kayne's Linear Correspondence Axiom (henceforth LCA) is not a primitive of the grammar in that the base step of the LCA can be reduced to a theorem.

(18) LCA AS IN URIAGEREKA (1999:1):

- a) Base step- If @ commands &, then @ precedes &.
- b) Induction step- If \$ precedes & and \$ dominates @, then @ precedes &.

To derive this result, Uriagereka reasons thus:

The emergence of a formal object in a derivation is through the continuous application of Merge. This object is called a command unit (CU). “A command unit is obtained if elements are Merged to an already Merged PM. Discontinuous application of Merge to separately assembled objects does not form a command unit.” Thus, (19) is a command unit, but (20) is not one as the relation that exists between CUs is “I have Merged with your ancestors.” It is this already existing relation of command (in the computation) that maps to PF linearization.

$$(19) \quad \underset{\wedge}{\{a, \{g, \{a\{a, \{b\dots\}\}\}\}} \\ g \leftarrow \underset{\wedge}{\{a, \{a, \{b\dots\}\}} \\ a \leftrightarrow \{b\dots\}$$

$$(20) \quad \{a, \{\{g\{g\{d\dots\}\}\}, \{a, \{a\{b\dots\}\}\}\} \\ \{g, \{g\{d\dots\}\}\} \leftarrow \underset{\wedge}{\{a, \{a, \{b\dots\}\}} \\ g \leftrightarrow \{d\dots\} \quad a \leftrightarrow \{b\dots\}$$

Uriagereka suggests that the induction step of the LCA can be satisfied trivially by extending the current conception of UG to a dynamically split model with successive derivational cascades. Accessing PF and LF in successive derivational cascades requires multiple application of spell out. Although single application of spell out is indeed more economical, there are circumstances in which a derivation is forced to spell out different chunks of structure in different steps. This is when the derivation involves more than one command unit (CU). Going by the assumption that beyond CUs there is no way to collapse objects into given linearizations, the job is done prior to their Merger, when components are still CUs. Thus, in order to assemble



a final, unified and linearized object, there is a need to relate an already spelled out structure to the still “active” PM. This procedure of relating CUs is conceived in “conservative” and “radical” terms by Uriagereka, as mentioned in chapter 1 and repeated here.

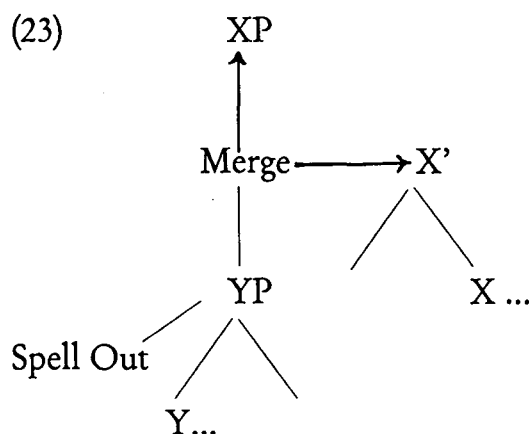
(21) CONSERVATIVE VERSION OF MSO, URIAGEREKA (1999:3):

The collapsed Merge structure is no longer phrasal after spell out; in essence, the PM that has undergone spell out is like a giant lexical compound, whose syntactic terms are obviously interpretable but nevertheless inaccessible to movement, ellipsis, and so forth.

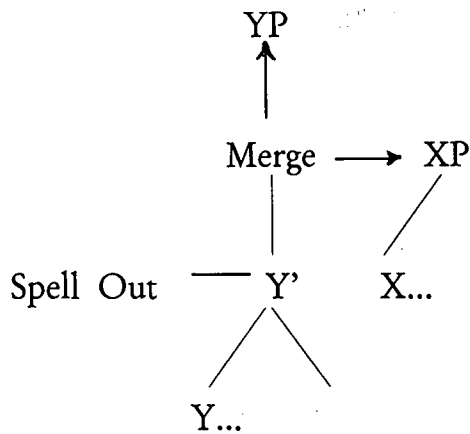
(22) RADICAL VERSION OF MSO, URIAGEREKA (1999:3):

Each spelled out CU does not Merge with the rest of the structure, the final process of interphrasal association being done in the performative components.

The mechanism of spell out outlined in the definition of the two versions of spell out can be represented as in (23) but not as in (24)



(24)



In the conservative version of MSO, the second structure can be prevented if only lexicon items project. MSO causes a PM to collapse into a compound of sorts. But this “word” cannot project further. It can Merge to something else but cannot support further “lexical dependencies”. Following Chomsky (1998), Uriagereka (1999:5) suggests that this property derives from a conception of Merge as a kind of Attraction, where certain properties of one merging item are met by another. “Attracting properties are “active” only in lexical items within the initial lexical array and not in words formed in the course of a derivation.” In the Radical version of MSO, the second structure is prevented because of the reason that a spelled out chunk of structure is literally gone from the syntax and hence cannot project. Agreement has a special role in the grammar in this respect. It is through agreement that spelled out PMs find their way back to the “interpretation site”. It “glues together separate derivational cascades which are split at spell out” (Uriagereka, 1999: 5). Both the versions of MSO deduce the induction step of LCA. Elements dominated by \$ will precede whatever \$ precedes because \$ has been spelled out separately from the CU it is attached to, in a different derivational cascade.

It will be obvious that Chomsky's idea of MSO differs from Uriagereka's in an important respect. While the spirit of both is to define the cyclic nature of the derivations, they differ in what the "unit" of the successive cyclic spell out is. For Chomsky it is a phase. For Uriagereka it is a command unit. In the framework of language design adopted, a phase is the unit in terms of which a derivation proceeds (as explained in ch.1, sec.2.2.2). Considerations of economy thus force us to regard it as the unit in terms of which the spell out will also proceed. Uriagereka's reason for choosing the CU as the unit for MSO is if PF demands linearization, "it is not unreasonable to expect that it does so piggy backing on a previously existing relation" (1999:2). The same logic will also work if the linearization is in terms of the units in which the derivation proceeds, i.e. phases. If Chomsky's contention that phases are propositional (Chomsky, 1998:21) is correct, then linearization is propositional as well. The LCA can then be restated as follows:

Base step-If a phase x commands a phase y, x precedes y.

Induction step- If a phase z precedes a phase y and if z dominates a phase x, then x precedes y.

Thus, for the base step of LCA, if there are phases CP and v\*P and if CP commands v\*P (this relation having established by Merge), then CP precedes v\*P. For the Induction step of LCA, if v\*P and CP have Merged and if CP dominates a TP, and if CP also precedes the v\*P, TP will also precede the v\*P.

Thus, there seems to be no computational problem if we regard phases to be the units in terms of which the derivation proceeds. This unification leaves Uriagereka's proposal unaffected, i.e., the conception of the Radical and the

Conservative versions of MSO remain intact as command units continue to form the basis for Merge internal to the phases. Along with this, the interpretation of the spelled out phases can take place in accordance with the explanation given in Chomsky (1999) [explained in ch.1, sec.2.2.4]. A more detailed account of this is given in the subsequent sections, while discussing the Hindi finite complement clause constructions.

## *2.2: MULTIPLE DERIVATION BY PHASE AND THE WORKSPACE*

The human faculty of language specifies the features  $F$  that are available to fix each particular language  $L$ . According to the framework suggested in Chomsky (1998 and 1999),  $L$  is the derivational procedure mapping  $F$  to  $\{EXP\}$ . The expression  $\{EXP\}$  is a set of interface representationals.  $L$  makes a one time selection of  $F'$ , i.e. the features available to fix that particular language.  $F'$  is assembled to LEX which consists of the lexical items LI. Further, as Chomsky (1999:8) explains, for generating individual derivations,  $L$  makes a one time selection of LA (a collection of LIs, a “numeration” if some are selected more than once) from LEX and maps LA to EXP.

LA consists of the lexical items and the CFCs. As Chomsky (1998:15) explains, the CFCs head “phases” that are the units in terms of which the derivation proceeds. According to Chomsky (1998:9), the derivation proceeds by phase where “each phase is determined by a subarray  $LA_i$  of LA, placed in active memory. When the computation exhausts  $LA_i$ , forming the syntactic object  $K$ ,  $L$  returns to LA, either extending  $K$  to  $K'$  or forming an independent structure  $M$  to be assimilated later to  $K$  or to some extension of  $K$ . Derivation is assumed to be strictly cyclic, but with the phase level of the

cycle playing a special role.”

Further, Chomsky (1999:36:21) elaborates that the objects  $LA_i$  makes available might be “complex objects already constructed in the course of the derivation, which proceeds in parallel”. Thus, the derivation proceeds cyclically while the complex structures which are parts of the cycles are also built in parallel. So, in the bottom up approach to the derivation, where the lowest phase is the  $v^*P$ , it does not mean that  $v^*P$  will be assembled first and then the CP. CP and  $v^*P$  might be assembled in parallel by the computation with cyclicity being enforced by how they are related to each other and accessed by interpretation.

In order to build structures in parallel, one needs the idea of the workspace explained in Bobaljik (1995). The conceptual import in this case is that the system involves the mechanism of building structures in parallel and then Merging them. To make the process more clear, let us consider the English sentence in (25):

(25) My mother eats potatoes

For this derivation, the theory we have developed so far would partition the numeration into two subarrays.

$LA_1$  [ C T ]

$LA_2$  [ $v^*P$  my mother eats potatoes ]

Let us consider the derivation step by step.

A) V Merges with the DP “potatoes”. This kind of Merger is referred to as

“Set Merge” in Chomsky (1998:50). The distinguishing feature of this kind of Merge is that it is to satisfy the selectional requirements (which includes argument structure) of one (the selector) but not both the items that Merge. Set Merge has some of the properties of Agree in that a feature F of one of the elements (i.e., the selector) has to be satisfied to enable the operation to take place. Thus, there is an analogy between F and the “probe” of Agree. Viewed in this light, Merge can be taken as involving a kind of “attract” mechanism.

