

COMPLEMENT CLAUSES IN HINDI AND GUJARATI

A THESIS SUBMITTED TO THE UNIVERSITY OF HYDERABAD
FOR THE DEGREE OF DOCTOR OF PHILOSOPHY
IN THE SCHOOL OF HUMANITIES

ARA SHAH

University of Hyderabad
JANUARY 1995

D E C L A R A T I O N

This is to certify that I, Ara Shah, have carried out the research embodied in the present thesis for the **full** period prescribed under Ph.D. ordinances of the University.

I declare to the best of my knowledge that no part of this thesis was earlier submitted for the award of research degree of any university.



Head of the Department
HEAD
Centre for Applied Linguistics &
Translation Studies
University of Hyderabad,
Hyderabad - 500 134.



(Ara Shah)



Dean of the School
SCHOOL OF HUMANITIES,
University of Hyderabad,
Hyderabad-500 134.



Supervisor

C E R T I F I C A T E

This is to certify that Ara Shah worked under ray supervision for the Ph.D. degree in Applied Linguistics. Her thesis entitled Complement Clauses in Hindi and Gujarati represents her own independent work at the University of Hyderabad. This work has not been submitted to any other institution for the award of this or any other degree.



Probal Dasgupta

(Professor, C.A.L.T.S.)

Hyderabad

Date:

27-1-95

ACKNOWLEDGEMENTS

I am glad of the opportunity to be able to thank

CALTS, probably the most student-friendly postgraduate department in the country.

Prof. U.N.Singh, former head, for creating such a department, where one has the right atmosphere, where one can learn and belong.

All the faculty members of CALTS for maintaining this atmosphere.

Avinash, Murthy, Apparao, Mallesh, also from CALTS, not only for helping me personally throughout my stay here but also for making it possible for the department to actually be a place one likes going to everyday.

Alice Davison, Anjani Kumar Sinha, Hari Prasad, Josef Bayer, K.V.Subbarao, P.R.Dadegaonkar, Peter Hook, Udaya Narayana Singh, Urmi Desai, and Veneeta Srivastav for advice, publications and encouragement.

Amit Sood, Dipti Misra, Nima Gadhia, Urmi Desai, and Veena Gupta for being enthusiastic informants.

Friends are special people, not to be publicly thanked. I know I don't need to, nor can, say more.

Some people simply *cannot* be thanked. I do not believe I can even begin to acknowledge this particular debt. I can only record a miracle: the one Prof. Probal Dasgupta has performed by managing to get not one but two (this, and an earlier M.Phil.) dissertations out of the most unlikely candidate.

CONTENTS

CHAPTER I		1 - 17
INTRODUCTION		
1.1	OVERVIEW	1 - 5
1.2	OUTLINE OF FRAMEWORK	5 - 14
1.3	CHAPTER OUTLINE	14 - 17
CHAPTER II		18 - 63
FINITE COMPLEMENT CLAUSES		
2.1	INTRODUCTION	18 - 22
2.2	OUTLINE OF EARLIER WORK	22 - 26
2.3	POSING THE QUESTION	27 - 49
2.4	ANALYSIS	49 - 58
2.5	CONCLUSION	58 - 63
CHAPTER III		64 - 153
NON-FINITE COMPLEMENT CLAUSES		
3.1	INTRODUCTION	64 - 72
3.2	GERUNDIALS	72 - 99
3.3	INFINITIVALS	99 - 136
3.4	PARTICIPIALS	136 - 151
3.5	CONCLUSION	151 - 153
CHAPTER IV		154 - 187
SMALL CLAUSE COMPLEMENTS		
4.1	INTRODUCTION	154 - 158
4.2	PROBLEM	159 - 161
4.3	EARLIER ANALYSES	161 - 171
4.4	SOME APPROXIMATIONS	171 - 185
4.5	CONCLUSION	185 - 187

CHAPTER V	188 - 207
THE LEXICOGRAPHY OF COMPLEMENT - SELECTING VERBS	
5.1 INTRODUCTION	188 - 190
5.2 VERB CLASSIFICATION	190 - 194
5.3 DICTIONARY	194 - 207
INDEX	208 - 211
BIBLIOGRAPHY	212 - 213

CHAPTER 1

INTRODUCTION

1.1 OVERVIEW

In this section the notions of complementation and **complement clauses** are introduced and the complex nature of **complement clauses** discussed (1.1.1). The various approaches one could take to the study of complement clauses are outlined in 1.1.2. The general motivation behind this dissertation is presented in 1.1.3.

1.1.1 The complement clause is a structure that is sufficiently complex syntactically and yet with a high degree of occurrence in most languages to be of interest for systematic research. Complement clauses are a meeting ground for the application -- and testing -- of several current syntactic hypotheses and a great deal more study than has been done is required in this area.

Traditionally, a complement was that part of a sentence which *completed* -- complemented -- the meaning of the predicate of that sentence. Logically therefore, a complement is something that *must* be selected by (some part of the) predicate in order to fulfill the semantic needs of the sentence in which such a predicate participates. In modern-day syntax this idea is presented in terms of theta-selection: a complement is an argument, selected (subcategorized for) and assigned a thematic role by the verb,

loosely speaking, which requires a **complement** to be fully interpreted. In other words, complement clauses meet the subcategorization needs of the verb (or the "selector" to keep things general; the less **proto-typical** non-verb selectors are largely ignored in this study, as they raise special problems of their own, and we need to improve our understanding of the "straightforward" cases first).

A clause on the other hand is something which can contain arguments, non-arguments etc. A complement clause therefore should be a construction which is a full clause with its own subject and predicate -- including complements -- as well as functioning as a complement of some other predicate. The complexity of complement clauses, relative to other constructions, is thus at once apparent.

It is well worth remembering that complement clauses are often discussed as prime examples of embedded or subordinate clauses. What does this signify? The information structure of a sentence is not a well understood area. It is clear, however, that some sort of highly **species-specific** strategy is involved in the makeup of embedded clauses. In the well documented experiments with chimpanzees we can notice that for the most part, the linguistic repertoire ends with the acquisition of simplex sentences. Related to this is the universally "difficult" nature of the embedded clause -- children acquire **embeddings** at a fairly late stage. Add to this the complexity typical of complement clauses that we noted in the above paragraph and we see that the

complement clause conveys very complex semantic and discourse-related information. The balance between the semantic content of the main clause -- a clause which is otherwise syntactically acceptable, it should be borne in mind -- and the completing function of the complement clause is delicate. There is so far no counter-evidence to the hypothesis that **only** human language faculty can achieve this balance.

1.1.2 One approach to the study of complement clauses would be a psycholinguistic approach. Beyond hinting at it as we have done in the preceding paragraph and noting that several well-researched studies already exist which adopt this approach, the scope of the present work does not permit a detailed delineation of the **facts**.

Another is the very essential **taxonomic** approach. Assuming that verbs select complement clauses, an approach of this sort would result in a **classification** of the information regarding which verbs select what kind of complement clauses in which languages of the world. It is a pity that one needs to reiterate the fact that building such a base is extremely useful as a step for probing a further issue at the explanatory level -- why do some verbs select some types of **complement** clauses?

A pragmatic approach would give a functional explanation of complement clauses. **Mair** (1990) warns that in order to understand why a particular complement is chosen in a particular instance, we must look at factors other than just the matrix verb

and its selectional **properties/subcategorization** frame. Recent studies on information packaging tell us that the information in a sentence is ordered – to give an example, **'given** before new' is the unmarked order in English; however, discourse considerations often cause a variation in information order in a sentence. Or, to take a more familiar example, discourse considerations may interfere with the normal "psychologically motivated desire", in Mair's words, to have [+animate] subjects in clauses. To study syntactic phenomena in this fashion, from the pragmatic angle, is certainly highly interesting. Moreover, an academic exercise of this sort cements the idea that different linguistic interests **and** approaches need to interact for best results. Again, such an exercise is reluctantly abandoned here due to the limited scope of a single dissertation.

The syntactic approach chosen for this work seeks to describe the complement clauses, their structure, their idiosyncrasies, and attempts to understand their behaviour in terms of wider linguistic principles.

1.1.3 Having selected an approach, the next step is to determine what exactly a dissertation sets out to do. In this work, I maintain two attitudes: an informative attitude and an inquisitive attitude. The former ensures that the dissertation provides a useful account for translators in the form of an exhaustive compilation of complements selecting verbs in Hindi and Gujarati and a thorough description of the types of complement constructions; it is this attitude, infused with the **applicability** spirit

which prompts me to base the chapters on construction **types**, rather than have a syntactically more insightful arrangement (grouping **participials**, say, with small clauses and not with other non-finite verb **constructions**, would be an example of such an arrangement).

However, the other attitude channelizes the focus of this dissertation in a direction which attempts to raise certain theoretical issues regarding the **Hindi/Gujarati** language pair (H/G hereafter).

The two attitudes, in my opinion, do not clash in a dissertation; rather, they serve to create a completeness -- an apt service in the present case, since this is, after all, a thesis on complementation. The applicability of an enterprise ultimately depends on the degree of descriptive adequacy achieved by the conceptual framework that one is working within and the validity of the theoretical assumptions of that framework.

1.2 OUTLINE OF FRAMEWORK

In this section we concentrate on the choice of framework. The choice of framework is explained in 1.2.1. The next subsection presents an account of the minimalist theory of grammar.

1.2.1 As we saw in 1.1.3, raising theoretical issues immediately brings up the question of framework. This dissertation is unambiguously within the generative paradigm. I have chosen the

current version of this paradigm which **seemed** most appropriate for this work in that it has a certain in-built freedom which is necessary when working on relatively uncharted grounds. H/G, especially Gujarati, are by no means exhaustively researched. In such a case, the paradigm one chooses to work **in** should be flexible to the point of near self-destruction. Without requiring quite so extreme a measure as that, it has been necessary, in this study, to modify the framework in instances where new ideas need to be introduced and several old ones replaced.

To go into the historical development of the generative paradigm would be an impossible and, in the limited context of this dissertation, unnecessary task. Taking the general assumptions that look at languages in terms of principles and parameters as a working hypothesis, I will, in the rest of this section, outline the more recent developments in this approach. Again, it is beyond this dissertation to summarize all aspects of these developments. Below I present an outline of the minimalist theory of grammar which is sufficient for the purpose of the analysis that follows. The ideas presented here are mainly those found in *A Minimalist Program of Linguistic theory* (1992) and *Bare Phrase Structure* (1994), henceforth referred to as **MPLT** and BPS respectively.

1.2.2 One of the major considerations that has guided the generative enterprise into its present "minimalist" design is, I think, *economy*. The assumption in early TG literature was that the evaluation criteria selected a particular "grammar" on

grounds of **economy** etc. The central notion of evaluation criteria has slowly been displaced over the years; in the carefully constructed theory of GB (or the **principles-and-parameters** approach, as Chomsky would have us call it) such considerations are redundant. The principles of **UG** are themselves so specified that any interaction of what Chomsky calls PLD (a set of **primary** linguistic data) with UG (Universal Grammar) will fix the parameters of a given language, obviating the need to "select" a "grammar" for that language.

As Chomsky points out in **MPLT**, however, the economy principles that seem to be discarded by GB practitioners can be **reformulated** in terms of minimalism. Essentially, a minimalist approach aims for a theory of language in which a given construct is regarded as an object with formal properties that optimally meets the requirements of the PF and LF components, in other words, by satisfying the economy conditions of UG. A detailed exposition follows.

Within the minimalist framework the importance of the PF and LF levels is highlighted given the absence of the other levels -- the D-structure and the S-structure. How then does a derivation get its sound and meaning interpretations? In the minimalist approach, a derivation is said to *converge* at either PF (where the derivation reaches as a result of the operation SPELL-OUT) or LF, if it meets the conditions of PF or **LF**. It *converges* if it converges at both PF and LF, otherwise it **crashes**, i.e. is not interpretable. SPELL-OUT is applicable at any stage, and the

derivation converges or crashes at PF depending on whether it has met the PF conditions. One thing we notice from this is that PF and LF do not interact, a derivation can converge at either level. However, only when certain economy principles (like conditions of locality of movement, condition of necessary steps (no "**superfluous**" steps to use Chomsky's words)) are met does a convergent derivation result in a linguistic expression.

Going back to the question of what a linguistic expression is, above, we see that the minimalist assumptions allow us to define it solely in terms of optimal interpretation at PF and LF -- there is no need for other levels like D-structure and S-structure which earlier "prepared" a derivation for correct interpretation, so to speak.

With a reduction in the levels, **it** is all the more necessary to have some means of making lexical items accessible to the system which computes the derivations. For this, Chomsky assumes X'-theory to be fundamental to the framework. The actual design of X'-theory is simplified and consists of heads and their projections. A great deal of importance is given to the basic relations, two major ones in the simplified X'-theory, Spec-head and head-complement, both "local". We discuss these two in detail below.

Chomsky considers the head-complement relation to be the basic relation between categories; it is also the more local of the two. In this way, any relation which is not a **head-comple-**

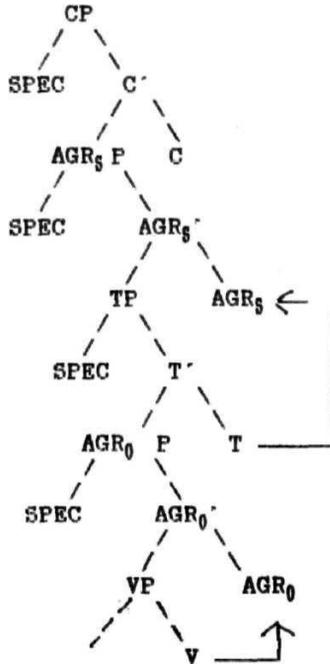
ment relation is a Spec-head relation.

Other local relations (only local relations are considered in a minimalist approach) are the head-head relation (for example, the relation of a V to (the head of) its **NP** complement (selection)) and "chain link". Specifying these local relations obviates the need for other relations such as government found in the **principles-and-parameters** framework. This is a major departure from earlier beliefs about the interaction of linguistic categories. If government is no longer a central notion in the theory, the phenomena accounted for by the interaction of the different modules such as Binding, Case etc. with government must be handled by means of an entirely different mechanism.

The working out of such a mechanism would be an interesting exercise. We restrict ourselves however to the reformulation of Case theory since the other modules like Binding do not bear on the analyses offered in the rest of this work. A major change in Case theory is in Case assignment to the object position. The earlier practice was to have the subject enter into a Spec-head relation for getting structural Case while the object was assigned structural Case under government by the verb. In the minimalist approach all structural Case assignment takes place under the Spec-head relation. Assuming binary branching and Pollock's (1989) version of the split **INFL** hypothesis, Chomsky

provides a basic clause structure as follows .

1



MPLT makes a crucial move here. Both agreement and structural Case are an outcome of the Spec-head relation (NP, **AGR**). Case is handled in a slightly different manner: the properties of T and V determine Case. The Case-feature bearing heads are Finite T, which has nominal Case features. Infinitival T bearing Null Case features (a detailed discussion follows later), and certain V bearing **Acc** Case features. So we have T raising to **AGR_s** and V

[.] have modified the structure slightly, adding [**SPEC, TP**], which Chomsky mentions as a possible position, and placing the heads in final (right-hand) position as the languages we are working with. Hindi and Gujarati, are head-final. Order is anyway irrelevant as Chomsky mentions in MPLT.

raising to AGR_0 as indicated in (1) by arrows.

Of special interest to us is Chomsky's treatment of **ECM**. **Again**, having no government module to appeal to, the mechanism for ECM involves raising of the relevant NP to the Spec of AGR_0 . See section 3.4 and **ch. 4** for an analysis of ECM types.

Thus, we **see** that AGR plays a central role in both **agreement** and Case relations. The Null Case hypothesis gives neat **results**, as we shall see in chapter 3. Instead of a government vs control explanation for the **subject** Case of complement clauses, with all its problems concerning the PRO/pro **controversy**, we now have an account based on the feature content of T for an MPLT treatment of PRO. T is richest in semantic content when it has Nominative Case **features**, followed by Null Case **features**, and is the most impoverished when it has no Case features (as in ECM clauses (but see 3.4. for a different view)). The Spec-head relation establishes the configuration in which the Case on the subject is determined if the subject moves into the Spec of the $(V+)T+AGR_s$ complex where T has Nominative Case **features**, it "checks" for Nominative Case against the nominative head and receives the necessary morphology in order to converge at PF. If the subject moves into the Spec of a Null Case bearing $T+AGR_s$, it **receives** Null Case; and so on.

The configuration that we mentioned above under which Case is assigned is actually much more rigorously defined in MPLT. Essentially Chomsky uses the familiar notion of **domain** -- a

domain of a head consists of all the nodes of the maximal projection of that head, apart from the head itself. The categories which are locally related to a head may form a *minimal* domain for that head: a minimal complement domain if dominated by the complement; a minimal checking domain in all other cases. The minimal complement domain thus comprises the internal arguments of the head. The minimal checking domain is the **configuration** we are right now interested in as it contains the non-argument Spec positions into which an NP moves and is checked off for Case **against** the head. To return to feature checking, let us look at **the** functional elements T and AGR in greater detail. As we have seen, the verb gives its features to T and AGR. These "borrowed" features, called **V-features**, check the morphological properties of the verb selected from the lexicon. This can be generalized to all lexical items whose features can be **L-features**. Now, a position that is locally related to a L-feature is an **L-related** position. In a checking domain, the Spec positions are known as *narrowly* L related and other adjoined positions are *broadly* L-related. Any structural position that is L-related has argument properties while a **non-L-related** position has non-argument properties. Similarly, the D head of DP has **N-features**, incorporated from the noun. Thus just as the **V-features** of T or AGR check properties of the V that raises to the T or AGR, N-features of T or AGR check the properties of the NP/DP that raises to the Spec of the T+AGR node. This ensures the agreement between the NP/DP and the verb. **In** other words, Chomsky's suggestion is to assume that the morphological features of both verbs and nouns must be checked either in the T+AGR head, or at the Spec of T+AGR. Both

kinds of checking can take place at any stage of a derivation to LF.

We have said that noun phrases typically move for Case reasons and verbs raise to higher nodes for feature checking. This brings us to movement in a minimalist framework. We may mention here that Chomsky considers the elements in a representation to be chains. In an attempt to choose between two kinds of economy considerations -- shortest movement as against minimum steps in a derivation -- Chomsky introduces Form-Chain, which replaces **Move- α** as the single transformation of the grammar. Raising constructions, for instance, would be derived **not** by moving the embedded subject out and up to the matrix position, **either** in short moves resulting in a number of derivations or in a long movement resulting in a single derivation, but by the operation of Form-Chain, which yields the desired derivation in a single step.

We come now to a question familiar from the earlier versions of the **principles-and-parameters** mechanism: at what stage does movement take place in a given derivation. The question is all the more interesting now that the levels of D-structure and S-structure are not necessary for the interpretation of a sentence. In MPLT Chomsky proposes the principle *Procrastinate* according to which overt movement is less economical than **LF-movement**. Essentially, a derivation converges with as minimal activity as possible in overt syntax. In other words, if movement is not required for convergence, economy principles disallow it in overt syntax

-- it is then procrastinated to LF for interpretation. In languages like English, Chomsky points out, overt raising (of NP to SPEC **AGR₀** or of "V to I") is unnecessary for convergence **and** therefore does not take place.

The distinction between "strong" and "weak" features, essentially a contribution of Pollock (1989), further constrains the range of choice for otherwise optional processes. "Strong" V-features are visible at PF while "weak" V-features are invisible. In order to converge at PF. therefore, "strong" features should be absent after SPELL-OUT, else the derivation crashes. Let us illustrate how this affects movement. Suppose the V-features of AGRQ **are** strong. Then, **the** verb must raise overtly and adlo.in to **AGR₀** in order to be checked. The V-features do not **remain** once they have checked the verb and the derivation converges at PF after SPELL-OUT. If the V-features are weak they are invisible **at PF**. The verb then moves to AGRQ at LF following the principle Procrastinate. The strength or weakness of these features is a parameter, for example, the French AGR has strong and the English AGR has weak **V-features**.

The above is a rather sketchy outline of the **MPLT** mechanism. As we proceed with the analysis in the following chapters the actual working of this mechanism will be made clearer.

1.3 CHAPTER OUTLINE

Apart from the chapter outline in 1.3.3, a note concerning the mode of exposition for the two languages, Hindi and Gujarati,

is provided in 1.3.1 and transcription details in 1.3.2.

1.3.1 This dissertation does not aim at a **comparison** of Hindi and **Gujarati**. The treatment of the H/G language pair, therefore, is **impartial** with regard to the example sentences provided. I would like to add that there is a general assumption throughout the dissertation about the similarities in data between Hindi and Gujarati. This assumption underlies what may seem to be negligence in sustaining an equality in the number of examples and the presentation of the glosses (one gloss is often used for both Hindi and Gujarati examples). Similarly, at many points in the arguments I have assumed, but not necessarily mentioned, that what apply (or does not apply) to one language applies to the other also. In short, throughout, ~~the~~ attitude taken is that, unless specified the two languages are, for the purpose of the analysis presented in this dissertation, to be taken as one. Needless to say such an assumption is empirically borne out.

1.3.2 While every effort has been made to keep the transcription and conventions consistent, some errors have doubtless crept in. I hope the following will help **disambiguate** matters.

Cases begin with upper case; the same word, if not used as a Case but as a description of a category or relation, may begin with either upper or lower case. Abbreviations of linguistic terms in glosses are in upper case; they are often, but not necessarily separated from the word to which they attach by **hyphens**.

Note on Transcription

T D S N L are **retroflex**. R is a **retroflex flap**. c is **laminoal-**
veolar. M after a vowel denotes nasalization of the vowel.
Vowel length, represented only for /a/ and /i/, is denoted by
doubling the vowel.

The nasalization of the final /u/ in Gujarati has not been con-
sistently shown, for ease of exposition.

1.3.3 Given below is a brief outline of **chs. 2 to 5**. Chapter 2
deals with finite complement clauses in Hindi and **Gujarati**. The
major issues taken up in this chapter are (i) the nature of **ki**
and (ii) the non-canonical position of the finite complement
clause. This is a phenomenon common to several **Indo-Aryan** lan-
guages, as well as to certain Germanic languages, as is evident
from the discussion. We report a number of accounts regarding
this phenomenon. A controversy exists over the occurrence of the
finite complement clause to the right of the verbal head. Essen-
tially, the complement clause could either be base-generated in
that position or adjoined to the matrix verb by means of extrapo-
sition. I argue that the complement clauses in H/G are extrapo-
sed to the right in order to be licensed by the matrix verbal
complex. Issues of adjacency, directionality of government and
theta-marking will be discussed in the course of this chapter.

Chapter 3 deals with non-finite complement clauses. It is a
fairly exhaustive **account**; the three main sections deal ~ with
gerunds, infinitivals and **participials**. We will situate our

discussion of gerunds within **the MPLT framework**, which we will **modify** in order to account for the H/G **kaa-naa** constructions. We then discuss **infinitivals**, **that** is, complement clauses with a postpositional complementizer. Using **Kayne** (1984) as a point of departure, we will account for the null subject in **infinitivals** and postulate a phonetically null P/C in Hindi and **Gujarati**. This chapter also throws light on certain **difficult-to-classify** constructions, thereby contributing to the debate on "nominal clauses" ..

Small clause complements are discussed in chapter 4. The interesting fact about **small** clauses in H/G is that the subject of the **construction** is assigned Accusative Case. In this chapter we will **review** two major contributions to this issue, **Mahajan** (1990) and **Sinha** (1991). We will attempt to reformulate the **hypotheses** offered in these two works in order to account for the alternative range of interpretations that are available due to factors of animacy, **specificity** and **definiteness**.

Chapter 5 is a lexicographic exercise. Essentially, the **aim** is to provide a working bilingual dictionary for a closely related language pair. In this chapter we will present the agreement **patterns** available for verbs in H/G. The main purpose of this **chapter** is to collate information for designing a **specific-purpose** dictionary, a sample of which will be presented. An index of **complement** selecting verbs in Hindi and Gujarati is provided at the end of the chapter.

CHAPTER II

FINITE COMPLEMENT CLAUSES

2.1 INTRODUCTION

In this chapter, we discuss complement clauses which have a finite verb. It will be seen that, in Hindi and **Gujarati**, such complement clauses are typically introduced by a complementizer particle. In 2.1.1 we present the data. H/G word order patterns are noted in 2.1.2.

2.1.1 Sentential complementation is essentially of two types complement clauses which occur within NPs and complement clauses which occur within **VPs**. Sentences (6,7,13,14) are instances of noun phrase complementation; the rest are instances of verb phrase complementation.

1G **meM joyuuM ke rameS paacho aavyo**
I-ERG saw that **Ramesh** back came
'I saw that Ramesh came back'

2G **mane laagyuM ke varsaad paRyo**
I-ACC felt that rain fell
'I felt that it rained'

3G **uSaa kahe che ke e hamNaaj jaSe**
Usha-NOM says that she now-EMPH go-will
Usha says that she will go right now'

4G **em banyu ke vaaghe tyarej aankh miicii lidhii**
thus **made-was** that tiger-ERG just then eyes shut took

It so happened that the tiger shut its eyes right then'

5G em kahevaay che ke deolaali naa **havaapaaNii** ghaNaa
thus said is that Deolali of climate very
saaraa

good

'It is said that the climate of Deolali is very good'

6G evi suucanaa **amne maLii** che ke **mukhya** roantri
such information **we-ACC** got is that chief minister
paKRaaayaa che
caught is

We have received the information that the chief minister has
been arrested'

7G evo paaTh tane SikhvaaRiiS ke **hammeSaa** yaad
such lesson you-ACC **teach-will** that forever remember
raheSe
stay-will

'I will teach you such a lesson that you will remember it
always'

8H **maiM** ne dekhaa ki **rameS** vaapas aayaa
I ERG saw that **Ramesh** back came
'I saw that Ramesh came back'

9H **mujhe lagaa** ki Saantanu **jiit** gayaa
I-ACC felt that Shantanu win went
'I felt that Shantanu won'

10H uSaa kahtii hai ki baariS hogii
Usha say-HAB is that rain fall-will
'Usha says that it will rain'

11H **yuUM huaa** ki Ser ne tabhi **chalaang maari**
thus happened that **lion-ERG** just then **leap** hit-past
It so happened that the lion leapt right then'

12H aisa **maanaa** jaataa hai ki **moTe** log **haMsmukh** hote
thus believed go is that fat people Jolly happen
haiM
are

'It is believed that fat people are jolly'

13H aisii suucanaa **hame milii** hai ki **mukhya mantrii**
such information **we-ACC** got is that chief minister
giraftaar hue
arrest happened
We have received the information that the chief minister was
arrested'

14H yah baat kisii se na kahnaa ki kyaa baat huii
this talk no one-to neg tell that what happened
'Don't tell anyone what happened'

2.1.2 The canonical phrase structure of H/G is SOV. The unmarked word order would therefore be **subject-complement-verb**. The verb is always **final**, all other elements precede it. Examples:

15G **ajay** bhaakrii khaay che
Ajay bread eat-HAB is
'Ajay is eating bread'

16G **maniSaae** potaani jaat ne **manaavii**
Manisha-ERG refl.of self-ACC consoled

'Manisha consoled herself
 17H **sumanaa** ne kitaab **paRhi**
Sumana-ERG book read-past
 'Sumana read the book'
 18H **manisaa** aaj reDio **nahiM** sunegii
Manishaa today radio not listen-will
 Manisha will not listen to the radio today'

The head-final order is maintained irrespective of the category of the phrase:

19aG **safed** ghoRo (AP)
 white horse
 20aG **saumaa** vadhaare sundar (AP)
all-from more beautiful
 'the most beautiful of all"
 21aG khursii nii upar (PP)
 chair on top
 'on top of the chair'
 19bH safed ghoRaa
 20bH sabse zyaadaa sundar
21bH kursii ke upar

We notice from examples (15-21) that the complement precedes the head in **H/G**. But *sentential* complements do not follow this language-specific rule. Examples (1-14) demonstrate that in *sentential* complements, the complement *follows* the verbal head,

flouting the head-final nature of Hindi and **Gujarati**. The patterns presented in (1-14) may be summarized in the form of three observations:

- (i) There is only one type of tensed complement in H/G: the **ki-clause**¹.
- (ii) The **ki** element occurs in the complement-clause-initial **position**.
- (iii) The **ki-clause** occurs in the sentence-final position.

The above description is, of course, only a prelude to the formulation of the problem that has preoccupied scholars studying such clauses since at least the late 1960s. What this problem is will reveal itself in a natural way once we take a closer look at the Hindi and Gujarati complement clauses (as in the examples above) and at some of the earlier results of this preoccupation.

2.2 OUTLINE OF EARLIER WORK

In this section we present some pre-GB literature on finite complement clauses (2.2.1) as well as those developments in X-bar theory which are relevant to the issues addressed in this chapter (2.2.2).

2.2.1 One of the earliest seminal works on English complement clauses is, of course, **Rosenbaum** (published in 1967 but available

¹ "ki-clause" and "kl" are used throughout as cover terms for Hindi kl as well as Gujarati **ke**. This practice -- of using Hindi cover terms where the **Hindi-Gujarati** difference is not significant -- is followed throughout the present work.

since 1964). **Rosenbaum's classification** of complement structures has been the basis for virtually all linguists working in the area of complementation, including those working on **Indo-Aryan** languages like Hindi. Of special interest is Rosenbaum's pioneering analysis of the function of the complementizer, which has led Bresnan and others to base-generate the **COMP** node.

Positing the COMP node as a sister of the S node, Bresnan (1970, 1972) formulated the PS rule $S' \rightarrow COMP S$ (where S' dominates both COMP and S). She rejects Rosenbaum's 'Complementizer **Placement**' transformation in favour of a PS hypothesis. An important contribution of Bresnan is her idea that verbs are subcategorized for the type of complement that they may take. The [**±WH**] feature composition of COMP is another of **Bresnan's** ideas, based on Baker's (1970) proposal of the **Q-universal** hypothesis. **Bresnan's** analysis raised to a higher level of generality the study of phenomena like question movement and relative clause formation, which are widespread among the languages of the world.

A further refinement of this analysis, proposed in order to accommodate languages which permit two elements under the COMP node, was Chomsky & Lasnik's (1977) universal principle that a **WH-element** is moved to the left of COMP. Certain languages permit declarative complementizers (like **that**) to occur on the right as well as exhibiting question-movement to the left: it was observed that there are *no* instances (in any language) where the WH-element moves but not to the left. Chomsky & Lasnik's univer-

sal principle **concerning wh-movement** accounts for this phenomenon. The language-specific Doubly-Filled **COMP** filter was proposed at the same time (Chomsky & **Lasnik**, 1977) for languages which do not allow more than one element in the COMP position.

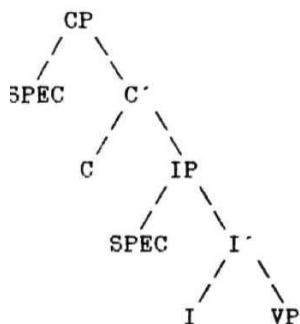
The structure of COMP underwent several other changes over the **years**, including, among others, the hypothesis that a language can have more than one COMP. This was more or less a reversal of the earlier conflating of Baker's Q morpheme and the lexical complementizer element under a single COMP node. By and large one finds that, in the literature, the COMP has been split into the **Q-node** (to the left, in the initial position) and the complementizer-node (for the declarative complementizer) .

An interesting off-shoot of the development of the structure of COMP is Bal (1990). This differs from the earlier studies in its proposal of splitting the COMP not into a Q-node and a declarative complementizer-node but into two declarative **COMPs**. Bal has proposed this to account for certain Oriya facts. Oriya has two **complementizers**, *is* and **boli**. *is* occurs in the clause-initial position (as does the H/G complementizer) and **boli** occurs in the clause-final position. Later we will take a more detailed look at **Bal's** proposal regarding **je**, and compare it with discussions by others of the Hindi *k±*.

¹. See **Reinhart** (1981), **Brandon and Seki** (1981), **Lefebvre** (1982), **Bayer** (1984), among others, for details; for a brief summary of the **above**, see **Bal** (1990).

2.2.2 Before moving to more specific problems, let us take a look at the changes in X-bar theory (proposed in Chomsky, 1986b) that have a bearing on our discussion so far. One finds that the Chomsky (1986b) model has incorporated many of the proposals outlined above in its new streamlined version of the X-bar theory. In such a version, **COMP** and **INFL** -- which, we can now say with hindsight, become the first "functional heads" -- are treated like lexical categories as far as the head-complement relations are concerned; **C(complementizer)** is therefore the head of its maximal projection CP (S' in the earlier system) -- as X is the head of XP -- and I is the head of its maximal projection IP (S in the earlier system). Thus we get a structure for English that looks like this:

22



Given the above diagram, in the Chomsky (1986) model, **wh-movement** takes place to [SPEC, CP] and *not*, as was the case until then, to C. There is thus no further need for a proposal that advocates two COMP positions. The **Q-element** would now be in SPEC CP and the lexical complementizer would be in C. Various details of the Proposals of **Reinhart**, Bayer and others can be accommodated for

in this system with only minor **modifications**.

The Chomsky (1986) analysis thus provides a universal configurational reduction of the whole range of problems to a new version of X-bar theory which, subsuming as it does a theory of functional heads, can address issues that earlier, more descriptive efforts could not handle. This analysis avoids, in particular, the formal problems of these earlier theories with respect to the structure of projections -- ending up with two heads for S', or having to split the **COMP** node into two further nodes. More important from the H/G perspective, the Chomsky (1986) version of the X-bar theory predicts that the order of constituents is a matter of choice based on the **head-initial/head-final** parameter; its application to a head-final language like H or G **therefore**, is now a smooth matter of switching on the appropriate option. Moreover, proposed universals like Baker's Q and Brennan's complementizer substitution, as well as Chomsky & Lasnik's idea that **wh-movement** is to a **pre-Comp** landing site, can be subsumed under this analysis. The consequence that the **Q-element** always occurs to the left now follows from the fact that [SPEC, CP], the position where the Q-element lands, always *does* occur to the left, now that all specifiers precede what they specify, universally, unlike heads and complements, which vary (cross-linguistically) according to parametric choice.

2.3 POSING THE QUESTION

The discussion in section 2.2 leads us very naturally to articulate, in the form of two **subquestions**, the question that we had promised would be appropriately revealed at the end of the discussion: the general sub-question -- what is **COMP**, where does it occur in a tree? and the more language-specific sub-question -- how do we account for the occurrence of the H/G **ki/ke** to the right of the matrix verb when the SOV order of H/G predicts that, given the complement-head pattern, it should occur to the left? We begin our study of the problem by addressing the first sub-question below in 2.3.1 and move on to the second one in 2.3.2.

