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 Modality) 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 aanaa. 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 [[khaaii meM girne] se] bacaayaa Mina-ERG Sharma-ji ACC ditch in fall-INF from saved
4bH miinaa ne dekhaa [ki [Sarmaajii khaaii meM gire] Mina-ERG saw that Sharma-ji ditch in fell
4cH * khaaii meM girne (se)
4dH Sarmaajii khaaii 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 comple-
ment 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 infini-
tivals 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):
Whether such a classification holds for Hindi and Gujarati non-finite complement clauses is a question taken up in 3.2 and 3.3\textsuperscript{1}. 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 \textit{AGR});

\textsuperscript{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 gamtuM
   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 [jOnke 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 girte] 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.
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

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"
(2) "PRO-ING"
(3) "POSS-ING"
(4) "ING-OF"

(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. contrast with (POSS)-ing.
14b I am concerned about John's being so lazy
14c The king ordered the proclamation to be read
14d I should like very much for you to reconsider your refusal
14e I like him coming home happy and relaxed

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):
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 -nāa 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. 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 un governed 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 -nāa. Suppose we postpone the question of committing ourselves to a DP analysis and simply say that. nāa 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 nahīM
   I-DAT s/he-GEN lie speak-INF at all like not

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

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):

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

20H raujhe [jOnkaa cillaanaa] acchaa 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 jOn moves to [SPEC, AGRP] and checks for Case against the AGR head which, being gerundial, i.e. containing -aa (technically, the -n.
of -nāa 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) ḡon checks for Case against AGR₃, as we have mentioned. The v-features of the V are checked at AGRg by head-movement via (adjunction to) the intervening head T, to avoid an HMC violation. Now, the feature content of the AGRg allows the NP ḡon 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
(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 jOn kaa ghokaa 'John's horse').

The parallel between Case assignment of gerundials and NPs

85
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 ungoverned, thus allowing a PRO subject there:

\[ 25H \text{ maiMne [PRO ciTThi likhnaa] sviikaar kiyaa} \]
\[ \text{I-ERG letter write-GER agreed} \]

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):

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 jOn 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]

Yesterday'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_k 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 IOn 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 **CØ**, 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 **Q** 'of, -**hon**- is the intervening element; the full paradigm is as follows:

<table>
<thead>
<tr>
<th>Pers.</th>
<th>Sg.</th>
<th>Pl.</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>ohonof</td>
<td>ohonom</td>
</tr>
<tr>
<td>II</td>
<td>ohonct</td>
<td>ohonoch</td>
</tr>
<tr>
<td>III</td>
<td>ohono(m)</td>
<td>ohonynt</td>
</tr>
<tr>
<td>IV</td>
<td>ohoni(f)</td>
<td></td>
</tr>
</tbody>
</table>

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 0. In (32) above, then, -dd- is a phonetic realization of this F.

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 ... Vø [CP Prt+Vø [IP pro/lexical NP t₁ ...]]
35b ... Vø [CP Comp [IP pro/lexical NP Vø ...]]
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 C¹ -- 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 AGRp, 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 AGRj 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. Inon, 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 $AGR^1$; (B) The status of the gerundial construction, which we claim is a DP headed by a D and containing a [+N] $AGR_5 \text{f}$. 

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, -\textit{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 -\textit{naa} in gerund clauses is generated in a nominal \textit{AGR}. In passages where we take a closer look at the matter, we take the stand that the H/G gerundial -\textit{naa} is a [-finite] verb marker (see footnote 1), generated in [+N] \textit{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:

\textbf{7H} maiM ne us ko [vaapas jaane] ke liye/se kahaa/rokaa
\begin{itemize}
\item I \ ERG s/he DAT return go-NE for/from said/stopped
\end{itemize}
In this case, unlike the gerunds of section 3.2, it is illuminat-
ing to attempt a rigorous comparison with the prepositional for-
type infinitival constructions of English.

Traditionally, English for is considered to have two inter-
pretations, as a complementizer or as a preposition. The comple-
mentizer 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 constitu-
ent 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. Aa 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 sujit se baat karna ‘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 jOn ne merii ko vaapas jaane se rokaa ‘John prevented Mary from going back’, or an adjunct clause, as in jOn merii ke aane se khuS hu aa ‘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, **vaapas laane** has a **PRO** subject which **sa** cannot touch (**merii 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 post- positional 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 [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 ungoverned, 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 belief-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.