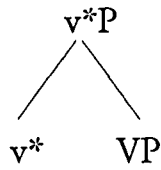
B) The DP “my mother” is being assembled in the same workspace, but separately, as it is not a complement of the verb. Thus, there are two elements in the work space:



Here we are assuming that since the CU in question constitutes a part of the expression, it is in the same workspace. Furthermore, a unique workspace in which Merge can either access an already merged object or an item from the lexical array is more descriptive of the recursive procedure of natural language. If the DP and the VP were constructed in different workspaces, then we would have to postulate a mechanism by which a Merged object could be transported from one workspace to another. It is thus conceptually more advantageous to build structures in parallel in a unique workspace.

C) Since the  $v^*P$  is selected by the CFC  $v^*$ , the accessing of  $v^*$  results in Set Merger of  $v^*$  to VP, forming (27).

(27)

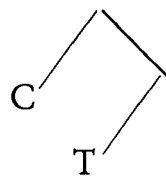


D) The  $v^*P$  has an EA position. Although the DP “my mother” does not Merge with any other object till now, it is still present in the workspace (which it should be as, in the concept of workspace, the possibility of an object leaving it if it is not involved in any particular step of the computation does not exist.). This DP will Set Merge in the EA position. Even if we consider the possibility of it being shipped out of the computation because it could not Merge, the selector feature of  $v^*$  for an EA will provide the glue and this DP will be accessed and Merged in the EA position of  $v^*$ .

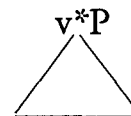
E) Chomsky (1999:10) explains that “interpretation/evaluation is uniformly at the next higher phase, with spell out just a special case” and that “... the effects of spell out are determined at the next higher strong phase CP or  $v^*P$ ”. So,  $LA_2$  goes to spell out with  $LA_1$ . The derivation proceeds with  $LA_2$  in the same workspace as  $LA_1$ .

(28)

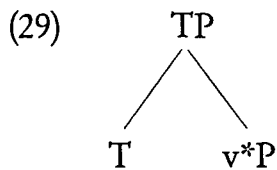
$LA_1$  -



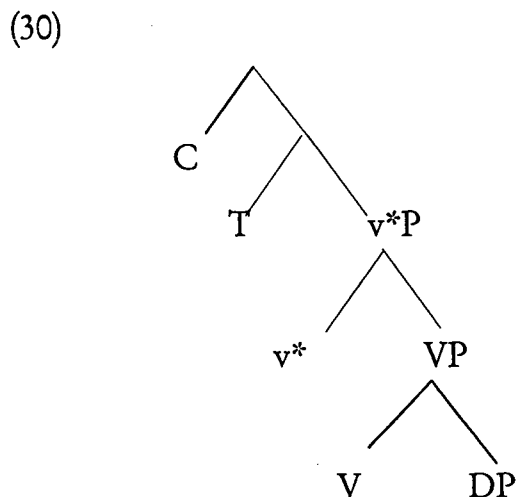
$LA_2$  -



C and T are already parts of the lexical array. If T is regarded as a CFC, it selects v\*P. Therefore, it will Merge with v\*P.



Because C selects T, it will Merge with this Merged structure.

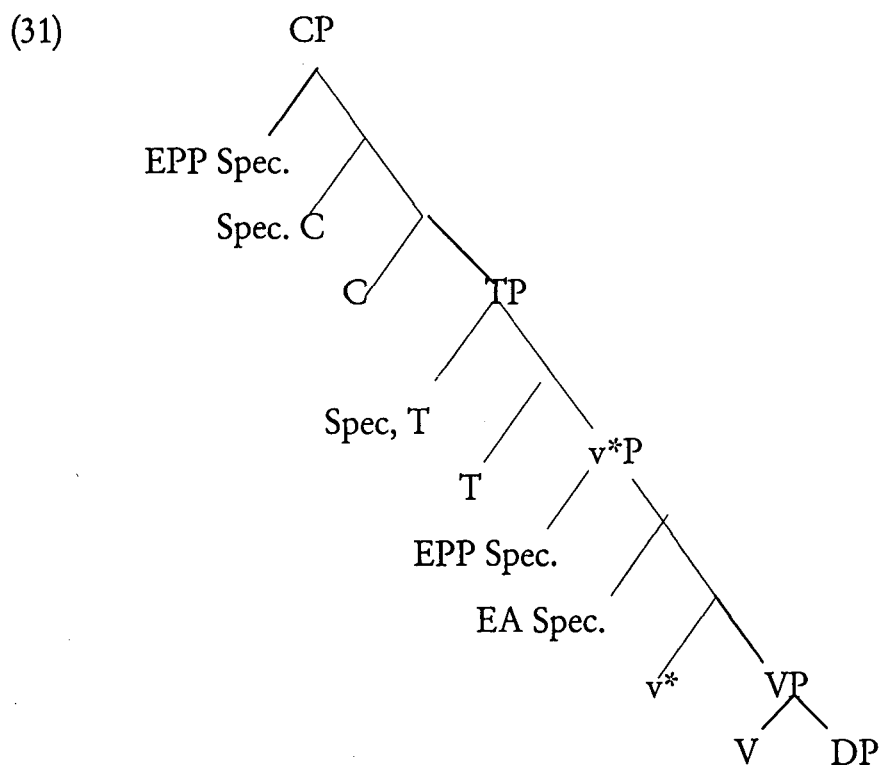


This constitutes a Merger of LA<sub>1</sub> and LA<sub>2</sub>. This is the structure before spell out if T is regarded as a CFC. If it is not a CFC (this possibility is explored in the next chapter), a slightly different argument is plausible. Since v\* can be selected only by a functional category and if T is not a functional category, it can be selected by C i.e. C selects both T and v\*. This will also



result in the Merger of  $LA_1$  and  $LA_2$  before spell out. Thus, in either case, the spell out operates at the CP level.

If the DP (the EA of  $v^*$ ) is still “active” due to some “unvalued” uninterpretable feature (for example, Case) or if T has an EPP feature (if it is considered a CFC), it can be Merged in [ Spec, TP ] before spell out. The spelled out structure will thus be (31):



It should be noted that the explanation does not intend to give the impression of any chronology in the assembly of  $LA_1$  and  $LA_2$ . It is really simultaneous. So,  $LA_1$  and  $LA_2$  get simultaneously constructed in the workspace and Merge prior to spell out.

### 3.0: THE DERIVATION OF COMPLEMENTATION IN HINDI SYNTAX

#### 3.1: DP AND NON-FINITE CLAUSAL COMPLEMENTATION

As suggested by Dayal (1996), non-finite complement clauses in Hindi are in fact DPs. Hence their derivation will completely parallel that of the DP complements. Thus, the steps of the derivation will be:

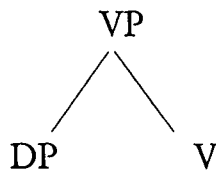
#### WORKSPACE

##### Derivation of LA<sub>1</sub>

V is introduced

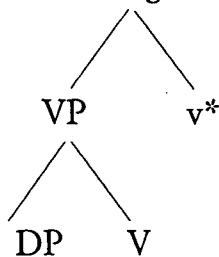
DP is assembled

V and DP Merge



v\* is introduced

v\* is merged with VP



##### Derivation of LA<sub>2</sub>

C is introduced

either

C selects T

C and T Merge

T selects v\*P (i.e. LA<sub>1</sub>)

T, C and v\*P Merge

or

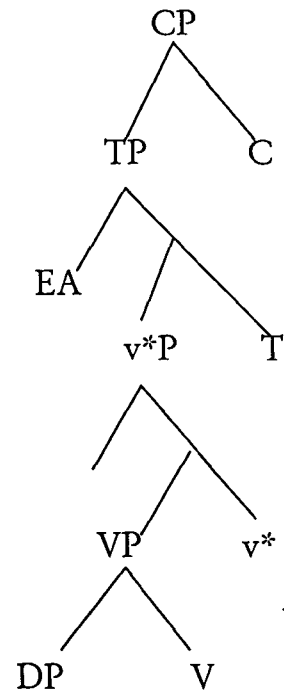
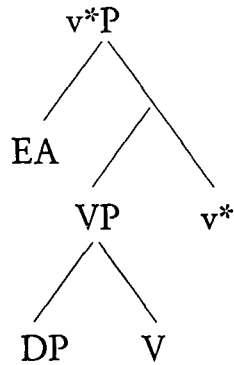
C selects T and v\*

C, T and v\*P Merge

EA Merges in [Spec,TP]

EA is assembled

EA is Merged in the EA specifier of v\*P



### 3.2: FINITE CLAUSAL COMPLEMENTATION

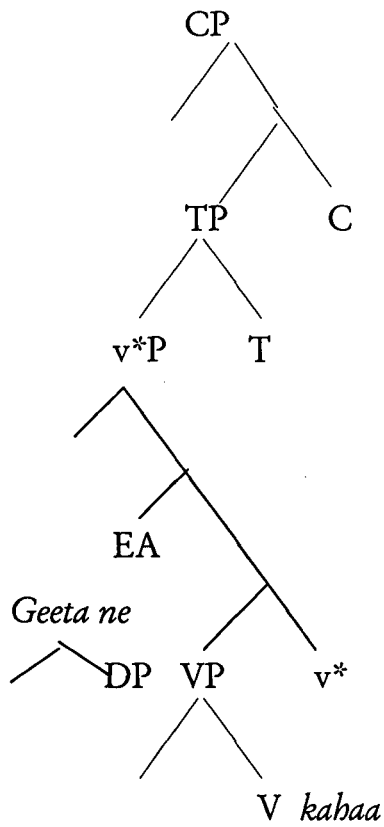
Consider the following construction:

- (32) geetaa ne kahaa [CP kii anuu aayegii ]  
 Gita (erg.) said that Anu come(fut.)