2.3.1 Having summarized the general literature on COMP, we now take a look at three relatively recent positions on **complementizers**, Davison (1989, **1991**), Dasgupta (**1990**), and **Bal** (1990).

Davison (1989) maintains that the H **ki** occurs in [SPEC, CP]. Her argument is that **ki** is not a complementizer item at all. Her discussion of the issue implies that, according to her, a complementizer is an element which occurs in the COMP position. She gives examples from **Dakhini**, a closely related language (but influenced by the Dravidian language Telugu), as evidence. In Dakhini, **ki** occurs in the **post-verbal** C position; moreover, sentences in Dakhini allow **ki** clauses to occur in positions that are impossible in H. These (and these alone) are her arguments for contrasting the "real" complementizer **ki** of Dakhini with the ki of Hindi. **Davison's** thesis is that a complementizer cannot

occur in that position in Hindi at all (as it can in **Dakhini**). because of government and Case **facts**. **Bal** (1990), on the other **hand**, maintains that his **je** is a **COMP**, which has [+WH1 **features**, and which therefore *moves* (**wh-movement**) to SPEC CF. See p. 30 for an outline of Bal (1990),

The question this raises is. is **ki** base-generated in SPEC CF? If not. where does it come from? And. at what stage of the derivation does the movement take place and why (driven by what principle)? We have seen that **Davison** believes that **ki** is not a complementizer and does not occur in C. But. she does not mention *movement* as an explanation for the actual position in which **ki** occurs; specifically, movement from C to SPEC CP. If not **base-generated**, **ki** *has* to move to SPEC CP. In such a **case**, where the movement from C could be for reasons of Case and government (as mentioned above. Davison states that a complementizer in C violates Case and government conditions and results in **ungrammatical sentences**), it means that **ki** *was* a complementizer -- or, at **least**, *did* occur in C -- at some stage in the derivation. These questions need to be resolved in detail for Hindi as well as for Gujarati. **Davison's** reason for not having **ki** in C is simply that **the** C is situated to the right. Hindi being a head-final language; **ki** occurs to the left of the V (in the PF representation). But, what would drive **ki** out. of the C position if it originates there? If it does not originate **there**. where does it originate and why?

Davison's account seems to me to lack precision on these

matters and to embroil itself in other problematic issues (under what circumstances can a functor move to a Spec?). **Bal's** (1990) proposal seems to be preferable in this respect as it avoids these specific loopholes (see below, on p. 13 here for details). However, it does not seem to be directly useful in explaining the H/G facts as it rests crucially on the Oriya complementation pattern of two complementizers (mentioned above on p. 7 here).

Another recent contribution to the complementizer debate is
a.

Dasgupta (1990). According to Dasgupta, the reason that the Bangla **je** occurs CP-initially is that it is base-generated in the lower C and cliticizes by head-to-head movement to the main verb. **je** cannot occur in the "true complementizer" position because of reasons discussed in Dasgupta (1990/). In Bangla it is relatively easy to regard **je** as a clitic; Dasgupta (in press) gives fairly clear morphological evidence that this is so. In H/G, however, this is not so directly established as **ki/ke** does not occur as a "true" morphological clitic. It can be argued, however, that **ki/ke** is an affix in the generalized sense of Webelhuth (1992) and, as an affix, it needs to cliticize. This argument is further strengthened by the unacceptability of sentences such as (23H) in Hindi (the corresponding Gujarati version is similarly unacceptable):

23H * **hame** **lagaa** ki baarish hogii aur **ki** ham
we-ACC felt that rain **happen-will** and that **we-NOM**
bhiigenge
soak-will

'We felt that it would rain and that we would be drenched'

Contrast this with (24H) in Hindi (a **similar** contrast is available for Gujarati):

24H **hamko lagaa** ki baarish hogii aur ham bhiigenge

Here we see that **ki** lacks a contentive host; aur in (23H) is a functor. It could thus be argued that in Bangla, Hindi and Gujarati, je/ki/ke needs a contentive host, providing further evidence that the ki/ke is a clitic in need of a host. We can explain the raising of the clitic to the main verb, as outlined in Dasgupta (1990^b) (see above), as a strategy for government -- incorporation to the main verb would make it possible for government to the right to take place -- working at an approximation at which directionality of government is still a tenet of the theory. For a further discussion of the current trends which make notions like government redundant, see **ch.** 1 and section 2.4 below.

Bal (1990) solves the issue the Chomsky (1986b) way: *is* occurs in the [SPEC, CP] position. But SPEC CP typically hosts only **WH-elements**. **Bal** **therefore** goes on to prove that *is* has [+WH] features. He does this by proving the morphologically identical relative marker *is* to be a **WH-element** and then assuming that the complementizer *is* is also has [+WH] features. This happy coincidence, unfortunately, is not available in H/G. It is not

possible to claim that the **complementizer ki** exhibits the [+WH] properties shown in **Bal** (1990). How, then, should we account for its peculiar position vis-a-vis the canonical **COMP-head** structure?

Let us try to see if we can salvage the core of **Bal's** proposals for our purposes.

In Oriya, a relative clause, which typically occurs to the left of its antecedent (or "head"), base-generates its relative pronoun *in situ* within the IP (an object pronoun in preverbal position, a subject pronoun in clause-initial position, etc.). Optionally, the relative pronoun moves to the leftmost position within the relative clause. As we shall see, there is evidence that this movement is a case of **wh-movement** rather than scrambling, and thus has a SPEC CP landing site. This movement is obligatory when the relative clause itself moves to matrix-clause-final position and thus follows its antecedent. Here are some examples given by Bal:

- 25 [jadu jaahaaku **maarithilaa**] se aaji aasibaa
Jadu whom had-beaten he today will-come
26 * se aaji aasibaa [jadu jaahaaku maarithilaa]
27 se aaji aasibaa [jaahaku jadu maarithilaa]

(25) has the relative pronoun **jaahaku** as an *in-situ* object within the correlative clause which is in the canonical position to the left of the matrix clause. Bal claims that the **ungrammat-**

icality of (26) is due to the relative pronoun not moving to [SPEC, CP] even though the relative clause is postposed to the right. This is part of his evidence against a conceivable scrambling analysis - if **merely** scrambling (an optional process) were involved it would be difficult to explain why (26) is **ungrammatical**. There is also additional evidence involving multiple relativization against scrambling. Having thus established **ie-movement** as a case of **wh-movement**, and provided examples to show the similarity of **je-movement** to the better studied case of movement of wh-words, **Bal** claims wh-status for i-words in Oriya. Next he extends this argument a 3step further:

28 mun jaaNe [je raama maache khaae]

I know je Ram fish eats

29 mun [raama je maache khaae] jaaNe

30 * mun jaaNe [raama je maache khaae]

Examples (28)-(30) show the similarity of the movement of the **je** particle of complement clauses with that of the relative pronoun **je** of postposed relative clauses. Thus, (29) is the canonical position of the complement clause, with **je** generated in an IP-internal position; (28) shows movement of **je** into [SPEC, CP] of the extraposed complement clause - akin to the movement of a postposed or extraposed relative clause; (30) is the **ungrammatical** version, like (25) above in the case of the relative clause, providing evidence for a wh-movement hypothesis of the **je** "complementizer" (Bal doesn't call it one).

On the basis of these arguments **Bal** suggests that the WH-status of relative pronouns be extended to the **je** of complement clauses. There is an obvious parallel: in clauses that occupy the canonically governed **pre-matrix-verb** position, **je** occurs **IP-internally**; this *in situ* **je wh-moves** to the Spec CP of the relative or complement clause when this clause is extraposed to the right of the verb. We have seen that, in Oriya, a clause that has moved to post-matrix-verb position typically exhibits **wh-movement**; thus, it is easy to explain the movement of *ia*. to the complement clause-initial position once it has been declared a **wh-element**.

This outline of **Bal's** position on the problem of the **je** particle indicates that we can construct a well motivated explanation for the occurrence of **ki** in complement-clause-initial position if we assume that Hindi and Gujarati are like Oriya -- another **V-final** language -- in this respect. That is, we construct a hypothesis along the above lines and, to substantiate our arguments, look to Oriya where we find richer evidence than in H/G. The parallel is clearer in Oriya because Oriya has **je** in [SPEC, CP] both as a **relative** pronoun and as a complementizer, whereas H/G have a phonologically **non-je** complementizer *ki/ke* and do not have a morphologically equivalent pronoun providing us with such a neat picture.

Let us see what happens in H/G relative clauses **similar** to Bal's examples given above as (24)-(26):

- 31H [**raam** jise pasand hai] vo **aaj** aayegii
 [Ram whom **is-liked**] she today **come-will**
- 32H * vo aaj aayegii [raam jise pasand **hai**]
- 33H vo aaj aayegii [jise raam pasand **hai**]
- 31G [raam jene game che] e aaje aavSe
- 32G * e aaje aavSe [raam jene game che]
- 33G e aaje aavSe [jene raam game che]

These examples clearly demonstrate that in H/G too there is a restriction on the relative pronoun: it has to obligatorily move to the SPEC CP of its clause if that clause is extraposed to the right.

Let us propose, then, that **Bal**'s position on the Oriya relative pronoun **je** simply carries over to the H/G relative pronoun **jo** which may be analyzed as a **WH-element** without separate argumentation. Now, note that Hindi **ki**. and Gujarati **ke**, like Oriya *ia.*, must occur initially in a postverbal complement clause, as shown below at (34) vs. (35), while **ki/ke** are impossible in a **matrix-initial** complement clause either in complement clause-initial or in complement clause-final position, as we see at (36) (a construction that is grammatical only if either nothing or the poorly understood element **Haisaa/GevuM** 'so' links the complement clause to the matrix material. In these respects, **ki/ke** patterns with the Oriya particle **je** and thus may be treated as a WH-element.

34H **mujhe** lagtaa hai [ki **raam** ko vo **pasand** hai]
 I feel [that Ram-DAT s/he **is-liked**]

35H * mujhe lagtaa hai [raam ko vo pasand hai ki]
 36H [raam ko vo pasand hai] (aisaa) mujhe lagtaa hai
 this

34G mane lagtaa che [ke raam ne e game che]
 35G * mane lagtaa che [raam ne e game che ke]
 36G [raam ne e game che] (**evuM**) mane **laage** che
 this

One way to run this extension of **Bal** to H/G is to place **ki/ke** in the relative morphological system and treat its lack of 1- as an exceptional feature in H/G, contrasting with the regularity we see in **Oriya/Bangla** morphology. This is not unheard of. Consider the how/as and comment/comme holes in the pattern in English and French wh morphology, a paradigm which -- but for **these** solitary exceptions -- uses exactly the same forms for INT(errogative) and REL(ative) functions:

English:

INT:	why	where	when	what	which	how
REL:	why	where	when	what	which	as

French:

INT:	qui	quand	quel(le)	comment
REL:	qui	quand	quel(le)	comme

Given the existence of such a "hole in the pattern" in the

wh morphological paradigms of better researched languages, we need not let the absence of ±- in feJL and kg. stop us from assuming that Hindi **ki** and Gujarati **ke** are as Relative as **jo**.

Another implementation would make use of the presence of the k phoneme, an Interrogative trait, in Hindi **ki** and Gujarati **ke**. One might treat it either as a **k-word**, with an attenuated or bleached Int(errogative, "+"**WH**) feature, or as an element that is neutral between relativity and **interrogativity**. We leave the details open, assuming only that ki/ke is a **wh-element**.

Regardless of such details, there are two problems with this analysis.

(1) **Ki** never occurs **IP-internally** as the Oriya **je** (like the Bangla **je**) does (see ex. 29 for Oriya). Therefore (a) its exact parallel with the Oriya particle -- and with the **Hindi/Gujarati** relative pronoun -- breaks down (see ex. 25 for Oriya) and (b) the movement of this particle *from* such an IP-internal site *to* [SPEC, CP] is correspondingly rendered less plausible for H/G.

(2) Embedded questions do not follow the same pattern. In Oriya the following paradigm is available (exx. from **Bal**, (1990)):

37a jadu kaahaaku **maarithilaa?** (root clause)

37b **tume** bhaabucha [jadu kaahaaku maarithilaa]?

you are-thinking Jadu whom had-beaten

'who do you think **Jadu** had beaten?'

38 kaahaaku tume bhaabucha [jadu _____ maarithilaa]

'who do you think Jadu had beaten?'

In (37) the **wh-phrase** is *in situ*, in the embedded object position. (38) is a version of (37b) with long **wh-movement** of *fcflahaaku*. **Bal** argues that (38), where the wh-phrase has moved out of its base generated position into a [SPEC, CP] position, constitutes evidence for the existence of **wh-movement** in Oriya and thus supports his analysis of relatives. A similar paradigm, however, is unavailable for H/G:

39aH ?tumhe lagtaa hai [saritaa kisko pasand kartii hai]

'who do you think Sarita **likes?**'

40aH * kisko turahe lagtaa hai [sarita____pasand karti hai]

39aG * tane **laage** che [saritaa kone pasand kare che]

40aG * kone tane laage che [saritaa____pasand kare che]

It should be noted that a sentence like (40aH) is accepted by many Linguists. Also to be noted is that (39) and (40) are both improved by the addition of the **ki** complementizer.

39bH **tumhe** lagtaa hai [ki saritaa kisko pasand kartii hai]

40bH ?kisko tumhe lagtaa hai [ki saritaa____pasand kartii hai]

39bG ??tane laage che [ke saritaa kone pasand kare che]

40bG ?kone tane laage che [ke saritaa____pasand kare che]

Even if it is accepted that the wh-phrase is base generated in the position shown in (39), on the basis of evidence from noun-complementation (assuming that the ill-understood **aisaa/evuM**

forms an NP with the complement clause),

41H [saritaa kisko pasand kartii hai] **aisaa tumhe lagtaa hai**

41G [saritaa kone pasand kare che] **evuM tane lage** che

it is difficult to Justify overt **wh-movement** to SPEC CP in H/G solely on the basis of the data presented here. Although we shall return to an overt wh-movement account in our final discussion, there is no descriptive basis for a general South Asian wh-preposing **process**, **spanning** all interrogatives and relatives. Any particular applications of **Move-WH** that occur are driven by licensing requirements, which need to be understood in more detail. The data adduced by **Bal** do not help us in this enterprise.

2.3.2 Suppose -- though not on these grounds -- that we do accept a version of **Bal's** analysis regarding the occurrence of **ki** in [SPEC, CP] instead of the normal C; a bigger question still remains: that of the occurrence of the entire complement clause in post-verbal instead of the "normal" **pre-verbal** object position.

The obvious thing to say about the order of constituents in a sentence containing a complement clause is that the order is XP --> X (S) (to use the earlier terminology for the moment) or, more precisely, head-complement, or subject-verb complement, because that is what it appears to be in a given sentence. Whether or not this is the underlying PS remains to be seen.

Subbarao (1984) maintains that, for Hindi at any rate, the "real" PS is NP -->(S)N for noun phrase complementation (Subbarao does not study verb phrase complementation). That is to say, according to him, the complement clause precedes the head and maintains the natural SOV order of the language. As evidence, rather weak actually, he argues that, (i) as sentences involving scrambling are frequent in Hindi, the surface structure is no indication of the actual word order which apparently is one reason for choosing fS)NP over the other option: fii) such a step will preclude the necessity of adding extra rules to the grammar -- a rule of extraposition already exists in Hindi for independent reasons, which can account for the rightward movement of the complement clauses, instead of adding a further rule that would move non-finite complement clauses to the left of the head; (iii) the rules necessary for the constituent structure NP -->N(S) are said to be ".highly suspect and extremely unmotivated."; (iv) evidence from other verb-final languages is given to demonstrate the head-final character of Hindi and NP -->(S)N is suggested as a PS rule common to these other languages.

Jain (1975), in his account of Hindi complements, uses the notions of non-discrete grammars -- "nouniness", "verbiness" and island hierarchy -- and those of relational grammars. He suggests including the relation "complement of" in the sense of Quirk and Greenbaum (1973)) besides those of "subject" and "object". According to Jain, movement of the finite complement

clause to the right is obligatory but only if the complement clause bears the relation "complement of" to the verb is the movement a clear case of extraposition. Here Jain differs from Subbarao who, as we saw, accounts for all such movement by means of extraposition. Jain, on the other hand, maintains that in sentences where the complement clause is in "subject" or "object" relation, the **ki** clause (optionally but preferably) moves away from its dummy head noun, past the main predicate by means of **S-leaking**. Examples (6) and (13) above for example, could be analyzed by Jain as instances of **S-leaking**, preferred to the NP complements remaining *in situ*. (6) and (13) are repeated below along with their *in situ* counterparts (6G') and (13H'):

- 6G evi sucanaa amne maLii che ki mukhya mantrii pakRaayaa che
 6G' evi sucanaa ke roukhya mantrii pakRaayaa che amne maLii che
 13H aisii sucanaa hame milii hai ki mukhya mantrii giraftaar hue
 13H' aisii sucanaa ki mukhya mantrii giraftaar hue hame milii hai

Thus, according to Jain, only those complement clauses which are in a "complement" relation to the verb, that is, in our terminology, verb phrase complements, are moved by extraposition.

Let us now look at some more recent researches into the matter. If we start off with the simple assumption that the clause in question is truly a complement of the matrix verb, we are already in a somewhat tight corner: the complement clause must occupy an **A-position**. A number of works dealing with this issue take the position that the complement clause is base gener-

ated in the A-position typically occupied by the object and is extraposed to the right, retaining its link with the A-position by means of **co-indexing**.

In Srivastav's (1991) discussion of scope islands in Hindi, her treatment of complements involves the canonical object position being occupied by a "pleonastic" element like **ye** or a dummy NP ve baat to which the normal Case and theta roles are assigned. The CP is **co-indexed** with this. Consider the following example:

42H **maiM** ye/ye baat jaantaa **huM** [ki saritaa ghar
 I-NOM this/this talk know that Sarita home
 jaayegi:]
 will-go

Here ye/ve baat is in the canonical argument position, assigned Case and theta roles by the matrix verb. Srivastav claims that the complement clause itself is base generated in the adjunct position and is co-indexed with the pleonastic element. **In** the case of examples like (34), this explanation can be extended by postulating a trace or pro in the argument position which is co-indexed with (specifically, which forms a chain with) the complement clause.

There has been a non-committal attitude to the question of whether the **co-indexed** element is a trace or pro (see Srivastav (1991/), ^a **Bal** (1990) among others). In general it is assumed that if an extraposition analysis is chosen for the complement clause,

th θ argument position is occupied by a trace (left after **movement of the complement clause**). It can also be argued that instead of being **base** generated in the **argument** position and then moved out, the complement clause is actually base **generated in** the post-verbal adjunct position and co-indexed with a pro in the argument position.

Bal (1990) argues that complement clauses are extraposed. He claims that it is "natural" to have the complement clause base generated in the object position, because the complement clause is, in effect, the object of the matrix verb. In the case of noun-complement clauses, Bal finds it self-evident that the complement clause should be co-indexed with the real object NP because the verb assigns the theta role to the head NP in object position and not to the clause. But where the complement clause is extraposed from is not clear from **Bal's** account of noun-complement clauses. Crucially, Bal considers sentences of the following sort to be extraposed noun-complement **clauses**:

43 nun e kathaa jaaNe [je satis bides jiba]
 T this fact know je Satish abroad will-go
 'I am aware of the fact that Satish will go abroad'

He thus rejects Bayer's (1990) statement **that** only those CPs which require an overt complementizer are extraposed while others are in complement position (Bayer (1990) in Bal (1990)). For Bal the difference is simply a matter of extraposition-from-N in the case of extraposed noun-complement clauses and extraposition in

the case of verb complement clauses.

Bayer himself (Bayer 1993,1994) has several problems with Srivastav's and **Bal's** analyses. For instance. he **maintains**. contra Srivastav. that (i) the Bangla **je** appears obligatorily if an overt pleonastic (he calls it an "expletive") is present and (ii) overt extraction out of an extraposed CP is possible ¹ while it is impossible out of a true adjunct. Bayer seems to feel that Srivastav doesn't provide an adequate explanation for (i); he provides evidence from Bangla, Hindi, Oriya where a wh-phrase has been moved out of a clause in the post-verbal position, one which Srivastav would consider an adjunct. (But see later in 2.4.2 for a discussion of the status of such wh-extraction cases in H/G).

Bayer's conclusion is that such extraposition is essentially a case of *argument shift* in the sense of **Mahajan** (1990). In this, Bayer follows **Hoekstra** (1987).

Over the years Hoekstra has made a fairly extensive study of Dutch complement clauses (Hoekstra 1983, 1984, 1987 etc.). His **influential** Unlike Category Condition (UCC) is an attempt to conflate two hypotheses once proposed by **Kayne**: (1) NP cannot be

'As can only happen if this CP goes to an A-position. Extraction can only be out of A-positions. Extraposed constructions are traditionally islands out of which extraction is impossible. Payer (1991) shows that **Bangla/Hindi** do have **wh-movement** out of **extraposed** CP's although such movement is traditionally considered impossible. **However**, as mentioned above, I have empirical problems (**for** at least H/G) regarding these **Mahajan/Srivastav** type examples of wh-movement. (Bangla and Oriya may well be different for parametric reasons.)

governed by N' or N and (2) no node carrying a [+V] feature can be an argument. What this means in effect is that NP can only be governed by [-N] nodes. Thus, since N never governs NP, it cannot take NP as complement. Generalizing this, UCC says that at S-structure no element of a category $[\alpha V, \beta N]$ may govern $[\alpha V, \beta N]$. At S-structure a category with one set of features, say $[-V, +N]$, may not govern a category with the same set $[-V, +N]$ of features. Thus, nouns never take **NP-complements** at S-structure (~~*the destruction~~ the city), adjectives never take **AP-complements** (~~*John~~ is likely L_{AP} dead).

How does the UCC account for the obligatory post-verbal position of Dutch sentential complements? In Dutch, although the V governs to the left and complements normally occur preverbally, clausal complements are postverbal. Thus, * $[\dots S' V]$. The UCC takes care of this if we assume that S' has the features $[+V, -N]$, like those of V. Then, it follows that if S' were to occur to the left of V, i.e., in V-governed position, the UCC would be violated. Hoekstra in fact suggests that S' is a projection of **INFL** and that INFL bears the features $[+V, -N]$ - i.e., is "verbal".

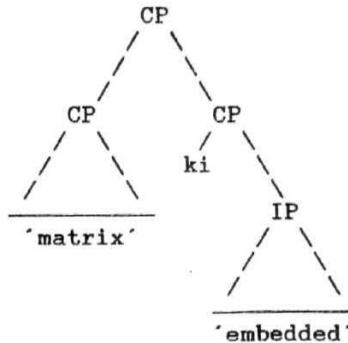
With this background, let us return to Hindi and Gujarati. The problem, as we noted, arises only in finite complement clauses in object position, where the complement clause cannot occur in the canonical V-governed position. One way out, as we saw, is to say that the complement clause, being verbal, cannot be governed by the verb and therefore has to occur (either moved as in Hoekstra, **Bal**, or base generated as in **Srivastav**) in a position

not governed by the verb. Another alternative is to **claim** that the complement clause is not a complement of the verb at all. not a subordinate construction of a full clause. Rather, it is a full clause in **itself**, *conjoined* to the "matrix" by means of **ki**. Automatically, **then**, we would be claiming that ki is a conjunction and not a complementizer.

This route is chosen by Dwivedi (1994), who draws on McGregor (1977) to show that Hindi **ki-clauses** are not subordinate. She provides further evidence from Hindi to claim that there is no **selectional** restriction between the matrix verb and the ki clause -- if there were, one would expect different types of complement clauses to be marked by different complementizers. In Hindi, the morphological shape of **ki** remains constant, throughout the range of interrogative and declarative complement clauses, providing **indirect** evidence, according to Dwivedi, for her claim **that** the verb does not select the complement clauses. Therefore the **complement** clauses are not really **arguments**, not complements of the verb. Such a stand precludes the necessity of accounting for **either** a base generated complement clause, which has to be **extraposed** -- and providing **justification** for the extraposition to take place -- or for a complement clause generated **post-verbally** and coindexed with an empty element inside the matrix clause. The "complement clause" in question, according to Dwivedi, is simply a clause co-ordinate to the matrix sentence, an instantiation of the formal notion of asymmetrical co-ordination which drives her account. Ki, under these assumptions, is a connector. Recall that Davison (1989) has a similar view about

the status of **ki** at any rate, if not about the "complement clause" as a whole. Dwivedi's structure is as follows:

44



Dwivedi's account would work well were it not for the fact that in Hindi -- as in Gujarati -- **ki** clauses can occur as **NF-complements**, in an obviously embedded position. Moreover, Dwivedi's account works only if we postulate a sort of null complement in the object position of the verb, to which the **ki** clause is related. This important point has not been made explicit in Dwivedi (1994).

The issue can be brought into sharper focus if we return to Bayer (1993) briefly. In an attempt to resolve the paradox between the application of* the Uniformity of Theta Assignment Hypothesis (UTAH) suggested in Baker (1988) and the fact that SOV languages like German and Bangla (the two languages discussed in Bayer (1993)) regularly display finite clauses post-verbally, Bayer proposes that, contra Mahajan (1990), Srivastav (1991a), etc., the "extraposition" of the finite clause to the right is, in fact, a case of scrambling, more exactly of *argument shift*, as

mentioned above, in the sense of Mahajan (1990). Bayer has discussed extraposition in terms of argument shift. Given a Bangla D-3structure as follows

45 [... [... [... [_{CP} [_{IP} ... [_I Je]...]] V] T] Agr]

after the V is raised to T/AGR, the CP can move into an L-related (or, in the old parlance, an "A-") position by rightward movement. CP is visible for the V (and is thus an argument of V) if there is an initial head. This head can be either *la* or \emptyset ; if \emptyset , it must be head-governed by V.

Indeed, CP-visibility is Bayer's main reason for having the CP move or extrapose to an A-position. Bayer's version of UTAH maintains that if two maximal phrases receive the same **theta-role** from a head (i.e., the same head), then they have the same D-structure. One implication of this is that a verb which **theta-marks** its complement to the left cannot do so to the right; in other words, we cannot postulate distinct D-structures for those XPs which occur (i.e., which are base generated) as complements to the left of the verb and those which are base generated to the right of the verb. Under UTAH, therefore, the post-verbal finite complement clauses in H/G that we are interested in here *must* be explained in terms of movement (of the **Move- α** kind). Since extraction from the post-verbal clause *is* possible, according to Bayer, (again see 2.4.2 for a different view on H/G extraction), he argues that a conventional extraposition movement to a non-A-position cannot work. Instead, he suggests that what actually

takes **place** is a rightward application of argument shift right, with the result that the complement clause is post-verbal but in an **A-position**. Bayer's account differs from earlier accounts like **MahaJan (1990)**. Srivastav (1991a/b), which postulate extraction from the clause *before* its extraposition to a non-A-position takes **place**.

Bayer's account thus proposes that the **post-verbal** complement clause is indeed a complement, i.e. an argument, occurring to the right of the V by means of argument shift. This explains the **wh-extraction** that Bayer notes for Bangla and reports for Oriya (following **Bal (1990)**) and Hindi (following Srivastav (1991b)). We return to the possibility of extraction in H/G on pp. 57 58, where the analysis of the Hindi and **Gujarati** complement clauses is presented in detail. Meanwhile, Bayer does not tell us why only the C-head of the complement CP should

Bayer disagrees with the Hoekstra (1984) UCC (see p. 43) as in the following German sentence he focuses on. the V raises to the head of the infinitival **zu**, an **I-element**, thus giving it a [+V] **feature**:

- (1.) Hans hat f PRO zu rauchenl **anzugehört**
 Hans has to smoke stopped
 'Hans has stopped smoking'

In such a **case**, the UCC is unable to explain the occurrence of the complement clause in the V-governed **position**, since both the V and the complement clause share the verbal feature. This then rules out forced extraposition of the sort advocated by Hoekstra. In this connection. He explains Dutch infinitivals with lexical subjects in obligatory **pre-verbal** position by saying that the Case Filter forces the infinitival to occur **pre-verbally**; for reasons of Case-assignment to the lexical subject of the **infinitival**. He assumes that government is unidirectional; the V in Dutch governs to the left and thus Case assignment, under government, is also to the left.

be in the unmarked final position. He merely states that **his** condition of "**CP-visibility**" requires that the CP in question should be visible to the V in order to be head governed by it. This, according to him, can be done in two ways, both via Spec-Head agreement: have an empty Spec of CP which can be deleted; or, have the C give its features to the Spec. In both cases the features of C are then visible to V. But how does this explain the overt presence of the H/G **ki/ke** in front of the CP?

2.4 ANALYSIS

We see that the above discussion of relevant literature on the subject has brought us back to the two problems we started with in Section 2.3, with no clear answers as yet. In the following two subsections I propose to spell out a hypothesis now which addresses the current **problems**.

2.4.1 We continue with Bayer's inability to account in a principled manner for the **ki** in clause-initial position. We may explain the strange behaviour of the C head of H/G finite complement clauses either by saying simply that **ki** is strange: it has quirky selectional properties in that its complement is to the **right**¹ (note that Kayne (1993) claims that complement-head is the unmarked order of constructions in **UG**; I do not however undertake

¹.For a "quirky" view of **COMP** moving into **CONJ**, see Dasgupta (1980) on "conjunctionization" and "**alternative** conjunctionization".

an investigation into this claim, finding it to be well outside the scope of this **dissertation**) and, we might add, in that the matrix "selector" of **ki** is to the left (this is somewhat reminiscent of certain of **Dwivedi's** (1994) arguments). Otherwise, we **can** choose the more formally precise option in line with Davison (1989, 1991 etc.) which states that **ki** is in Spec of CP. **WH-elements** routinely move to SPEC. **Ki**, we claim is a -WH (relative) element, **just** as all **COMP** items are either -WH or **+WH**, although **ki** is not phonologically cognate to the -WH relative **COMP** **io** in H/G (see above, pp. 30-31, 35-36 for details).¹ We thus arrive at a structure like 46:

(46) *... [CP **ki** **Syaam** aayegaa C] V

2.4.2 The problem with (46) which makes it unstable and forces the clause to move is the obvious lack of adjacency between **ki** and the V. In order to be licensed by the V, **ki** (which is parametrically different in this respect from English **that**, French **que**, German **daß**, and resembles more closely an English type *null* finite complementizer -- for reasons we do not propose to explore here) must be next to it (a point stressed in Bayer's work). We can obtain this **configuration** by extraposing the **ki-clause** -- an **option** which thus "must" be exercised to ensure that the derivation satisfies general licensing requirements of the theory''.

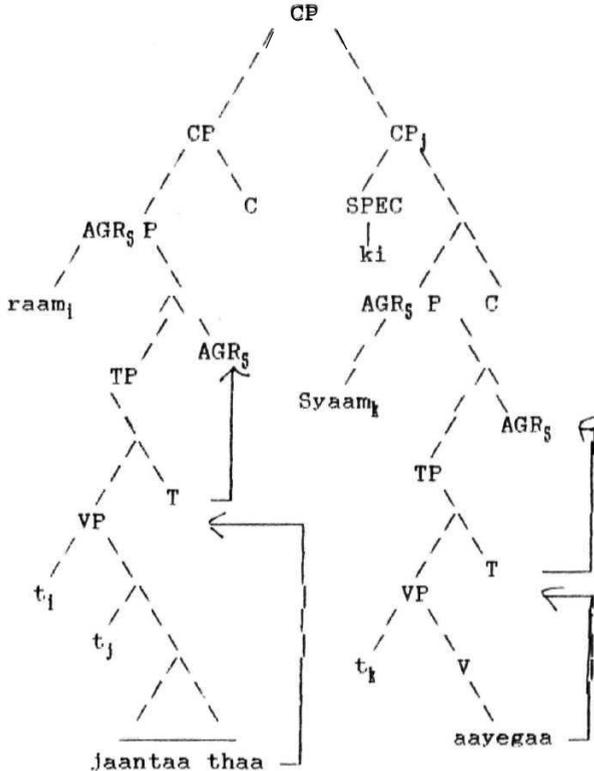
¹. A similar case can be found in English where *as* has no phonological Wh content but is the relative counterpart of **how**.

². On the necessity of *immediate* adjacency of finite CP and C to the matrix V, vis-a-vis the flexibility to be found in non-finite CPs, see section 2.5.2.

Only if the C is licensed will the CP be theta marked; licensing ki presumably suffices to license the C it is coindexed with.

The structure of a finite complement clause example such as raam laantaa thaa ki Svaam aavegaa, the acceptable version of

(46) above, would then be as follows:
47



Some quick questions and answers may be in order at this juncture.

How does (47) make ki Svaam aavegaa adjacent to the V when we take a close look? It does not; adjacency to the verb was an

expository simplification for what roust at a more rigorous level be called adjacency to the extended head chain of the V, in this case a chain headed by the matrix C.

Why do we want to go as far as the extended head chain? For empirical reasons, whose explorations would take us too far afield. We restrict ourselves to looking at verbal complexes of the type vaad rakhne ko kahaa 'told to remember' in (48) and to note the ungrammaticality of (49):

48H **maiM** ne **raam** ko **t** yaad rakhne ko kahaa **ki** ham
I ERG Ram DAT **t** in-mind keep C told that we
Saam ko vaapas iaaveMge
evening in back will-go

49H * **maiM** ne raam ko **t** yaad rakhne ko **ki** ham
I ERG **Ram** DAT **t** in-mind keep C that we
Saam ko vaapas iaaveMge kahaa
evening in hack will-go told

Even though kahaa 'told' and vaad rakhne ko 'to remember' head distinct Complete Functional Complexes (CFCs) and cannot be taken to have fused into a truly unitary verb, clearly we have to assume that vaad rakhne ko kahaa is an extended head chain going all the way up to the matrix C, from which this index-complex licenses the **ki-clause** thematically associated with vaad rakhne ko 'to remember', not with the actual verb kahaa 'told' that it is closer to.

An interesting question that should be raised, but outside this work, is, what makes these extended head chains (or verbal complexes) tick? We are not concerned here with investigating whether they have a single indivisible index all the way through or which site annexes the others to ensure index sharing. Perhaps they have a single index from the tail to the junction and then a shared, complex index from the junction to the head of the chain. Maybe they leave the indices distinct in the overt syntax and carry out some sort of chain composition at LF, possibly with head movement or index movement. All we need is the existence of verbal **complexes**.