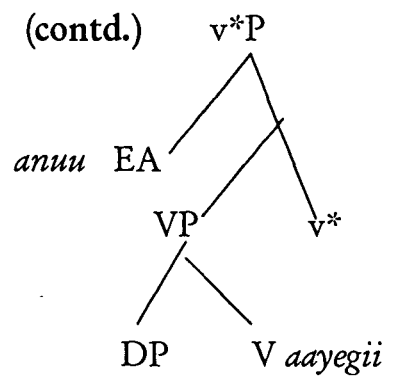
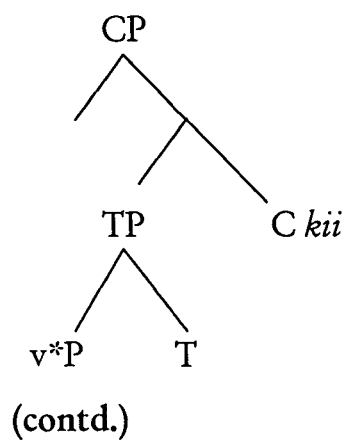
‘Geeta said that Anu will come.’

For clarity I will look at the derivation at level LA<sub>1</sub> and LA<sub>2</sub> for the two clauses.

- (33) MATRIX LA<sub>1</sub>



(34) EMBEDDED LA<sub>2</sub>



The question which is yet unanswered is why is LA<sub>2</sub> not Merged in the

complement position of *kabaa* (said) by Set Merge, given the theta relation between the two. There can be two possible reasons for this. So far in our discussion of DP- complementation we have not considered the uninterpretable features of  $v^*$ . Under standard assumptions,  $v^*$  has an uninterpretable phi-set that can be valued under Agree with the in situ complement of the lexical verb. Thus, in the DP- complementation structures above, the Merger of the DP complement in the complement position of V can be seen as the result of two kinds of attraction, one by the argument structure selectional features and the other by the uninterpretable features of  $v^*$ . In DP- complementation, since the DP which values the phi-set of  $v^*$  is within the  $LA_2$  that includes the verb, the attraction is eclipsed. This is not problematic as even if the selectional feature of V requires Merger of the DP with it, the phi-set of  $v^*$  can be valued in this position itself, by the relation of Agree.

On the other hand, there are two complex structures in finite complement clause constructions. The question is, can we Merge the finite complement clause in the complement position of V, following its selector feature. By the characterization of Merge as a kind of Agree, we cannot. The relevant selectors across LAs are uninterpretable features, but the selector feature F of V is in no way uninterpretable. If Merge is a kind of Agree and if the Merger of separate CUs is a result of Agree with uninterpretable features, the finite complement clause, which lacks a phi-set by virtue of being a clause, will be unsuitable for the purpose. This means that even if the selectional requirements of V selects an argument, it cannot be Merged in its complement position unless it values the phi-set of  $v^*$ .

Simplifying further, suppose that it is not  $v^*$  but  $V$  that has the uninterpretable features (this is argued in the next chapter). The EPP feature and the selection of an EA belong to the  $v^*$  while the uninterpretable phi-set belongs to  $V$ . In this case, then, the Merger of an argument in the complement position of  $V$  can be seen as the result of the combined attraction by its own uninterpretable phi-set and its argument structure. If any one of this attracting factors are missing the Merger of that argument in the complement position is resisted. The finite complement clause will be unable to value its phi-set and so it is not Merged in its complement position. The finite complement clause can also not be Merged in the EPP specifier of  $v^*$  since it is not a nominal.

Thus, the complement clause does not merge in the canonical object position. It must be shipped independently to the PF component. To see how this is achieved, recall (from ch.1, sec.2.2.4) that spell out is constrained by the phase impenetrability condition (PIC) in (35), by which in a structure like (36),  $H$  and its edge  $X$  belong to  $ZP$  for the purpose of spell out.

(35) Interpretation/evaluation of  $PH_1$  is at the next higher strong phase  $PH_2$ .

(36)  $[_{ZP} Z...[_{HP} X [H YP ]]$ ,

As Chomsky (1999:10) explains, spell out is “just a special case” of interpretation/evaluation with the result that “... the effects of spell out are determined at the next higher strong phase  $CP$  or  $v^*P$ ” as well. Therefore, in the complement clause in (37) [ $LA_2$  in (34)], interpretation/evaluation of the

v\*P phase is at the next higher strong phase, i.e., the C, with the result that spell out will be at the CP level. So, the complement clause, which can be seen as the ZP of the structure (37), gets spelled out

(37) [ZP kii anuu [HP aayegii ]]  
           that Anu come(fut.)

The matrix clause is also spelled out following the same principles. The ZP of (36) in this case, is the matrix CP or LA<sub>1</sub> of (33).<sup>2</sup>

(38) [CP giitaa ne [v\*P kahaa ]]  
           Gita (erg.) said

However, if LA<sub>1</sub> exits the narrow syntax without valuing the uninterpretable phi-set of v\*/V, the derivation will crash. The next section, along with discussing *ye*, explains how this is avoided.

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<sup>2</sup> In this explanation we are not accounting for the computational processes involved with the external argument and the TP. Our concern at this stage is limited to the internal argument selected, the v\*P and the CP. Also, since the TP does not constitute a strong phase, it doesn't cause any modification in the explanation for the interpretation/evaluation of v\*P. In the next chapter, we account for the computational mechanisms involved with the external argument and the TP.

## 4.0: SPELL OUT AND LINEARIZATION

### 4.1: *ye*, EXPLETIVE *pro* AND THE PHI-SET OF $v^*$

In chapter 1, we noted the optional use of *ye* and the pragmatic effect associated with it in Hindi finite complement clause constructions (ch.1, sec.1). It is also important to note that all constructions with *ye* in the preverbal position does not have the pragmatic effect. In fact, the pragmatic effect obtains when the presence of *ye* is accompanied by a specific intonation (stress on *ye*). Also, sometimes the said pragmatic effect is obtained without *ye*, by uttering the sentence in a particular intonation.

As explained in ch.1, sec.2.2.2, pragmatic effects of force, topic, focus, etc. are related to the p-feature of the core functional categories in Chomsky (1998:22). EPP features are distinct from them and are uninterpretable and non-semantic (Chomsky,1998:15). Chomsky (1999) modifies this and makes the EPP position of  $v^*$  the locus of encoding the surface semantic effects too. Recalling from ch.2, sec.2.2.2,

(39) The EPP position of  $v^*$  is assigned INT.

And

(40) INT is the surface semantic interpretation.

Where surface semantic effects are restricted to narrow syntax.

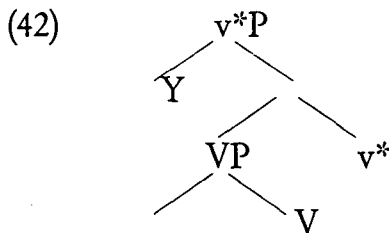
The preverbal position of *ye* and the associated pragmatic effect indicate its association with the EPP feature of  $v^*$ . However, it is also to be explained why all constructions with *ye* in the preverbal position do not have the



pragmatic effect. Referring again to ch.1,sec.2.2.2, the condition on the assignment of the EPP feature to  $v^*$  is-

(41)  $v^*$  is assigned an EPP feature only if it has an effect on the outcome.

Suppose the Hindi  $v^*$  in finite clause constructions always has an EPP feature. In the list of the terms in the lexical array there will be one more term, selected to satisfy the EPP feature of  $v^*$ . Let this be either a null expletive element, for example, the expletive *pro*, or the overt expletive *ye*. Let us assume that the choice of whether it should be the expletive *pro* or *ye* is arbitrary. This element is Merged in the EPP specifier of  $v^*$ , i.e., position Y in the following structure:



The position of the expletive *pro* or *ye* in (42) indicates how the phi-set of the  $v^*$  (or, alternatively, V) in  $LA_1$  of (33) can be valued. An element in the EPP position of  $v^*$  can enter into the relation of Agree with  $v^*$  and value its phi-set. The relation of Agree can also hold between an element in the EPP specifier of  $v^*$  and the lexical V. Thus, even if we assume the phi-set to belong to V, it can be valued by this element.

The phi-set of  $v^*$  (or V) in Hindi consists of the features of number, person and gender, which are uninterpretable. The distribution of *ye* in Hindi

shows that its feature content is flexible in the same way as that of pronouns like *mae* (I), *ham* (we), etc. It carries all the three features of number, person and gender although the values are fixed according to whatever the context is. Thus it can value the phi-set of  $v^*$  in much the same way as the pronoun does in the following example.

- (43)   cunnu     mujhe        maar    rahaa    thaa  
           Cunnu    me(acc.)    beat   (cont.)   be(pst.)  
 ‘Cunnu was beating me.’

The same explanation can be assumed for the expletive *pro* also.

As far as the pragmatic effect of *ye* is concerned, it is quite natural to suppose that pragmatic import is best expressed overtly. Thus, only when *ye* is selected there is an overt indicator of the pragmatic effect. When *pro* is selected, the pragmatic effect (if desired) is generated only through the intonation. This also explains the pragmatic effect perceived in the constructions without *ye*. When no pragmatic effect is intended, even the presence of *ye* does not effect it and there is also no intonational device to indicate it.

In this kind of explanation, the condition (41) on the assignment of the EPP feature of  $v^*$  is modified for the Hindi case. Hindi  $v^*$  is parametrically specified for an EPP feature. The EPP position of  $v^*$  can reflect the effects on the outcome when an overt element merges in its specifier position. In these cases this position can be assigned INT and can convey the surface semantic effect. However, this does not mean that the surface semantic effect

is obligatory as  $v^*$  can have an EPP feature even when no pragmatic effect is desired. Pragmatic concerns, thus, do not govern operations in narrow syntax. The EPP position can facilitate the pragmatic intension if it is aptly armed i.e., with the overt element in the EPP specifier. In case no pragmatic effect is needed, the EPP position is not assigned INT. This also explains the fact that the presence of the pragmatic effect is necessarily indicated by intonation and in some cases also by *ye*.

Proposing that Hindi  $v^*$  always has an EPP feature invites the question about how it is valued in cases when the complement of the verb is not a clause. This should not be problematic as the internal argument of the verb can be Merged in the EPP specifier of  $v^*$  and value its EPP feature. In case the internal argument is a clause, expletive *pro* or overt *ye* is selected for this purpose.

The question which remains about *ye* in the preverbal position is regarding its sharing the reference with the finite complement clause. I suggest that this is effected by the linearization procedures. The next subsection develops my proposal in this regard.