If at a careful level "strict adjacency to the verb" must be taken less seriously than we thought, why not abandon the restriction entirely? Because no argument or adjunct may occur between the verbal complex and the finite complement clause. Thus, (50) is grammatical only if neither the complement **raam ko** nor the adjunct **dilli meM** is interposed:

50H **maiM** ne yaad rakhne ko kahaa (*raam ko) (*dilli **meM**)
 I ERG **in-mind** keep C told **Ram** DAT Delhi LOC
 ki ham **Saam** ko vaapas **jayeMge**
 that we evening in back will-go

How does this account square with what has been said about **the** isomorphism between the **ki-complements** and **jo-relatives**? In both cases, we postulate the licensing of an embedded Spec of CP

on the right by a matrix C on the left under strict adjacency. This hypothesis can be fleshed out for the relative case by proposing that the antecedent in the matrix IP is **quantification-al**, or (at least minimally) focused, undergoes Quantifier Raising at LF, and indexes the matrix C; call this the Matrix C Empowerment (MCE) analysis¹. MCE has several advantages. It can explain the observation, first made in Dasgupta (1980), that right-adjoined relative clauses in South Asian languages (unlike the left-adjoined type in correlative structures) do not permit more than one relative pronoun:

- 51H **jis** ko jo **caahiye** us ko vo de do
 who DAT what **is-wanted** him/her DAT that give **AUX**
 'For x,y such that x wants **y**, give y to x'
- 52H * us ko vo de do jis ko jo caahiye
 him/her DAT that give AUX who that what is-wanted

MCE can impose only one nominal index on the matrix C -- from either us ko 'him/her' or vo 'that', not from both; hence the facts. (51) uses the quite different free relative mechanism and escapes this formal problem.

A second advantage of MCE is its ability to handle the asymmetrical distribution of null antecedents:

- 53aH tum jis se baat kar rahe the, **maiM** pro **nahiM** pahcaantaa

1.MCE for relatives is an idea due to **Davison**.

you who with talk do ing were I pro not know

'I don't know the person you were talking to'

53bH roaiM use/*pro **nahiiM** pahcaantaa jis se tum baat kar

T **him/r/*pro** not know who with you talk-to do

rahe the

ing were

54aH tum jahaaM jaaoge, raaiM pro nahiiM **JaauuMgaa**

you where will-go, I pro not will-go

54bH **maiM** vahaam/*pro nahiiM jaauuMgaa jahaaM tum jaaoge

I there/*pro not will-go where you will-go

The MCE explanation says that in the **b-examples** only a phonologically overt item can be focused, undergo QR and empower C. Again, the **a-examples** are free relatives and can get away with it as they refrain from empowerment.

These considerations indicate that the licensing of **ki**, like that of **jo**, must be a nominal index binding process, unlike the routine Case marking of a complement by its V. Thus, a verb taking a **ki-complement** goes through the matrix C and deploys a **non-verb-driven** mechanism to license the SPEC CP, the coindexed embedded C and thereby the entire CP. This ensures that this CP, which lacks Case -- the favourite device for licensing it -- is licensed so that the Full Interpretation principle is not violated. We postulate that the Case relation between the verb and the

argument chain is discharged at the nominal **trace**¹ of the argument while the **theta-relation** between the verb and the argument chain is discharged directly at the extraposed CP, via the extended head chain.

Why **can** and must **ki** move to from C to [SPEC, CP]? It can go there because it is a **wh-element**. It must move to take Case and to ensure the licensing described above. In terms of **MPLT**, it must move in the overt syntax because wh features universally require overt checking -- and because, in H/G morphology, it is **ki** itself, not some invisible affix thereof, that bears the WH-feature and must move overtly.

We have decided on extraposition, then, as the means to move the complement clause to the post-verbal position. This leads us to postulate the complement clause as occurring in a non-argument (adjunct) position at S-structure. How then do we explain the extraction facts of Srivastav (1991b) cited in Bayer (1994) as well as those of **Mahajan** (1990) and others? I suggest that in H/G long preposing of wh out of post-verbal clauses is *not* permissible as a rule and that fortuitously acceptable cases that seem to instantiate such extraction might in reality be the result of other processes, the detailed study of which lies outside the scope of the present work. All the informants that I have consulted agree that the following are **ungrammatical**:

¹. **Following** Stowell (1981) we say that a trace of a CP can be recategorized as an NP-trace for "local" reasons in the course of the derivation.

- 55H * **kaun₁** raam ne socaa [**ki e₁** yahaam **aayegaa**]
 who Ram ERG thought that e here **come-will**
- 56H * **kis ko₁ raam jaan** gayaa [**ki** Syaam **e₁** pyaar kartaa hai]
 whom ACC Ram understood that **Shyam** e love does
- 57H * **kyaa₁** raam ne socaa [**ki** Syaam **e₁** kar **sakegaa**]
 what Ram ERG thought that Shyam e can-do-FUT

Extraction of a relative element has been similarly found **ungram-**
matical:

- 58H * **jo₁** raam ne socaa [**ki e₁** is **Sahar meM rahaa**
 who this city in stayed
 vo **maraa**]
 he died
- 59H * **jis ko₁** raam ne socaa [**ki** Syaam **e₁** pyaar kartaa hai
 whom
 vo zaruur **aayegiil**
 she surely will-come
- 60H * **jo₁** raam ne socaa [**ki** Syaam **e₁** boltaa hai vo
 what says that
 sac hail
 true is

Moreover, the grammaticality of (55H-59H) does not improve if the

wh-element is moved out to a non-initial focus position¹:

- 61H * raam ne kaun₁ socaa [ki e₁ yahaam ayegaa]
62H * raam kis ko₁ jaan gayaa [ki Syaam e₁ pyaar kartaa hai]
63H * raam ne kyaa₁ socaa [ki Syaam e₁ kar sakegaa]
64H * raam ne jo₁ socaa [ki e₁ is Sahar mem rahaa vo maraa]
65H * raam ne jis ko₁ socaa [ki Syaam e₁ pyaar kartaa hai vo zaruur aayegii]
66H * raam ne jo₁ socaa [ki Syaam e₁ boltaa hai vo sac hai]

2.5 CONCLUSION

We thus have an account of finite complement clauses which explains the position of **ki** and, in doing so, provides a rational way of accounting for the extraposition of the complement clauses. 2.5.1 recapitulates the arguments presented in this chapter. 2.5.2 discusses the discrepancy in behaviour between finite and non-finite complement clauses.

1. Evidence that leftward **wh-movement** to sentence-initial position is not highly favoured in Hindi comes from Laxmi Bai and Misra (1994). In this empirical study it has been shown that **wh-fronting** is not a good questioning strategy in Hindi. The fronting of indirect objects constitutes the worst type of IO question formation; the fronting of wh direct objects is only next to the worst as a stratagem for DO-questioning. The preferred position for WH-elements is *in situ*. However, wh subjects when moved to pre-verbal position (but within the clause), that is, away from their *in situ* sentence-initial position, are preferred. (i) is preferred to <ii> except in cases of focus etc.:

(i) kaun yahaam aayegaa?

(ii) yahaam kaun aayegaa?

Although Laxmi Bai and Misra's study is limited to simple sentences, the interesting point for our purposes here is that Hindi tends to avoid leftward movement of WH-elements.

2.5.1 Beginning with the presentation of the data, we moved in this chapter to certain observations about the data; this led in turn to the problems mentioned in section 2.3 and their subsequent resolution. A brief summary follows:

(i) Given that H/G are head-final languages, why does **ki** in the ki clauses presented here occur sentence initially?

(ii) Given that H/G are head-final and that the head governs to its left, why do we find the complement clauses to the right of the verb in non-canonical position where no non-clausal complements occur?

A number of fairly recent works discuss these two problems. Bal (1990), Davison (1989), Dasgupta (1990), deal with (i) above, while Srivastav (1991), Bayer (1993, 94), Bal (1990) again, and Hoekstra (1984 etc.) suggest various solutions for (ii). I recapitulate in brief these discussions regarding both (i) and (ii).

(i) The obviously deviant behaviour of the **ki** head of the finite complement clause has led Bal (1990), Davison (1989), Dasgupta (1990) and Dwivedi (1994) to propose a [SPEC, CP] site for the **ki**. The gist of Bal's argument is that the Oriya **ie** (corresponding to our ki) moves into [SPEC, CP] if that CP has been extraposed. Bal regards this as a case of **WH-movement**, akin to that of the relative **ie** which **WH-moves** to [SPEC, CP] when the correlative clause containing the **ie** is postposed to the right of the matrix V. In both cases, that the cases concerning the two types of **ie**, Bal consider the movement to be obligatory. **Davison's** motivation

for having the Hindi **ki** in [SPEC, CP] is quite different **from** that of **Bal**. She claims that **ki** is not a complementizer at **all**, but is more like a **conjunction**, and thus cannot occur in C. Dasgupta suggests that the Bangla **je** is a clitic which is generated in C and **cliticizes** by head-to-head movement to the matrix V. Dwivedi, in keeping with her notion that the complement clause in question is a co-ordinate construction, claims that the Hindi **ki** is a "connector".

(ii) Our discussion of the H/G finite complement clause occurring post-verbally includes an examination of several fairly diverse accounts dealing with the problem, for both **IA** and Germanic languages. Srivastav (1991) argues for an extraposition analysis for Hindi, where the extraposed complement clause is **co-indexed**, and forms a chain with a trace or a *pro* in the argument position. Bal (1990) has a similar view. Bayer (1993, 1994) on the other hand, proposes that the complement clause, in German as well as in Bangla and possibly in Dutch and Oriya, moves to the right of V not by extraposition but by the **scrambling-type** process of Argument Shift. In this view, the complement clause is not adjoined but is moved to an **A-position**. The two major conditions proposed in recent times that apply to post-verbal clauses are the **CRP** of Stowell and the UCC of Hoekstra. They appear to provide a strong enough motivation for the **movement** of the complement clause. Hoekstra, for instance, explains the postverbal occurrence of Dutch finite complement clauses by pointing out that the UCC forces the finite complement clause to the right of the verb: the complement clause is said to be a projection of an

INFL with verbal properties and hence roust move to a non-governed position. However, Bayer points out that certain German sentences with a [+V] INFL do occur in preverbal position. He prefers an account which does not involve forced extraposition for reasons of government but argument shift for reasons of **C-licensing**. Dwivedi (1994) takes a slightly more unorthodox position. She claims that the complement clause is in fact a co-ordinate structure, conjoined to the "matrix" clause and therefore necessarily an adjunct.

In 2.4 we claimed that the complement clauses are indeed moved out as a result of extraposition and provided data which correctly rules out wh-extraction from these moved clauses. In answer to the question raised in 2.3, repeated in this section as (i) and (ii), we claim, in brief, that,

(i') **ki** occurs sentence-initially because, being a **WH-element** (with the feature [-WH]), it moves into [SPEC, CP] as a case of **wh-movement**.

(ii') Having moved into SPEC, ki. is "too far away" to be licensed by the V. The entire complement clause therefore, extraposes to a position where the C (ki, now in SPEC) is adjacent to a "licensor" and thus ensures **theta-role** assignment on the **CP**.

Next, in continuation of our analysis, we attempted a tightening of the account by arguing for the more rigorous step that, rather than the V, it is in fact the extended head chain of the V to which adjacency is required. We looked at some verbal **com-**

plexes (48-49) and found that they form extended head chains that are headed by the matrix C.

Next, we attempted to tie up this account with our discussion on **ki-complements** and **jo-relatives**. We postulated that the embedded SPEC CP on the right is licensed by a matrix C on the left under strict adjacency; we proposed MCE to account for relatives and extended it to **ki-complements**. Essentially, MCE allows the matrix C to be indexed with the matrix verb. The licensing of **ki**, therefore, would be a case of non-canonical licensing rather than the normal verb-induced process of complement licensing through Case assigning mechanisms.

2.5.2 Consider the following sentence:

67H **raam** ne **Syaam ko** ghar jaane ke **liye** kahaa
Ram ERG **Shyam** DAT home **go-INF** for said

In (67H) the non-finite complement clause not only remains in the canonical V-governed position, the complementizer ke live also occurs in the canonical head-final position. Non-finite complement clauses are dealt with in detail in the next chapter. Here, our interest lies in accounting for the fact that they, unlike finite complement clauses, can remain in **situ**.

We have claimed that for the CP to be licensed, the complementizer itself needs to be licensed. I am further claiming that in the canonical direction, licensing – limited to Case checking

in the core case -- can take place over what observationally appears to be a distance; the non-finite complement clause and its C-head do not have to be immediately "adjacent" to the V, observationally speaking. In the non-canonical direction, on the other hand, the finite complement clause must be immediately adjacent to the extended head chain of the licensing V. Moreover, it is not uncommon to find that marked behaviour or quirky properties tend to be displayed only in the canonical direction of a given language. Dasgupta (1994) points out, for instance, that ECM does not take place to the right in Bangla. Presumably the licensing of not strictly adjacent non-finite complement clauses to the left of the V is marked in this sense.

The above explanation is complete when we state that the complementizer (here, ke **liya**) has no motivation to move into [SPEC, CP] the way **ki** does. This means that the C-head of a non-finite complement clause is always adjacent to the V in the relevant sense (if not always strictly to the V) and the complement clause can thus be licensed. This is **unproblematic** in H/G as PPs are normally to be found on the canonical side of the verb; a situation such as the one above, where the complement clause is in the canonical position, merely illustrates this unmarked behaviour: that a CP headed by an **adpositional** complementizer occurs in the standard *PP* position should require no comment.

CHAPTER III

NON-FINITE COMPLEMENT CLAUSES

3.1 INTRODUCTION

We come now to a wide range of complement types, all of which are subsumed under the term non-finite. In 3.1.1 we discuss the properties of non-finite clauses in general, followed by the instantiation of **non-finiteness** in Hindi and **Gujarati**. The relevant data is presented in 3.1.2.

3.1.1 Let us briefly look at what the technical literature of linguistics has to say about the nature of non-finite clauses. Bresnan (1972) and others have discussed the differences between finite and **non-finite** complements. Essentially, non-finite clauses have been seen as being less definite, less specific, denoting "some vague possibility or something imagined" (Jespersen, 1961); having a different temporal reference vis-a-vis the matrix verb from that of finite complements -- non-finites suggest a temporal reading later than that of the matrix verb while finites have a temporal reading which precedes, or is simultaneous with, the temporal reference of the matrix verb; and expressing a notion of activity in contrast with finites which express mental or physical states. **Infinitivals**, in particular, are considered to have the last two properties. Various other sources also have discussed the "event" interpretation of non-finite complement clauses and contrasted it with finite complement clauses which refer to "**propositions**". According to Guasti

(1993), the "event" interpretation is ensured in non-finites because of a lack of referential tense. Earlier, Higginbotham (1983) had claimed that a lack of inflection is what makes it possible to interpret the complement as an "indefinite" description of events (cf. the end of this subsection on p. 69 for a discussion of "defective" inflection in **non-finites.**). Later in this chapter we discuss the notion of "strong" T and a possible "event" reading of constructions in the absence of such a strong T. English examples of these properties are given below:

- | | | |
|----|--|---|
| 1a | It is nice [to agree on everything] | (general) |
| 1b | It is nice [that we agree on everything] | (definite) |
| 2a | I asked [to leave /*left the room] | (temporal
reference
later than
main
clause) |
| 2b | I said [that I had left the room] | (temporal
reference
prior to
main
clause) |
| 3a | She forgot [to be proud/clean the office] | (activity) |
| 3b | She forgot [that she was proud/had cleaned the office] | (mental/
physical
state) |

For further details regarding these basic properties of finites and non-finites, see Riddle (1975); cf. Rudanko's (1988) critique of Riddle.

Eilfort (1986) puts the notion of "activity" a little differently: non-finite complement clauses express "non-realized"

action. Eilfort sees three kinds of phenomena as criteria relevant for determining the non-finiteness of a clause. Morphologically, the verb, or clause, lacks the TAM (Tense-Aspect **Mod(ality)**) inflections or markers. In Hindi, forms like aavegaa 'will come' kahtaa thaa 'was saying' etc. occur in finite clauses but non-finite clauses have the verbs in their aaanaa. kahnaa form, that is, without the TAM inflections; similarly in **Gujarati**. The syntactic criterion is that non-finite clauses are subordinate and unable to function as independent **clauses**, with or without their complementizers. To illustrate, again from **Hindi**:

4aH miinaa ne **Sarmaajii** ko [[khaaai **meM** girne] se] bacaayaa
Mina-ERG Sharma-ji ACC ditch in **fall-INF** from saved

4bH miinaa ne dekhaa [ki [Sarmaajii khaaai **meM** gire]
Mina-ERG saw that Sharma-ji ditch in fell

4cH * khaaai meM girne (se)

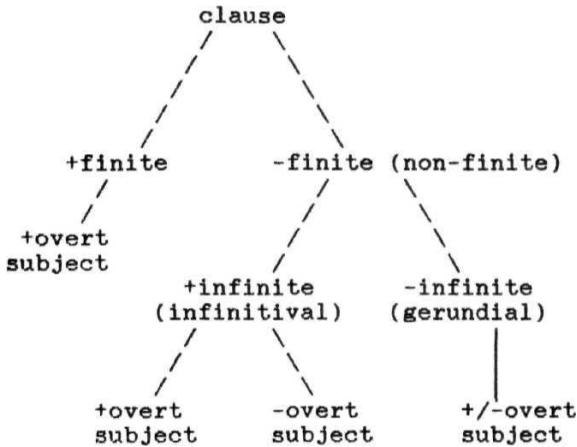
4dH Sarmaajii khaaai meM gire

As a semantic criterion, Eilfort notes the fact that non-finite clauses have no independent tense, modal or aspectual interpretation, apart from that of the matrix clause. It seems unnecessary to mention this as a separate criterion as it clearly works in close association with the morphological criterion, especially in languages like Hindi and Gujarati, where tense, mode and aspect are interpreted **only** through the overt TAM inflections. For our purposes, therefore, the morphological and semantic criteria may be collapsed into one. In this manner, we are now equipped with

a rough but helpful account of the nature of non-finite complement clauses, based on the earlier literature: non-finites lack tense, mode and aspect and cannot function as independent clauses. The next step is to attempt a classification of these **clauses**.

There is one further obvious but nevertheless fundamental way in which non-finite clauses differ from finite ones -- while finite clauses regularly require an overt subject in languages like English, both empty and overt subject varieties are found among non-finite complement clauses, across languages. More precisely, in a language like English, non-finite complements include gerundial clauses, taking either overt or empty subjects, infinitivals which obligatorily take overt subjects, and infinitivals which obligatorily take empty subjects; that is, every verb taking an infinitival complement clause is specified for whether the subject of the infinitival is overt or empty. This rather lengthy bit of prose can be more concisely put in the form of a diagram from Xu (1985/86):

(i)



Whether such a classification holds for Hindi and Gujarati non-finite **complement** clauses is a question taken up in 3.2 and 3.3¹. Note that Xu's diagram makes no mention of **participials**, which we consider to belong to the class of non-finite clauses which are -overt subject.

Before moving on to the next section which outlines the scope of this chapter and presents the relevant data, I would like to present one or two further standard assumptions regarding the **finite/non-finite** distinction. The notion of finiteness, **(along with the notion of government)**, plays an important role in LGB-type parametric accounts of structural **Case** assignment. The Cases assigned under government are Nominative (assigned by **AGR**);

1. Xu's diagram seems to be designed primarily for clauses in **English-type languages**; it is possible in other languages for +finite clauses to have -overt subjects as well. Note that in this diagram **overt** is a phonological term.

Objective (assigned by V); Oblique (assigned by P). In standard GB it is assumed that the **INFL** node of finite clauses contains an **AGR** while that of non-finite clauses lacks it, more precisely, lacks a Case assigning AGR. (Raposo (1987) presents an exception. His data is from European Portuguese where inflected infinitivals have nominative subjects.) The important point here, to be borne in mind while discussing post-1981 developments of the **principles-and-parameters** paradigm later in the chapter, is that, since government is crucial for Case assignment in standard GB practice (see **chs.** 1, 2), the difference between finite and non-finite (specifically, infinitival) clauses lies in the INFL – INFL is a governor only in finite clauses. This follows from the standard assumption that an INFL that lacks a Case-assigning AGR cannot be a governor (see Borer (1989) for an account of the role of AGR in **non-finites**). Thus, the subject position of a finite clause allows a lexical item, **duly** Case-marked, by virtue of being governed by an INFL that contains a Case-assigning AGR; the subject position of a non-finite clause allows a PRO, which is **ungoverned** as its INFL lacks such an AGR. To sum up, although argument positions are typically governed, the subject position of **non-finites**, being an argument, is nevertheless systematically ungoverned, by virtue of having, in some sense, a "defective" INFL.

The discussion of PRO subjects naturally leads us to the issue of control; for expository reasons this will be dealt with in 3.3.4.

The slight digression at this stage about the nature of the subject position of complement clauses and its relation to Case and government is necessary in order to "clear the air", as it were, before plunging into an account of Case theory and licensing of subjects in the **minimalistic-flavoured** approach that we adopt later, in 3.2.6 etc. We continue now with our presentation of the types of non-finite complement clauses in H/G.

3.1.2. In keeping with the above description of clauses we specify that this chapter takes up for analysis all embedded clauses containing a non-finite verb. **Specifically**, in the terminology of the framework chosen for this study, clauses which have a [-Tense] feature on their I node are under discussion here. Small clauses are not included in this chapter as they lack an I altogether (for a different view, see Stowell (1983); see also chapter 4 of this work).

The following are the types of non-finite complement clauses available in H/G (I have selected randomly from both languages in presenting (5-11) to avoid repetition, as identical constructions are possible in Hindi and Gujarati):

5G mane [enu khoTTu **bolvu**] jaraa paN nathi **gantuM**
 I-DAT s/he-GEN lie **speak-INF** little also not like
 'I don't at all like his/her lying'

6H **mujhe** [Tahalnaa] pasand hai
 I-DAT **stroll-INF** like Aux

`I like promenading/wandering'

7H **maiM** ne usko [vaapas jaane] ke **liye/se** kahaa/rokaa
I-ERG s/he-DAT return **go-INF** for/from said/stopped

"I told him/her to go back/I stopped him/her from going back'

8G **huuM** ene [paachaa **javaa**] **nahiiM** **dauM**
I-NOM s/he-DAT return go-INF not give-will

'I will not let him/her go back'

9H **maiMne** [**Johnke** Thiik hone kii] **praarthanaa**] kii
I-ERG John-GEN all right **become-INF-GEN** prayer did
I prayed for John's getting all right'

10H **mujhe** [**imaarat girtii**] dikhii
I-DAT building **fall-PRT**] appeared
'I saw the building falling'

11H **maiMne** [imaarat ko girtel] dekhaa
I-ERG **building-ACC** fall-PRT saw
I saw the building falling'

12G **meriie** [tyaaM **javaanu**] che
Mary-ERG there go-GER-GEN Aux
Mary has to go there'

(12G) is a possible example of a V-GER-GEN construction, of the type noted as "Gerundive" in Dasgupta (1989). These are poorly understood constructions; for observational completeness we note here merely that Hindi lacks such constructions while **Gujarati** has them and leave this as an open question.

Let us study these constructions one by one, without immediately attempting to fit this data into some available **classifica-**

tion, such as the one given in (i).

3.2 GERUNDIALS

This section deals with the nature of kaa and naa particles of gerunds (3.2.1, 3.2.2). The nature of -naa is discussed in detail in 3.2.3. Apart from extending the analysis of the previous subsection, 3.2.4 addresses the question of clausal or nominal status for the **gerundial**. In 3.2.5 we make the first move towards a formal analysis by introducing a DP-based hypothesis for gerunds. The next three subsections offer further refinements of the DP hypothesis in a minimalist framework.

3.2.1 Let us discuss (5G), commonly known as the kaa-naa¹ construction, first. In traditional grammar, "gerund" refers to the noun in -ing, not to the construction headed by this noun. By "gerunds" we mean here the more liberal usage current in linguistics today, the structure headed by the verb ending in -ing. The Poss ing gerund construction has long been an enigma for linguists since in its subject Case and its external distribution it resembles the NP, while its complement structure patterns more with VPs, prompting Abney (1987) to talk about the "**griffon-like**" nature of the gerund. An example of a **Poss-ing** gerund is the following:

1. kaa-naa here is used as a cover term for both the Hindi kaa-naa and the corresponding Gujarati nu-vu. This practice -- of using Hindi cover terms where the Hindi-Gujarati difference is not significant -- is followed throughout the present work.

13G huuM [jOnnu baraaRvu] saambhaLto rahyo
 I-NOM John-POSS shout-ING listen-PPL stayed
 'I went on listening to John's shouting'

In (13G) I have used POSS and ING instead of the GEN and NAA of (5G) in order to show that these constructions **seem** more like the POSS-ing. constructions of English given in **Rosenbaum** (1967) than like the for-to constructions. **Rosenbaum's** was one of the earliest transformational analyses of these **POSS-ing** structures, where gerunds (of all kinds) were considered to be Ss derived from finite Ss. The lexicalist hypothesis made it possible to look at gerunds as non-S constructions. Horn (1975) and Schachter (1976) both argue for a non-sentential analysis of gerunds. Slightly modifying Rosenbaum, we get three English non-finite types: (**for**)-**to**, (POSS)-**ing** and ACC-**ing**)¹.

14a I dislike **arguing** about silly matters (POSS)-**ing**.

1. One can attempt a further tightening of Rosenbaum by claiming that (14)a actually involves POSS:

(i) I dislike my/one's arguing about silly matters.
 The range of gerund structures, according to Abney (1987), extends from (1) to (4) in the following:

- | | |
|---------------|----------------|
| (1) "ACC-ING" | (3) "POSS-ING" |
| (2) "PRO-ING" | (4) "ING-OFF" |

(4) involves a simple deverbal noun ("John's fixing of the car") and therefore lacks the verbal property which is characteristic of the latter portion of a gerund. (1) and (3) are different as far as the subject Case is concerned. (2) shows a lack of subject in the gerund. We will have occasion to discuss later whether PRO-**ing** is different from POSS-ING.

ex. of (1): John approved of her playing the veena.

ex. of (2): John likes PRO killing softly.

The four types therefore reduce to two basic types "ACC-**ing**" and "POSS-**ing**". In Hindi/Gujarati, notice that there is no ACC-ing. contrasting with (POSS)-**ing**.

- 14b I am concerned about John's being so lazy **POSS-ing**
- 14c The king ordered the proclamation to. be read **(for)to**
- 14d I should like very much fox you to. reconsider your refusal
for-to
- 14e I like him coming home happy and relaxed **ACC-ing**
- Note: (14)a-d are from **Rosenbaum** (1967).

In H/Q, however, we find only the (POSS)-ing variety illustrated in (5G) & (6H), an infinitival variety somewhat similar to **(for)-to** as in (7H) & (8G).

The earlier literature on Hindi complementation identifies exactly two complementizers: **ki** and **kaa-naa**. Among the non-finites, the kaa-naa complement clauses have been given the fullest treatment (Kachru **(1971,1980)**, Subbarao **(1984)**, Jain (1975) etc.).

The focus of Subbarao (1984) is on the complement clause rather than the complementizer. For instance, he uses kaa-naa complements as evidence for postulating the **Equi-transformation** in Hindi and also to determine the properties of other movement processes like Subject Raising and Extraposition.

Jain's (1975) analysis is opposed to standard transformational accounts such as Subbarao (1984) and Kachru (1980), as previously discussed in chapter 2. He agrees with Subbarao that kaa-naa complements do not extrapose but maintains that they do undergo **"S-leaking"** past the matrix verb and therefore do move to

the right; he argues that, contra Subbarao, kaa-naa **clauses** do not extrapose because, given Jain's framework of non-discrete, hierarchical" grammars, kaa-naa complements are more "nouny" than **ki-complements** -- Ross (1973) has shown that more "nouny" complements do not extrapose. See section 3.3.7 for further discussion of the "nouniness" phenomenon.

3.2.2 Our interest in kaa-naa complement clauses is understandably different, in keeping with the substantial shifts in focus within the generative paradigm. The problem of directionality of government that crops up in finite complement clauses (chapter 2) does not affect the non-finite complement clause, for such complements occur in the canonical V-governed position. In (5G), for example, it can be seen that the embedded clause is to the **left** of, that is in the position standardly governed by, the V. The immediate question, rather, is how kaa-naa is to be treated: as parts of one "complementizer", or as two separate particles, **kaa** a Genitive Case marker and **naa** a non-finite verb marker. Subbarao (1984) and earlier works prefer the former analysis. In Subbarao, the morpheme kaa is an independent word, attached to the subject of the embedded S; the morpheme naa is a non-finite marker, attached to the verb stem of the embedded S. Together the two morphemes form the complementizer kaa-naa .

The above discussion, including the question it ends with,

1. **Interestingly**, although Subbarao does not hesitate to equate kaa-naa with **POSS-ing**, Jain does not agree to translating kaa-naa as either for-to or **POSS-ing**. See Jain (1975) for details.

leads in turn to another question: If (5G) is to be characterized as a gerundial construction, what is its internal structure, especially in comparison with the English gerundial? Note that we have already mentioned that the position of all non-finite embedded clauses is relatively unproblematic. There are two issues that do need attention: the nature of **naa** and the nominal or clausal status of the gerundial **embedding**. kaa is the genitive Case marker, which in H/G is subject to an agreement requirement, with the object if there is one or with the verbal element as a case of default agreement (as in (5G) & (13G)):

- 15aH ye **jOn** kii kitaab hai
 this John-GEN book Aux
- 15bH **merii** kaa ghoRaa gir **paRaa**
Mary-GEN horse(m) fell
- 15cG chokriino aarso paRii gayo
girl-GEN **mirror(m)** fell
- 15dG **maaraa** SarTnu baTan tuuTii **gayuM**
 my shirt-GEN button(n) broke

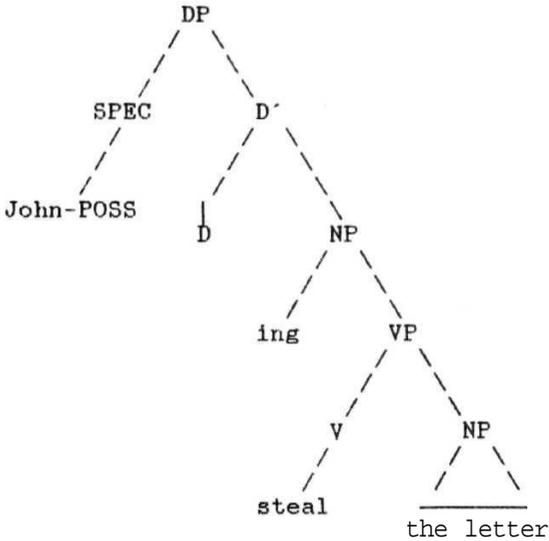
I take **kaa** to be syntactically unproblematic, and wish to note only one morphological point about it: the oblique form **ke**, derived from **kaa**, is a result of oblique Case "spreading" -- a common property found in South Asian languages.

3.2.3 Let us now consider the nature of **-naa** in some detail. I repeat (5G) below, with one further example (in addition to (13G) given above):

5G mane [enu khoTTu **bolvu**] jaraa paN nathi **gantuM**
I-DAT s/he-GEN lie **speak-INF** little also not like
16G e [maaru kehvu] roaane che
s/he-NOM I-GEN say-NAA believes
`S/he listens to me' (=obeys)

In the English sentences -ing is the verb marker that indicates a gerund. An immediate problem is to determine whether an absolute equivalence between **-ing** and **-naa** is justified. **Abney** (1987) considers -ing to be an *affix* that changes the category of (**nominalizes**) the verbal element to which it attaches itself. Thus, **-ing** does not adjoin to the verb, in which case it would fail to change the category; rather, it is an **inflection-like** element bearing the feature [+N], which affixes to the verb, and in so doing, imparts a nominal character to the maximal phrase in which that verb is **found**¹. Exactly what the XP is that contains this verb will be dealt with directly. The structure, following Abney, would be as follows:

1. That is, the verb which **otherwise** has a [+F,-N] feature set where F is any **feature**, becomes [+F,+N].



In order to avoid problems of verb-raising or **affix-lowering**, Abney proposes an abstract **element** ING with the feature [+N] which it transmits to the maximal phrase to make it nominal. **Abney assumes** V-raising at LF (head-raising). Morphological requirements are met at LF to enable the -ing to be present on the verb.

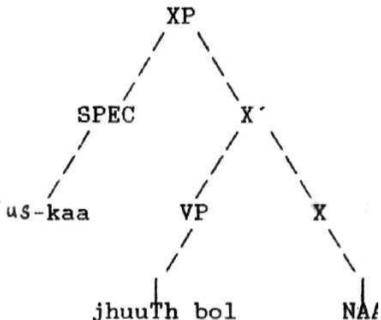
Given **Abney's** interest in **DPs**, it is not difficult to understand that he wants the nominal element -ing. to serve as a bridge associating VP with a DP; i.e. -ing is a [+N] element helping to construct an NP complement of D. Huang (1992) maintains a position not very different from **Abney's** at least from our point of view (non-committal to DP, so **far**). **-ing in** Huang is an inflectional marker, clause-like yet nominal in nature, with a [+N -V] feature **specification**. It is generally agreed that -ing is a

functional element, hence unable to govern [Spec, **AGRP**] -- this paves the way for PRO to occur in the **ungoverned** position. (For a detailed **discussion of the distribution of PRO** see section 3.3). It is also generally agreed that if not a full noun, **-ins.** is certainly **nominal**.

Now, we come to our Hindi **-naa**. Suppose we postpone the question of committing ourselves to a DP analysis and simply say that **naa** is an affix, nominal in character, and is a functional element. This amounts to postulating (18) as the structure of (5), repeated below as (5H). Let us see how far such a structure takes us in our analysis:

5H **mujhe uskaa jhuuth bolnaa bilkul pasand nahim**
I-DAT s/he-GEN lie speak-INF at all like not

18



We can adopt one of two methods in order to get the unit **bolnaa**: we may either raise the V to an affix **-naa** or, following Abney (1987), postulate an abstract element **NAA** (analogous to Abney's **ING**) in the structure rather than the affix **-naa**. and assume V-

raising at LF as a normal case of head raising. In such an analysis too, morphological requirements are met at LF, enabling the **naa** to be present on the verb. As things stand, both methods seem to handle the job equally well. The only (theory-internal) advantage of **Abney`s** method is that he anticipated a checking theory of Case for gerunds in his analysis -- that is, we have stealing under V in (17), but it needs to move to ING at LF to satisfy what he calls morphological requirements. In order to make any further headway we need to decide whether we think that, descriptively, Hindi -naa is indeed like English -ing.