#### *4.2: LINEARIZATION AND INTERPRETATION*

If we recall the account of MSO in section 2.1 of this chapter, we are reminded that if Chomsky's and Uriagereka's versions of cyclic spell out are married, the units of spell out can be phases and they can receive interpretation/evaluation as suggested in (35) above. This is what has been

done till this stage for explaining the derivational procedure. At the same time, Uriagereka's conception of the mechanisms involved in both Radical and Conservative MSO remain intact. In Uriagereka's Conservative version of MSO, the structure after spell out is like a giant lexical compound whose syntactic terms are interpretable but inaccessible to movement, ellipsis, etc. If this version is followed, the two spelled out clauses i.e. the complement clause and the matrix clause become two giant lexical compounds. In the Radical version of MSO given by Uriagereka, the spelled out phase will disappear from narrow syntax altogether. The final process of interphasal association will be done in the performative components.

In the case being considered, there seems to be no problem if the two spelled out clauses exit from narrow syntax. But it is the question regarding the interphasal association that has to be worked out. This will include the facts about the linearization of the spelled out phases in the performative component. How is this done? What are the factors which govern it? Even in the conservative version of MSO, it has to be worked out how the spelled out "lexical compounds" get linearized. This subsection deals with these issues.

In accounting for linearization of the spelled out clauses, explanation for how the complement clause is made to follow the matrix clause has to be given. One explanation can be through Uriagereka's account. Uriagereka deduces the induction step of Kayne's Linear Correspondence Axiom (LCA) through the idea of MSO (both Radical and Conservative versions). As mentioned in sec.2.1, elements dominated by a phase X will precede whatever X precedes because X has been spelled out in a different

derivational cascade. However, there still remains one question unanswered in this explanation. How do we show that in the case under consideration the matrix C will precede the complement clause C?

The precedence of matrix C can be related to the dynamics of the selection of the complement clause C. The complement clause is selected by the matrix verb. However, it cannot Merge in the position in which normally the argument selected by the verb Merges. This is because it does not have an interpretable phi-set which could value the uninterpretable phi-set of  $v^*$  (or alternatively, V). Now, if we suppose that linearization is based on the selectional restrictions of matrix C and  $v^*$ , then, the matrix CP and  $v^*P$ , which is spelled out in a different derivational cascade, can be linearized to precede the complement clause, after spell out.

It was pointed out in the previous subsection that in Hindi finite complement clause constructions, *ye* in the preverbal position shares reference with the complement clause. Recall that for the Radical version of MSO, agreement “glues together separate derivational cascades which are split at spell out” (Uriagereka, 1999:5). It is through agreement that the spelled out structures find their way back to the interpretation site. Thus, some agreement features are associated with spelled out structures. The Hindi finite complement clause doesn't Merge in the canonical object position and doesn't interact with the verb which selects it. Still, it can be assumed that it has some default agreement properties by virtue of being spelled out in a derivational cascade distinct from the one to which its “selector” belongs. Also, it was seen in the previous subsection that *ye* has the features of person, number and gender but the values of these can be

assigned variably. Thus, in a way, *ye* is also “set” in some kind of default mode although it can be made as specific as the need is. This nature of *ye* and the default agreement on the complement clause could be responsible for establishing some kind of relation between them. The perceptual effect of this could be the sharing of reference.

An account of the shared reference of *ye* and the finite complement clause can also be given in the Conservative version of MSO. Although the spelled out complement clause in Conservative MSO behaves like a lexical compound, it is “identifiable”. This means that although it is not accessible for movement, ellipsis, etc., it can be interpreted as the internal argument selected by the verb. The spelled out complement clause becomes a “word” and has agreement features to show its link, i.e., the relation with its selector. This “word” can be assumed to value the phi-set of  $v^*$  (or  $V$ ) at the time of interpretation. In fact, this forms an alternative explanation for how the phi-set of  $v^*$  (or  $V$ ) can be valued. The presence of *ye* and the expletive *pro* can be purely for the EPP feature of  $v^*$ . In this case, the phi-set of *ye* or the expletive *pro* will be assigned the values according to the context (as explained in the last subsection), and the context is formed by the complement clause turned “word”. This can result in the perceptive effect of sharing of the reference.

The sharing of reference can also be linked to the fact that both *ye* and the complement clause interact with the verb. The complement clause is selected by the verb but does not value the phi-set of  $v^*$  (or  $V$ ). This is done by *ye* by the relation of Agree and it thus gets linked to the verb. In a way *ye* also is a proxy for the complement clause. Normally the task of licensing the

predication, which involves the satisfaction of argument structure and the valuing of the phi-set, is done by the same element. Both these mechanisms are necessary for the full interpretation of the verb. Thus, in the case under consideration, this task is shared and the perceptive result of this can be the sharing of reference between the two elements that share this task.

## 5.0: *CROSSLINGUISTIC PREDICTIONS*

### 5.1: *FINITE COMPLEMENT CLAUSE ACROSS LANGUAGES*

In this chapter, we have been discussing the distinguishing feature of finite complement clauses in Hindi. It is interesting to also consider the features of finite complement clauses in other languages. We consider examples from English and German in this section and view them in comparison with Hindi.

English is an SVO language. Unlike Hindi, the word order of English doesn't change when the complement of the verb is a clause and not a DP. For example,

(44) Cunnu goes to school  
S V O

(45) She said [that he is a rich man]  
S V O

However, since our arguments for the independent spell out of complement clauses have nothing to do with language specific properties, complement clauses in English must also have the same status as the ones in Hindi. Thus, though it appears that in (44) and (45) English complements are Merged in canonical complement position, this is an illusion created by the linearization procedures in the PF-component, which also effect a word order in which the finite complement comes to follow the matrix clause.

German presents a case similar to Hindi's in some respects. It being an SOV language, the word order is changed when the argument selected by the verb is a finite clause. For example,

- (46) Hans hat [PRO zu rauchen] aufgehört  
 Hans has to smoke stopped  
 S O V  
 'Hans has stopped smoking.'

- (47) Hans hat (es) geglaubt [daß sein Chef uns verachtet]  
 Hans has (it) believed that his boss us despises  
 S V O  
 'Hans has believed that his boss despises us.'

As far as the change in the word order of sentences having a finite complement clause is concerned, the explanation given to German and Hindi can be the same. However, the similarity does not continue in all instances, as German patterns with English in raising wh- overtly to [Spec, CP]. For example,



(48) Who<sub>i</sub> did she say [that he killed t<sub>i</sub>]

(49) maayaa ne socaa [CP kii shiilaa kyaa laayegii ]  
Maya (erg.) thought that Shila what bring(fut.)  
'Maya thought what Shila will bring.'

The facts of wh-movement and interpretation are taken up in the next section with reference to Hindi, English and German.

## 5.2: THE WH-MOVEMENT PARAMETER

As pointed out in the last subsection, Hindi and English vary in the scope of the wh-element of the complement clause. In English, the embedded wh-element moves to matrix [Spec, CP]. This is contrary to expectation. It is so because, like the Hindi complement clause, the English complement clause also cannot value the phi-set of v\* (or V) and so it should also not merge in the canonical object position, which is to the right of the verb in English. Therefore, in English, and in the otherwise SOV German too, the finite complement clause will be spelled out separately. After spell out there can be no movement outside the spelled out chunk, according to both the versions of MSO in Uriagereka (1999). How, then, do we account for overt wh-movement in English and German. To begin to answer this question, it is necessary to explore the account of wh-movement in Chomsky (1998).

Chomsky (1998:44) describes the wh-movement as being driven by an

uninterpretable wh-feature associated with the wh-phrase. This feature keeps it “active” till it can be valued. The wh-element also has a [Q] feature which is interpretable. On the other hand, C has an uninterpretable [Q] feature and thus it becomes the “probe”. This probe seeks the goal, i.e., the wh-element which is “active” because of the uninterpretable wh-feature. This element Merges in the specifier of CP, valuing the uninterpretable [Q] feature of C and its own uninterpretable wh-feature.

This explanation gives rise to the following questions/observations:

a) The manner in which the uninterpretable wh-feature of the wh-element is valued suggests its similarity with “Case”, i.e., it also doesn’t get valued directly but gets valued under the matching of the [Q] features. However, it is questionable why a feature, which is central to the interpretation of an expression (i.e., the wh-feature), does not directly motivate its position. Despite the fact that the wh-feature keeps the wh-element active, the position of the Merger of the wh-element is determined not by it but by the [Q] feature. This account, thus, fails to provide a link between the wh-feature and the [Q] feature.

b) The valuing of the [Q] feature of C requires Merger in its specifier position. This is analogous to the requirement of the EPP feature, which cannot be valued simply by the relation Agree. An obvious question is whether this parallelism is indicative of a deeper unity. Consider first the question of overt wh-movement from the complement clause. The problem with analysing this movement as taking place prior to the spell out (the “active” wh-element Merges in the matrix [Spec, CP], where its uninterpretable wh-feature are valued) is that we then have to explain how Move takes place between two separate lexical arrays in the workspace.

However, if we view the syntactic operation of movement as Bobaljik (1995) does, a solution presents itself. Bobaljik suggests that there is only one narrow syntactic operation i.e. Merge. The operation of Move is just a complication resulting from being caught in the notational device of the phrase markers which are representations of terms in the derivational procedure and not the stages of derivation. Unlike Move, Merge operates not on phrase structure representations but on unordered lists of terms selected in the numeration. Each operation defines exactly one new term in the course of the derivation. It relates two subsequent stages of the derivation. Thus, if we have to account for the sentence,

(50) Billy ate Fido

the initial numeration will have the terms {Billy}, {ate}, {Fido}, {v\*}, {C}, {T}.

The Merge operation upto [<sub>v\*P</sub> Billy ate Fido] happens in the usual fashion. As the next step, {T} is Merged and then {Billy}, which is there in the numeration, will be again accessed and Merged in [Spec, TP]. So, the structure will be (51).