Deliberations towards such a decision may usefully refer to the important study by **Reuland** (1983) of English -ing, which he describes as an agreement marker that triggers Case assignment on the subject. He uses this property as evidence that -ing clauses should be treated, contrary to tradition, as finite. Citing the example of other languages like Turkish and Portuguese, where tensedness and finiteness are dissociated, he claims that English too is such a language. English gerunds, he argues, are **tenseless**. like **infinitivals**, but finite. like tensed clauses. Reuland builds his account around the claim that the element -ing lacks tense and is [+finite]. Although Reuland's paper deals with the ACC-ing gerunds, the above properties can be taken to extend to the **POSS-ing** gerunds of H/G of the kind seen

in (5)¹.

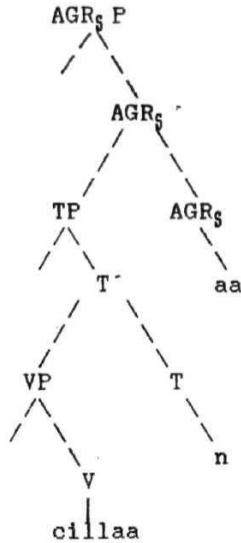
An attempt to extend this account to H/G **POSS-ing** structures leads to **problems**. Quite apart **from** the apparent clash between the notion of a non-finite marker and the feature **[+finite]**, we face a more specific difficulty. Either we must suppose **that** there exist two **-naa** markers in H/G, one a **[-finite]** infinitival **marker**, (usually governed by an adpositional C), the other a **[+finite]** gerund element. Or we have to claim that a verb with a non-finite ending in H/G is not crucially different from a verb with a gerund ending. Not only does the latter claim seem plausible, as **-naa** constructions (unlike English **-ing**) never trigger Accusative Case on their subjects; furthermore, current thinking gives us no basis for believing that all Case-triggering functional heads must count as finite. We therefore claim that **-naa** functions as the **gerundial/infinitival** marker, and that positing =1 **[+finite]** feature for it is **unmotivated**.

3.2.4 Having decided, thus, not to adopt his technical proposal, **but** still interested in the possible affinity between **-ing** and **naa**. I return now to **Reuland's** remark about **-ing** being an agreement marker. This, I think, is an important clue to the status of **-ing**, its counterpart **-naa**, and the structure of the gerundi-

1. Reuland crucially regards the **fact** that **-ing** (unlike the infinitival **to**) triggers Case as evidence for its finiteness. It triggers Accusative Case in **ACC-ing**, a matter discussed in more detail in the section on participial complements (**for Reuland**, the **-ing** in that construction is verbal, which is **why** it triggers ACC). It triggers Possessive Case, Genitive, in the **POSS-ing** construction, where **-ing** is nominal.

al construction. Consider (19):

19



The above is the proposed structure for a sentence like (20) below:

20H raujhe [jOnkaa cillaanaa] accha lagtaa hai
 I-ERG John-GEN shout-GER good feels
 'I like John's shouting'

(19) seems to be a viable tree to work with, for gerundials (later, in 3.2.6, we will modify the structure). The NP **iOn** moves to [SPEC, AGRP] and checks for Case against the AGR head which, being gerundial, i.e. containing **-aa** (technically, the **-n**.

of -naa would be in **T¹**; however, in the Minimalist framework of Chomsky (1992), the entire unit cillaanaa would be under V and move as a whole), checks for Genitive Case on that **NP**.

Let us try to make the mechanism more precise. As we have seen (**ch. 1**), Case checking is of considerable importance in the Minimalist programme. Chomsky (1992) and, perhaps more so, other recent works pay a good deal of attention to the working out of a fairly full-blown account of Case and other related matters. If we wish to follow this account, we need to extend (and modify) it to suit the Genitive Case construction above. Thus in (19) iOn checks for Case against **AGR_g**, as we have mentioned. The v-features of the V are checked at **AGR_g** by head-movement via (adjunction to) the intervening head T, to avoid an HMC violation. Now, the feature content of the **AGR_g** allows the NP iOn to check for Genitive Case in its SPEC position. Notice that thus Genitive now falls within the class of structural Cases.

Notice that the structure in (19) directly leads to the second issue mentioned in 3.2.1, namely whether the gerundial is clausal or nominal. One option is to have the **AGRP (=IP)** itself as the embedding maximal projection. The other is to make this IP the complement of some C or D-type head accounting for the **intermediate** properties of gerundials (a mix of clausal and nominal properties). On the face of it, **AGR** in IP is verbal. If we

1.The node T, here and in the remaining trees of this chapter, is assumed to bear the feature [-T], signifying non-finite.

want to accommodate the nominal properties of gerundials, we somehow need to turn it into the head of a nominal projection. This is as far as the discussion based on the non-committal tree (19) will take us.

3.2.5 A further refinement of the account of gerundials given above can be attempted by reverting back to Abney's DP hypothesis (Abney, 1987) and his analysis of gerunds. Abney claims that gerunds are **DPs** and mentions several instances where gerunds pattern with phrases, in particular, **NPs**. The most obvious of these is the distribution of gerunds: they occur in typical NP positions. This can be illustrated with the help of the following Hindi sentences:

(i) as object of postposition

21aH bastii meM

colony in

21bH raam ke ghar aane meM

Ram GEN home come-GER(OBL) in

21cH * raam ghar aayaa meM

came

(ii) as subject of S

22aH raam tumhe pareSaan karegaa

Ram you-DAT trouble do-will

22bH raam kaa ghar aanaa tumhe pareSaan karegaa

Ram GEN home come-GER

22cH *raam ghar aayegaa tumhe pareSaan karegaa

come-will

(iii) as subject of **embedded S**

23aH· raaiM maantaa huuM ki raam tumhe pareSaan karegaa

I believe aux

23bH maiM maantaa huuM ki raam kaa ghar aanaa tumhe pareSaan
karegaa

23cII *maiM maantaa huuM ki raam ghar aayegaa tumhe pareSaan
karegaa

(iv) as Topic

24aH raam mujhe pasand hai

I-DAT like aux

24bH raam kaa ghar aanaa mujhe pasand hai

24cH *raam ghar aayegaa mujhe pasand hai

(21-24) give evidence for postulating gerunds as **nominal-like** phrasal categories, as their distribution is identical to that of NPs.

Secondly, we must remember that subjects of gerundials are **genitive**, unlike subjects of clauses which in H/G are either nominative or dative, similar to simple NPs which can exhibit genitive marking (**for** example, the Hindi John kaa ghoṛaa 'John's horse').

The parallel between Case assignment of gerundials and NPs

again indicates that **gerundials** are phrasal in nature.

Another very obvious phenomenon which we notice in gerundials -- as in all non-finite constructions -- is reduction in terms of Tense. We have seen that such constructions lack primary Tense. In other words, we can say that the full range of **inflectional** possibilities available to clauses is not exhibited by gerundials, which are like phrases in this respect.

Current research strategies make it possible for us to interpret gerundials as DPs and not **NPs**, essentially following **Abney's** (1987) reanalysis of all NPs, including gerundials, as DPs. In **Abney's** view, such a reanalysis has the advantage that, instead of N, D is now the head of the phrasal category. D can thus take a **VP-complement** (whereas N cannot, for X' reasons), capturing the verbal aspect of the gerundial. Also, being non-lexical, D leaves the subject position of its complement un-governed, thus allowing a PRO subject there:

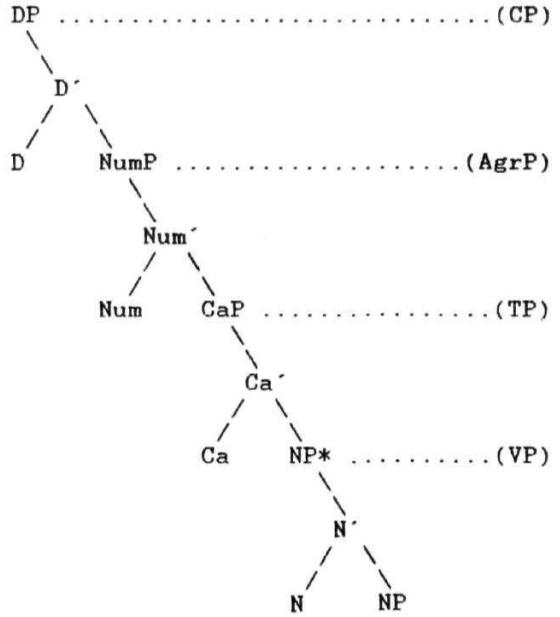
25H **maiMne** [PRO ciTThi likhnaa] sviikaar kiyaa
I-ERG letter write-GER agreed

A further discussion of these two points, viz. the verbal aspect of, and the possibility of PRO subject in, gerundial constructions, will be presented in 3.3.7.

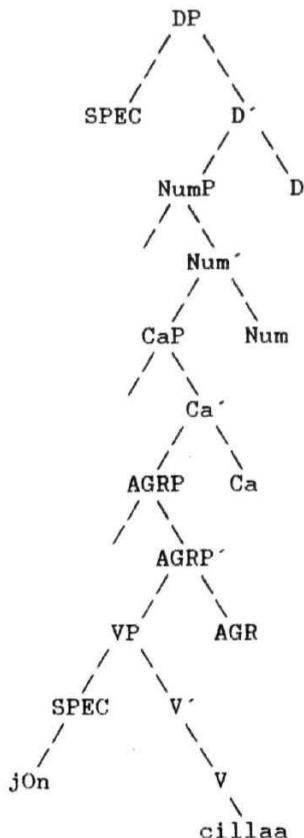
3.2.6 Let us see now what happens to an Abney-type analysis of gerund structures in the on-going Minimalist research pro-

gramme. Valois (1990) proposes that the internal structure of NPs (i.e. DPs) strictly parallels that of the CP in all respects. He constructs a DP structure like the following (with the corresponding clausal labels in parentheses):

26



Bearing in mind that the gerundial construction has a verbal element in it, we propose the following structure, instead of (19), for a DP-based analysis:



Note: Ca here and in all trees with a Ca node is understood as Ca with a [-T] feature

In (27) above, the V is checked off for V-features at AGR. V, or V+AGR, moves to D in order to establish the link between the subject in [SPEC, DP] and its head, D; D is empowered to check off Case at its SPEC by virtue of the V+AGR in it (see **ch. 1** for details of standard assumptions in **MPLT**). The subject iOn moves up to [SPEC, DP] to get the Genitive Case checked. This move is concomitant with the idea that Genitive Case is associated with

nominal **entities** -- hence the choice here falls on D, which is the nominal category; and with the stipulation that Genitive Case too is determined under a Spec-Head **configuration**.

Movement of an element to [SPEC, DP] in order to be assigned (even in the **pre-MPLT** framework) Genitive Case has been postulated by a number of **syntacticians**. Ritter (1991), for instance, provides an analysis of construct state NPs in Hebrew where she assumes that a short N-movement takes place in the DP which licenses a (null) **Genitive** Case assigning determiner. Miyagawa (1993) gives an account of the Genitive Case subject in Japanese ga/no conversion constructions. Essentially, the subject of a complex NP or a relative clause may be optionally genitive. Miyagawa (1991) had proposed that all Case markers must be **licensed** by a functional category -- an important point for much later analyses, including the one presented here. The notion of Case licensing by a functional category is extended in Miyagawa (1993) to the Genitive Case which is assumed to be assigned/licensed by the functional head D. Interestingly, Miyagawa's account shows that postulating a DP structure is indeed an improvement over the earlier NP structure: earlier analyses of the nominative/genitive markers in Japanese stated that any XP immediately dominated by a projection of D **or** N would get Genitive Case. Miyagawa demonstrates that this does not work with a construction in which the genitive subject is inside an IP:

28a Hanako-no tabeta piza
Hanako-GEN ate pizza

28b Hanako-ga tabeta piza

Hanako-NOM

The pizza Hanako ate'

29a [DP [IP kinoo Hanako-no katta] hon]

The book that Hanako bought yesterday'

29b [DP kinoo no [IP hanako-ga itta] paatli]

Vesterday's party that Hanako went to'

(29a and b) involve a sentential adverb kinoo 'yesterday'. The genitive subject moves to [SPEC, DP] (at LF) over the adverb to check for Genitive Case with the licensing head D. (At LF one gets the following:

29a' [DP Hanako--no [IP kinoo t_1 katta] hon D]).

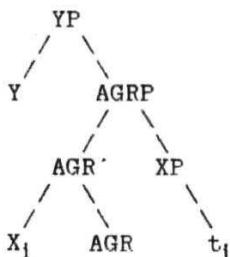
The evidence across languages for the establishment of Spec-head as a necessary **configuration** for Case and the intuitive idea of Genitive being associated with nominal elements make the movement of hon in (27) to [SPEC, DP] to check for Genitive Case a fairly straightforward step in **the** relevant framework.

3.2.7 Let. us attempt a further refinement of this analysis. Assume that once the subject has been checked for Genitive at [SPEC, DP], it "**creates**" a feature, F. The possibility of **creating** a feature F has been introduced (**for** the first time to my knowledge) in Watanabe (1993a). A brief outline of Watanabe's **three-layered** Case theory is necessary at this stage for any

further progress of this account.

The introduction of the equivalent of the PRO theorem -- i.e. PRO checks for null Case -- leads to certain problems within the **MPLT** framework. **Specifically**, the inability of an empty C to govern the PRO position is still a stipulation. Watanabe's theory attempts to solve the problem. The Null Case theorem requires that PRO also gets structural Case; Watanabe proposes that the process of checking NC involves an "appropriate" C^\emptyset , in addition to **infinitival** T and **AGR**¹. This additional process related to Case checking is his modification of the MPLT Case checking formalism. During the process of Case checking, a new feature F is created on AGR and AGR has to undergo further movement to a higher functional head (an appropriate head) to check off this F feature. If F is not discharged the AGR node cannot disappear at LF since it contains an unacceptable entity, **F**, unchecked. Thus, a **configuration** like (30) is needed where X is a Case-feature-bearing element and Y an appropriate checker of an F feature:

1. For our purposes here, it is sufficient to say that C is "appropriate" if it selects a [-T] T(ense).



The motivation for such a postulation comes from the following **facts**. In certain northern Italian dialects, subject clitic doubling takes place:

31a El Mario el **parla**
 the **SCL** speaks
 'Mario speaks'

31b La Maria la **parla**
 the **SCL** speaks
 'Maria speaks'

Note: This data is from Brandi & Cordin (1989) in Watanabe (1993a).

This subject clitic is supposed to be located in the **INFL**. If, in these dialects, the finite verb is raised as in the standard dialect, the feature of INFL, in particular the features of the AGR, must already have been checked off by the time of SPELL-OUT. That is, there is nothing in the syntax to be realized as a subject clitic at **PF**. The three-layered Case theory can sort it **out** since F will not be checked off until **AGR**, together with the finite **verb**, raises to C^\emptyset , an appropriate head. The subject

clitic in these doubling languages is the phonetic realization of the feature F.

There are languages where the adposition shows agreement with its object. In Welsh, the agreeing form is used when the object is a pronoun, overt or null. **Rouveret** (1991) makes a claim that in the majority of cases the inflected form does not simply consist of the uninflected form and the agreement morpheme, there is a third element appearing in between, as in the **following** examples from Welsh:

- 32a yn 'in' **yn-dd-o** 'in him'
- 32b gan 'with' **gan-dd o** 'with him'
- 32c heb 'without' **heb-dd-o** 'without him'

In the case of **o** 'of', **-hon-** is the intervening element; the full **paradigm** is as follows:

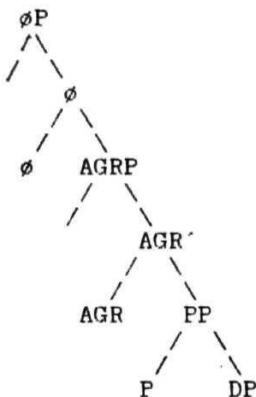
33 Fers.	Sg.	Pl.
I	ohonof	ohonom
II	ohonot	ohonoch
III	ohono(m)	ohonynt
IV	ohoni(f)	

Note: The above data is from Williams (1980) in Watanabe (1993a).

Rouveret simply claims that agreement can only be attached to a functional head (**-dd-** in example (32)). Watanabe points out that this is very close to the spirit of his Case theory where the

process of structural Case checking requires the presence of an appropriate functional head above **AGRP**. So, he assumes the following **configuration** (34) where P has the relevant Case feature which is passed on to AGR, where the actual agreement checking is **performed**, and an F feature is created. This F feature is then checked off by \emptyset . In (32) above, then, **-dd-** is a phonetic realization of this F.

34



What exactly is Watanabe's justification for "creating" a feature? Watanabe provides evidence from Balkan languages to show that there is a correlation between the "shape" of the C and the Case possibilities of the embedded subject. For instance, a nominative embedded subject in Albanian and Romanian is possible only if there is some overt material in C (data from Terzi (1992) in Watanabe (1993b)):

35a ... V^\emptyset [_{CP} Prt+ V^\emptyset [_{IP} pro/lexical NP t_1 ...]]

35b ... V^\emptyset [_{CP} Comp [_{IP} pro/lexical NP V^\emptyset ...]]

35c ... V^{ϕ} [_{CP} ϕ [_{IP} PRO V* . . .]]

Watanabe's **postulation** of the "creation" of a new feature F. and its movement to an "appropriate" C is now justified by being able to capture this correlation between the C and Case assignment of the embedded subject and by providing a mechanism for the link-up of the subject to the higher C.

3.2.8 Bhattacharya (1994) offers substantial **modifications** of Watanabe's **three-layered** Case theory while working within the **general MPLT framework**. In his view, a natural extension of Watanabe in **the light** of the **MPLT** operations of Case checking (where a feature is checked off against an identical feature **contained** in a functional head; see **ch. 1** for a more detailed exposition of Case checking in MPLT) would be to postulate the feature F as **part** of the C -- as against Watanabe's suggestion of **"creating"** a F in C^1 -- which would be reanalyzed as D. We have **seen** from Valois's (1990) "parallel" tree in (26) that D is equivalent to C. We will come across further evidence for postulating adpositions as **Comps** in sections 3.3.1, 3.3.2. Right now, our interest **lies** in the observation that Comps are nominal in **nature**, as is further evident from the German pleonastic **as. 'it'** for a correlative) which *must* occur in the matrix clause if there is no **Comp** in the sentence. That is, if the **Comp** is not present, **the** clause takes a verbal character and disallows deletion of the

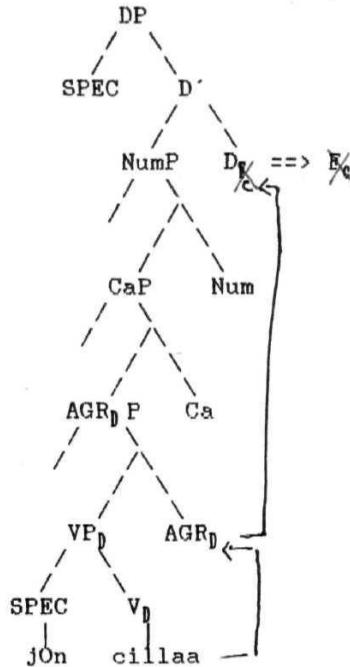
¹ However, Bhattacharya does accept the general notion of creating F features (See 3.4.5, for instance).

it element, otherwise coindexing would not be possible (Bayer, 1994, p.c.).

Working within a **DP-framework**, where DPs are traditionally considered to be exact replicas of **CPs**, it is a natural step to put all **Comp-like** material in D. The fact that D is **uncontroversially** nominal strengthens the legitimacy of such a move in the context outlined above.

To return to the postulation of a feature F as part of (C, now recast as) **D**, Bhattacharya further suggests that the feature F, which "belongs" to D (and is not "created" in C or D), be denoted as F_c as it is specifically a Case feature. F_c then, being a Case **feature**, can only check off another F_c . It appears to be necessary to maintain this distinction between a Case feature and other possible features -- in long-distance agreement, for instance, agreement feature-checking creates F_{AGR} features. (We discuss long-distance agreement in section 3.4.5; see also Bhattacharya (1994)). Watanabe's idea of a correlation between C and embedded subject Case is adopted for Hindi with an addition: there *is* a dependence relation between D and the Case of the subject but now the "shape" of D includes its F_c feature.

Adapting this account to a gerundial like (20H) would give us a structure of the sort given below:



The functional head AGR is notationally rendered as AGR_D, in order to emphasize its nominal nature (see section 3.2.4/a similar **move** that we have suggested). The verbal head moves into the nominal, non-finite AGR_D by head-movement. The whole complex then moves to D (via adjunction to intervening Ca and **Num** heads). Ca and **Num** have no Case features in the case of genitive subjects and do not move, nor do their Spec positions play any role. jOn, as we mentioned earlier, raises to Spec DP for Genitive Case checking and creates a feature **F_c** as a follow-up process to Case

1. **Miyagawa** (1993) proposes the Minimal Link Condition (MLC) based on the Relativized Minimality idea of Rizzi (1990). Nodes which do not have Case features (**F_c** in the above discussion), and consequently their **Specs**, may be skipped during movement without violating the MLC.

checking which then gets checked off at the same place -- D -- against D's F_c feature.

This account is useful in several ways: it captures the essentially nominal nature of the gerundial and assigns it a DP status; it emphasizes the nominal nature of D (= C) and establishes a relation between D and the subject at Spec DP; it **accommodates** the PRO-ing. constructions like (6H) elegantly (but see 3.3.7 for a different account of PRO-ing constructions).

Recalling our discussion of **CP-status** for **gerundials**, we find that evidence points to **NP-like** or "nominal" behaviour of **the** gerundial. We may conclude that gerundials are probably much closer to NPs than to clauses -- are more "nouny" in Ross's terms (Ross, 1973) and thus merit DP categorial status.

We have thus addressed both the issues mentioned at the start of section 3.2: (A) The nature of the element **-naa**, which we analyze as a [+N], [-finite] verb marker generated under **AGR¹**; (B) The status of the gerundial construction, which we claim is a DP headed by a D and containing a [+N] **AGR_s P**.

I refrain from claiming that **-naa** is a true affix. Affix status would suggest a category-changing property that is not

1. Specifically, **-n** (a non-finite or [-T] element under the node T and **-aa** under a [+N] **AGR**. See (19) and the explanation thereof in 3.2.4.

welcome. We must bear in mind that, in H/G, **-naa** attaches to a verb in other constructions without making it a gerundial, as mentioned in section 3.2.3. Hence our preference for the formulation that **-naa** in gerund clauses is generated in a nominal **AGR**. In passages where we take a closer look at the matter, we take the stand that the H/G gerundial **-naa** is a [-finite] verb marker (see footnote 1), generated in [+N] AGR.

3.3 INFINITIVALS

Infinitivals are an amorphous class of non-finite constructions as the following subsections reveal. 3.3.1 and 3.3.2 discuss postpositional complementizers in H/G. In 3.3.3 we offer an analysis of infinitival constructions with these postpositional complementizers. A brief digression dealing with the null subject phenomenon in the infinitivals of the earlier subsections follows. The analysis continues in 3.3.5 and 3.3.6. The next two subsections deal with two little-discussed **infinitivals**. The first is a kind of half-and-half construction, midway between a gerund and an infinitival (3.3.7). The second is an interesting construction, an infinitival with a **Genitive** Case-marked lexical subject (3.3.8).

3.3.1 Let us start with (7H), repeated below:

7H **maiM** ne us ko [vaapas jaane] ke **liye/se** kahaa/rokaa
 I ERG s/he DAT return go-NE for/from said/stopped

In this case, unlike the gerunds of section 3.2, it is illuminating to attempt a rigorous comparison with the prepositional **for**-type infinitival constructions of English.

Traditionally, English **for** is considered to have two interpretations, as a complementizer or as a preposition. The complementizer analysis of the relevant occurrences of **for** goes back to Rosenbaum, who inserts them transformationally. In Bresnan (1970), **for** becomes a base-generated complementizer with an S' (**•OP**) mother and an S (=IP) sister, exactly parallel to the finite complementizer **that**. Direct arguments for this constituent structure (against the option of, say, grouping **for** with its NP complement and thus giving **for** not an S' but some sort of PP for a mother) are given only as late as Bresnan (1974). Emonds (1976) suggests that, at bottom, complementizers are really the **same** category as prepositions. No consensus has been reached so far on why these categories are so closely **related**¹.

As is well known, English prepositions can head complement PPs, like at Bill in John threw a saucer at Bill. as well as adjunct PPs, like at six o'clock in John talked to Bill at six o'clock. Likewise, the English complementizer **for** can head both complement clauses, as in For John to smoke would bother Bill,

1. Eilfort (1986) discusses languages like Tok Pisin, which have formally a single particle that does triple duty as a preposition when it introduces NPs, as a complementizer when it introduces clauses, and apparently as a modal auxiliary when it introduces VPs. Shades of English **to**, German **zu**, and French **a**. rolled into one, perhaps?

and **adjunct clauses**, as in Ashok brought some **cigars** for John **to smoke**.

We learn from **the** pioneering work of Subbarao (1984) on Hindi complementation that the postpositions **se** 'from' and **ke** 'live for' also serve as clausal complementizers. The postposition **se** heads both complement PPs as in **suiit se baat karnaa** 'to speak to **Sujit**' and adjunct PPs as in **caakuu se phal** kaaTnaa "to cut fruit with a knife". Likewise, the complementizer **se** can head either a complement clause, as in **iOn ne merii ko vaapas jaane se rokaa** 'John prevented Mary from going back', or an adjunct clause, as in **iOn merii ke aane se khuS huaa** "John was pleased at Mary's **coming**". Similar examples can be found for **ke** **live** 'for'. From this point onwards, we shall refrain from mentioning the adjunct structures, which fall outside the scope of this study.

Our working hypothesis, then, must be that, as in English, Hindi has the same elements **se** and **ke** **live** serving both as the P head of [_{pp} P NP] and as the C head of [_{cp} C IP] (to use IP for the sentential core of the non-finite construction, deferring exact categorial commitments). Given such **parallels**, one is led to ask why there is also a striking asymmetry. In English, the **prepositional** complementizer induces the subject of the complement clause to surface overtly with an objective Case assigned by the complementizer. But we find in Hindi and **Gujarati** that a clausal complement headed by a postpositional complementizer, like Hindi **vaapas jaane se** headed by **se**, never permits the **com-**

plementizer to assign Case to an overt subject. In this example, yaapas laane has a HRO subject which se cannot touch (meri ko is of course an argument of the matrix verb rokaa). Why do Hindi and Gujarati, unlike English, not permit lexical subjects of non-finite complements to appear, and to receive Case **from** the postpositional complementizer?

3.3.2 To approach an answer to this question, it is fruitful to look at the treatment of *a* and *da* in the grammar of French, which resembles Hindi and Gujarati in this regard. These have been shown to be complementizers (*de* by Kayne and others, *a* by Kayne, see Kayne (1984)). Both *da* and *a* are lexically selected, i.e. every V chooses a specific P, much like the verb in H/G selecting a complement-type. Kayne (1984) shows further that they function as prepositional complementizers, and not as true prepositions, when they occur with such matrix verbs and introduce a non-finite clause. Thus, in several important respects, they behave like postpositional complementizers in Hindi and Gujarati. Their treatment in the grammar of French may reasonably serve as a point of departure for our analysis.

Kayne's analysis pays considerable attention to the unavailability of overt lexical subjects in infinitival complements and provides a principled explanation, which we can extend to our data, of the inability of prepositional complementizers in French to govern and Case-mark the subject of the infinitival clause across the IP **boundary**.

Assuming the Case filter, Kayne notes that, in French, subjects of **infinitivals** cannot receive Case **from** within the infinitival DS itself. The question is why the complementizer **de** cannot assign Case to the subject of the infinitival, given that the English for can. He gives a systematic account, reviewed below, of the contrasting behaviour of English and French infinitivals.

An item must govern in order to Case-mark. Thus, for must govern the adjacent subject position in order to account for **Case-marking** in sentences like:

37a It would be a pity for John to leave now

Chomsky's (1981) PRO theorem becomes relevant at this point. A pronominal anaphor (which invites control by an antecedent, a "controller") cannot afford to be governed, as such government would lead to a contradiction between binding principles A (for anaphors) and B (**for pronominals**). The PRO theorem, in conjunction with the hypothesis that for governs the infinitival subject, correctly predicts the **ungrammaticality** of (37b):

37b +it would be a pity for PRO to leave now

Why does French reverse the **grammaticality** of (37a) and (37b)? Why cannot French **de** assign Case to the subject NP? Kayne's answer is that the **de** in **COMP** does not govern the **adja-**

cent subject position:

38a ***ce** serait **dommage** de Jean partir **maintenant**
John

38b ce **serait** dommage de PRO partir maintenant
It would be pity **de** to leave now

Why is it that the English *far.* governs the adjacent subject position, while the French **de** does not? Kayne's answer is that French prepositions differ from all English prepositions quite fundamentally. This difference -- independent of whether the prepositions occur in a true P position or in a **Comp** position heading a clause -- has to do with the way they govern and Case-mark an NP. In French, **Kayne** observes, P is a lexical governor, assigning lexical Case (which Kayne, following the emphasis of that period, specifies as oblique), while V is a structural governor, assigning structural Case (specified as objective). Hence the me -moi contrast between me voir 'to see me (obj.)' and pour moi 'for me (obl.)'. Kayne notes that English lacks this contrast in its morphological system. P and V are structural governors in English. Both of them assign structural (objective) Case. Hence the identity of me in to see me and for me.

One corollary of this analysis has to do with V-P Reanalysis leading to the option of Preposition Stranding, which English exhibits (Who did you [V_i] [V_j] vote [P for] t ?) and French lacks (* Qui as-tu vote pour t ?). English V and P govern in the same (structural) manner and thus have the option of Reanalysis (a

process turning a V and an adjacent P into a complex V) which, if exercised, may give rise to Preposition Stranding. In French, where V and P are governors of different types (structural and lexical, respectively), this option is unavailable. As we would expect, Hindi and **Gujarati**, which are like French in the relevant respects, fail to exhibit postposition stranding, confirming the relevance of Kayne's account to our data.

Based on this evidence, Kayne proposes that French prepositions remain lexical governors even when they occupy **Comp** position. Thus they cannot govern (and thus cannot Case-mark) the subject of an infinitival IP across the IP boundary. This is why English for can govern and Case-mark John in (37a) while French **de** cannot govern **Jean** in (38a) and thus leaves **Jean Caseless**, to be ruled out by the Case Filter. Likewise, this analysis explains the facts of (37b), where **for** governs **PRO** and leads to a violation of the principle (the PRO theorem) that PRO must be un Governed, and (38b), where **de** (desirably) fails to govern **PRO**. thus leaving PRO open for control (in this case, arbitrary control) and predicting the **grammaticality** of the sentence.

Both to confirm the idea that the P-category complementizers of a language show the government properties of that language's true P system (an idea we will want to adopt if it is confirmed) and in order to observe the behaviour of the null P complementizer (as we need to postulate a partly similar null **Comp** in H/G), we now turn to Kayne's demonstration that this account also covers another empirical difference between English and French.

This difference concerns the option – available in English but not in French -- of **ECM** of the subject of infinitival clauses governed by believe-type verbs.

The main facts regarding believe sentences are as follows: In English, believe takes an infinitival complement with a lexical subject, in French croire does not. Chomsky (1981) suggests that both have the underlying structure V S' but that the English believe has the lexical property of S'-deletion enabling it to exceptionally govern the subject of the infinitival across **the** (non-maximal) S boundary and Case-mark that subject. In French, Chomsky's account says, transitive verbs do not have the S"-deletion property.

Kayne prefers a restrictive analysis based on the notion of a null prepositional complementizer. Assume that believe takes such a complementizer, which we will call Z.

39 ... **believe** [Z [John to be happy]].

Note that Z is exactly like other P complementizers, sharing all their properties, lacking only phonetic content. For the sake of uniformity, Kayne assumes that French croire "believe" also takes a Z **Comp**. We get the results we want nicely enough, as in French, Z does not govern the relevant NP. For, a French P in a Comp position does not govern the adjacent subject position. **Kayne's** account says that a believe/croire construction is a V-S' structure with neither traditional "Raising to Object" (prohibi-

ted in the parametric tradition as movement to a complement position would violate the Projection Principle) nor S'-deletion; Case marking takes place via an abstract Z element in English, as required. In French, Z naturally fails to do so.

To focus on the machinery, **Kayne** assumes Z to have the property of "transmitting" government and associated Case-marking: if X governs Z and Z governs Y, then X governs Y. This underwrites **Kayne's** careful explanation for believe clauses in English. Such government transmission is possible only when the types of government are identical; this holds in English but not in French, where V is a structural and P a lexical governor, preventing P from transmitting government from V into the clause. Consider (40):

(40) _____ believe [_S **Comp** Z] [John ...]]

In (40), believe governs Z and Z governs **John**; therefore believe governs **John**, transmitting **Case** .

This detailed review of Kayne (1984) benefits our analysis

1. **Given** this account, Z need not itself assign Case. In languages like English, where P and V govern alike, Z can be a governor capable of governing across S and thus linking the matrix V to the embedded subject without itself being a case assigner. This has the desirable result of avoiding the (otherwise inescapable) incorrect prediction that (i) should be legitimate, with a null prepositional complementizer Z heading the clause Z John to be a fool and Case-marking John. If Z does not independently Case-mark, (i) is correctly ruled out by the Case Filter:

(i) * [Z John to be a fool] is believed by everyone

of H/G infinitivals in at least two important ways.

First, we can now answer the question of why H/G postpositional complementizers like Hindi **se** 'from' and ke **live** 'for', unlike English **for**, are unable to support a lexical subject in their complement clause. The answer is that Hindi and Gujarati, Like unmarked French and unlike marked English, take the **UG** option of treating all adpositions as lexical governors. This implies that adpositional complementizers in H/G are incapable of cross boundary government, and thus cannot sponsor a lexical subject in the complement.

The second benefit for us is that we can extend Kayne's null P complementizer idea (Z in our notation) to cover certain H/G **facts**.

Before we embark on these **enterprises**, let us **confirm** that H/G morphology warrants our adoption of these French-derived **accounts** in the first place. To this end, let us look at the Case system of H/G more closely. H/G exhibit a direct Accusative Case.

41H **maiM** ek bak~~s~~aa DhuunDh rahaa **huuM**

I-NOM one box **Acc** search Aux

41G huuM ek camco **SodhuuM** **chuuM**

I-NOM one **spoon-Acc** search Aux

 `I am searching for a box/spoon'.

The Accusative Case in H/G is morphologically distinct from the

oblique Case assigned by adpositions.

42aH **ham dono is bak.se** ke liye **jhagar** paRe
we-NOM both this box-OBL for fight Aux

42aG **ame** banne aa **camcaa maate laRi** paRyaa
we-NOM both this spoon-OBL for fight Aux
'We (two) fought for (=over) this box/spoon'.

43bH **maiM** ne bakse **se/meM** caabhii nikaalii/rakkhii
I ERG box-OBL with/in key removed/put

43bG **meM** camcaa **thi/maam tel kaarhyuM/muukyuM**
I-ERG spoon-OBL with/in oil removed/put

Examples (42) and (43) provide morphological evidence that H/G adpositions, like French and unlike English, do not pattern with H/G verbs as far as Case **assignment** is concerned: they do not assign Accusative Case which is direct and is assigned by verbs; they assign an oblique Case instead. (In this discussion we focus on the null variant, not the -ko variant, of Objective Case marking. See **ch. 4** for an account of the null/-ko alternation.) The evidence is especially strong in H/G because, fortunately, Accusative Case (no change in noun ending) differs overtly from the oblique Case (noun ending, as well as agreeing adjunct ending, changes if the ending is a "mutable" vowel).

If H/G adpositions are morphologically like French Ps, we can assume that H/G shares the relevant syntactic parameter settings of French. It seems reasonable to conclude, then, that H/G adpositional complementizers such as ke live and **se**, like

their French counterparts, are unable to govern into **embedded** clauses. (As additional evidence, it may be noted that an oblique-like morphophonemic change takes place on the verbal ending in embedded **infinitivals**; presumably this change instantiates (oblique Case on the (nominal) **naa** element, assigned by the complementizer → see (7) etc. for this phenomenon.) We may further expect that H/G, lacking as it does structural-governor adpositions, will not have the **ECM** constructions available in a marked language like English; this expectation is met. H/G does fail to **exhibit** constructions analogous to the English type believe constructions of (30) or (34).

Another piece of Kayne's analysis that we may appropriate is his adpositional zero complementizer which we write as **Z**. If we **assume** a similar Z complementizer for H/G we have a natural and fairly uniform explanation for constructions like (8H), repeated below:

flH **maiM** us ko [vapas jaane] Z **nahiM** duungaa
 1 **NOM** s/he DAT return **go-obl** not let

Here, although there is no phonologically overt adpositional complementizer to trigger it, the -naa element in the complement clause does undergo a change (to -ne in (8H)) identical to the **direct-to-oblique** morphophonemic change in constructions like (7); we take -ne to be obliquely Case-marked. This leads us to **assume** the presence of a phonologically null adposition that triggers the oblique marking. It is convenient to equate this

null element that we need with Z. Presumably, when V (structurally) governs Z and Z (lexically) governs the infinitival IP, even though **Kayne's** argument shows that Z cannot structurally govern (and thus has no access to) the subject of the IP, **the** Case-discharging V can empower the null adposition Z to assign to the entire complement IP an adposition-coloured (Oblique) Case it would have had no right to assign unless so empowered. (This move follows the logic of the standard account of Case-marked subjects of inflectionally rich infinitives in European Portuguese due to **Raposo** (1987).) Therefore, Z, empowered by transitive V, can Oblique Case-mark its complement IP, (which is headed by the I-type functional head **AGR_S**). This oblique Case percolates to the head **AGR_S**, which thus becomes Oblique and spells out as **e** rather than aa. Hence iaane in (8).

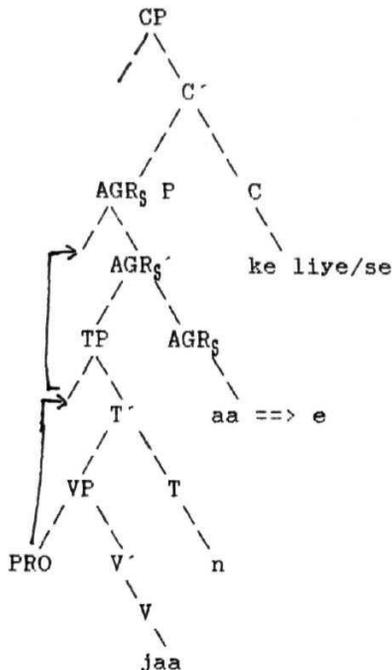
3.3.3 Kayne's account, although an excellent guide, and intuitively appealing, depends heavily on the notion of government. It is interesting to investigate how the H/G infinitival structure can be explained *without* the notion of government, in accordance with more current research, while still retaining some of Kayne's intuitions.

Assuming the split **INFL** hypothesis, as in Section 3.2 above, the infinitival embedding in (7H), repeated below, is described as an **AGRP**:

7H **maiM** ne [us ko [cp [**AGRP** vaapas **Jaane**] ke liiye]] kahaa

In this case, it is clear **from** the presence of a lexical complementizer that the **AGRP** must be dominated by a CP. Let us assume the more detailed structure given in (44) for (7H) as a point of **departure**:

44



The way the mechanism in (44) works is as follows. The PRO subject generated in [SPEC, VP] **moves/to** [SPEC, TP] to be checked by the [-Tense] T. The T moves to **AGRs**, following the standard procedures in Chomsky (1992). The V moves, via T, to **AGRs** in order to check its V-features. The verbal complex then moves into C by head-movement. The postposition in C checks off the oblique features of the verbal complex. The PRO, having no more features to be licensed, can stay in [SPEC, AGRP].

3.3.4 This section is a bit of an excursus, offering a brief discussion of the empty category subject of the complement clause that we have so far assumed to be simply PRO. Going back into the literature of the eighties on the subject, we must mention two crucial works on control and empty categories, viz **Manzini** (1983) and Borer (1989). As is well known, Manzini departed **from** the (then) standard ideas regarding PRO in that she conceived of PRO as having the features **[+anaphoric]**, [-pronominal], i.e. PRO in such a version of the theory would be an anaphor, indistinguishable from other empty **anaphors**. PRO is thus subject to the Binding Conditions and reference of PRO is determined by an antecedent that must be in the same governing category as the PRO.

Borer, on the other hand, proposes that the empty category subject in non-finites (both infinitivals and gerunds) is the same as in finites -- a pure pronominal, **pro**, which never requires to be **ungoverned**. Specifically, Borer argues against a PRO category altogether. Essentially both Manzini and Borer attempt to reduce the control module to the Binding Conditions. The crucial difference lies in the fact that for Borer, the anaphoric element is not PRO, as there is none in her account, but the AGR which was then (Borer's account antedates the more recent **split-INFL** hypothesis adopted in this work) housed in **INFL**. See Section 3.4 on participials for a discussion of non-finites lacking a Case-assigning AGR.

If we wish to assume Borer's account, we would have to show that in H/G **infinitivals**, the empty subject is a **pro**, that is, a pure pronominal. How, then, is the reference of this empty subject to be determined? In (45H), the reference is as indicated below:

45H **maiM** _{ne} **us** **ko**₁ [**e**₁ **vaapas jaane**] **ke liye/ se kahaa/rokaa**

In (46H) and (47H), the reference is coindexed either at the matrix subject or is arbitrary:

46H **maiM** **ne**_i [**e**_i **ronaa**] **Suru kiyaa**

6H **mujhe**₁ [**e**_{1/j} **Tahalnaa**] **pasand hai**

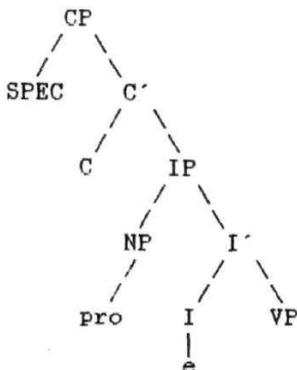
47H [**e**_{arb} **galtii nikaalnaa**] **aasaan hai**

According to Borer, the reference of a **pro** subject of **infinitivals** (and gerunds in languages like English) is obligatorily dependent on a matrix argument; overt subjects of tensed clauses (and pro subjects in the case of pro-drop languages) can have arbitrary reference.

Now, **obligatory** reference automatically leads to the assumption that the dependent element is an anaphor. But Borer has said that the element in question is purely pronominal. To resolve this, Borer suggests that the AGR of **infinitivals** is anaphoric and the AGR of gerunds can be anaphoric or non-anaphoric. (She assumes that in English such an AGR is not capable of Case assignment). **Specifically, INFL** is made up of Tense

and **AGR**. The AGR is an N-type element that is anaphoric, and thus subject to Principle A of the Binding Theory. Borer postulates the following structure, where I raises to C:

48



The controversy regarding the **PRO/pro** nature of the overt subject in non-finites is reported here merely for the record. As far as our analysis is concerned, we characterize the relevant element as a PRO -- equivalent to a Borer-type pro for our purposes. Moreover AGR being anaphoric is not crucial to our analysis.

The phenomenon of obligatory null subjects in infinitivals, **and optional** in gerundials (whether H/G gerunds optionally take null subjects is a matter that is discussed in Section 3.3.7) deserves a further study of the issues of control. Consider the English examples of infinitivals with PRO subjects in (49):

49a John hoped [PRO to find a taxi soon]

49b John tried [PRO to sing in tune]

49c John persuaded Bill [PRO to give him a ride]

49d [PRO to leave the term mid-way] would bother me

Compare these with the finite complement clauses with lexical subjects:

50a I hoped [John/*PRO would win]

50b John denied [that [he/*PRO wrote the letter]]

The same phenomena of control and government prevail in H/G:

51H maim ne dekhaa [ki [vah/*PRO calaa gayaa]]

A short historical sketch of the development of the notion of control may not be out of place **here**. The early transformational account of control employed Equi-NP Deletion in order to derive the complement from an underlying full clause; however, a stipulation to the effect that the Equi transformation deletes only the subject of the non-finite clauses needed to be attached to the rule. In **EST**, and later GB, the trend was to lean towards a **non-transformational** account of control (Chomsky (1981), **Manzini** (1983)). In GB, for instance, the assumption is that an infinitival complement clause is actually a full clause at **all levels of representation, and must have a syntactic subject, which in instances like (49) above is a phonetically null pronominal with specific properties, namely, a PRO**. Postulating such an "understood" subject legitimizes the analysis of **the infinitivals** as full clauses in accordance with the Extended Projection Principle.

Let us now consider how the distribution of PRO can be accounted for in **MPLT**. If we introduce something **like** the PRO theorem, (PRO bears null Case), we face some immediate problems. Consider (52) and (53):

- 52a John tried [_{CP} [_{IP} PRO to go home]]
52b *John tried [_{CP} [_{IP} Mary to go home]]
53a *John believed [_{IP} PRO to have gone home]
53b John believed [_{IP} Mary to have gone home]

Since **Comp** is the head of CP the natural question to ask here is why the head of CP does not govern the specifier of IP in (52a) in the same manner that the matrix verb governs the specifier of IP in (53b). It is still stipulative to say that the empty head of CP does not count as a governor. Also notice that such a stipulation works only for English; French and Italian use overt **complementizers** for such control structures (Kayne (1984)). Consider the following:

- 54a Je **lui** **ai** dit [de PRO partir]
54b **Gli** ho detto [di PRO partire]
 'I told him to leave'

This was a problem in LGB and Kayne (1984) stipulated that complementizers in French and Italian do not count as governors. Kayne (1991) claims that these are not **C⁰** . . . **rather**, they occupy

SPEC of CP. Note however that the theory of clause types that **Watanabe** (1993) develops by looking at embedded topicalization facts like the following leads him to propose (55):

55 There are only two types of clauses to be selected by a verb! **wh-clauses** and **non-wh-clauses**. The former are characterized by the presence of a **wh-phrase** in Spec of the topmost PP., The latter are characterized by the empty Spec of the topmost CP.

That is, a **non-WH-clause** cannot host anything in its Spec. In the structure shown in (56) the higher CP selected as a **WH-clause** must host a WH-phrase in its Spec and therefore the Topic phrase appears in the lower CP:

56 ... [_{CP} WH-phrase [_C \emptyset] / [_{CP} Topic [_C *tf*] [_{AGR} P

Following (55), **de/di** in (54) cannot be made to appear at the Spec of CP as these CPs are non-WH.

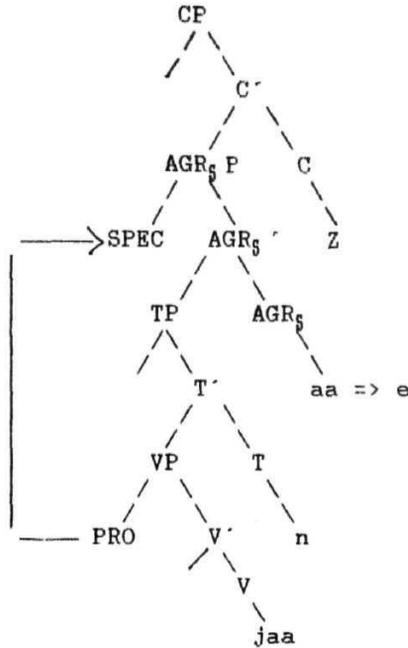
Coming back to the **MPLT** treatment of PRO, by saying, that is, that PRO requires null Case, the inability of the empty C to govern the PRO position is still a stipulation. In chapter 1 we mentioned that the infinitival Tense bears a null Case **feature**. This implies that PRO must have null Case as we have already noted above. Null Case is distinguished in its checking mechanism from other structural Cases. It is proposed in Martin (1992) and Watanabe (1993) that only the functional category

lacking a [+T] feature that is immediately selected by (i.e. is a sister of) the C^\emptyset element may have the feature of null Case. Given that all Case checking is done under a Spec-head relation, it follows that PRO may occur only at the specifier of a T^\emptyset lacking a [+T] feature that is immediately selected by C^\emptyset . **Now**, looking at (52a) and (53a), we can say that the null Case of the PRO is properly checked in the former example only. Such a theory, therefore, requires that control predicates like try take CP complements and that believe-type predicates take IP complements.

3.3.5 Continuing with our analysis of infinitivals from Section 3.3.3, and using the notion of **Z**, we get a viable account of (8), repeated **below**:

(8) **maiM** us ko [vaapas jaane] **nahiM** duungaa
I-ERG s/he DAT return **go-obl** not let

Exactly the same story applies to (8) that we have outlined above for (7), giving the structure in (44). In (8) too, PRO moves to [SPEC, AGR_g P] to be in touch with the [-Tense] T after the T moves to AGR_g, forming the node **T+AGR_g**. The verb moves to AGR_g via adjunction to T. Again, the verbal complex moves to **C**, where the postposition Z induces oblique morphology onto it. The difference here is that the P in C has no lexical content – is a Z. (57) displays the structure of (8):

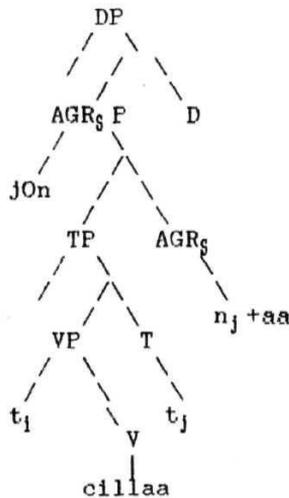


The postulation of the null **Comp** Z is slightly different from the **MPLT** practice of having a null Case in a **non-finite** T (refer to **ch. 1**). The motivation for this is: (i) null Case has to be added to the Case system of the theory, especially for **infinitivals**, in order to account for PRO subjects; a null C can be had at almost no extra cost; (ii) we need to explain the oblique morphology on the verbal element in (8H). The logical way of doing this seems to be to have a postposition somewhere nearby which can cause the V to be obliquely marked. For the parallel case of (7), we have a postposition in the C. Postulating a similar, but phonetically null postposition in the C of (8H) allows us not only to achieve the results that we want but also to emphasize the essentially similar structure that lies

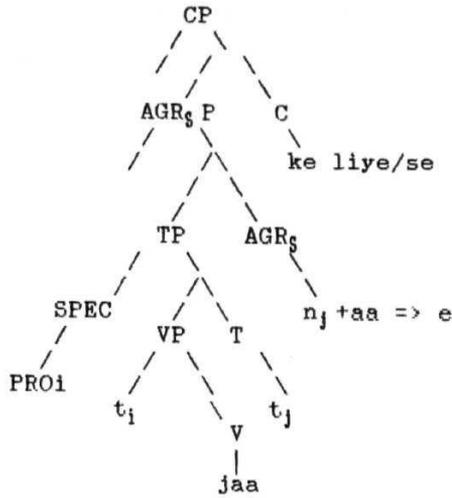
behind the sentences (7) and (8); (iii) it is said that PRO requires null Case – that is, PRO is like a lexical category in that it needs (null) Case. Why does the C not govern the PRO? The answer, as Watanabe (1993) and Bhattacharya (1994) note, is stipulative: The C does not govern the PRO position because we must assume that it is unable to do so. Postulating a null C will create no such problems.

3.3.6 Summing up, we have so far postulated three types of non-finite structures; (19) from section 3.2 and from the present section, (44) and (57). The three are graphically depicted in terms of (58)

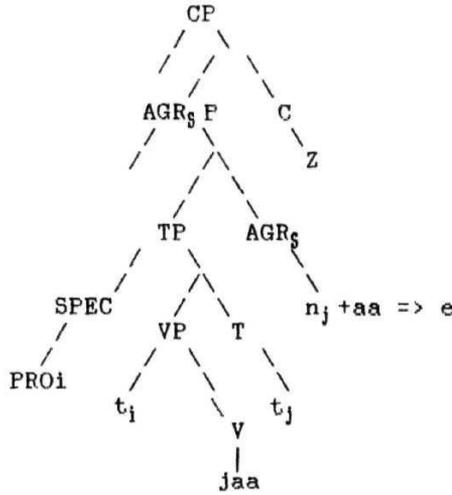
58a



58b



58c



3.3.7 We now turn to the not-so-clear infinitival cases of (6) & (9) and attempt to determine whether the label "gerundial" suits them better.

The present subsection deals with (6), repeated below. One problem is tht the verb has the **-naa** ending of the gerundial.

The typical infinitival **complement** has a (Z or overt) complementizer which would be expected to assign oblique Case, turning this **-naa** into **-ne**. Can it really be an infinitival, then?

(6)H **mujhe** [Tahalnaa] pasand hai
 I-DAT stroll-GER like Aux

Note that we can also have an object inside such an embedding:

59aH **maiM** [ghar jaanaa] caahtaa **huuM**
59bH **maiM** ne LciTThii likhnaa] sviikaar kiyaa

A second issue bearing on the question of whether such **embeddings** are infinitivals or gerundials has to do with **referential possibilities** in the embedded subject position. As a point of departure, we assume that English, which distinguishes infinitival to-V complements from gerundial V-ing complements, is **typical** in permitting both antecedent-controlled and arbitrary PRO in the gerundial --

60 The **policemen_i** stopped [**PRO_{i/arb}** smoking after midnight]

-- forcing the antecedent-controlled reading of PRO in the infinitival:

61 The **policemen_i** ceased [**PRO_{i/arb}** to smoke after midnight]

By this criterion, does the **V-naa** complement of (6) and (59H) behave **infinitivally** or gerundially? The answer is not very clear:

- 62H poliis **ne_i** **PRO_i/arb** raat **ko** dhuumrapaan karnaa band kiyaa
63H poliis **ne_i** **PRO_i/arb** raat ko dhuumrapaan karnaa rokaa
64H poliis **ne_i** **PRO_i/arb** raat ko haaive par 50 **km/hr** se adhik
raftaar se gaarii calaanaa band kiya/rokaa (**PRO_i/arb** for
both matrix verbs).

The sentences are delicate. Intuitions vary. One informant provides the judgements given above. They might be taken to mean that **roknaa**, like English prevent, consistently takes non-control gerundial complements. And the difference between control in (62H) and non-control in (64H) for band karnaa may be a matter of pragmatics facilitating one or the other reading. This seems to mean that Hindi, at least, treats **V-naa** complements as gerundials; lexical idiosyncrasies and pragmatics create gaps in the pattern. But it is difficult to swallow the conclusion that all V naa complements are true gerundials. Surely 59aH is no straightforward gerundial; it is not an accident that ***I_i want [PRO going home]** is ungrammatical in English. We need to find a way to recognize certain **V-naa** instances as more gerundial and others as more **infinitival**, with perhaps no hard and **fast** boundary dividing them.

In this connection, it becomes important to ask about the

properties of an empty category in subject position in the gerundial. Chomsky (1981), investigating the properties of PRO states that in a sentence like I'd much prefer [PRO going to a movie], PRO is permissible but not obligatory, since Genitive Case can be assigned in this position as in I'd much prefer [his going to the movie]. He suggests that Genitive Case can be thought of as optional, with a phonetically realized NP subject when it is assigned, or that Genitive Case is obligatory but not phonetically realized when PRO appears, so that PRO is Case-marked but **ungoverned**. It is left as a matter of choice; but note that such a choice is not available given a theory like LGB where it is assumed that Case **is** assigned under government. Significantly, now that government is no longer a primitive of the theory, we can seriously take up such an option for our purpose of execution. Earlier, Ross (1973) looked at a range of sentences possessing both sentence and noun phrase properties. He claimed that these constructions form a continuum, of which tensed S and concrete nouns are the two extremes: in order of increasing "nouniness" , tensed S, indirect questions, infinitive, **ACC-ing**, **POSS-ing**, **action-nominal (ing-of)**. derived nominal, concrete noun. The accepted cut between sentence and noun phrase, since Reuland (1983), is between **ACC-ing** (the most noun phrase like sentence) and **POSS-ing** (the most sentence like noun phrase). Due to the unavailability in H/G of an English-type ACC-ing. structure, we find that the **V-naa** structure of (6H) lies exactly between **infinitivals** and **POSS-ings** on Ross's continuum. In this connection, notice the following linguistic and psycholinguistic facts regarding gerundials and **infinitivals**.

In Spanish, we find that definite articles take infinitives which are equivalent to gerunds in English:

65 el **lamentar** la perdida de las elecciones es inutil
'Lamenting the loss in elections is futile'

Thus, a relation between various types of non-finites is quite common across languages. On the basis of such parallels we can say that the structures for (5H) and (59H) above are not really different. That is, it is not uncommon to use gerunds in one language to render the non-finites and pure infinitives in another. The fact that even in English gerunds are used as equivalents to infinitivals is evidence to show that using one for the other in the same language is also possible. Consider also (66) below:

66a Sandy promised Tracy to leave the party early

66b Sandy's promise to leave the party caused quite an uproar

The **infintival** VPs in both (66a) and (66b) designate the content of a promise made by an individual named Sandy. Note that (66b) translates into a gerund in Hindi.

On the basis of psycholinguistic experiments it has been shown that one of the syndromes of aphasic patients is **agrammatization**. One of the indications of such a process is the loss

of verbal inflections with preferential use of the infinitive or the gerund form (in English) instead of finite verb **forms**. This supports the claim that infinitives and gerunds have the same status in more than one sense.

Based on actual experiments on children of different age groups, **McDaniel** and Cairns (1990) report that for very young children there is no control for PRO both in complements and adjuncts. Carlson (1990), commenting on the paper, says that a common process of **nominalization** which/known to block control could give us a clue as to what underlies this lack of **control**. It is possible that the infinitives and the gerunds that were presented in the McDaniel and Cairns (1990) study could both have been **misanalyzed** as **nominalized** structures by these children. This again supports the above claim and potentially contributes to the theory of processing. McDaniel and Cairns (1990) find that there is a stage of development when very young children do not exhibit any control in sentences of the following kind:

- 67 Cookie Monster tells Grover [**PRO** to **jump** over the fence]
68 Cookie Monster touches Grover [after PRO **jumping** over the fence]

Children report that "anyone" could be jumping over the fence in both cases. The hypothesis that McDaniel and Cairns formed is **that** at this stage of the development, (67-68) are treated like **co-ordinate** structures:

^{fig} [_S [Cookie Monster tells Grover] [_S PRO to jump over the fence]]

70 [_S fCookie Monster touches Grover] after [_S PRO jumping over

the fence]]

Carlson (1990), commenting on McDaniel and Cairns, disagrees with (67) being treated as a co-ordinate structure, since children, according to him, are capable of making subtle judgements about grammatical subcategorizations and it is unlikely that children would treat complement structures (subordination) as co-ordinate constructions. He conjectures that something else might be at work which prevents control of the null pronominal subject in children. One common process which blocks control is **nominalization**. Thus, (72) lacks control but not (71):

71 The children enjoyed [PRO singing the songs]

72 The children enjoyed [the PRO singing of the songs]

Note: The above data is from Wasow and Roeper (1972).

According to the **children** interviewed, the answer to "who was singing the songs" was 'the children'. Carlson suggests that the infinitives and gerunds of (67) and (68) might have been **misanalyzed** as **nominalized** structures instead of sentential structures.

The murky region straddling the area between the two classes of gerundials and infinitivals has always been recognized as a problem in the literature. Languages do not often show strong evidence for the nominal nature of infinitivals. Italian is one language where a determiner occurs with the infinitival, **emphasizing** its nominal nature (Burzio, 1983; Rizzi, 1982). Similarly, the H/G language pair exhibits very clear morphological evidence:

the verbal ending **-naa** can be obliquely marked (and changed to **-ne**) by a null (Z) or overt postposition in C. The oblique form (Hindi **-ne**) is similar to the oblique form of nouns in H/G -- Hindi **beTaa/beTe** 'son', Gujarati **darvaa to/darvaa taa** 'door' etc. This strengthens the claim that infinitivals are nominal, and thus blurs the distinction between infinitivals and gerunds. Accordingly, I would like to suggest that, although, for expository reasons, I have sharply separated the two types of clauses, "infinitivals" with adpositional complementizers (which -- because C takes the place of D -- preclude genitive subjects) and "gerundials" with (potential) genitive subjects, they are both varieties of nominal non-finite complement clauses. The present work contributes to our understanding of the continuum of ^{these} nominal non-finite clauses.

3.3.8 We move on to the next difficult case, (9), repeated below:

9H **maiM** ne [**jOn** ke Thiik hone kii praarthanaa] kii
 I ERG John GEN alright **become-GER-GEN** prayer did

We may consider the embedding in (9H) to be an infinitival as it has an oblique verbal marker, triggered by **kii**, and functions as a complement. If that is so, however, the Genitive Case on **jOn** as well as a genitive adposition functioning as a complementizer needs an explanation.

In Hindi and in Gujarati (which in these respects is like

Hindi), the construction given in (9) is in general the only option. This represents the Hindi-Gujarati value of a parameter that is set differently in Bangla:

73a ami SatTar **moddhe** phire aSar ceSTa **korlam**
 I 7 o'clock by back **come-GER-GEN** attempt made

73b ami satTar moddhe phire aSte ceSTa korlam
 (same reading)

74a Sujit **tomake** **SOmalocona** koreche
 Sujit you-ACC criticism has-done

74b Sujit **tomar** **SOmalocona** koreche
 Sujit you-GEN criticize has-done

75aH *sujit ne tum ko aalocanaa kii
 you ACC criticism

75bH sujit ne **tumhaarii** aalocanaa kii
 you-GEN

Where Bangla permits, as we see in (73), both a Genitive-marked and an **Infinitive-marked** complement for the composite verb ceSTa **kOra** "to try", Hindi permits only the (9) type Genitive-marked **structure**:

76H **raam** ne **Syaam** ke ghar jaane kii koSiS kii
 Ram ERG **Shyam** GEN house go-GER-GEN try did

One cannot say **maiM** ne **saat** **ba** ie tak vaapas aane ko koSiS kii. using the normal **ko-marked** Infinitival in Hindi.

This is apparently a special case of a broader pattern. Certain composite verbs in Bangla, like **SOmalocona kOra** "to criticize", take a nominal argument bearing either the Accusative, as in (74a), or the Genitive, as in (74b). Again, Hindi permits only the Genitive, as in (75b), never the Accusative, as in (75a).

Thus, the parameter distinguishing Bangla (73) from Hindi (and Gujarati) (76) needs to be broad enough to cover the contrast between (74) and (75) as well.

The problem is illuminated further within Bangla, when we notice that the **Genitive-Infinitive** alternation for clausal complements is suspended if the composite verb is intransitive and cannot license an Infinitive:

- 77a durniti bOndho kOrar ceSTa colche
 corruption stop do-GER-GEN attempt is-going-on
 'Efforts are on to stop corruption'
- 77b *durniti bOndho korte ceSTa colche
 do-Inf

And, as expected, the **Genitive-Accusative** alternation for nominal complements is suspended under the same circumstances:

- 78a tomar SOmalocona hoeche
 you-GEN criticism has-happened

78b *tomake SOmaloco^{na} hoeche
you-ACC
'You were criticized'

Given these sets of data, we may propose the following account. Clausal complements with the genitive complementizer pattern with nominal arguments and thus must be nominal; **however**, they are sufficiently cognate to infinitivals (see the alternation between Infinitival -te and **Gerund-plus-Genitive** -a-r in Bangla) to be classified as **CPs**. These CPs are Case-marked; the **Infinitival** -te in Bangla, like its Hindi equivalents -ne-ko and -ne-~~Z~~, counts as Accusative bearing; Bangla -a-r and Hindi -ne-k@ (@ being a conventional symbol due to Peter Hook and representing **aa/e/li**) count as **Genitive-marked**; such Cases are checked the way nominal Case is; the Case-marker appears under C.

What is the parameter? It is the question "Does the Genitive marker have Chomsky-strong agreement morphology?", to which the Bangla answer is No and the Hindi-Gujarati answer is Yes. Thus, Bangla can **afford** to procrastinate (in the **MPLT** sense (see **ch. 1**)) the movement of the relevant argument to a Case-checking position; **Hindi-Gujarati** cannot.

This formulation of the parameter works only with a particular account of composite verb formation. CPV is a head reindexing process whereby a Verb reindexes, i.e. imposes its own index **on**, a complement Noun adjacent to it (in the sense that the V has an NP and not a DP complement). We leave open the issue of whether

or not it is head movement of some sort, for instance of the kind suggested in **Banerji** (1994), that brings about the head reindexing. We propose further that CPV may take place in the overt syntax and, as usual, must take place at LF. If it occurs in the overt syntax, the complement can check its Case either at the V's [SPEC, **AGR₀**] -- yielding a convergent (successfully checked) Accusative in (73b) and (74a), and crashing in (77b, 78b) because of a transitivity failure -- or at the N's [SPEC, D], always yielding a convergent Genitive. Ayesha Kidwai (in work in progress on scrambling in Hindi) argues that, in South Asian languages, Case is in general Chomsky-weak and procrastinates checking. Thus, all Case checking is in general at **LF**.

However, a H/G Genitive blurs **AGR** and needs overt checking. Therefore, the N head -- of which the Genitival phrase is a complement - must in turn be endowed with a feature **D**, in liaison with which the N head can license the Genitival. Thus, in H/G, V-to-N head reindexing must go from V via **D** to N. Considerations of economy, in this case minimality, will now ensure that the complement must bear the Genitive, i.e. Case-check overtly at [SPEC, DP] and not in the LF (and further up in the tree) a [SPEC, **AGR₀**]. This is because if the complement were to bear the Accusative, on this account, it would need to Case-check in the LF at [SPEC, **AGR₀**], bypassing the [SPEC, D] position which is a Case-checking site and which minimality (even in the **pre-MPLT** Rizzi (1990) implementation) makes it illegitimate to bypass. For this account to work, therefore, we need the crucial assumption that, H/G morphology being Chomsky-strong for the Genitive (and

as shown in Dasgupta and Bhattacharya (1994), for the whole declension system in the zone between the N and the D), every **nominal** construction in H/G has a D shell -- unlike Bangla, where the V head of a composite verb may take an NP complement without a D shell. As a result, the first Case checking site for the complement in H/G is, without violating minimality, [SPEC, D].

When we look more carefully at the process of checking the **AGR** part of the Genitive marker, we are compelled to articulate the Genitive **k@** as an amalgam of the functional head **k** under C (but of nominal character, by hypothesis) and a new functional head **@** under a higher AGR node, call it **AGR_C**. It is this **AGR_C**, which C has moved into and indexed, that is Chomsky-strong and needs overt checking in H/G -- but not in Bangla, where it is not overtly visible, i.e. inert or **absent**.

An optimal account will link this formal difference between H/G and Bangla to another important fact about H/G not replicated in Bangla. Consider the following:

79aH saciv ne sujit ke tiin baje tak ravaanaa
 secretary ERG Sujit GEN 3 o'clock by start
 hone kii koSiS kii
 be-GER GEN attempt made
 'The secretary tried to get Sujit to leave by three'

79bH sujit ne PRO tiin baje tak ravaanaa hone kii
 Sujit ERG PRO 3 o'clock by start be-GER made
 koSiS kii

attempt made

'Sujit tried PRO to start by three'

80a * Socib Sujiter tinTer moddhe rOWna hOWar
secretary Sujit-GEN 3 o'clock by start be-GER-GEN
ceStA korlo
attempt made

'The secretary tried to get Sujit to leave by three'

80b Sujit tinTer moddhe rOWna hOWar ceStA korlo
Sujit 3 o'clock by start be-GER-GEN attempt made
'Sujit tried PRO to start by three'

The major fact is that, while a Genitive complementizer structure in Hindi can have a Genitive subject like sujit ke in (79a) as well as a PRO in (79b), such a construction in Bangla has only the second option. Our account as developed above on the basis of independent considerations provides us with an analysis of this difference between H/G and Bangla. Presumably the Genitive subject needs to have its Case checked. Assume that such checking is possible only against a nominal element in nominal position. If the **nominal** element Genitive in the non-nominal position C does not count, it follows that the Genitive subject Su.jiter in (80a) cannot successfully check its Case even at LF in the SPEC of that C. But in H/G, there is **AGR_C**, a nominal position containing a nominal element, and its SPEC is available in the overt syntax **for** checking of the D element (or more precisely the "D-AGR_C •amalgam"), assuming similar moves for the D system in H/G **k@** of a

Genitive subject like su.ii.t ke in (79a)¹.

3.4 PARTICIPIALS

This section concerns itself with those non-finite complements in which the embedded verb is a participle. In 3.4.1 we repeat (10) and (11) as examples of typical participial constructions. We present data which highlights the discrepancy in the behaviour of gerunds and participials. In 3.4.2, we suggest an ECM analysis for participials and review certain other positions which offer similar analyses. 3.4.3 spells out the position taken in this chapter. 3.4.4 contains a slightly digressive albeit interesting account of perception verb constructions with genitive subjects. 3.4.5 attempts an analysis of the phenomenon of long-distance agreement found in certain participial constructions.