(51) [<sub>TP</sub> Billy [<sub>v\*P</sub> Billy ate Fido ]

If this approach is followed, movement is not an identifiably distinct operation. The wh-element in the numeration can get Merged at matrix [Spec, CP] directly. The only questionable consequence is the possibility of a phase (i.e. the complement clause) to be spelled out with an element containing an unvalued feature (i.e. the wh-feature of the wh-element).

The status of the wh-element in Hindi finite complement clause raises more questions. Why does it remain in situ? How is the uninterpretable wh-feature of the wh-element and the [Q] feature of C valued? To explain the Hindi data we need to refer to the first two observations made at the beginning of this section regarding the explanation of wh-movement in Chomsky (1998). Suppose we say that there is a link between the wh-feature and the [Q] feature and also between the [Q] feature and the EPP feature. Also suppose that Hindi C parametrically lacks an EPP feature [parametrization of the EPP feature of C is possible according to Chomsky (1998), as explained in chapter 1 too], and that this results in the modification of the [Q] feature of C, by which it no longer requires the Merge of a Q-bearing element in [Spec, CP]. Rather, the [Q] feature of C can be valued by the relation of Agree. This amounts to saying that the parametrization of the EPP feature of C results in a parametrization of the [Q] feature of C also. Explaining the [Q] feature thus is also an initial answer to the query mentioned in b) above, i.e., the mystery of why the [Q] feature behaves like the EPP feature can be answered to some extent, the answer being that because they are related. Thus the [Q] feature of Hindi C does not require the Merge of an element in the specifier of C and can be valued by the [Q] feature of a wh-element in its in situ position, by the relation of Agree. The uninterpretable wh-feature of the wh-element is also valued in this process itself, in a way analogous to Case valuation.

As far as the difference in the scope readings is concerned, I suggest, it involves taking the observation a) seriously. If we relate the wh-element and the [Q] feature in such a way that when a wh-element values the [Q] feature of C in its [contd. Next page].

specifier position, its own wh-feature gets a wide scope and when the [Q] feature of C is valued by remaining in its in situ position, the wh-feature of the element gets a narrow scope, the case can be explained. Thus, Hindi wh-element values the [Q] feature of C in its in situ position and so its wh-feature gets a narrow scope. In fact, a footnote in Chomsky (1998:45) indicates that the direction of explanation, which we have adopted, could be plausible. It says – “...The wh-island analysis extends to other constructions if the features that drives movement shares properties with wh (assuming here a hierarchy of features)...”. The feature that drives movement is the EPP feature and in the explanation that we are postulating, the wh-movement does get linked to the EPP feature of C. Thus, framing this parametrization in relation to the EPP feature of C (as we do) doesn’t go against any basic conceptualisation in the proposed framework of language design (which we are following) and <sup>it</sup>if <sub>λ</sub> takes care of the other problems too, it could be plausible.

Hindi examples like (52) do not constitute a problem for our explanation

- (52) kyaa tumne kahaa [CP kii anuu aayegii ]  
 what you said that Anu come(fut.)  
 ‘Did you say that Anu will come?’

The wh-element in the matrix [Spec, CP] is not an argument of either the matrix clause or the complement clause. It is selected for the specific purpose of generating a yes/no question.

A potential problem is posed by examples like (53)<sup>3</sup>-

- (53) kyaa tum jaante ho [<sub>CP</sub> kii koun aayegaa ]  
what you know (pr.) that who come(fut.)  
'Do you know who will come?'

How does the wh-element of the complement clause value its uninterpretable wh-feature. It can be assumed that the wh-element chosen for generating a yes/no question does not value the [Q] feature of the matrix C. It can be in some kind of sentence initial focus position while the embedded wh-element and the matrix C interact in the way explained.

The position of the finite complement clause in SOV German is also similar to Hindi but in German the embedded wh-element Moves to matrix [Spec, CP]. The reason could be that the C of German has an EPP feature like English. Thus, the [Q] feature of C will require the Merger of the wh-element in [Spec, CP]. The analogy between Hindi and German word order should not lead us to think that they are the same in their parametrization of the EPP feature of C too.

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<sup>3</sup> An assumption which has been employed throughout the proposed explanation but never mentioned is that in the presence of an overt complementizer, C does not have a [Q] feature. Thus it does not interact with any wh-element and cannot constitute any kind of intervention effect in the interaction of the matrix C and the embedded wh-element

## 6.0: CONCLUSION

In this chapter, an account has been developed for the non-canonical position of the finite complement clause in Hindi. In this process, explanation have been given for how the phi-set of the matrix  $v^*$  (or  $V$ ) might be valued, the optionality of  $ye$  in the preverbal position, the pragmatic effect involved when either a sentence (with a finite clausal complement) is articulated with a particular intonation or sometimes when the element  $ye$  is present in the preverbal position (along with the intonational effect), the absence of the pragmatic effect in some constructions despite the presence of  $ye$ , the mechanism of linearization and interpretation of the matrix and the complement clauses and the difference in the scope properties and positioning of the embedded  $wh$ -element in Hindi, English and German. My proposals are articulated in the framework of language design of Chomsky (1998, 1999) and Uriagereka (1999). The major theoretical claims made in this discussion include the suggestion that spell out of command units is phase-driven and that parametric variation is actually restricted to the EPP feature of  $C$  (as  $v^*$  can be assumed to be crosslinguistically selecting for an EPP feature, as the next chapter suggests).

## CHAPTER 3

### SUBJECT EXPLETIVES IN HINDI

#### INTRODUCTION:

This chapter deals with subject expletives in Hindi. Section 1 discusses the absence of subject expletives in Hindi and the nature of T in Chomsky (1999) and locates the possibility of explaining this absence with an alternative explanation of T. Section 2 explores this alternative explanation of T, suggested in Chomsky (1999) itself, and also the alternative account of movement to [Spec, TP] proposed by Boeckx (2000). Section 3 develops an explanation for the absence of subject expletives in Hindi, in the light of the proposals discussed in Section 2. Section 4 explains the constructions involving shifted small clause objects and weather predicates in Hindi, in continuation with the explanation in Section 3. Section 5 concludes the chapter, pointing out all the proposals made and explanations attempted at.

#### *1.0: THE HINDI CASE AND THE NATURE OF T IN CHOMSKY (1999)*

The previous chapter formulated an account for the presence of expletive *pro* and the overt expletive element *ye* in the EPP specifier of  $v^*$  in Hindi. As mentioned in chapter 1, Hindi is also distinct in that it lacks subject expletives. Compare the English examples in (1) and (3) with the Hindi ones in (2) and (4).

(1) English

It seems that she will come.



(2a) sambhav    hae    kii    wo    aayegii  
possible    is    that    she    come (fut.)  
'It is possible that she will come'.

Or optionally

(2b) ye    sambhav    hae    ki    wo    aayegii  
this    possible    is    that    she    come (fut.)  
'It is possible that she will come'.

(3) English

It was proved that he is the culprit.

(4a) saabit    ho    gayaa    kii    wo    doshii    hae  
prove    happen V<sub>2</sub> (perf.) that    he/she    culprit    is  
'It has been proved that he/she is the culprit'.

Or optionally

(4b) ye    saabit    ho    gayaa    kii    wo    doshii    hae  
this    prove    happen    V<sub>2</sub> (perf.)that    he/she    culprit    is  
'It has been proved that he/she is the culprit'.

The optionality and positioning of the Hindi expletives in examples (2) and (4) resembles that of object expletives quite closely, and it is thus optimal to analyse these expletives as not in [Spec, TP] but [Spec, v\*P] at spell out. In this chapter, I argue that expletives in general are never Merged in the specifier of TP. The primary motivation for this reanalysis comes from the conceptually problematic status of T as an EPP feature bearing CFC. As already pointed out in chapter 1. of this dissertation, the nature of T is inadequately explained in the current framework of language design. T is regarded as a core functional category (Chomsky, 1998:15) and has an obligatory EPP feature (Chomsky, 1998:23). Chomsky (1999:9) suggests that the

distinction between strong and weak phases is that the former are potential targets for movement. Thus, the strength of a phase is linked to its having an EPP feature. Under this scheme of things, TP should be a strong phase. But, in reality it is not even a phase (Chomsky, 1999:9). CP and v\*P (the EPP feature of which can vary parametrically among languages and is optional when available) form strong phases.

Furthermore, the account of expletive Merger at T also faces problems with respect to it-expletives. Chomsky (1999:12) accounts for an example like (5) as follows.

(5) It is certain that he will come

The expletive is Merged in the embedded [Spec, TP], such Merger deleting the EPP feature of defective T. However, as non-finite T has no uninterpretable  $\phi$ -set, it cannot value the person feature of expletive, which raises to the specifier of matrix T, thereby deleting the EPP feature of the matrix T. As the matrix T has a full  $\phi$ -set, expletive's own uninterpretable [person] feature is also deleted. As deletion after match is all or nothing, and because the  $\phi$ -set of T is larger than just [person], the  $\phi$ -set of T remains intact for agree with the in situ nominal. In this explanation, the expletive raises to matrix [Spec, T] and this operation deletes (or values) the EPP feature of T and the [person] feature of the expletive. There are some problems in this explanation. Firstly, the [person] feature of expletive should not be uninterpretable as it is like a categorial feature and so it should not need to be valued. Aside from the conceptually odd formulation of the [person] feature of the expletive as uninterpretable, this account does not extend to it-expletives. In an example like (5), repeated here as (6), if expletive Merger at matrix [Spec, T] takes place, all that it can delete is the EPP feature of T, leaving the  $\phi$ -set of T intact.

(6) It is certain that he will come.

There is however, no other potential Goal which can value the  $\phi$ -set of matrix T.

Thus we see that the explanation for the nature of T in Chomsky (1999) raises some doubts regarding its true character. Since the presence of subject expletives and the EPP feature of T follow from the conception of T itself, it is tempting to probe in this direction to account for the lack of subject expletives in Hindi.