3.4.1 Consider (10) and (11) repeated below:

10H **mujhe** [imaarat girtii] dikhii
I-DAT building-ACC fall-PRT was-seen
11H **maiM** ne [imaarat ko girte] dekhaa
I ERG building ACC fall-PRT saw

1. **Needless** to say, Gerunds in Bangla can have a genitive subject:
(i) **oMr** aaSaar kono **Sombhabona** ney
his/her coming-GEN any possibility is-not

Before we go into a detailed account of the structure of these constructions, a point may be noted about gerunds and **participials**. If we look at the ergativity phenomenon in H/G, we find that there exists a dissimilarity in the behaviour of the following types of ergative/dative subject pairs:

81a **mujhe jOn** jaataa huaa dikhaa

I-DAT John go-PRT was-seen

81b ? mujhe jOn kaa jaanaa dikhaa

81c mujhe jOn (hameSaa) khuS rahtaa acchaa lagtaa hai
(always) happy stay-PRT good feel Aux

I like John to be (always) happy'

81d ? mujhe jOn kaa (hameSaa) khuS rahnaa acchaa lagtaa hai

GEN stay-GER

'I like John's (always) being happy'

82a **maiM ne** jOn ko jaate hue **dekhaa**¹

I ERG John ACC go-PRT saw

82b **maiM** ne jOnkaa jaanaa dekhaa

-GEN -GER

82c * maiM ne jOn(ko) jiittaa caahaa

(ACC) win-PRT wanted

82d ?? **maiMne** jOn kaa jiiitnaa caahaa

GEN GER wanted

(82c) is straightaway disallowed because caahnaa does not take

1. jaataa is acceptable to some speakers

participials. Only perception verbs seem to permit participials, as they can be **ECM** verbs. A discussion on **ECM** and perception verbs follows later.

Essentially, the above sets indicate that while participials can freely occur with both ergative and unaccusative verbs, geundials are possible only with ergative verbs. We leave this observation as it is for the moment (for an account of the ergative/unaccusative case patterns, especially in **Gujarati**, see Shah, 1988).

We come now to the basic question -- the structure of these participials. Sinha (1991) regards modifying (adjunct) participials as IP. He claims that they are infinitival relatives. Now, in languages like English, infinitival relatives are considered to be similar to infinitival complements. This makes it **reasonable** to assume that our H/G participial complement clauses are also IPs.

3.4.2 We may focus our discussion of participial complements by considering (83):

83 **maiM ne [raam/*PRO ko jaate] dekhaa**

In the older terminology, the fact that PRO cannot appear in this position would be taken to mean that it is a governed position. This in turn would mean that the CP is something less than a CP. This is an initial motivation for proposing a **less-than-CP** status

for participial **CPs**. Could participials be ECM constructions? It might be at least heuristically useful to compare them with the ECM analysis in Chomsky (1992). Consider (84) below:

84 John believed [_{IP} **Mary**_i to [_{VP} **t**_i have gone home]]

The movement in (83), indicated by the indices, takes place in the syntax. The embedded subject **Mary** is base generated at the SPEC of VP in the embedded clause and moves to the SPEC of IP in the overt syntax to satisfy the Extended Projection Principle (EPP). EPP can still be considered a part of the theory as in **Murasugi** (1992). But the SPEC of the embedded IP is not a position where any overt structural Case is checked because the embedded I does not have a [+Tense] feature and therefore lacks structural Case. The embedded subject **Mary**, therefore, moves up to the SPEC of the matrix **AGR₀P** at LF in order to get structural Case checked, deriving the following LF representation:

85 John [_{AGR₀P} **Mary**_i believed_k **AGR₀P** [_{VP} **t**_k [_{IP} **fc**_j to [_{VP} **t**_i have gone home]]]]

Object-raising in English takes place at LF because there is no need to move it in the overt syntax -- this is a case of Procrastinate (**MPLT**), which is part of the current unpacking of the Economy Principle of Chomsky (1991).

Our adoption of Martin's (1992) proposal of an infinitival Tense

bearing null Case does not suffice to explain why PRO is disallowed with the **ECM** constructions. We need to adopt Martins' additional assumption that the Tense head of ECM and raising **complements** lacks a null Case feature. With the null Case hypothesis we can predict the ungrammaticality of examples in which an overt NP occupies the embedded subject position of a control predicate such as try in (86):

86 * **John** tried Mary to go home

or more precisely:

87 * John tried [_{CP} [_{IP} Mary_i to [_{VP} t_i go home]]]

The SPEC of IP where *t*_{tarx} occurs in (87) is not a position where any overt structural Case can be checked. (86) therefore is excluded by the Visibility Condition unless Mary moves at LF to a position where its overt structural Case can be properly checked. Notice that null Case can be checked where the embedded [-T] I[∅] (or T[∅] in the current terminology) is **immediately** selected by C[∅] since the I[∅] in question has a null Case **feature**. Thus null Case can be checked for Mary in the overt syntax. Now, if Mary occupies a position in LF where structural Case can be checked, it will violate the Chain Condition which requires that a CHAIN has one and only one Case position (Chomsky and Lasnik (1991)).

Martin (1992) differentiates between ECM/raising predicates and Control structures by assuming that the feature content of T^ϕ in ECM clauses is different from that of the control clauses like John tried PRO to go home. Specifically, he claims that T^ϕ of ECM complements lacks a null Case feature. He appeals to Stowell's (1981) observation that the tense property of ECM and raising complements is different from that of control complements. Thus in (88a) the "event" of the embedded clause is unrealised with respect to the matrix verb, while the embedded clause of (88b) is interpreted as being simultaneous with the matrix verb.

88a John tried [PRO to leave]

88b John considers [himself to be the smartest]

Stowell further links this difference in tense interpretation to the absence of COMP in ECM constructions by locating tense in COMP. That is, when C^ϕ is absent, as in cases of ECM/raising, the tense of the complement clause is directly determined by the matrix verb as in (88b).

Martin (1992) proposes that the tense node in ECM and control clauses have **different Case properties**. T_{Control} has the null Case feature whereas $T_{\text{ECM/raising}}$ does not. In short, it is the Case properties of T that determine whether a particular infinitival clause is a control complement or an ECM/raising one, that is, no reference is made to the presence or absence of C^ϕ .

Martin's proposals capture the direct relationship between the semantic content of T and its Case properties. Given his assumptions we ~~do~~^{not} need a structural notion like government to handle ECM cases. The spirit of Martin's proposal is maintained in the analysis that follows shortly.

Earlier we noted that Watanabe's motivation for proposing an $AGR_g \rightarrow C^\emptyset$ movement as a follow-up process to Case checking was the correlation between the shape of the COMP and the Case possibilities on the embedded subject. However in Watanabe's theory there is no need to move AGR_g to C if there is no Case checking taking place at AGR_gP . In such a case, the economy of representation (mentioned in Watanabe) would prevent the presence of a useless complementizer. Since in this modified checking theory (as adopted from Martin's proposals) $T_{ECM/raising}$ does not have a Case feature, no checking needs to take place. This acts as evidence for Watanabe (1993b) to consider ECM/raising complements as not CP_s .

Watanabe (1993a) however extends Martin's analysis and claims, on the basis of data from Icelandic that T_{ECM} has weak V-features (as opposed to $T_{Control}$ which has strong V-features) but still ECM complements are $AGR_g Ps$. Watanabe looks at Icelandic sentences of the following type:

89a Maria lofadi [ad **lesa** ekki bokina]
Mary promised read not the-book

- 89b * Maria lofadi [ad **ekki lesa** bokina]
 90a *Eg **taldi** [Marie lesa ekki bokina]
 I believed Mary read not the-book
 90b Eg taldi [Maria ekki lesa bokina]

(89) shows that verb raising to T takes place, skipping over negation, in control complements while in ECM clauses of (90) verb raising cannot take place. A reasonable way to account for this distinction in Martin's (1992) proposal, as Watanabe (1993) conjectures, would be to say that **T_{Control}** has a strong V-feature while **T_{ECM}** has a weak V-feature. Notice however, that the element **ad** introducing infinitival clauses as in (89) is missing in (90). This is much like the Romance lexical complementizers discussed by Kayne (1984). Kayne noted that di/de in Italian and French never appears in raising predicates'.

- 91a Gianni **sembra/pare** (*di) essere partito
 91b Jean **semble/paraît** (*de) être parti
 'John seems/appears to have left'

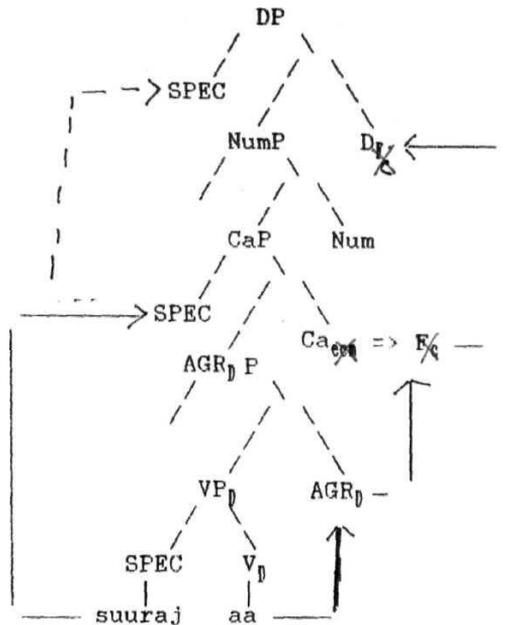
For Kayne these complementizers are **C^o** and they never appear in subject to subject raising cases. **Platzak (1986)**, following Kayne (1984), analyzed the Icelandic infinitival marker *ad* as a complementizer based on comparison with other **Scandinavian** languages. This, for **Watanabe's** (1993) purpose is evidence for the fact that control complements are CPs because a complementizer is present whereas ECM/raising complements are **AGR_ç Ps**. This is crucial for the modified Case theory that Watanabe (1993) con-

tructs. This theory, solves the **problems** mentioned regarding the account of the distribution of PRO in **MPLT** which assumes that PRO requires null Case.

3.4.3 Our proposal is slightly different in spirit in the sense that we claim that **T_{ECM}** has Case **features**. The one obvious advantage is that we do not need to route the property of Case checking through the matrix **V** and its **AGR₀** in such a modification. Our proposed configuration is more general and would explain **ECM** constructions in languages where the Case assigned/checked may be other than Accusative (some reports indicate that **there** ^{are} **ECM-assigned** Nominatives). That is, the **mechanism** of Case checking would become more uniform irrespective of the nature of the ECM Case. As we shall see in the presentation of the analysis, genitive subjects indeed are a possibility in complements of these perception verbs, which are, for our purpose, ECM verbs. The term "ECM" is used for the sake of familiarity; otherwise we shall see, it has no meaning -- that is, there is nothing exceptional about it in the traditional sense. As far as our proposals are concerned the apparent "exceptionality" is due to a difference in location with regard to Case checking and Case realisation.

With this background, let us present the exact mechanism we propose for ECM cases like the following:

92 **maiM** ne [suuraj **ko**/*PRO aate] dekhaa



As we mentioned earlier, in the present proposal, subjects of such **embedded** constructions do not move out for Case reasons, e.g., to SPEC-AGR₀P, as is doneⁱⁿ Watanabe's reworking of ECMing in MPLT. A few things need to be noticed regarding (92'). Notice that in this theory **ECM** subjects do not have to move out to SPEC-AGR₀P for **Accusative** Case. In our proposal, ECM is a property of the tense in DP, in this case **Ca_{ECM}** which is read off as Accusative Case. We claim that there is something verbal about **Ca_{ECM}** that makes it to be read off as Accusative Case. That is why, although here we are talking about Case properties of the subject DP, it still does not take place at SPEC of DP. This is because D is **nominal**. However, although Case is checked at SPEC of CaP, it is realised at SPEC of DP. The distinction between Case assignment and Case realisation is not new. We **assume** this

is what happens after the Ca head moves to D. Notice also that the V or **AGR₀** has to move to Ca. This is needed because as we said earlier, there is a connection between the -te ending and **Accusative** Case on the subject; for example, the following sentences are out:

93a * [suuraj **ko phal** khaanaa] dekhaa

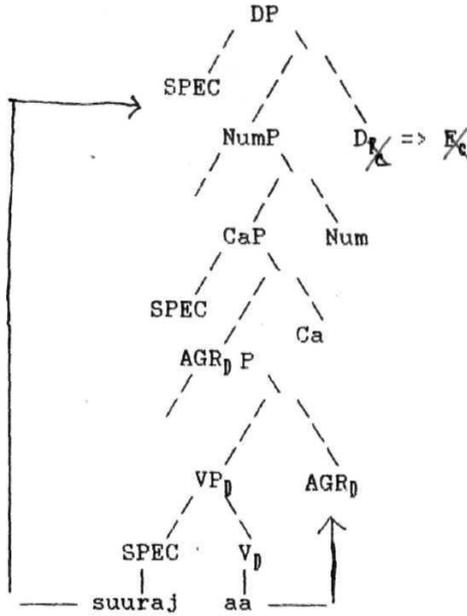
93b * [suuraj kaa phal khaate] dekhaa

So, **AGR_p** head moves to Ca to establish this connection between **ko** and te.

3.4.4 Now, let us look at genitive complements in perception-**Verb-complements** (PVCs). Consider, for instance,

94 **maiM** ne [suuraj kaa **aanaa**] dekhaa

where the embedding has the kaa-naa gerundial form and is an example of a **ECM** verb (in the sense of sentence (59)).



Note (95) where a lexically unfilled D can check for genitive. The only problem here is why there is no **ECM** feature on Ca since the matrix verb is an ECM verb. We have noted that ECM raising cases are most impoverished. We can take this to mean that Ca_{gcn} is weaker than Ca_{gc} -- for purely theory internal reasons ECM verbs with genitive subject can perhaps be made to select Ca_{ecn} , which is even weaker than Ca_{gcn} -- and therefore simply **cannot** survive. The F_c created through genitive feature checking is checked off at the same place by F_c of D.

As we noted in 3.2.1, **ACC-ing** constructions are not possible in Hindi. However, it could be argued that distinctions like participials and gerunds overlap in certain cases in the languages that we are interested in (see Dasgupta (1980) for the

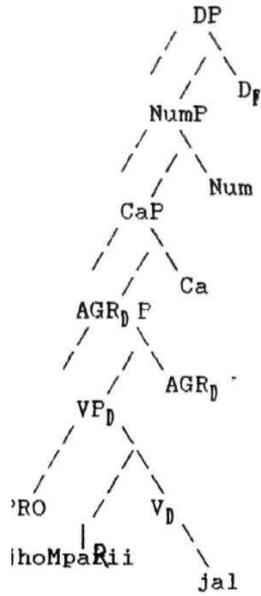
case of South Asian languages). This can be accounted for without difficulty in the system that we have outlined so far: Accusative Case can be explained by the presence of the ECM Case feature in T_{ECM} which has a verbal character.

3.4.5 Returning to the PVC constructions for the moment, I would like to shift focus from Case facts to the phenomenon of long-distance agreement in the following participial construction:

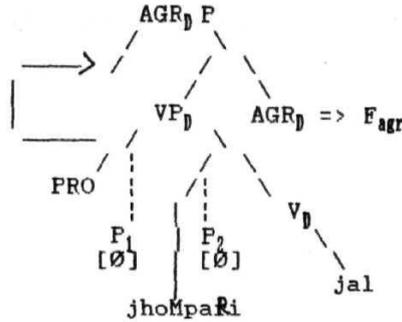
96H **maiM** ne **jhoMpaRii** **jaltii** **hiii** **dekhii/paayii**
 I ERG **hut(f)** burning(f) **saw/perceived(f)**

Bhattacharya (1994) offers an account of long-distance agreement in non-finite constructions. Restricting ourselves to participials, we adopt his idea of long-distance agreement being a case of "liberation" of an F_{agr} feature from the DP "into" the matrix V.

What would essentially happen to (96H) in such a framework is as follows:



The Dummy Feature Principle (DFP) makes it possible to create a dummy feature at the subject and object position -- making the object move for agreement feature-checking to the Spec of AGR_p as follows:



This checking would create a feature F_{agr} at $\langle AGR_D \rangle$ head which **cannot** get cancelled (or checked off) anywhere inside the DP since **there is** no other F_{agr} feature created inside the DP. **Bhattacharya**'s motivation for creation of dummy P_n features is that arguments participate in agreement through various Case markers, or Case features in the current terminology, P_n s are nothing but invisible Case features which are needed to establish agreement features (like F_{agr}) inside the DP. Continuing with the analysis, **Bhattacharya** claims that NP movement out of the VP_D takes place only when these P_n s are [-strong]. He argues out this conclusion on the basis of agreement phenomena in Punjabi. Notice that when **there/an** overt Case marker like **ko** following the object, the following pattern obtains:

9H **maiM** ne [PRO **imaarat** ko girte] dekhaa

that is, there is no **long-distance** agreement. We can see why this should be so by considering the valency of the relevant P_n in this instance -- P_2 (the Case after the object)

here is **ko** or overt, that is, "strong", so movement of the object is allowed in such a case.

3.5 CONCLUSION

At first glance, the three types of non-finite clauses discussed here seem to demand separate chapters. The importance of the T node in each of the **analyses**, however, emphasises the **non-finiteness** of these constructions. A summary of these analyses is presented in 3.5.1. We conclude, in 3.5.2, with a brief comparative statement regarding the clause/phrase debate for the three types of non-finites discussed in this chapter.

3.5.1 Owing to the somewhat lengthy nature of this chapter, it will perhaps be more useful to highlight the main observations and arguments concisely rather than have another section summarising the entire chapter. Below I present some major points, not necessarily in the order followed in the chapter.

1. Non-finite complement clauses are "reduced" in the sense of being less definite than finite clauses. Also, they have a temporal reference later than the main clause.

2. The assumption in standard GB theory has been that non-finite lack a Case assigning **AGR**.

3. Gerundials in H/G are identified by the **occurrence** of **kaa-naa**. In this work, **kaa** has been found to be **unproblematic**;

beyond noting the fact that it is a Genitive Case marker, subject to agreement, which attaches to the subject of the embedded clause, **naa** is not analysed here.

4. A number of studies dealing with the English -ing have been reviewed here, chiefly **Reuland** (1983) and Abney (1987). **Thier** suggestions, however, are found to be unsuitable for the H/G -naa. In this work we have claimed, based on evidence from both Hindi and Gujarati, that -naa is a [-finite] verb marker generated in a [+N] AGR.

5. The second issue regarding gerunds is their well-known idiosyncratic property of being pulled in two directions: nominal and clausal. Using **Abney's** (1987) DP-hypothesis as a point of departure, an attempt has been made in this dissertation, first, to demonstrate that gerunds are DPs and second to account for the presence of kaa-naa.

6

6. We have looked at four **varieties** of **inf** initivals in this chapter: (i) with a postpositional complementizer (see (7H)) (ii) with a null postpositional complementizer (see (8G)) (iii) PRO subject "**gerunds**" (see (6H)) (iv) genitive subjects with a genitive adpositional complementizer. We have argued for a uniform structure for (i) and (ii) where the subject of the infinitival is obligatorily null. We have attempted to construct a principled account of the null subject phenomenon, referring crucially to Kayne (1984). For (ii), we have crucially assumed a postpositional complementizer with properties identical to those found in

the complementizer of (i) but with no phonetic content. As regards (ill), an attempt has been made to strike a balance between the gerund and the infinitive aspects of such constructions. We have looked at both structural and referential possibilities of (iii) in order to have a clearer picture of the nominal nature of these **infinitivals**. The construction in (iv) has been grouped with other infinitivals, although the classification, again, is not straightforward. We have suggested that H/G are set for a parameter -- the H/G Genitive needs overt Case-checking - which accounts for the presence of a Genitive Case-marked subject.

7. A study of participial constructions has revealed an interesting line of research for future work. In this work we have suggested an **ECM** analysis for participals, building upon the Case-checking mechanism of **MPLT**.

3.5.2 To conclude, we have investigated the determination of category for gerunds and participials and said they are **DPs**. For infinitivals we have concentrated on the more interesting question of subject position, because not enough has been done in current research, on the theory of control. Pretheoretically it is possible that infinitivals are clauses because they extrapose. That is not to say that they may not turn out to be **DPs** or phrasal. We leave that for further research.

CHAPTER IV
SMALL CLAUSE COMPLEMENTS

4.1 INTRODUCTION

This chapter discusses small clause complements. We begin with the question what are "small clauses" in 4.1.1. In 4.1.2 we present small clauses in H/G. 4.1.3 examines recent hypotheses regarding the question raised in 4.1.1: the categorial status of the small clause.

4.1.1 Small clauses are in some ways the most difficult to analyze, although not infrequently discussed in current syntactic debates. There is no general agreement, for instance, regarding the categorial status of the bracketed complements in (1) & (2) or the bracketed **adjunct** in (3):

- 1 I consider [John intelligent]
- 2 We feared [John killed by the enemy]
- 3 They ate the meat [raw]

Note: (2) is from Hong (1989)

The question is: do the complements in (1) and (2) count as clauses? Of exactly what sort?

4.1.2 Before moving on to these issues let us look at a few putative small clause constructions in H/G:

4H raajeS [_{AP} mujhe muurkh] samajhtaa hai

4(3 raajeS [_{AP} mane muurakh] raaane che

Rajesh I-ACC foolish believes

5H maiM [_{PP} is qaayde ko bahut baRaa anyaay] maanta huuM

5G huuM [_{PP} aa kaaydaane bahu moTo anyaay] maanu chuuM

I-NOM this rule-ACC very big injustice believe

I have labelled these small clauses tentatively; the ensuing discussion attempts to understand the problem more thoroughly.

4.1.3 Although, as we shall see, the issue of category is not our central concern, it is nevertheless important to **take** stock of the situation, as it were.

The literature on small clauses begins with Stowell's (1983) by now classic analysis which focuses on small clauses that function as complement clauses and seeks to explain Case and government patterns to be found within the small clauses. Before going on to the specific problem that concerns us in this paper, let us take a brief look at what a small clause is taken to be. The commonly assigned structure for a small clause is:

6 [_{SC} NP XP •]

,

Traditionally, a small clause is a syntactic unit consisting of an NP subject and some nonstandard predicate, and not containing either a C or an **I**, more specifically, any particle or tense-

sensitive auxiliary whose presence would have made it a regular clause. According to Stowell (1983), any constituent that can be demonstrated to have a subject and a predicate at LF is a clause, "...although the clause may not function as a complete proposition if it lacks an internal tense operator" (Stowell, 1983). Alternatively, the predication module of parametric syntax demands that every predicate must be predicated of a subject.

Stowell answers the crucial question – do the subject and predicate of a small clause form a syntactic unit -- in the affirmative and gives constituency tests, which we need not recount here, to support his argument.

Sinha (1991) makes the interesting proposal that the **structure** of a small clause is [_{sc} XP XF]. He uses **Kayne's** (1985) **arguments** and data to show that XP in subject position can be any category, including a tensed CP. Let us look at his position in brief. Sinha explains some raising facts of Hindi in terms of small clauses. Based on Chomsky (1981), he proposes that the "raised" element and the embedded clause together form a small clause, resulting in a tensed CP occurring in the predicate position of the small clause. In

7H **maiM jOn ko₁ jaantaa huuM [cp ki pro₁/wah₁ kitaab**
I John-Acc know that pro/he book
paRhtaa hai]
 reading is

the verb jaantaa is **monotransitive**. The two candidates for the

same position, **jOn** and the extraposed CP, are considered to be **sub-parts** of one, **larger**, constituent. The d-structure for the above sentence is:

8H maiM [jOn ko_i [**CP** ki pro_i/wah_i kitaab paRhtaa hai]] jaantaa
huuM

Sinha suggests treating this construction as a **small** clause. Based on the standard structure assigned to small clauses viz [**sc** NP XP] and on Kayne's (1985) analysis of English particle constructions in terms of small clause constructions as [XP Prt]. Sinha arrives at the following structure for small clauses:

9 [**sc** XP XP]

Kayne's analysis implies that the subject XP of a small clause can have any value: particular values of X may be ruled out by **theta-theory**, Case theory etc. Sinha deals with the possibility that the predicate XP can be a tensed CP. Drawing on Williams' (1980) theory of predication, according to which any category can be a predicate, including IP and CP which are "complex predicates" as opposed to AP, NP, PP and VP which are "simple or headed predicates", he postulates [**sc** XP CP] as a possible small clause structure.

In the earlier **Stowell-type** analyses discussed above, the small clause must be a projection of the category of its predicate. Thus,

10 I consider [_{AP} John intelligent]

11 I vote [_{NP} John the leader of this class]

and so on. Hong (1989) suggests that all small clauses, no matter what category their predicates belong to, are IP structures. She gives the structures (12-13) for English and (14-15) for French, where the AGR. (the **INFL**, in the earlier machinery) is present inside the small clause.

12 I consider [_{IP} John [{• ∅ [_{NP} a genius]]]

13 I consider [_{IP} John [_I ∅ [_{AP} intelligent]]]

14 je **la**_i **crois** [_{IP} **t**_i [_I AGR [_{NP} une genie]]]

15 je **crois** [_{IP} Marie [_I AGR [_{NP} intelligente]]]

In the H/G examples presented in (4-5), then, the AP/NP/CP status of the small clauses would, if we were to follow Hong seriously, change to IP.

We will discuss the more recent contributions of the MPLT framework to the analyses of small clauses in 4.4.1. For the moment we can note that the controversy over the exact categorial composition of small clauses still persists (see Sinha's (1991) criticism of Stowell (1983)). Our concerns do not compel us to choose any particular option among the various structures proposed for small clauses.

4.2 PROBLEM

This section presents a phenomenon specific to H/G small clauses. The problem is mentioned in 4.2.1 along with certain (related) facts of H/G agreement. 4.2.2 outlines the problem in **detail**.

4.2.1 Let us turn now to our main concern regarding **small clauses** which is about something that takes place inside the small clause: Case marking into the small clause. Specifically, there exists an asymmetry in (the verbal **agreement** pattern and) Case marking that is extremely visible in small clauses. Let us look **at** the relevant data in the two languages in order to get a clearer picture of what the problem is all about. Compare the following sentences (based on Wall, 1989):

16aH yeh log [patthar ko bhagawaan] **maante haiM**

16aG aa **loko** [pattharne bhagawaan] **maane** che

these people stone-ACC God believe

16bH + yeh log [patthar bhagawaan] maante haiM

16bG * aa loko patthar bhagawaan maane che

'These people believe a stone to be God'

Notice that the subject of the small clause receives Accusative, rather than Nominative Case. Before outlining the problem in detail, I would like to present certain agreement facts about H/G which are pertinent in the context of the later discussion, in particular the discussion relating Case marking to agreement.

Consider (17)a & b:

17aH roaiM ne laRkii ko dekhaa

17aG meM chokriine joyii

I-ERG girl-ACC saw

17bH maiM ne laRkii dekhii

17bG meM chokrii joyii

The normal agreement pattern in Hindi and Gujarati is as follows: the verb in Hindi agrees with that NP which bears a **phonologically** null Case. In (17aH), the V does not agree with either of the two NPs in the sentence -- rather, it takes the default (masculine, singular) morphology to show its neutrality. In (17bH), the V agrees with the object NP and hence takes the feminine morpheme **-ii**. In **Gujarati**, the verb, if **non perfect**, agrees with the Nominative subject as in maniSaa/raa.ieS chokriine iue qhe ('Manisha/Rajesh is looking at a girl') and if perfect agrees with the Direct Object, regardless of the Case marking, **null** or overt, of the Direct Object; hence the feminine form **joyii** in (17a, bG). Note that Direct Object status is compatible with null and overt Case marking in both languages.

4.2.2 Having described the agreement patterns in Hindi and Gujarati, let us return to the problem at hand. Essentially, what we are asking is, why do the subjects of **small** clauses (it both Hindi and Gujarati) have to have phonologically overt Case marking? That is, phonologically null Case-marked NPs in **this** position are possible in other constructions as in

18H yeh log patthar **toRte haiM**
18G aa **loko** patthar toRe che
break

where patthar is not the subject of a **small** clause as there is no predicate; why is this disallowed in small clauses?

4.3 EARLIER ANALYSES

A look at some of the analyses offered for similar problems might be useful at this juncture. Two accounts are presented here. **Mahajan** (1990) in 4.3.1 and Sinha (1991) in 4.3.2.

4.3.1 Mahajan (1990) offers an interesting account of these and related facts using the current framework. His position on agreement and Case in Hindi is summarized below.

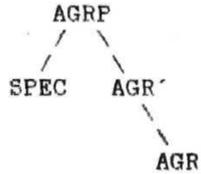
Mahajan has argued for a movement rule called *argument shift* and his claim is that subject as well as object agreement in Hindi takes place by means of this rule. Argument shift is an **L-movement** rule involving substitution into an L-position and has the properties of A-movement. This rule moves the argument in question (i.e., the NP with which the V **will** agree) into the SPEC of AGR making available a **SPEC-head** configuration in which **agree-**ment can take place. Mahajan believes that agreement between AGP and the argument that it governs is the very same **configuration**

in which structural Case is **assigned** . Mahajan's suggestion **that** object agreement in Hindi occurs only when the V cannot assign structural Case follows from the implication that elements which do not receive structural Case *within* the VP move to SPEC AGP positions while elements which receive structural Case in the VP do not and *cannot* move out to SPEC **AGR** -- it is assumed that all arguments are generated VP internally. Moreover, a distinction is **maintained** between inherent and structural Case. In Mahajan's theory, all NPs must bear some Case (inherent or structural) at s-structure and **specifically**, structural Case at **LF**. Evidence from closely related languages demonstrates that NPs **bearing** inherent Case can also show verbal agreement, leading Mahajan to speculate that even inherently Case marked NPs **must** receive structural Case.

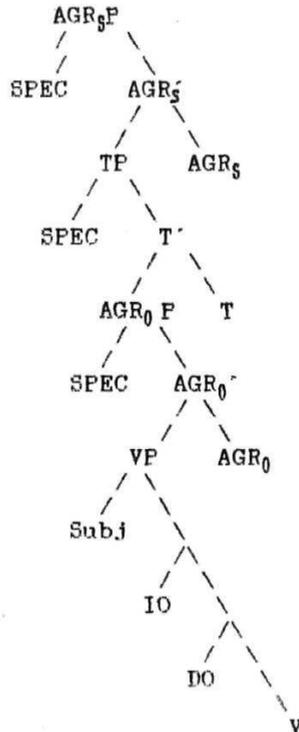
Mahajan also discusses the nature of the Case assigned by V. **Unaccusative** (or ergative) verbs assign a Case to their objects which is similar to the partitive Case of Belletti (1988). Mahajan differs from Belletti, though, in maintaining that **parti-**tive Case is not inherent but that structural Case is.

The canonical agreement **configuration** assumed by Mahajan for both subject and object agreement is as follows:

1.Note that this is similar to and can easily be reformulated in the MPLT manner.



The IP structure he assumes is the articulated clause structure due to Pollock (1989) and Chomsky (1989). He differs from Pollock (and follows Chomsky) in that he includes TP within AGRP. Thus the IP structure in Mahajan's discussion of Hindi is:



Structural Case is assigned to NPs in [**SPEC**, **AGR_s** 1 and [**SPEC** **AGR_0**] positions.

Having summarized **Mahajan's** account of agreement and Case in Hindi and outlined his theoretical assumptions, let us now look at those of his proposals that are relevant to our problem. Consider again (17aH) and (17bH). To complete the picture, we **have**:

21aH * **maiM** ne **laRkii** dekhaa

21bH * **maiM** ne laRkii ko dekhii

Mahajan's explanation for the above paradigm is as follows: Object NPs which bear the postpositional lexical Case **-ko** are marked for specificity. Mahajan claims that objects which show agreement (i.e., those which are not **-ko** marked and which thus move to SPEC **AGR₀** to receive structural Case) also exhibit specificity. These two types (both objects of perfect participles which do not assign structural Case) are contrasted with a type of object which neither shows agreement nor bears **-ko** and is **non-specific**:

22H siitaa laRkaa dekh rahii hai

Sita boy see is(cont.)

'Sita is seeing the boy'

Mahajan has shown that (17aH-17bH), which allow leftward NP movement, are cases in which the fronted object may bind a pronoun or a reflexive; (22H) does not allow this possibility. To this is added the third difference (apart from the lack of

agreement **and binding**) of non-specificity. Thus, **objects** that are structurally Case marked by the V cannot move to an **L-related** position, therefore cannot show agreement and are not in a position to bind and must be interpreted as nonspecific. By implication, then, agreeing objects are always specific because they must receive a structural Case from outside the VP. **Mahajan** cites Dutch and German studies for similar effects.

In **Mahajan's** system, the Case which is associated with non-specificity is not an inherent Case as in Belletti (1988) -- recall that partitive Case is structural for Mahajan. He presents a paradigm for the specificity issue which classifies sentences on the basis of perfect vs. non-perfect participles. Thus, for him, since in Hindi the perfect participle cannot assign structural Case at all, the object has to move out of the VP, resulting in a non-specific interpretation for the sentence.

Mahajan's proposal for the correlation between specificity and structural Case assignment by means of **AGR** is that the **pro-**nominal features of AGR bring about specificity effects. NPs which are coindexed with AGR have to necessarily be interpreted as specific. Non-specific NPs cannot, thus, be coindexed with AGR, in other words, cannot move to SPEC AGR to receive structural Case from AGR; non-specific objects can receive structural Case only from the V (which in Mahajan's account, can assign it).

For our purposes, let us summarize Mahajan's position thus: Mahajan implies that only those objects which don't show agree-

ment but show specificity are -ko marked (not all objects showing specificity are -ko marked – some have agreement and no -ko) .

Our problem with Mahajan's analysis is two-fold: (1) While Hindi has (17aH), Gujarati has (17aG), i.e., Hindi has no object agreement while Gujarati **does** have it. This is not an isolated occurrence: as mentioned in 4.2.1, in Gujarati, typically, when the subject bears an inherent (Ergative) Case marking, the verb (if perfective) agrees with the object irrespective of Case. This is, however, a problem of simplex clauses and I will not discuss it further in this work. See Shah (1980) for more details regarding H/G agreement differences. (2) The Hindi sentence maiM_ne laRkii dekhii, contrary to Mahajan's claims, seems to permit non-specific readings with ease, suggesting that an analysis that groups -ko in non-perfect sentences with null Case objects in perfect sentences might be on the wrong track.

4.3.2 Sinha (1991) has an interesting alternative account of the -ko/∅ alternation of objective Case marking in Hindi, one which does not group null Case in perfect with -ko in non-perfect sentences. He uses Baker's (1985) notion of incorporation and a hierarchy of nouns and verbs to predict which Case-marker will occur under what circumstances. Let us briefly summarize his position.

In Hindi, as in other Nominative-Accusative languages, a transitive verb assigns Case to its object argument and this Case is morphologically realized as -ko. But sometimes the Case-

marker -ko fails to surface on an NP which has been assigned Accusative Case -- the object **argument** surfaces with a \emptyset Case-marker. Example: maiM roTii khaataa huuM 'I eat bread' (Sinha, 1991:24).

Kellogg (1875), Guru (1920), Porizka (1963), among others, suggest the **animacy**, specificity and genericity (besides other features) of the object NP as conditions for the appearance of -ko on it. But it is easy to find individual **counter-examples** to these conditions. No one, to **Sinha's** knowledge, has given an in-depth account of what determines the appearance or otherwise of -ko.

Based on Chomsky (1986b), Sinha reasons that a V can assign inherent Case (to a complement that it theta-marks) at d-structure. Chomsky (1986b) assumes that N, A and P assign inherent Case at d-structure to complements they **theta-mark**; V and **INFL** assign structural Case at s-structure. Sinha holds that V and INFL continue to assign structural Case at s-structure to positions they don't theta-mark -- this accounts for Nominative Case on derived subjects and **ECM**.

Sinha's treatment of the phenomenon of -ko disappearance employs incorporation. Most transitive verbs have a lexical property that enables them to incorporate the Case of their direct objects. But what about the sentences where the NP must surface with -ko? The question here is whether the verb fails to incorporate the Case due to its own "weakness" or whether the NP

has managed to resist its Case being incorporated. **Sinha's** suggestion is that there is "tension" between the **verb** and its direct object regarding the Accusative Case -ko -- the verb trying to incorporate it and the NP trying to retain it. Some verbs are too weak to incorporate the Case. Some NPs are strong enough to resist incorporation of their Case by the verb. The weakness of the verb and the strength of the NP may be due to their respective semantic properties. Sinha isolates three features of NPs which are relevant to incorporation [+Generic], [+Specific], [+Definite]. Only his exclusion of **animacy** is a departure from the traditional studies mentioned earlier. There is an **implicational** hierarchy in the arrangement of these features with regard to the reach of the verb. If a verb's incorporating strength can only reach [+Generic], then it cannot reach the other two. The Case on the NP with [+Generic] feature will be incorporated into the verb and subsequently deleted. With the same verb, [+Specific] and [+Definite] NPs will -- must -- surface with -ko. If a verb's reach is limited to [+Specific], [+Generic] and [+Specific] NPs will have \emptyset while [+Definite] will have -ko and so on. These judgments are relative -- if the verb reaches [+Specific], for example, a [+Specific] NP with -ko is "unidiomatic" while a [+Generic] NP with -ko is nearly **ungrammatical**, and so forth. There may be verbs with \emptyset incorporating strength, unable to reach even [+Generic] NPs. There are also abstract NPs which, no matter what feature they have, always allow Case incorporation, irrespective of the strength/weakness of the verb. An incorporation **configuration** would look like:

23 [VP [VP NP t_i] [V K_i v]]

Note: (23) is from Sinha (1991) where **K** stands for Case

The Case incorporation rule is a preference rule for Hindi, that is, if it can apply then it must apply -- otherwise resulting in highly unacceptable though not totally **ungrammatical** sentences. It is a *movement rule* and must apply in the syntax. However, with regard to every transitive verb, it needs to be made explicit in the lexicon what the incorporating strength of that verb is. This seems to be an idiosyncratic property of the verb and needs to be learnt by a language learner.

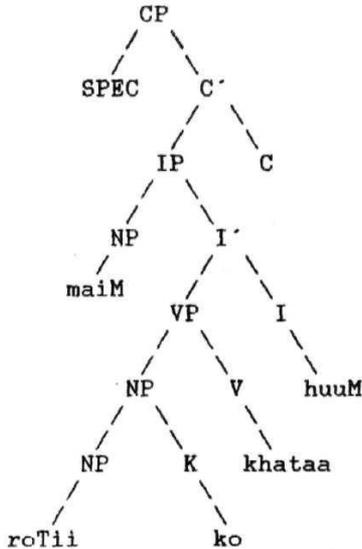
Incorporation is dealt with in great detail in the formal syntax tradition by Baker (1988). Essentially incorporation means syntactic movement of an X' category -- there are **examples** of Noun, Verb, and Preposition incorporation. According to Baker, all GF-changing processes are the result of movement of a lexical head (i.e. X') category - incorporating it into a higher **head**. **Being a movement rule, it is one instantiation of Move- α** . Thus it must satisfy all the conditions on movement viz. ECP (t must be properly governed), the theta-criterion (movement must be to a non-theta position) and **Subjacency**. Baker has revised the notion of theta-position -- it subsumes both "a position to which a **theta-role** is assigned" and "a position from which a **theta-role** is assigned". Thus, N, V, and P all occur in theta-positions at d-structure. But all adjunction positions are non-

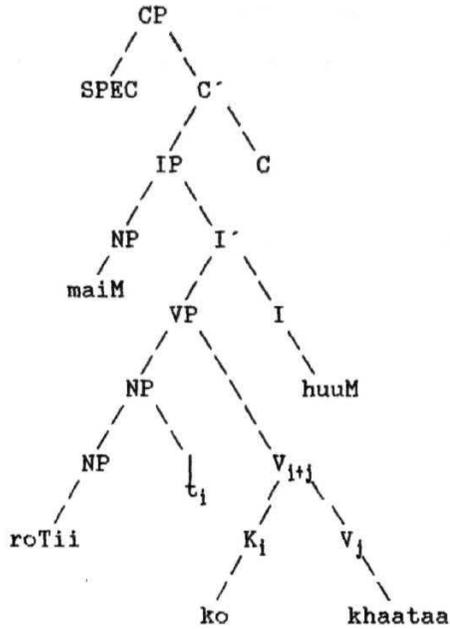
theta-positions, given the X'-theory (Jackendoff, 1977, Stowell, 1981). Therefore, if N, V, P are adjoined to an X' category, they will not be able to assign or receive a **theta-role from** that position. Baker shows that incorporation satisfies all the movement conditions.

An illustration of how incorporation works:

24aH maiM [pp roTii] khaataa huuM
 I bread eat AUX

24bH d-structure





Here, Case is assigned to the NP [roTii] at d-structure itself. Since [roTii] is [+Generic] and khaanaa is a verb that reaches all the three **features**, the Case is incorporated by it, that is, the X^{θ} category K adjoins the X^{θ} category V by **Move- α** . The movement of K obeys the major condition on such movement -- the **HMC** subcase of ECP. This s-structure goes into LF and the NP [roTii] is correctly interpreted as the direct object of the verb khaanaa. The Case **K** does not get any phonetic realization. In the PF, both K and its t are deleted.

The assumption is that -ko is assigned at d-structure. This gives us an option. In an expositoryly convenient naive formulation, we **may** say that either (i) it is deleted **in situ** or (ii) it

is deleted after incorporation. To put it more carefully in the context of the account that is emerging, either (i) the null Case option is exercised absolutely within the nominal, or (ii) the exercise of this option is relativized to the application of incorporation. Sinha argues that adopting (ii) has some advantages.

To ensure the proper distribution of **null-Case-marked** objects over surface structures, Sinha suggests a PF filter analogous to the old "doubly-filled **COMP**" filter. In the man [that [I saw t₁]] there is a "null operator" (a **WH-element** with no phonetic realization) in [SPEC, CP] which gives its index to the complementizer. This null WH-element is taken as the head of the relative clause and is coindexed with the NP which the relative clause modifies -- this index is given to the complementizer which then acts as a relative pronoun (as was claimed by traditional grammar). The null operator participates in the index-sharing by adjoining to that, an option not available to a phonetically realized WH-element (violation of the **doubly-filled COMP** filter). Sinha suggests using a similar mechanism in the case of -ko deletion.

Incorporation is subject to the following condition proposed by Baker: The indexation of a complex **X₀** category (created by incorporation) is the sum of the indices of its constituent **elements**. We can use the same convention for the **Comp** index sharing phenomenon and say that the complex C category that results from the adjunction of the null operator to the **complemen-**

tizer would bear the index of the null operator (as well as the index of the complementizer, if it has one).

Although all Baker's examples of incorporation are non-null, Sinha notes that, nothing in a theory that otherwise allows null elements prevents null Cases also from being incorporable. Sinha points out that the study of the doubly-filled **COMP** filter data suggests that, actually, the incorporation of a null element is the less marked case. Hindi sets a parameter -- it restricts the incorporation of Case into the verb to a null, i.e. phonetically empty K. In view of this, Sinha revises his "deletion" account to propose that either (i) the overt K element -ko or a phonetically empty K is assigned to the direct object at d-structure. Alternatively, (ii) Case is assigned to the direct object at d-structure, but it is phonetically realized only at s-structure, and if it is incorporated, it will not be phonetically realized. And, as noted earlier, Sinha argues for analysis (ii).

Barring a very small number, almost all the transitive verbs in Hindi are capable of incorporating the Accusative Case. So, it is the referential features of the NP which effectively decide in which **cases** incorporation does take place. Here is a quick survey of the **patterns**:

I Some transitive verbs can incorporate Case from

NP[+Definite]:-

paRhnaa, likhnaa, dhonaa

'read', 'write', 'wash'

25aH **maiM kitaab paRhtaa huuM**

[+Generic]

I-NOM book read

25bH **maiM** ne ek kitaab **paRhii** hai

[+Specific]

I ERG one book have-read

25cH *??maiM ne ek kitaab ko paRhaa hai

25dII maiM ne yah kitaab paRhii hai

[+Definite]

this

25eH ?maiM ne is kitaab ko paRhaa hai

II Some transitive verbs can incorporate from **NP[+Specific]**

dekhnaa, **puujnaa**

see'. 'worship'

III Some transitive verbs can incorporate from **NP[+Generic]: •**

pahcaanna

'recognize'

IV Some transitive verbs which do not incorporate **Case**:-

Jaannaa, **samajhnaa**

'know', 'understand'

V Abstract NPs always allow Case to be incorporated:-

paap dhonaa, sapnaa **dekhnaa**, caalaakii pahcaannaa, bhaashaa

'wash sins', 'see **dream**', 'recognize **cleverness**', 'know

Jaannaa, **kasam** khaanaa

language', 'take oath'

VI Names and **pronominals** never allow Case incorporation

To summarize the relevant points of **Sinha's** position: those **objects** for which incorporation fails to take place, i.e. where the NP is too strong or the verb is too weak, are **-ko** marked.

This account, while beginning to explain the general pattern of Accusative Case marking (**and** leaving open questions such as why names and pronominals pattern alike, which need to be addressed in future work), fails to predict the variability observed in (26H) below and similar sentences:

26H **maiM** patthar (ko) **toRtaa** huuM

[+Generic]

I stone (KO) break Pres

27H **maiM** ek patthar (ko) **toRuungaa**

C+Specific]

I a stone (KO) break-Fut

In these sentences, there seems, in actual usage, to be an option

about applying incorporation. Recall, however, that Sinha maintains that it is a rule that must **apply if it can**. Another point, more central to our concerns here, is that the obligatory occurrence of -kg in small clauses is not immediately explained by this account.

Our strategy will be to build on Sinha and find a **way** to address these **difficulties**. The variability of (26H) and (27H), we suggest, is the zone between the "always" for abstract NPs at (V) above and the "never" for names and **pronominals** at VI -- we crucially add [+Animate] NPs at, and we crucially subtract [**¬ Animate**] pronominals from (VI). Turning to the obligatory use of **ko** in small clauses, we propose an account based on Sinha's proposal that **null-Case- \bar{C} -marked** objects are possible only under incorporation. This correctly predicts that a V with a **small** clause complement, since it cannot incorporate from the **subject** of its complement (a head, thanks to the **HMC**, can only **incorporate** the head of its complement, and even "successive cyclic **incorporation**" would only give the V access to the predicate of its small clause complement), will fail to license null Case for the subject of its small clause, leaving -ko as the only option.

While we are not, strictly speaking, obliged to refine our machinery to make such an account work, the **MPLT** apparatus provides a convenient setting for the results we need. **And**, in any **case, our** goal is to **offer** an analysis feeding future explanatory work as transparently as possible. So we prefer to couch our treatment of small clauses in the idiom of MPLT.

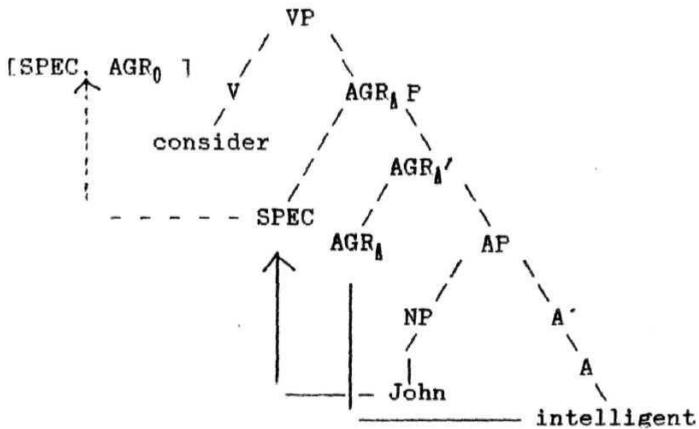
treatment of small clauses in the idiom of **MPLT**.

4.4 SOME APPROXIMATIONS

In this section we present three approximations to a full analysis -- an initial account in 4.4.1, a reworking of Sinha (1991) in 4.4.2 and some **animacy-related** moves in 4.4.3 which may serve to refine any analysis in this area.

4.4.1 The Minimalist framework of MPLT gives an interesting account of (English) small clauses which may serve as a point of departure. Consider the following structure:

31



In **MPLT**, **ECM** is considered to be a simple case of raising the subject of the small clause to [**SPEC**, **AGR₀**] (analogous to the standard raising to [**SPEC**, **AGR_s**] that we have encountered in earlier chapters) rather than truly "exceptional" Case-marking. In (28) above, raising of the NP "John" to [**SPEC**, **AGR₁**] and of the Adjective intelligent to **AGR₁** gives rise to the configuration required for SPEC-head agreement of the NP-Adjective pair *within* the predicate phrase. The resulting structure, as shown in (28), can be postulated for the small clause in (29):

29 I consider John intelligent (=1)

Now, the structure given in (28) can also be used for a sentence such as (30), where the AP is a complement of the verb **be**:

30 John is intelligent

The two constructions (29) and (30), then, may be explained in terms of a single structure with one difference: While the further **movement** of the NP **John** in (29) to [**SPEC**, **AGR₀**] to check for Accusative Case is procrastinated to LF, as indicated in (28) by means of the dotted line, in (30), the raising to [**SPEC**, **AGR_s**] to check for Nominative Case is in the overt syntax.

Note that, just as the movement of **John** in (28) from its base position to [**SPEC**, **AGR₁**] takes place in tandem with the head movement of intelligent from A to **AGR₁**, so also the further

raising of John in LF to the **matrix** [SPEC, **AGR₀**] is coupled with the LF incorporation of the **AGR₁/A** chain intelligent. **t**, via the V, into the **V-AGR₀**, consider, yielding the **complex** head consider-intelligent, with the trace of consider heading V and the trace of intelligent at A.

Assuming the basic **MPLT** structural **configuration** as given above, we now attempt to analyze the small clause construction that this chapter focuses on.

4.4.2 Keeping **Mahajan's** and **Sinha's** accounts in **mind**, along with the problems involved with each **proposal**, let us return to the small clauses in (16). We have (16) and **(18)** mentioned above, and (31), (32) to complete the paradigm. (For glosses see (26H), (27H) above.) Note that even in perfect **TAM** sentences a (16b) type small clause is out although both (31a and b) (like (17)a and b) are possible.

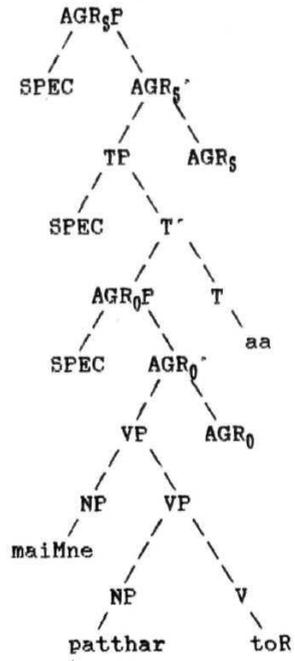
31aH **maiM** ne patthar ko toRaa

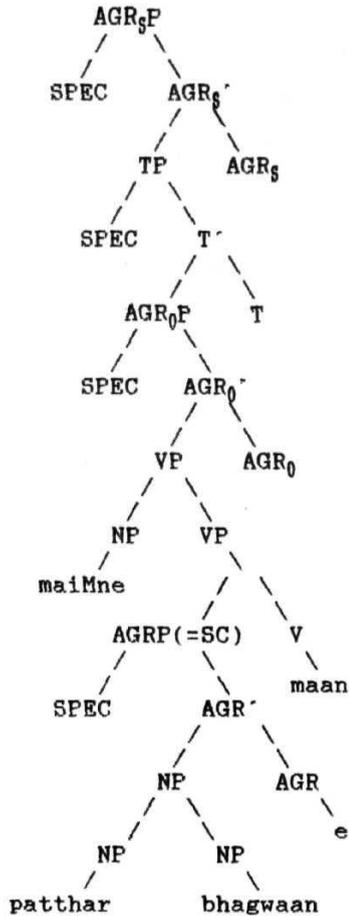
31bH **maiM** ne patthar toRaa

32aH maiM ne patthar ko bhagwaan **maanaa**

32bH * maiM ne patthar bhagwaan maanaa

As observed earlier, the contrast between (16) and **(18)** or between (31) and (32) is one of small clause vs non-small clause constructions. Some trees are in order here:





(33) and (34) are the structures for (31H) and (32H) respectively.

How do we account for the difference -- why do small clauses need a -ko and the non-small clauses have an option between -kp and null? And what does this have to do with the variability in (31H)?

The small clause in (33) forces its subject patthar to move first to its own [SPEC, AGR] and then to the matrix [SPEC, **AGR₀**] in order to receive Case, while the small clause's head AGR travels to the matrix V and then **AGR₀** driven by its own licensing **needs**. At no stage can the **K** of patthar be incorporated into the matrix verb **maan**, for it is not the head of the complement (or even the head of the predicate of the complement) of V. Consequently the mechanisms for null Case marking never swing into motion. This leaves the -ko Case, licensed at [SPEC, **AGR₀**], as the only choice.

To complete this account, which depends heavily on **Sinha's** work, we need to repair some gaps in his analysis. Given that **Sinha's** incorporation should either apply or not apply in any particular instance, why is it that a V can even optionally assign -ko to an NP? We shall take the position that this variable Case is sensitive to intrinsic nominal properties like **animacy** working in association with specificity. This can be observed in non-small clause constructions also such **as**:

- 35aG * **meM** ,10n beThelo joyo
I-ERG John sitting saw
- 35bG **meM** jOnne beThelo joyo
'I saw John sitting'
- 36aG meM vaat **maanii** ke ...
I-ERG saying believed that

36bG * meM vaatne maanii ke ...

As a first approximation, let us make some categorical observations here. In (36G), the NP in question clearly lacks the [**+animate**] feature; so the -kp option cannot be exercised. In (35G) the NP is animate; hence the -ko option must be exercised. The question is how to link these observations to our earlier statement that the V has a choice between assigning -ko and assigning null. Evidently, in (35) and (36) there is no real choice. We need to explain these determinate instances as well as the variable ones in our account of the ways in which **animacy**, in conjunction with other nominal **features**, co-determines the assignment of -ko to the NP in this position.

4.4.3 This way of posing the issue leads us naturally to a fresh engagement with **Mahajan's** analysis. In the context of his perfect/non-perfect paradigm, maiM ne laRkii dekhii should be an instance of specificity, **Mahajan** predicts. However, native speakers that I have consulted consistently interpret the sentence **non-specifically**, as against maiM ne laRkii ko dekhaa which does have a specific reading. The same results have been obtained for Gujarati. Thus the idea that null Case marked NPs associate with perfect **AGR** to yield a specific reading does not lead us to a descriptively adequate account. **Sinha's** proposal, linking null Case objects with properties of particular verb and noun types sponsoring incorporation, is at least consistent with the data, and may serve as the basis for our account. All we have to do now is plug the obvious holes in the story.

The most important gaps have to do with animacy. We have identified a conceptual gap (**Sinha's** failure to consider animacy in the architecture at all, despite the attention given to it in the traditional studies of Hindi) and two empirical gaps (**Sinha's** omission of animate nouns at (VI) in the **summary** above, and **Sinha's** inability to deal with variable Case marking for animate NPs). But there is also a formal gap in **Sinha's** account. He does not make K the head of the nominal structure, and thus technically violates the **HMC**. A few simple moves will suffice to deal with all these problems.

- 37 Assume that nominal individuation formally amounts to having an index on D, the head of the nominal phrase DP.
- 38 Animate pronouns strongly individuate on D, yielding D[+Specific] in the sense of Sinha.
- 39 Inanimate pronouns weakly individuate on D, yielding D[+Generic] in **Sinha's** sense; hence unstressable **it** in English, null Case objects **ya** "this", **vo** "that" in Hindi.
- 40 NPs with animate N have (and often exercise) the option of strongly individuating on D; names *must* do it.
- 41 NPs with abstract N never have this option, for reasons of (semantic, but perhaps in part language particular ?) principle.
- 42 D strength determines D-raising to V; presumably specific D cannot raise and generic D must raise if the V lets it (a very weak V, e.g. **sama.jh**, does not let it).

43 [+Definite] is involved with the **Q(uantifier) system** and can be ignored here without major **loss**,. **but** will have to be kept in view when one wants to do a full retake of Sinha.

It should be mentioned, for readers who really want to know all about the unsolved details in the domain, that Aspect also plays a part here: for some cases, perfect tenses seem to give [+specific] reading and an indefinite tense gives [-specific] reading, for example, us ne **kitaab paRhi** vs wah kltaab bectaa **hai**. But wah **kitaab paRh** rahaa **hai/thaa** is specific, so is ciTThi **likh** rahaa **hai/thaa**, indicating that progressive tenses are "definite" in some important sense, relevant to this side-track that we ignore.

Obviously the main outlines are clear, and matters that are not yet entirely understood can already be seen in definite contexts shaped by what is within the formal grasp of the account **offered here**.

4.5 CONCLUSION

Once again, this final section includes a summary of the chapter (4.5.1) and an opening up of a possible tie-up between the analysis offered here and that given in section 3.4.

4.5.1 We recapitulate briefly the main points of our discussion on small clauses. A review of the literature in 4.1.3, has made it clear that there is an interesting and ongoing debate about the categorial status of the small clause. For our purposes, we

have found [_{sc} NF XP] to be **sufficient** / **the** data presented here. Our interest, rather, lies in the problem of Accusative Case-roarking of the subject of the small clause that we have mentioned along with a description of H/G agreement pattern, in 4.2. In section 4.3 we looked at two major contributions to this issue, **Mahajan** (1990) in 4.3.1 and **Sinha** (1991) in 4.3.2. In **Mahajan's** case the conclusion that interests us is that only objects that are identified as specific but do not show agreement are **-ko** marked. We have noted a problem with this conclusion regarding specificity leading us to suggest that classifying the **-ko** in non-perfect sentences with a null Case in perfect sentences might be **unfruitful**. **Sinha's** account offers an alternative. Briefly, **Sinha's** crucial use of incorporation in the sense of Baker (1988) allows him to claim that those objects which do not incorporate -- for reasons of too "strong" an **NP** or too weak a "VP" -- are **-ko** marked. Incorporation, however, seems to be optionally applied in certain cases **as** we have noticed. The explanation that we have offered, in 4.4.2 and 4.4.3, is that the **-ko/∅** variability is on account of sensitivity to intrinsic nominal properties like **animacy** interacting with specificity. The moves presented in (37-43) at the end of section 4.4.3 are an **attempt** / **fill** in the gaps in Mahajan's and **Sinha's** accounts. (37-43) are themselves concise versions of the ideas behind the hypothesis suggested and need no **further summary**.

4.5.2 There is a possibility that the analysis offered here might in some way be adapted for the participial clauses of **ch. 3**, often considered to be similar to small clauses. One might want

to carry over the basic results of the participial section of **ch.**

3. There is only one problem to be faced by the reader who wants to fuse the basic results of our analysis of the (very small-clause-like) Participial construction with this chapter. The problem has to do with the existence of variable Case marking in **imaarat (ko) girt@ dekh@** 'see the building falling', in contrast to the unavailability of null Case in small clauses. One can solve that problem by permitting **girt@ dekh@** to become a verbal **complex** with a shared SPEC **AGR₀** to which **imaarat** moves, so that our reworking of **Sinha's** analysis applies. We leave these details for future work.

THE LEXICOGRAPHY OF **COMPLEMENT-SELECTING** VERBS**5.1 INTRODUCTION**

This chapter attempts a classification of Hindi (H) and **Gujarati** (G) verbs which take complement clauses. 5.1.1 sets the tone for the rest of the chapter and outlines its intentions. In 5.1.2 We discuss the usefulness of such an enterprise. 5.1.3 explains the motivation behind the choices made in the construction of the actual dictionary sample (section 5.4).

5.1.1. Forays into the applied aspects of linguistics are often given the status of a hobby. It is important, however, to bear in mind the significant methodological contribution of Karl Popper to twentieth century **science**. I **refer specifically** to the notion of falsification outlined in Popper (1977) etc. It is, of course, not within my means, nor within the scope of this work, to present a discourse on the theory of falsification here. I simply wish to note that assuming that such a notion underlies the logic of scientific discourse, one way of ensuring that a theory (of language, in our case) can be "checked" (again, in the Popperian sense) is to provide an applicable outlet for the constructs of that theory. With this, I move directly into a discussion of the enterprise itself.

5.1.2 The basic facts about the verbs are presented in the **form**

equivalences between Hindi and Gujarati as they are related languages, the user unfamiliar with the TL may find it difficult to actually construct a sentence that has a complement clause in it based solely on the information given in a normal dictionary entry. That is, if one wants to use one of these verbs that participate in complement clause structures in Hindi, for instance, and knows Gujarati, one would have to know more than just the corresponding Hindi words. It is useful for the SL speaker to know the kind of complement clause a particular **verb** takes in the SL and the relevant information about that verb in the TL. With this in mind, information for both languages, Hindi and Gujarati, is provided here.

5.1.3 The sample provided in section 5.4 is limited not only in size but also in terms of certain choices: keeping in mind that it is a *sample* and not an exhaustive research, the **classification** of the verbs has been simplified into a finite/non-finite distinction. That is, the different types of non-finite complement clauses discussed in chapter 3 have not been separately represented here. The material in chapter 3 provides sound syntactic grounds for this: (A) with the exception of participials, verbs of type (2) and (3) in our pattern which can select finite clauses can nearly always select **infinitivals**; (B) there are no verbs which select only participials (and no other non-finite clauses) as complements. Based on (A) and **(B)**, we arrive at a manageable sample by eliminating redundant information. Also, for expository purposes, I have used '**non-finite**' as a cover term for both, the actual **non-finites**, and the small clauses of ch.4.

Again, for expository reasons, verbs taking small clauses are merely indicated as SC in the sample, without providing actual **examples**.

5.2 VERB CLASSIFICATION

This section serves as a sort of a preface to the dictionary in section 5.4. In 5.2.1, we present the motivation behind the format chosen. 5.2.2 consists of the agreement patterns available for verbs in H/G. A typical entry is shown in 5.2.3.

5.2.1 Verbs which take complement clauses can be classified according to (a) the kind of complementizer that a particular verb takes and (b) the categorial and functional type of complementation that is available for each verb.

It is assumed here that Hindi and other closely related languages like Gujarati have just two predicate complementizers; finite and non-finite. The occurrence of these two complementizers is specified for each verb in the lexicon that follows. It has not been considered necessary, however, to present the verbs in separate groups of 'ki' 'kaa-naa', 'ke live' etc., verbs. Similarly, object NP and subject NP arguments are specified for each verb, although once again the verbs are not grouped according to their argument structures. Rather, they are presented in alphabetical order (**following** the **Hindi-Gu** jarati alphabet) in much the same way as entries are listed in a dictionary. Under each verb is included the necessary information that entries in a

bilingual dictionary would have. Thus, Hindi and Gujarati patterns of verb agreement and their relationship with subject Case marking are described separately below but are included in the entries only in cases where the two languages differ in their agreement behaviour.

5.2.2 Hindi and Gujarati have three types of verbs which show different agreement patterns. Type one verbs ((1) in the entries) occur in the sentence structure

(a) subj-DAT V_{neut} finite-clause
 sub j-DAT N-Poss-- $V_{non-fin}$ V_{neut}

ex G **ramaa** ne laagvu ke tame paachaa aavyaa
 H **ramaa** ko lagaa ki aap vaapas aa gaye
 'Rama felt that you returned'

ex G **ramaa** ne **tamaaru** javu nahi game
 H **ramaa** ko **aapkaa** jaanaa pasand **nahiM** aavegaa
 'Rama will not like your going'

For (1) verbs this pattern occurs in all tenses/aspects. Type two verbs ((2) in the entries) occur in the structure

(b) subj-ERG V_{neut} finite-clause
 sub j-ERG N Poss-- $V_{non-fin}$ V_{neut}

ex G **meM** vaamcu ke raajiiv gaandhii haaryaa

H **maiM** ne **paRhaa** ki raajiiv gaandhii haar gaye
 "I read that Rajiv Gandhi lost"

G raeM raajiiv gaandhii nu **haarvu chaapaamaa vaaMcvu**

H **maiM** ne raajiiv gaandhii kaa haarnaa akhbaar **meM**
paRhaa

`I read about Rajiv Gandhi's losing in the paper'

For (2) verbs, this pattern obtains in the perfective aspect.
 Type three verbs ((3) in the entries) occur in the structure

(c) **subj-NOM V_{agr}** finite-clause
subj-NOM N Poss--V_{non-fin} V_{agr}

ex G huM **DaruM** chuM ke tame aavSo

H maiM **Dartaa** huuM ki aap aayenge
 'I fear that you will come'

G huM **tamaaru** ahiMyaa thi caalii javu **icchu** chuM

H maiM aap kaa yahaam se **cale** jaanaa caahtaa huM
 'I desire your going from here'

For (3) verbs, this pattern obtains in all tenses/aspects. For
 (2) verbs, this pattern occurs in the nonperfect.

A detailed description of verb patterns of the kind to be
 found in the Oxford Advanced Learner's Dictionary of Current

English has not been attempted here, mainly because such a description is not within the scope of this dissertation, the chief objective of which is a comparative study of complement clauses in Hindi and **Gujarati**, as a step toward facilitating translation.

To summarize, the verbs in this chapter are specified for the kind of complementizer, the categorial and functional status of the complement structure, transitivity, agreement patterns (and consequently subject Case). Each entry, first in **Gujarati** and then in Hindi, is marked for transitivity followed by the agreement pattern number and the normal complement marker. The information about the complement structure is given alongside the entries which are provided with the translation and example **sentences**. An index of Hindi verbs is given at the end of the chapter so that the entries can be used **bidirectionally**. It may be noted that although care has been taken to make the list as **representative** as possible, it is not at all intended as a complete listing. Some of the rarely used verbs have been deliberately excluded and some, indeed many, have probably been unwittingly dropped.

5.2.3 A typical entry would thus have the following format

iovu t,(2);ACC;Obj NP: finite

meM₁ joyu₂ ke₃ roakaan paRyu₄

dekhnaa

roaiM ne₁ dekhaa₂ kig makaan₄ giraa₅

I₁ saw₂ that₃ the building₄ fell₅

Obj NP: non-finite

meM₁ makaan nu₂ paRvu₃ joyu₄

maiM ne₁ makaan kaa₂ girnaag dekhaa₄

I₁ saw₄ the building₂ falling_g

5.4 DICTIONARY

aTkaavvu t,(2);Acc;Obj NP: non-finite

meM₁ tamaaru₂ raajinaamu aapvu₃ aTkaavvu₄

roknaa

maiM ne₁ aapkaa₂ istiifaa denaa₃ rokaa₄

I₁ stopped₄ your₂ resigning₃

aRkaavvu (i)t,(2); Acc;Obj NP: non-finite

(no exact equivalent to Hindi)

chuunaa/chuu jaanaa

mujhe₁ uskaa₂ zorzorse ronaa₃ chuu gayaa₄

his/her₂ wailing₃ touched₄ me₁

ichhvuu t, (2); Acc; thii; Obj NP: finite

huM₁ ichhu chuM₂ ke₃ tame₄ paas thaa₅

caahtaa/icchaa karnaa

maiM₁ caahtaa huM₂ ki₃ aap₄ paas hoM₅

I₁ desire₂ that₃ you₄ pass₅

Obj NP: non-finite

huM₁ tamaaru₂ paas thavu₃ icchuu chuM₄

maiM₁ aapkaa₂ paas honaa₃ caahtaa huM₄

I₁ desire₄ your₂ passing₃

ujavvu

huM₁ tamaaru₂ fel thavu₃ ujviiS₄

manaana

maiM₁ aapkaa₂ fel honaa₃ manaaungaa₄

I₁ will-celebrate₄ your₂ failing₃

avkaarvu t, (2) ; Acc ; Obj NP: nnn-f ini te

jantaa₁ mantrii nu₂ manc par₃ aavvu₄ avkaaryu₅

svaagat karnaa

jantaa ne₁ roantrii ke₂ manc pe₃ aane kaa₄ svaagat kiyaa₅

The public₁ welcomed₅ the minister's₂ coming₄ on the stage₃

oLakhvu

t, (2);Acc; Obj NP: finite

sudhaa e₁ oLkhyu₂ ke₃ e₄ to eni potaani₅ beng hati₇

pahcaanaa

sudhaa ne₁ pahcaanaa₂ ki₃ vah₄ to uskii apni₅ bahing thi₇

Sudhaa₁ recognized₂ that₃ she₄ was₇ her₅ sister_g

Obj NP: non-finite

meM₁ taaru₂ niyat badalvu₃ oLkhyu₄

maiM ne₁ tumhaaraa₂ niyat badalnaa₃ pahcaanaa₄

I₁ recognized_g your₂ switching₄ your

kakalvu

i/t, (3), Obj NP: finite

chokro₁ kakalyo₂ ke₃ ene₄ choRine₅ koi nag jaaye₇

giRgiRaanaa

laRkaa₁ giRgiRaaya₂ ki₃ uske₄ choRkar₅ koi nag jaaye₇

The boy₁ implored₂ that₃ no one_g should leave₅ him₄ alone₅

kabulyu

t, (2), (3);Acc; Obj NP: finite.