## *2.0: POSSIBLE DIRECTIONS OF EXPLANATION: CHOMSKY (1999) AND BOECKX (1999)*

Chomsky (1999:6-7) himself suggests an alternative conception of T by which T is to be regarded as the locus of tense/event structure, i.e., as a substantive rather than a functional category. The C-T relation thus becomes analogous to the  $v^*$ -V relation. T and V enter into Case-agreement structures and have EPP features. "For both C and  $v^*$ , the selectional property reduces to Match/ Agree" (Chomsky, 1999:6). This is to say that the  $\phi$ -set of C and  $v^*$  are valued by selection i.e., by C selecting  $T_{comp}$  and  $v^*$  selecting  $V_{comp}$ . It is the  $\phi$ -set of T and V which interact with the other arguments selected.

Suppose this proposal is modified to not change the essential nature of C and  $v^*$  and just change the nature of T. This is desirable since it is the explanation of T which is getting into a problem. C selects T and  $v^*$  selects V. T and V are substantive categories. The substantive categories enter into Case-agreement structures. The EPP feature belongs to the functional categories C and  $v^*$ . This makes sense since the functional categories form the head of the phases and the assignment of EPP feature to these phasal heads is in consonance with the interpretive associations of the EPP (for example, the EPP position of  $v^*$  can encode certain pragmatic effects if occupied by an overt element, as was suggested in chapter 2. of this dissertation).

Postulating T as a substantive category, minus the EPP feature, does not mean that movement to [Spec, TP] does not take place. If we consider examples like (7) it becomes obvious that the external argument does Move from its base generated position.

- (7)    *mae*    *ye*        *caahtii*    *hUU*        *kii*        *tum*    *aa*        *jaao*  
           I        this        want        (pr.)        that        you        come        V<sub>2</sub>  
 ‘I want you to come’.

*ye* is in the EPP specifier of  $v^*$  (according to the suggestions in chapter 2). Thus, *mae* must be in a position higher to matrix  $v^*P$ , most probably in [Spec, TP]. If T is a substantive category with no EPP feature, as we are trying to propose, why does *mae* Move to [Spec, TP]. The Case-agreement relations can be established in its base generated position under Agree. (The explanation we are trying to build since chapter 2. also requires us to postulate a reason for the movement of *mae* to matrix [Spec, TP] because if it doesn't Move to [Spec, T], it would be a possible candidate for valuing the EPP feature of  $v^*$  and our explanation will get into trouble).

A reason for the raising of *mae* to [Spec, TP] could follow from Boeckx's (2000:35-37) proposal. The crux of the explanation is a distinction between nominative and accusative Case and a new concept of visibility through Case. Taking a cue from the fact that Chomsky (1999) makes an element invisible once its Case is checked and from Vergnaud's Case Filter, Boeckx (1999) proposes Case as a PF-phenomenon. It has to be discharged into morphology and it is not enough to merely value it. It has to be in a way “deleted” or “eliminated”. This “elimination” takes place if the valued feature reaches the interface. The existence of a phase allows a checked Case feature to reach the interface, and the derivation to converge. Boeckx also suggests that Case checking marks the scope of an element. The difference between the “external” and

the “internal” argument can be viewed in terms of “scope”. The scope of the internal argument is “internal” to the v\*P whereas that of the “external” argument is beyond v\*P. If assignment of Case marks the scope of an element, nominative Case should be assigned beyond v\*P (i.e. by T).

Boeckx suggests that it makes sense to suppose that an element has to occupy a particular position to reflect any kind of scopal properties by virtue of that position. Making use of the concept of the multiple spell out system, he suggests that nominative Case, unlike accusative Case, which is assigned inside v\*P phase, cannot reach the interface automatically. This is because it is assigned in [Spec, TP] (due to “scope” reasons) and TP does not count for a phase. Nominative case reaches the interface, i.e., is made visible, only through the fact that in Uriagereka's system of multiple spell out, adjuncts and specifiers are spelled out separately for purposes of linearization. As the external argument occupies the specifier of TP, it is spelled out separately. This is how the nominative Case is also brought to the interface i.e., made visible.

### *3.0: ABSENCE OF SUBJECT EXPLETIVES IN HINDI RAISING AND PASSIVE CONSTRUCTIONS: AN EXPLANATION*

One consequence of our version of this approach to nominative Case that we are adopting is that nominative Case is really a property of arguments. Expletives in examples (1), (2a) and (4a), repeated here as (8), (9) and (10), as well as in (11), are not arguments and do not need externalization. They are Merged in [Spec, v\*P], and since they lack both scopal properties as well as nominative Case (Chomsky, 1995: <sup>287, 342</sup>  $\lambda$  etc.), they do not need to raise to [Spec, TP].

(8) It seems that she will come

(9) sambhav    hae    kii    wo    aayegii  
 possible    is    that    she    come (fut.)  
 ‘It is possible that she will come’.

(10) saabit    ho    gayaa    kii    wo    doshii    hae  
 prove    happen V<sub>2</sub> (perf.)    that    he/she    culprit    is  
 ‘It has been proved that he/she is the culprit.’

(11) There is a man in the room.

At spell out, both the Hindi expletives (null or overt), as well as the English expletives, will occupy the EPP specifier of v\*P. In both cases, then, the uninterpretable  $\phi$ -set of T is intact. In (11) this uninterpretable  $\phi$ -set is valued by the DP “a man”. The difference between Hindi and English with respect to expletives then is at two levels. First, Hindi has both overt and null expletives but English only has overt ones, and second, Hindi lacks an expletive which can associate with a nominal internal argument (the counterpart of English “there” expletive). It has the overt *ye* or the null expletive *pro*, both selected when the complement is clausal.

The fallout of this kind of an explanation is an obligatory EPP feature of v\* for English. We had already suggested this for Hindi in chapter 2. and now it seems to apply even to English. However, the English case has to be analyzed separately in more detail. For the purpose of this dissertation, our concern<sup>is</sup> focused on Hindi.

In the case of expletives associated with clausal complements in Hindi, however, a problem remains. The explanation as yet does not account for the deletion of the  $\phi$ -set of T. Note, however, that till now, we have considered only a nominal bearing a Case feature as eligible for valuing the uninterpretable features of T. In the discussion

that follows, I develop an account that ensures a valuing of the  $\phi$ -set of T by verb agreement.

On the assumptions we are making, in normal circumstances, the external argument Moves to [Spec, TP] for nominative Case, where it values the uninterpretable  $\phi$ -set of T, resulting in subject-verb agreement.<sup>2</sup> However, in cases in which there is no external argument that may be externalised to matrix T, T is defective, i.e.,  $\phi$ -incomplete, but differently from the way suggested by Chomsky. This  $\phi$ -incompleteness is reflected in having a default  $\phi$ -set that does not need to be valued in agreement with an externalised nominal with a structural Case feature. Rather such agreement can be effected by Agree with an in situ nominal, or an expletive. Alternatively, in (9) and (10), the clausal complement may bear a default agreement feature (as suggested in chapter 2), in which case the default  $\phi$ -set of T may well be valued under Agree with it. In either case, expletives stay in situ and do not raise to [Spec, TP].<sup>3</sup>

#### 4.0: SHIFTED OBJECTS AND WEATHER PREDICATES IN HINDI

In the light of the explanation proposed, examples (12), (13) (14) and (15) present a very important observation.

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<sup>2</sup> The uninterpretable  $\phi$ -set of T consists of the feature [tense] also. The verb values this feature. Thus the  $\phi$ -set of T is valued both by the external argument and the verb. This relation is manifested as subject-verb agreement.

<sup>3</sup> The agreement between “is” and “a man” in (11) can be because of the same reason as that for subject-verb agreement. The  $\phi$ -set of T is valued by “a man” in this case, and so this DP shares the task of valuing the  $\phi$ -set of T with the verb which values the [tense]. This relationship or linkage with T is manifested as agreement. The relation between T and the verb for the feature [tense] can be assumed to be established in the in situ position of the verb in these cases. There is a difference between the valuing of the [number], [person], [gender] features of T and its [tense] feature. Because the valuing of the former, under normal circumstances (i.e. when the verb has an external argument) involves the Case feature of the external argument, which in turn is related to its “scope”, the valuing of these features happens when the external argument Moves to [Spec, TP]. However, no such associations exist for the [tense] feature. So, it can be

(12) tum paagal lagtii ho  
 you mad appear (fem.) to be (pr.)

'You appear mad'.

(13) \*lagtii ho tum paagal  
 appear (fem.) to be (pr.) you mad

\*'You appear mad'.

(14) lagtaa hae [kii tum paagal ho]  
 appear (pr.) that you mad to be (pr.)

'It appears that you are mad'.

(15) \* [kii tum paagal ho] lagtaa hae  
 that you mad to be (pr.) appear (pr.)

\*'It appears that you are mad'.

The observation is that (12) and (13) present an instance of obligatory movement of the object to the preverbal position in raising constructions and object verb agreement. (14) and (15) present an instance when it is not possible to Move the complement.

It is noteworthy that when the complement is a small clause it Moves obligatorily and when it is a finite clause, it does not Move. It is also true that in cases of movement of the complement, the expletive element cannot be present in the EPP specifier of v\*.

(16) \*tum paagal ye lagtii ho  
 you mad this appear to be (pr.)

\*'You appear to be mad'.

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valued by the verb in its in situ position. Another difference between the [tense] feature and other features



According to Chomsky (1999:27-28), the EPP specifier of  $v^*$  is the position of object shift in OS languages. It can be proposed that the shifted object in Hindi is in the EPP specifier of  $v^*P$ . The explanation can proceed thus: Hindi  $v^*$  always has an EPP feature. If the internal argument of the verb is a nominal category, it values that feature. If it is clausal, *ye* or expletive *pro* is selected.

Crucially, this also explains the absence of expletives in Hindi weather predicate constructions. For example:

(17) baarish ho rahii hae  
rain happen (cont.) (pr.)  
‘It is raining’.

(18) \*ye baarish ho rahii hae  
this rain happen (cont.) (pr.)  
\*‘It is raining’.

(19) \*baarish ye ho rahii hae  
rain this happen (cont.) (pr.)  
\*‘It is raining’.