SC

sonaar₁ kabulyo₂ ke₃ enaa thi₄ bhuul₅ thai hati_g

kabuul/3viikaar karnaa

sonaar ne₁ sviikaar kiya₂ ki₃ us se₄ bhuul₅ huii thi_g

The goldsmith₁ accepted₂ that₃ he₄ had made_g a mistake₅

Obj NP:non-finite

huM₁ tamaaru₂ praadhyaapak₃ thavu₄ kabulu chuM₅
roaiMj aapkaa₂ praadhyapak₃ honaa₄ sviikaar kartaa huM₅
I₁ agree₅ to your₂ becoming₄ the principle₃

kargarvu

t.(3);Obj NP:finite

cor₁ kargaryo₂ ke₃ eNe₄ corii₅ nohtig kari₅
minnat karnaa
cor ne₁ minnat kii₂ ki₃ corii₅ usne₄ nahiM₆ kii₅
The thief₁ implored₂ that₃ he₄ had not₆ stolen₅

kalpvu/kalpanaa karvu

t.(2);Gen NP:finite

maniSaaye₁ kalpnaa kari₂ ke₃ eno₄ bagiico₅ fuulo thi bharaai

kalpanaa karnaa

maniiSaa ne₁ kalpanaa kii₂ ki₃ uskaa₄ bagiicaa₅ phuuloM se
bhar gayaa₆
Manisha₁ imagined₂ that₃ her₄ garden₅ was full of flowers₆

kalaavu

t.(1);ACC;Obj NP:finite

ramaa ne₁ kalaayu₂ ke₃ vaat₄ aagaL₅ vadheg em nathi₇
samaih aanaa
ramaa ko₁ samajh aayaa₂ ki₃ baat₄ aage baRhne₆ vaali nahiiM₇
Rama₁ understood₂ that₃ the matter₄ will not₇ progress
further₅

Obj NP:non-finite

santoS ne₁ miiraanu₂ rameSne₃ dago devu₄ kaLyaaYu₅
santoS ko₁ miiraa ka₂ rameS ko₃ dagaa denaa₄ samajh aayaa₅
Santosh₁ understood₅ Meera's₂ deceiving₄ Ramesh₃

Subj NP:finite

em₁ kaLaayu che₂ ke₃ loko maa₄ joS₅ vadhi gayu che₆
aisaa₁ samajh meM aayaa hai₂ ki₃ logom kaa₄ joS₅ baDh gayaa
hai₆
It₁ has been understood₂ that₃ there is₇ increased_g
enthusiasm₅ in the public₄

kehyu

t, (2);Acc;ObjNP:finite

SC

meM₁ jOn ne₂ kahyu₃ ke₄ ame₅ pikcarg jovaa₇ javaanaa₈ hataag
kahnaa

maiM ne₁ jOn se₂ kahaa₃ ki₄ ham₅ pikcarg dekhne₇ jaane
vaale₈ theg
I₁ told₃ John₂ that₄ we₅ were_g going_g to see₇ a filtn_g

kehvaayu

i, (t), (2);Acc;Subj NP:finite

em₁ kehvaay che₂ ke₃ aurangzeb ne₄ sangiit₅ nohtu gamtu₆
kehnaa/kehlaanaa/kahaa jaanaa
(aisa)₁ kahaa jaataa hai₂ ki₃ aurangzeb ko₄ sangiit.₅
naapasand thaag

It is said₁ that₂ Aurangzeb₃ did not like₆ music₅

khaTakvu

t, (1) ;Acc;Obj NP:non-finite

mane₁ tamaru₂ ghaRi ghaRi₃ khoTu bolvu₄ khaTke che₅

khaTaknaa

mujhe₁ aapkaa₂ baar baar₃ jhuuTh bolnaa₄ khaTaktaa hai₅

Your₂ lying₄ again and again₃ hurts₅ me₁

khamyu

t, (2) ;Obj NP: non-finite

e₁ tamaru₂ javu₃ khami₄ nahi₅ Sakeg

sehanaa

vah₁ aapkaa₂ cale jaanaa₃ sah₄ nahiM₅ sakegaag

He₁ will₆ not₅ be able₆ to bear₄ your₂ going₃

kheMcyu

t. (a) ;Acc;Obj NP: non-finite

roane^ enu₂ duur₃ rehvu₄ kheMce che₅

KhiMcnaa

mujhe₁ uskaa₂ duur₃ rahnaa₄ khiMctaa hai₅

His₂ staying₄ far away₃ pulls₅ me₁ there₅

gaNvu

(i) , t, (2) ;Acc;Obj NP: non-finite

huM₁ aanand nu₂ cuuMTaavu₃ gaNto₄ nathi₅

ginnaa

maiM₁ aanand kaa₂ cunaa jaanaa₃ nahiM₄ gintaa huM₅

I₁ don't₅ count₄ Anand's₂ being elected₃

(following the order of Gujarat!)

gabhraavu

(1), t, (3); -thi/-se; Obj NP: finite

rameS₁ gabhraayo₂ ke₃ e₄ pariikSaamaa₅ naapaas thaSeg

ghabraanaa

rameS₁ ghabraayaa₂ ki₃ vah₄ pariikSaa meM₅ fel hogaag

Ramesh₁ feared₂ that₃ he₄ would fail₆ in the exam₅

gamyu

t, (i); Acc; Obj NP: non-finite

(also finite in Gujarati)

JOn ne₁ merii nu₂ peli₃ khursii par₄ besvug na gamyu₆

pas and aanaa/acchaa lagnaa

JOn ko₁ merii kaa₂ us₃ kursii par₄ baiThnaa₅ acchaa nahiiM

lagaag

John₁ did not like₅ Mary's₂ sitting₄ in that chair₃

garajvu

(i), t, (3); Obj NP: finite

raakSas₁ garajyo₂ ke₃ ene₄ bhuukh₅ laagi hatig

garajnaa

raakSas₁ garjaa₂ ki₃ use₄ bhuukhg lagi thiig

The giant₁ roared₂ that₃ he₄ was hungry₅

ghaRvu

(i);Subj NP:finite

em₁ ghaRyu₂ ke₃ andhaari raat maa₄ amit₅ bhuulo paRyo₆

gaRhnaa/honaa

yuM₁ huaa₂ ki₃ andherii raat meM₄ amit₅ raastaa bhuul gayaag

It₁ so happened₂ that₃ Amit₅ lost his way₆ on a dark night₄

cakaasvu

t, (2), Acc; Obj NP:finite

sudhaa e₁ cakaasyu₂ ke₃ Dabbaa maaM₄ kaiM nohtu₅

jaaMckarnaa

sudhaa ne₁ jaaMc kii₂ ki₃ Dibbe meM₄ kuch nahiM tha₅

Sudha₁ checked₂ that₃ there was nothing₅ in the box₄

caalvu

(i), Subj NP:non-finite

amaaru₁ ujavvu₂ haju₃ caale che₄

calnaa

hamaaraa₁ (khuSiyaaM) manaanaa₂ ab tak₃ cal rahaa hai₄

Our₁ celebrations₂ are still₃ going on₄

ciRaavu

(i), t, (3); -par; Obj NP:finite

gopaal₁ ciRaayo₂ ke₃ badhaaj₄ moRe thi₅ kem₆ aavyaa₇

ciRhnaa

gopaal₁ ciRhaa₂ ki₃ sab ke sab₄ der seg kyoM₆ aaye₇

Gopal₁ was angry₂ that₃ (whyg) everyone₄ came₆ late₅

JaaNvu

t, (2); Acc; Obj HP: finite

huM₁ jaaNu chuM₂ ke₃ tame₄ jaruur₅ aavSog

iaannaa

maiM₁ jaantaa huM₂ ki₃ aap₄ zaruur₅ aayengeg

I₁ know₂ that₃ you₄ will surely₅ came₆

Joyu

t, (2); Acc; Obj NP: finite

meM₁ joyu₂ ke₃ makaan₄ paRyu₅

dekhnaa

maiM ne₁ dekhaa₂ ki₃ makaan₄ giraa₅

I₁ saw₂ th at₃ the building₄ fell₅

Obj NP: non-finite

roeMj makaan nu₂ paRvuu₃ joyu₄

maiM ne₁ makaan kaa₂ girnaa₃ dekhaa₄

I₁ saw₄ the building₂ falling₃

Daryu

i, t, (3); -thi/se; Obj NP: finite

sunil₁ Daryo₂ ke₃ eni₄ Tikit₅ khovaayi to mathi gayig

Darnaa

sunil₁ Daraa₂ ki₃ uskaa₄ TikaT₅ kho to nahiM gayaag

Sunil₁ feared₂ that₃ hi₃₄ ticket₅ was lost₆

thayu

i; Subj NP: finite

evu thayu₁ ke₂ gaaRi₃ bagRi gayi₄

honaa

aisa huaa₁ ki₂ gaaRii₃ bigaR gayii₄
It happened₁ that₂ the car₃ broke down₄

dhaarvu t, (2); Acc; Obj NP: finite

chokraae₁ dhaaryu₂ ki₃ koi₄ ene₅ nohtu₄ jotu₆

socnaa/anumaan karnaa

laRke ne₁ socaa₂ ki₃ koi₄ usko₅ nahim₄ dekh rahaa thaag
The boy₁ thought₂ that₃ no one₄ was lookingg at him₅

naRvu t, (1) ; Acc; Obj NP: non-finite

mane₁ taaru₂ roj₃ raoRe thi₄ unghvu₅ naRe cheg

khaTaknaa/biic me aanaa

mujhe₁ tumhaaraa₂ roz₃ der se₄ sonaa₅ khaTaktaa haig
You₂ sleeping₅ late₄ daily₃ irks_g me₁

paTvu t(1), Acc; Obj NP: non-finite

mane₁ tamaaru₂ dalil karvu₃ paTyu₄

jaMcnaa

mujhe₁ aapkaa₂ daliil karnaa₃ jaMcaa₄
Your₂ arguing₃ appealed₄ to me₁

puchvu t, (2), Acc; Obj NP: finite

sumane₁ puchyu₂ ke₃ e₄ kai₅ basmaa₆ javaano hato₇

puuchnaa

suman ne₁ puuchaa₂ ki₃ vah₄ kaunsi₅ bas meM₆ jaane vaa:
thaa₇

Suman₁ asked₂ (that₃) which₄ bus₅ he₃ was going by₆

banyu

i, Subj NP: finite

em banyu₁ ke₂ ghare₃ koi nohtu₄

bannaa honaa

yuM huaa₁ ki₂ ghar meM₃ koi na thaa₄

It so happened₁ that₂ there was no one₄ at home₃

bolvu

i, t, (3); Obj NP: finite

e₁ jor thi₂ bolyo₃ ke₄ loko no₅ mat₆ judo che₇

bolnaa

vah₁ zor se₂ bolaa₃ ki₄ logoM kaa₅ mat₆ alag hai₇

He₁ said₃ loudly₂ that₄ the people's₅ opinion is different

bhuulvu

i, t, (3); Acc; Obj NP: finite

saritaa₁ bhuuli₂ ke₃ ene₄ aa₅ kaam₆ paN₇ karvaanu hatu₈

bhuulnaa

saritaa₁ bhuulii gayii₂ ki₃ use₄ yah₅ kaam₆ bhii₇ karna
thaag

Sarita₁ forgot₂ that₃ she₄ had to do₅ this₅ work₆ also₇

puuchnaa

suman ne₁ puuchaa₂ ki₃ vah₄ kaunsi₅ bas meM₆ jaane vaala
thaa₇

Suman₁ asked₂ (that₃) which₄ bus₅ he₃ was going by₆

banyu

i, Subj NP: finite

em banyu₁ ke₂ ghare₃ koi nohtu₄

bannaa honaa

yuM huaa₁ ki₂ ghar meM₃ koi na thaa₄

It so happened₁ that₂ there was no one₄ at home₃

bolyu

i, t, (3); Obj NP: finite

e₁ jor thi₂ bolyo₃ ke₄ loko no₅ mat₆ judo che₇

bolnaa

vah₁ zor se₂ bolaa₃ ki₄ logoM kaa₅ mat₆ alag hai₇

He₁ said₃ loudly₂ that₄ the people's₅ opinion₆ is different₇

bhuulvu

i, t; (3); Acc; Obj NP: finite

saritaa₁ bhuuli₂ ke₃ ene₄ aa₅ kaam₆ paN₇ karvaanu hatu₈

bhuulnaa

saritaa₁ bhuulii gayii₂ ki₃ use₄ yah₅ kaam₆ bhii₇ karnaa

thaag

Sarita₁ forgot₂ that₃ she₄ had to do₅ this₆ work₇ also₈

maanvu

t, (2); Acc: Obj NP: finite

SC

ramaa₁ maane che₂ ke₃ bhagwaan₄ kruur₅ nathig

maannaa

ramaa₁ mantii hai₂ ki₃ bhagvan₄ kruur₅ nahiim haiM₆

rama₁ believed₂ that₃ god₄ is notg cruel₅

Obj NP: non-finite

eNe₁ sumannu₂ javu₃ aakhare₄ maanyu₅

usne₁ sumankaa₂ jaanaa₃ aakhir₄ maan liyaa₅

She₁ finally₄ accepted₅ Suman's₂ going₃

manaavu

i; Subj NP: finite

em₁ manaay che₂ ke₃ maachimaar₄ Duubi gayo₅

maanaa iaanaa

aisaa₁ maanaa jaataa hai₂ ki₃ maveSi₄ Duub gayaa₅

It₁ is believed₂ that₃ the fisherman₄ drowned₅

laagvu

i; Subj NP: finite

joni ne₁ laage che₂ ke₃ varsaad₄ aa₅ vakhateg moRo₇ aavSeg

lagnaa

joni ko₁ lagtaa hai₂ ki₃ baariS₄ is₅ baarg der se₇ aayegi₈

Joanny₁ feels₂ that₃ the. rains₄ will beg late₇ this₅ time₆

i; Subj NP: finite

em₁ laage che₂ ke₃ varsaad₄ aa₅ vakhate₆ moRo₇ aavSeg
aisaa₁ lagtaa hai₂ ki₃ baariS₄ is₅ baarg der se₇ aayeggi
It₁ seems₂ that₃ the rains₄ will beg late₇ this₅ time₆

vaaMcyu t, (2);ACC;Obj NP: finite

meM₁ vaaMcyu₂ ke₃ raajiiiv gaandhii₄ haaryaa₅

paRhnaa

maiM ne₁ paRhnaa₂ ki₃ raajiiiv gaandhii₄ haare₅

I₁ read₂ that₃ Rajiv Gandhi₄ lost₅

rokvu t,(2);ACC;Obj NP:non-finite

tame₁ maaru₂ roj₃ moRu₄ unghvu₅ rokyu₆

roknaa

aap ne₁ meraa₂ har roz₃ der se₄ sonaa₅ rokaa₆

You₁ stopped_g my₂ daily₃ (habit of) sleeping₅ late₆

samaivu t, (3) ; ACC ; Ob j NP : finite

SG

niSaa₁ samjii₂ ke₃ maamlo₄ SuM₅ cheg

samaihnaa

niSaa₁ samajh gayii₂ ki₃ roaamlaa₄ kyaa₅ haig

Nisha₁ understood₂ (that₃) what₅ the matter₄ isg

Obj NP:non-finite

niSaa₁ tammaru₂ kehvu₃ samje che₄

nisaa₁ aapkaa₂ kehnaa₃ samajhtii hai₄

Nisha₁ understands₄ your₂ words₃ (what you say)

samjaavu

t, (2) ;ACC;Obj NP:finite

ramaa e₁ mane₂ samjhaavyu₃ ke₄ aam₅ karvaa maa₆ maaruj₇

nuksaan cheg

samihaanaa

ramaa ne₁ mujhe₂ samjhaayaa₃ ki₄ aisaa₅ karne me₆ meraa hi₇

nuksaan hai₈

Rama₁ explained₃ to me₂ that₄ doingg this₅ would harm₈

me alone₇

sehyu t, (2) ; ACC: Ob j NP: non-finite

e₁ tamaru₂ javu₃ sahi₄ mahiM₅ Sakeg

sehnaa

vah₁ aapkaa₂ jaanaa₃ sah₄ nahiM₅ sakegaag

He₁ will not₅ be able₆ to bear₄ your₂ going₃

INDEX OF H/G VERBS

The following is an index of **Hindi and Gujarati complement-selecting verbs**. The direction chosen here is **Hindi to Gujarati**. Note that the dictionary sample in 5.4 followed a **Gujarati to Hindi** direction.

HINDI	GUJARATI
acchaa lagnaa	gamvu
anubhav karnaa	maanvu
anubhav karnaa	kaLaavu
avhelnaa karnaa	gankaarvu
icchaa karnaa	iccmvu
uljhan meM honaa	munjhaavu
kabuul karnaa	kabulvu
kalpanaa karnaa	kalpvu
kahnaa	kehvu
koMcnaa	ribvu
khaTaknaa	khaTakvu ; naRvu
khiMcnaa	kheMcvu
khojnaa	Sodhvu
gaRhnaa	ghaRvu
garajnaa	garajvu
giRgiRaanaa	kakaLvu ; gaLgaLvu
ginnaa	gaNvu
ghabraanaa	gabhraavvu
calnaa	caalvu

caahnaa	icchvu
cubhnaa	khuMcvu
ciRhaanaa	ciRhavvu
ciRhnaa	ciRaavu
chaapnaa	chaapvu
chapaanaa	chapaavu
chapvaanaa	chapaavvu
chipaanaa	chupaavvu
chuunaa	aRkaavvu
jaamc karnaa	cakaasvu
jaamcnaa	tapaasvu
jaankaarii denaa	jaNaavvu
jaankaarii milnaa	jaNaavu
(jaane jaanaa)	
jaannaa	jaanvu
jamcnaa	paTvu
jalnaa	dajhaavu
DaaMtnaa	dhadhaRaavvu
Daraanaa	Daraavvu
Darnaa	Darvu
Dubaanaa	DubaaDvu
DhuunDhnaa	Sodhvu
dikhaanaa	dekhaaRvu
dikhnaa	dekhaavu
dekhnaa	jovu ; dekhvu
dhyaan karnaa	cintavvu
naapnaa	raaapvu

niScay karnaa

paanaa

pacaanaa

paRhnaa

pasand **aanaa**

puuchnaa

pehcaanaa

farmaanaa

baandhnaa

banna

bartaav karnaa

budbudaanaa

(baRbaRaanaa)

bolnaa

bharanaa

bhuulanaa

bhognaa

maangnaa

roaananaa

manaanaa

minnat karnaa

milnaa

yaad karnaa

rijhaanaa

roknaa

lagnaa

likhnaa

Sobhit honaa

Theravvu

paamvu

jaravvu

vaaMcvu

gamvu

puchvu

oLakhvu

farmaavvu

baandhvu

banvu

varatvu

babaRvu

bolvu

bharvu

bhulvu; visarvu

rnaaNvu

maangvu

raaanvu

ujavvu

kargarvu

maLvuvu

saambharvu; sainbhaarvu

rijhaavvu

aTkaavvu; rokvu

laagvu

lakhvu

Sobhvu

sajnaa

sataanaa

samajhnaa

samjhaanaa

siikhaanaa

siikhnaa

suucnaa karnaa

suucanaa dena

suujhnaa

sunaanaa

sunaii **denaa**

sunnaa

socnaa

svaagat karnaa

sviikaar karnaa

sajvu

sataavvu

samajvu

samjaavvu; kaLaavu

Sikhavvu; bhaNaavvu

Sikhvu

sucavvu

jaNaavvu

sujuvu

sambhLaavvu

sambhLaavu

saambhaLvu

cintavvu; vicaarvu

avkaarvu

kaLbulvu; svikaarvu

BIBLIOGRAPHY

- Abney, S. 1987. **The English Noun Phrase in its Sentential Aspect**. Ph.D. Diss. MIT, Cambridge. Mass.
- Bai, L. and **Misra, D.** (forthcoming). *Wh Question Formation in Hindi: An Experimental Study*.
- Baker, C.L. 1970. *Notes on the Description of English Questions: The Role of an Abstract Question Morpheme*. **FL** 6.197-219.
- Baker, **M.C.** 1985. **Incorporation: A Theory of Grammatical Function Changing**. Ph.D. Diss. MIT. Cambridge, Mass.
- . 1988. **Incorporation**. UP, Chicago.
- Bal, B.K. 1990. **COMP and Complementizers in Oriya and English**. Ph.D. Diss. C.I.E.F.L., Hyderabad.
- Banerji, S.** 1994. **Complex Predicates in Bangla**. M.Phil. Diss. JNU, New Delhi.
- Bayer, J. 1984. *Towards an Explanation of Certain That-t Phenomena: The COMP Node in Bavarian*. In W. de Geest and Y. Putseys (eds.) **Sentential Complementation**. Foris, Dordrecht.
- . 1990. **Directionality of Government and Logical Form: A Study of Focussing Particles and WH-Scope**. Ph.D. Diss. University of Konstantz, Germany.
- . 1993. *Finite Satzkomplemente in Bengali*. ms.
- . 1994. *On the Origin of Sentential Arguments in German and Bengali*. In H. Haider, S. Olsen, and S. Vikner (eds.). **Papers from the Comparative German Syntax Workshop**, Stuttgart.
- Belletti, A.** 1988. *Unaccusatives as Case Assigners*. **LI** 19:1.1-34.
- Bhattacharya, T.** 1994. *Long-Distance Agreement in Hindi*. ms.
- Borer, H. 1989. *Anaphoric AGR*. In O. Jaeggli and K. Safir (eds.). **The Null Subject Paradox**. Reidel, Dordrecht.
- Brandi, L. and **Cordin, P.** 1989. *Two Italian Dialects and the Null Subject Parameter*. In O. Jaeggli and K.J. Safir (eds.). **The Null Subject Parameter**. Kluwer Academic P. 111-142.

- Brandon, F.R. and Seki, L. 1981. A Note on COUP as a Universal. LI 12:4.659-665.
- Bresnan, J.** 1970. On **Complementizers**: Towards a Syntactic Theory of Complement Types. FL 6.297-321.
- . 1972. **Theory of Complementation in English Syntax**. Ph.D. Diss. MIT, Cambridge, Mass.
- . 1974. On the Position of Certain Clause-Particles in Phrase Structures. LI 5:4.614-619.
- Carlson, G.N. 1990. *Intuitions, Category and Structure: Comments on McDaniel and Cairns*. In L. Frazier and J. de Villiers (eds.). **Language Processing and Language Acquisition**. Kluwer Academic P. 327-334.
- Chomsky, N. 1981. **Lectures on Government and Binding**. Foris, Dordrecht:
- . 1986a. **Knowledge of Language: Its Nature, Origin and Use**. Praeger, New York.
- . 1986b. **Barriers**. MIT P., Cambridge, Mass.
- . 1989. *Some Notes on Economy of Derivation and Representation*. in I. Laka and A.K. Mahajan (eds.). MITWPL 10.43-74.
- . 1992. *A Minimalist Program for Linguistic Theory*. Repr. in Hate and Keyser (eds.). 1993. **The View from Building 20: Essays in Linguistics in Honor of Sylvain Bromberger**. MIT P., Cambridge, Mass.
- . 1994. *Bare Phrase Structure*. MIT Occasional Papers in Linguistics, No. 5. MIT P., Cambridge, Mass.
- , and Lasnik, H. 1977. *Filters and Control*. LI 8:3.425-504.
- , and Lasnik, H. 1991. *Principles and Parameters Theory*. in J. Jacobs, A. van Stechow, W. Sternefeld, and T. Vennemann (eds.). 1993. **Syntax: An International Handbook on Contemporary Research**. de Gruyter, Berlin. 506-569.
- Dasgupta, P. 1980. **Questions and Relatives and Complement Clauses in Bangla Grammar**. Ph.D. Diss. New York University, NY.

- . 1984. *Bangla **Emphasizers** and **Anchors***. **IL**: 45.102-117.
1989. **Projective** Syntax: Theory and Applications.
D.C.P.G.R.I., Pune.
- . 1990a. *The Ubiquitous **Comp***. **ms**.
- . 1990b. *Finiteness*. **ras**.
- . 1994. *Verbless and Nonfinite Clauses in Bangla*. **P1LC Journal of Dravidic Studies** 4.157-167.
- . (In Press). *Remarks on Subjunctivity*. In S.K. Verma and D. Singh (eds.). **R.N. Srivastav Commemoration Volume**.
- . and **Bhattacharya**, T. 1994. *Classifiers and the Bangla DP*. In A. Davison and **F.M. Smith** (eds.) **Papers from the Fifteenth SALA Round Table Conference**, 1993. South Asian Studies Program, University of Iowa, Iowa. **59-69**.
- Davison, A. 1988. *Operator Binding, Gaps, and Binders*. **Linguistics** 26.181-214.
- . 1989. *The Structure of CP, Finiteness and Directionality of Government*. Paper presented at LSA meeting.
- . 1991. *Case Marking and Finite **Clauses***. **ms**.
- . 1992. *Lexical Projection, Case and Clause Adjunction: Another View of 'Case Resistance'*. **ms**.
- Dwivedi, V.D. 1994. **Syntactic Dependencies and Relative Phrases in Hindi**. Ph.D. Diss. University of Mass., **Amherst**.
- Eilfort**, W.H. 1986. *Non-Finite Clauses in Creoles*. In V. Niki-foudou, M. **Vanclay**, N. **Niepokij** and D. Feder. **Proceedings of the Twelfth Annual Meeting of the Berkeley Linguistic Society**. **Feb**, 15 - 17, 1986. Berkeley Linguistic Society, University of California, Berkeley. 84-107.
- Emonds**, J.E. 1976. **A Transformational Approach to English Syntax**. Academic P., New York.
- Guasti**, M. 1993. **Causative and Perception Verbs: A Comparative Study**. Rosenberg and **Sellier**, Torino.

- Gurtu, M. 1985. *Anaphoric Relations in Hindi and English*. Ph.D. Diss. **CIEFL**, Hyderabad.
- Guru. K.P. 1920. **Hindi Vyakaran**. Nagari Prachrarini Sabha, **Kashi**.
- Higginbotham, J.** 1980. *Pronouns and Bound Variables*. **LI** 11.697-708.
- . 1983. *The Logic of Perceptual Reports: An Extensional Alternative to Situation Semantics*. **J of Philosophy** 80.100-127.
- Hock, H. 1989. *Conjoined We Stand: Theoretical Implications of Sanskrit Relative Structures*. **Studies in the Linguistic Sciences** 19:1.93-126.
- Hoekstra, T. 1983. *The Distribution of Sentential Complements*. In H. Bennis and W.U.S. van Lessen Kloeke (eds.). **Linguistics in the Netherlands**. **Foris**, Dordrecht. 93-103.
- . 1984. **Transitivity: Grammatical Relations in Government Binding Theory**. **Foris**, Dordrecht.
- . 1987. *Extrapositie en SOV*. **Tabu** 17.133-142.
- Hong, Y-Y. 1989. **The Empty Category Principle: Antecedent Government**. **IULC**, Bloomington.
- Horn, G. 1975. *On the Nonsentential Nature of Poss-Ing Construction*. **LI** 1:4.
- Huang, C.-T.J. 1987. *Reconstruction and the Structure of VP: Some Theoretical Consequences*. **LI** 24:1.103-138.
- . 1990. *A Note on Reconstruction and VP Movement*. **ms**.
- . 1992. (Publication details unavailable at the time of submission.)
- Jackendoff, R. S. 1977. **Semantic Interpretation in Generative Grammar**. MIT P., Cambridge, Mass.
- Jain, J.P. 1975. **Some Aspects of the Hindi Complement System**. Ph.D. Diss. University of California, Berkeley.
- Jespersen, O. 1961. (first published in 1940). **A Modern English**

- Kachru, Y. 1980. **Aspects of Hindi Grammar.** University of Illinois P., Illinois.
- Kayne, R.S.** 1981. *Binding, Quantifiers, Clitics and Control.* in F. Heny (ed.). **Binding and Filtering.** MIT P., Cambridge, Mass.
- . 1984. **Connectedness and Binary Branching.** Foris, Dordrecht.
- . 1985. *Principles of Particle Constructions.* In J. Guéron, H.G. Obenauer and J-Y. Pollock (eds.) **Grammatical Representation.** Foris, Dordrecht.
- . 1991. *Romance Clitics. Verb Movement and PRO.* LI 22:4.647-686.
- . 1993. *The Antisymmetry of Syntax.* ras. CUNY. New York. Published in 1994 as **LI Monograph 25.** MIT P., Cambridge, Mass.
- Kellog, S.H.** 1875/1972. **A Grammar of the Hindi Language.** Oriental Books Reprint Corp.. New Delhi.
- Lefevbre, C. 1982. *Cases of Lexical Complementizers in Cuzco Quechua and the Theory of COMP.* JLR 1.2.258-281.
- Mahajan 1990. **The A/A-Bar Distinction and Movement Theories.** Ph.D. Diss. MIT, Cambridge, Mass.
- Mair, C.** 1990. **Infinitival Complement Clauses in English: A Study of Syntax in Discourse.** CUP, Cambridge.
- Manzini, R.** 1983. *On Control and Control Theory.* LI 14.421-446.
- Martin, R. 1992. *On the Distribution and Case Features of PRO.* ms. University of Connecticut.
- McDaniel, D. & Cairns, H.** 1990. *The Processing and Acquisition of Control Structures by Young Children.* in L. Frazier and J. de Villiers (eds.). **Language Processing and Language Acquisition.** Kluwer Academic P. 313-326.
- McGregor, R.S. 1972/1977. **Outline of Hindi Grammar.** OUP, New Delhi.

- Miyagawa, S. 1991. *Scrambling and Case Realization*. IDS. MIT, Cambridge, Mass.
- _____. 1993. *Case Checking and Minimal Link Condition*. In **MITWPL** 19.213-254.
- Mohanan, K.P. 1985. *Remarks on Control and Control Theory*. **LI** 16:4.637-648.
- Murasugi, K.G. 1992. *Crossing and Nesting Paths*. Ph.D. Diss. MIT. Cambridge, Mass.
- Platzack, C. 1986. *COMP. INFL and Germanic Word Order*. in L. Hellan and K.K. Christensen (eds.) **Topics in Scandinavian Syntax**. Reidel, Dordrecht. 185-234.
- Pollock, J-Y. 1989. *Verb-movement, Universal Grammar and the Structure of IP*. **LI** 20:3.365-424.
- Popper, K. 1957/1977. *Logic of Scientific Discovery*. Hutchinson, London.
- Porizka, V. 1963. **Hindstina: Hindi Language Course**. Statni Pedagogicke Nakladatelstvi, Prague.
- Quirk, R., Greenbaum, S., et. al. 1973. **A Grammar of Contemporary English**. London.
- Raposo, E. 1987. *Case Theory and INFL-to-Comp: The Inflected Infinitive in European Portuguese*. **LI** 18:1.85-109.
- Reinhart, T. 1981. *A Second COMP Position*. In A. Belletti, L. Brandi and L. Rizzi (eds.) **Theory of Markedness in Generative Grammar**. Scuola Normale Superiore, Pisa. 517-557.
- Reuland, E. 1983. *Governing-Ing*. **LI** 14:1.101-136.
- Riddle, E. 1975. *Some Pragmatic Conditions on Complementizer Choice*. In **Papers from the Eleventh Regional Meeting of the Chicago Linguistic Society**. CLS, Chicago. 467-474.
- Ritter, E. 1991. *Evidence for Number as a Nominal Head*. Paper read at GLOW. University of Leiden.
- Rizzi, L. 1990. **Relativized Minimality**. Cambridge, MIT P., Cambridge, Mass.

- Rosenbaum, P.S. 1967. *The Grammar of English Predicate Complement Constructions*. MIT Research Monograph Ho. 47.
- Ross, J.R. 1967. *Constraints on Variables in Syntax*. Ph.D. Diss. MIT, Cambridge, Mass.
- . 1973. *Nouniness*. In O. Fujimura (ed.). *Three Dimensions of Linguistic Theory*. TEC Company, Japan.
- Rudanko, 1988. *Complementation and Case Grammar*. State University of New York P., Albany.
- Rouveret, A. 1991. *Functional Categories and Agreement*. TLR 8.353-387.
- Schachter, P. 1976. *A Nontransformational Account of Gerundive Nominals in English*. LI 7:2.205-241.
- Shah, A. 1988. *A Study of Anaphoric Binding in Gujarati*. M.Phil. Diss. Deccan College, Pune.
- Singh, J. 1993. *Case and Agreement in Hindi: A GB Approach*. Ph.D. Diss. University of York.
- Singh, U.N. 1980. *'bole': An Unresolved Problem in Bengali Syntax*. IL 41.188-195.
- Sinha, S.K. 1991. *NP-movement in Hindi and English*. Ph.D. Diss. C.I.E.F.L., Hyderabad.
- Srivastav, V. 1991a. *WH Dependencies in Hindi and the Theory of Grammar*. Ph.D. Diss. Cornell University.
- . 1991b. *The Syntax and Semantics of • Correlatives*. NLLT 9.637-686.
- Stowell, T. 1981. *Origins of Phrase Structure*. Ph.D. Diss. MIT, Cambridge, Mass.
- . 1983. *Subjects across Categories*. TLR 2.285-312.
- . 1989. *Raising in Irish and the Projection Principle*. HLLT 7.317-359.

Subbarao, K.V. 1984. **Complementation in Hindi Syntax.** Academic Publications, New Delhi.

Terzi, A. 1992. **PRO in Final Clauses: A Study of the Inflectional Heads of the Balkan Language.** Ph.D. Diss. City University of New York, New York.

Valois, D. 1990. *The Internal Syntax of DP and Adjective Placement in French and English.* **NELS** 21.367-381.

Wali, K. 1989. *S'-Deletion in **Believe** clauses: Evidence from Hindi and **Marathi**.* **IL** 50.75-94.

Watanabe, A. 1993a. **AGR-Based Case Theory and its Interaction with the A-Bar System.** Ph.D. Diss. MIT, Cambridge, Mass.

———. 1993b. *The Notion of Finite-Clauses in **AGR-based** Case Theory.* **MITWP** 18.

Webelhuth, G. 1989. **Syntactic Saturation Phenomena and the Modern Germanic Language.** Ph.D. Diss. University of Mass., Amherst.

1992. **Principles and Parameters of Syntactic Saturation.** OUP. Oxford.

Williams, E. 1980. *Predication.* **LI** 11.203-238.

———. 1983. *Against Small Clauses.* **LI** 14.287-308.

———. (Forthcoming). **Thematic Structure in Syntax.** MIT P., Cambridge, Mass.

Williams, S.J. 1980. **A Welsh Grammar.** University of Wales P.

Xu, L. 1985/86. *Towards a Lexical-Thematic Theory of Control* **ILR** 5:4.345-376.