(18) supports the claim that the object *baarish* does not co-occur with the expletive in the EPP specifier of  $v^*$  and (19) gives an indication that it doesn’t Move to [Spec, TP] (otherwise it should have been possible for *ye* to be present in the EPP specifier of  $v^*$ ). To say that in all these cases, expletive *pro* is chosen will be undesirable because it will require the postulation of a criteria for the selection of expletive *pro* vs. *ye*

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of T is that when T is defective the other features are default but the [tense] is not.

whereas in the ongoing explanation this selection is arbitrary which is in keeping with their distribution<sup>4</sup>.

Weather predicates, like raising predicates, lack an external argument. The T is defective, i.e., default, in these constructions and does not tolerate argument externalisation. Thus *baarish* in (17), on the evidence of the impossibility of (18) and (19), occupies the EPP specifier of  $v^*$ . As with *ye* so with these shifted objects, any pragmatic effect is not obligatory. As Chomsky (1999:26) points out regarding pragmatic effect of definiteness, focus etc. “A “dumb” computational system shouldn’t have access to considerations of this kind, typically involving discourse situations and the like. These are best understood as properties of the resulting configuration.....”. Thus, if there is an intended pragmatic effect (indicated by intonation) and if there is an overt element in the EPP specifier position of  $v^*$ , the resulting configuration enables that element to be assigned INT or the “surface semantic interpretation”.

The English example (20) seems to pose a problem for the explanation that has been developed till now. However, if we study it cautiously, it can be explained within the limits of the proposed explanation.

(20) [that she is mad] is true

The difference of (20) vis-a-vis the Hindi examples is that it has an obligatory pragmatic effect of assertion. The complement clause is always asserted in these

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<sup>4</sup>The selection of *ye* is never linked with any particular semantic effects. Thus we have instances when the presence of *ye* does not necessarily cause the pragmatic effect of presupposition-assertion, as explained in chapter 2.

cases. This suggests that the movement of the clausal complement in this case, can be viewed as something like a topicalisation operation and not movement to the EPP specifier of  $v^*$ . In any case the clausal complement is not merged in the canonical object position and, in the light of this fact, (20) can be regarded as adjunction of the complement clause to the matrix clause. This is also indicated by example (21) which shows the possibility of the presence of an element in the EPP specifier of  $v^*$  along with the displaced complement clause.

(21) [That she is mad], it is true.

## 5.0: CONCLUSION

This chapter has attempted to explain the absence of subject expletives in Hindi by making reference to a characterization of T that recasts it as a substantive category and suggests that substantive categories enter into Case-Agreement systems alone. The EPP feature belongs to the functional categories C and  $v^*$ . The movement to [Spec, TP] is for nominative Case assignment as an element of “scope” is also associated with it. In raising and weather predicates T is defective in that it has a default  $\phi$ -set that doesn't need to be valued in agreement with an externalized nominal with a structural Case feature. Rather such agreement can be effected by Agree with an in situ nominal or an expletive. The verb values the [tense] feature of T in the in situ position and agrees with the object (if it is nominal) or gets default agreement (if the complement is clausal). The absence of expletives in Hindi is when the complement is clausal and the EPP specifier of  $v^*$  is occupied by expletive *pro*. The agreement on the verb is default (3<sup>rd</sup> P, S, mas.). Optionally, the EPP specifier of  $v^*$  can also be occupied by the expletive element, *ye*, in these constructions. When the complement is a small clause, as in weather predicates and instances of shifted objects, it occupies the EPP specifier of  $v^*$ . The verb agrees with the object in these

cases. It has also been proposed that Hindi lacks the “there” type expletives of English which can occur with nominal complements. So, the movement of these complements to the EPP specifier of  $v^*$  is obligatory in Hindi which has an obligatory EPP feature of  $v^*$ .

## CHAPTER 4

### CONCLUSION

#### INTRODUCTION:

This chapter concludes the dissertation, pointing out all the questions posed during the course of the argument and outlining all the proposed answers. Section 1 restates all the questions raised in Chapter 1. Section 2 outlines the answers to these questions and the assumptions which have been proposed during the course of Chapters 2 and 3. Section 3 concludes the chapter, pointing out the unresolved problem.

#### *1.0: THE ISSUES RAISED IN CHAPTER 1*

Chapter 1 explained the theoretical and empirical questions posed by Hindi for the account of word order and expletives in natural language. The following are the issues raised in Chapter 1 regarding the non-canonical position of the finite complement clause in Hindi, the optional presence and pragmatic effect of *ye* in the canonical object position, and the absence of subject expletives in Hindi raising and weather predicates:

A) We have to consider the status of the EPP. This is the most crucial task as we require this in the explanation of the displaced complement clause, absence of subject expletives and absence of expletives in weather predicates.

B) We need to determine the status of extraposition in the Minimalist theory of language design. The obvious step related to this will be to see how theoretically viable is the extraposition analysis. This is necessary to resolve the question about why the Hindi finite complement clause surfaces in the non-canonical position. Is this configuration the result of movement to the right of the verb? What are the legibility conditions that force such movement?

C) Any structure which is created must meet the explanatory adequacy of being able to describe the various grammatical relations that are effected, with reference to the current proposals about the language design.

D) We need to establish the nature of the elements like *ye*. Either it is an expletive or a resumptive pronoun. We also have to account for the optional presence and pragmatic effect associated with it. If the internal argument theta role is assigned to the complement clause, what is the identity of *ye*?

E) The nature of the EPP feature of T has to be studied critically to account for the lack of subject expletives and absence of expletives in the weather predicate constructions in Hindi.

Apart from these, some questions are also raised regarding some of the elements of the theory which is used to explain the observed phenomenon of Hindi. These questions are:

F) The uninterpretable EPP feature does not behave like other uninterpretable features. It cannot be valued simply by the relation Agree. It

involves either Agree and Merge or Agree, Piedpipe and Merge. Why is it so? Is it because it is assigned INT?

G) The EPP position of  $v^*$  is assigned INT or the surface semantic interpretation. There seems to be an incongruity (or so it appears at this stage) between the pragmatic effects the EPP position encodes and the nature of the element which occupies this position. If the EPP position is assigned INT, how is it that “dummy subjects” or semantically vacuous elements, i.e., expletives, satisfy the EPP? This is to say that if the EPP can sometimes be the locus of some pragmatic interpretation, how do expletives, which encode only structural motivation, satisfy it?

H) There is a case in the fact that the assignment of the EPP feature to T and to C/ $v^*$  is different (former-universally, latter-optionally). As said before, while C and  $v^*$  are definitely functional categories, T could be a substantive category, according to Chomsky (1999). Why, then, should it have an EPP feature at all? This question is pertinent since the unexplained assignment of the EPP feature, which is the only criteria for identifying a strong phase, does not make TP a strong phase, despite its presence. On the other hand, if we conclude from these arguments that T does not have an EPP feature, it is necessary to provide alternative explanation to all the cases in which the EPP feature of T is taken as the basis of the explanation.

I) The question which arises regarding the TH/EX rule is whether all kinds of extraposition or rightward adjunction can be regarded as instances of the operation of this rule. For our purposes, it needs to be analysed whether the TH/EX rule can be regarded as the explanation for the non-canonical

position of the Hindi finite complement clause.

All these issues have been studied and explained during the course of chapter 2 and chapter 3. The following section points out the understanding that this dissertation arrives at, regarding each of the questions pointed out in this section.

## *2.0: PROPOSED SOLUTIONS*

In this section, we take the questions one by one and point out the understanding we have arrived at in connection with them.

### *2.1: THE EPP*

As far as the understanding of the EPP is concerned, in the course of our explanations we have come to an understanding which is not very different from that of Chomsky (1999), although some modifications has been proposed. EPP is an uninterpretable feature associated with the core functional categories, C and v\*. Its unique feature is that, unlike other uninterpretable features, it cannot be valued by Agree with an uninterpretable feature of an element in its in situ position. It cannot be valued only under the relation Agree, rather, the process of valuing it involves either Merge and Agree or Piedpipe, Merge and Agree. This is to say that, in order to be valued, the EPP feature requires an element of the nominal category to be present in the EPP specifier of the head which bears



this feature. The assignment of EPP feature itself doesn't have any pragmatic effects. The pragmatic effects, which are observed to be sometimes encoded by the elements in the EPP specifier of  $v^*$ , as in Hindi, can at best be understood as properties of the resulting configuration. Thus, if there is an overt element present in the EPP specifier of  $v^*$  and if the discourse situation demands a pragmatic effect, in the resulting configuration, the element in the EPP position can be assigned INT or the surface semantic interpretation. This much of understanding is in accordance with the explanation in Chomsky (1999).

The modifications in the concept of the EPP feature have been proposed in relation to the [Q] feature of C and the EPP feature of T. The [Q] feature of C is proposed to be related to the EPP feature of C in such a way that the absence of the EPP feature takes away the "EPP like property" of the [Q] feature, i.e., when C does not have an EPP feature, the valuing of [Q] feature does not require the Merger of an overt element in the specifier of the head bearing this feature (chapter 2, section 5.2). Proposing the absence of the EPP feature of C (resulting in the parametrization of the [Q] feature) is permitted in the theoretical framework being followed as it permits the EPP feature of C and  $v^*$  to vary parametrically across languages (Chomsky, 1998:23). In relation to T, the proposed modification (chapter 3, section 2) is that since T is understood to be a substantive category and not a functional category, it does not have an EPP feature.

## 2.2: EXTRAPOSITION

As far as the viability of the operation of extraposition in the Minimalist theory of language design is concerned, the case of both syntactic (Dayal, 1996) and post syntactic (Chomsky, 1999) extraposition have been considered and found inadequate to explain the Hindi case. Dayal's account of syntactic extraposition makes use of principles like the CRP, which have an unclear status in the Minimalist theory of language design. In keeping with the Minimalist theory of language design, the content of the CRP should be derivable from either the design properties or the bare output conditions. This is not so. Also, this theory makes the EPP feature the sole cause of movement and so the CRP, which triggers extraposition, should be some how related to the EPP feature. However, this relation cannot be established as the EPP feature, by definition, requires displacement in the syntactic domain of the CFC while extraposition is outside the syntactic domain of the CFC. Also, Dayal's explanation of extraposition is uneconomical as it involves the postulation of 2 explanations for the construction of the finite complement clause in Hindi, one with *ye* in the canonical object position and one without *ye*. This account also doesn't explain the optionality of the presence of *ye* and also that of the pragmatic effect associated with it. The presence of the same pragmatic effect in some constructions without *ye* is also not explained. The idea of "semantic reconstruction", to explain the sharing of reference between the extraposed clause and *ye* in the canonical object position, is also unclear. Thus, the account of syntactic extraposition is found inadequate to explain the Hindi case (chapter 2, section 1.1).

As far as post syntactic extraposition is concerned, the account of TH/EX in Chomsky (1999) doesn't apply to Hindi. Firstly, Chomsky's TH/EX is for unaccusative/passive constructions, whereas the Hindi finite complement clause does not necessarily involve an unaccusative/passive construction. The account of TH/EX is itself wanting in that it is not explained what causes this particular rule to apply to some constructions and not to others. The Hindi case also contradicts the fact about TH/EX that it is its trace and not the TH/EX-ed structure which is accessible to LF interpretative operations like binding and wh-scope (chapter 2, section 1.2).

### *2.3: EXPLANATION FOR THE NON-CANONICAL POSITION OF THE FINITE COMPLEMENT CLAUSE AND THE ASSOCIATED PHENOMENON*

The non-canonical position of the Hindi finite complement clause is explained by taking into account the framework of language design proposed by Chomsky (1998) and (1999) and Uriagereka's idea of multiple spell out. The idea of cyclic spell out in Chomsky and Uriagereka, which differ with each other regarding what the unit of spell out is, has been integrated (chapter 2, section 2.1). So now we have cyclic spell out proceeding in phasal units and also following Uriagereka's explanation of the mechanism of how linearization of the spelled out chunks follows. The explanation of the Hindi case can be outlined thus:

The Merger of a complement in the canonical object position involves "set-merge". This Merge operation is like Agree in that it involves a kind of

attraction. The “attracting” properties of one of the merging elements have to be satisfied. The attracting properties in this case are the uninterpretable  $\phi$ -set of V and its selectional property, i.e., the fact that the complement is selected by the verb to complete the predication. When the complement is a clause, it cannot value the uninterpretable  $\phi$ -set and so it isn’t Merged in the canonical object position. In the computational procedure, the matrix clause and the complement clause are constructed in the same “workspace” but remain separate. The finite complement clause gets spelled out separately (chapter 2, section 3.2). The uninterpretable  $\phi$ -set of V can be valued either by the expletive element which occupies the EPP specifier of  $v^*$  or, alternatively, by following the Conservative version of spell out given by Uriagereka, by the spelled out clause which becomes a kind of “word” and gets some agreement features to show its link with its selector (as it gets spelled out in a different derivational cascade). The sharing of reference between  $ye$  and the finite complement clause can be due to the fact that they are both related to V—one by virtue of its selection and one by valuing its  $\phi$ -features. This relation is perceived as the shared reference. Alternatively (if we consider the spelled-out complement clause turned “word” to value the  $\phi$ -set of V), the sharing of reference can also be explained if we take into account the fact that the  $\phi$ -set of the expletive element is flexible and it is fixed according to the context. The context can be the complement clause. Thus, the expletive element also has default agreement. Also, following Uriagereka’s radical version of spell out, the spelled out unit has some agreement features, which connects it to its interpretation site. Thus, the spelled out complement clause will have some agreement features which we can assume to be default. The flexibility of the  $\phi$ -set of the expletive element can also be understood as it being in a default mode. The presence of default

agreement on both, i.e., the spelled out complement clause and *ye*, can also be responsible for the perceptual effect of reference sharing (chapter 2, section 4.1 & 4.2).

As far as the linearization of the complement clause is concerned, it is understood to be governed by the fact that the complement clause is selected by the verb which belongs to a different derivational cascade. If it is supposed that linearization is based on the selectional restrictions of the matrix C and  $v^*$ , in the articulation of the expression {EXP}, matrix CP and  $v^*P$  will be linearized to precede the complement clause. So, the selectional facts might force the complement clause to be linearized in a position following the derivational cascade of its selector, i.e., the matrix clause. Thus, we get the Hindi word order of the post-verbal (actually post-matrix clausal) position of the finite complement clause (chapter 2, section 4.2).

All the structures that are created in the course of chapters 2 and 3 meet the explanatory adequacy of being able to describe the various grammatical relations that are effected, with reference to the current proposals about the language design.

#### 2.4: *THE IDENTITY AND OPTIONALITY OF ye*

*ye* is understood to be an expletive element, present in the EPP specifier of  $v^*$ . It is selected because of the proposed obligatory EPP feature of  $v^*$  in Hindi, and when the complement is clausal. Proposing the obligatory EPP feature of  $v^*$  is permitted in the theoretical framework being adhered to, in

which the EPP feature of C and  $v^*$  can vary parametrically across languages (Chomsky, 1998:23). When the complement is nominal, the EPP feature of  $v^*$  is valued by it. *ye* is present in the EPP specifier of  $v^*$  when the complement is clausal. The optionality of the presence of *ye* is because of the option between two types of expletive elements that Hindi offers, i.e., the overt expletive element *ye* and the null expletive *pro*. The choice between these two is arbitrary. So, when expletive *pro* is selected, we have the *ye*-less constructions.

The pragmatic effect of presupposition-assertion in some constructions with *ye* is the result of the fact that the EPP position of  $v^*$  is assigned INT or the surface semantic interpretation. If the said pragmatic effect is intended and if there is an overt element in the EPP specifier of  $v^*$ , it can be assigned INT. So, in such cases, the pragmatic effect is encoded by *ye* as well as the intonation of the sentence. If no pragmatic effect is intended, no such effect is observed, despite the presence of an overt element in the EPP specifier of  $v^*$ . The assignment of any pragmatic effect is not obligatorily related to the EPP position. Pragmatic effects can be understood as properties of the resulting configuration, which are not obligatory. They depend on the discourse situations. This explains how expletives, which are “dummy elements”, can appear to be encoding a pragmatic effect, as is the case in Hindi. In case a pragmatic effect is intended and the EPP specifier of  $v^*$  is occupied by the null expletive *pro*, the said effect will be conveyed by the intonation only.

## *2.5: NATURE OF T, LACK OF SUBJECT EXPLETIVES AND SHIFTED OBJECTS*

The nature of T is analysed in chapter 3 and T has been understood to be a substantive category. In keeping with one of the proposals in Chomsky (1999, 6-7), the uninterpretable  $\phi$ -set is understood to belong to substantive categories, V and T, and not to the functional categories  $v^*$  and C (chapter 3, section 2). One modification has been proposed in the proposal in Chomsky (1999) and that is that the EPP feature is understood to belong to functional categories and not to the substantive categories, as Chomsky (1999) proposes. Thus, the  $\phi$ -set belongs to V and the EPP feature belongs to  $v^*$ . Following Boeckx (2000), the movement of the external argument to [Spec, TP] is for the assignment of nominative Case and to get the scopal properties associated with the nominative Case. The scopal properties necessitate the movement of the external argument to [Spec, TP]. The expletive element never moves to [Spec, TP] as it is not an argument and doesn't need to be assigned nominative case (following Chomsky, 1995:287,342etc.). It has been proposed that in raising and weather predicate constructions, the T is defective (chapter 3, section 3) but this defectiveness is different from that suggested by Chomsky. The defectiveness is in having a default  $\phi$ -set which doesn't need to be valued by Agreement with an externalised nominal with a structural Case feature. When the complement is clausal, the  $\phi$ -set of this defective T is valued by either the expletive element in the EPP specifier of  $v^*P$  or, alternatively, by the default agreement feature that the complement clause gets after being spelled out. When the complement is nominal, the  $\phi$ -set of the defective T is valued by it.

In connection with the raising and weather predicate constructions it is understood that the shifted objects occupy the EPP specifier of v\*P (chapter 3, section 4). In this connection, Hindi is also understood to lack the English “there” type of expletive which can be selected when the complement is nominal. Hindi *ye* and the expletive *pro* are like the English “it” expletive, which is selected when the complement is clausal. It has also been proposed that like Hindi, English v\* can also be understood as parametrically chosen to have an obligatory EPP feature.

## 2.6: *RESTATING THE INDEPENDENT ASSUMPTIONS*

From the explanation in chapters 2 and 3, we can demarcate the assumptions that are made in keeping with the proposals in the theoretical framework of Chomsky (1998 and 1999), the idea of multiple spell out in Uriagereka (1999), the proposals in Bobaljik (1995), the alternative account of movement of the external argument to [Spec, TP] given by Boeckx (2000), and those that are made independent of them. The independent assumptions are:

- 1) The unification of Chomsky’s and Uriagereka’s versions of cyclic spell out.
- 2) The assumption that the agreement on the spelled out complement clause is default.
- 3) The assumption that the finite complement clause, although constructed in the same workspace, doesn’t merge in the canonical object position but gets spelled out in a derivational cascade different from that of the matrix clause.



- 4) The assumption that linearization of the spelled out matrix clause and the finite complement clause is governed by selectional facts.
- 5) The modification of the proposal in Chomsky (1999) by assigning the uninterpretable  $\phi$ -set to substantive categories and the EPP feature to the functional categories.
- 6) The proposal about the nature of the defectiveness of T.
- 7) The proposal that the shifted nominal and small clause objects in Hindi raising and weather predicate constructions are in the EPP specifier of  $v^*$ .

### *3.0: CONCLUSION*

The question raised in (A,D&G) of the last section, has been answered in (2.1) and (2.4) of this section. The question raised in (I) has been answered in (2.2). The question raised in (E&H) of the last section has been answered in (2.5) of this section and that raised in (B&I) of the last section has been answered in (2.2) of this section.

The only question that remains to be answered is (F) of the last section. This is regarding the unique property of the uninterpretable EPP feature which makes it trigger Merger in the specifier of the head bearing this feature, in order to get valued. This dissertation does not give an explanation for this. This unique property of the EPP feature appears linked with the fact that it is the assignment of the EPP feature which identifies a strong phase. However, this link, and any implications which might follow, have to be studied and worked out further.

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