... 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 [§ 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 liye '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 baksaa 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.

(42a) *hammad dono is bak.se ke liye jhagar paRe*
we-NOM both this box-OBL for fight Aux

(42a) *ame banne aa camcaa maaTe laRa paRyaa*
we-NOM both this spoon-OBL for fight Aux

'We (two) fought for (=over) this box/spoon'.

(43b) *maim ne bakse se/meM caabhhii nikaali/rakkhi*
I ERG box-OBL with/in key removed/put

(43b) *meM camcaa thi/maaM tel kaayhyu/MnuukyuM*
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 liv* 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 AGR₅). This oblique Case percolates to the head AGR₅, which thus becomes Oblique and spells out as ə 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:

\[7H \text{ maiM ne [us ko [CP [AGR vaapas jaane] ke liiye] ] kahaa}\]
In this case, it is clear from the presence of a lexical complementizer that the \textit{AGRP} must be dominated by a CP. Let us assume the more detailed structure given in (44) for (7H) as a point of departure:

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 \textit{AGR$_{5}$}, following the standard procedures in Chomsky (1992). The V moves, via T, to \textit{AGR$_{5}$} 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 roust 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\_1 [e\_1 ronaa] Suru kiyaa

6H mujhe\_1 [e\_/j Tahalnaa] pasand hai

47H [e\textsubscript{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:

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 \( [\text{CP}_e \ [\text{IP}_{\text{PRO}} \text{ to go home}]] \)
52b *John tried \( [\text{CP}_e \ [\text{IP}_{\text{Mary}} \text{ to go home}]] \)
53a *John believed \( [\text{IP}_{\text{PRO}} \text{ to have gone home}] \)
53b John believed \( [\text{IP}_{\text{Mary}} \text{ to have gone home}] \)

Since \text{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 \text{complementizers} for such control structures (Kayne (1984)). Consider the following:

54a Je lui \( \text{ai} \) dit [de \text{PRO} partir]
54b Gli ho detto [di \text{PRO} partire]
   `I told him to leave'

This was a problem in LGB and Kayne (1984) stipulated that \text{complementizers} in French and Italian do not count as governors. Kayne (1991) claims that these are not \( C^g \) . . . 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 characterised 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 \[ \text{CP WH-phrase} \quad \text{CP Topic} \]

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 $C^\phi$ 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 $T^\phi$ lacking a [+T] feature that is immediately selected by $C^\phi$. 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:

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

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, AGRg P] to be in touch with the [-Tense] T after the T moves to AGRg, forming the node $T+AGR_g$. The verb moves to AGRg 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)
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 that the verb has the -nāa ending of the gerundial.
The typical infinitival complement has a (Z or overt) complementizer which would be expected to assign oblique Case, turning this -nəa into -nə. Can it really be an infinitival, then?

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

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

59a H məM [ghar jaanaa] caahtaa huuM
59b H məM ne LcitàThii likhnaa] sviikaar kiyya

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 policemen₁ stopped [PRO₁/arbi smoking after midnight]

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

61 The policemen₁ ceased [PRO₁/arbi 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 nej PRO_\textit{i/arb} raat ko dhuumrapaen karnaa band kiyaa
63H poliis nej PRO_\textit{i/arb} raat ko dhuumrapaen karnaa rokaa
64H poliis nej PRO_\textit{i/arb} raat ko haaive par 50 km/hr se adhik raftaar se gaarii calaanaa band kiya/rokaa (PRO_\textit{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\textsubscript{1} 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 [a 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-ing 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 partida 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 *infinitival* 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 *agrammatic* -ization. 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 \textit{jump} over the fence]
68 Cookie Monster touches Grover [after PRO \textit{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:

\[ \text{fi9 } [s \text{ [Cookie Monster tells Grover]} [s \text{ PRO to jump over the fence}]] \]
\[ \text{70 } [s \text{ fCookie Monster touches Grover} \text{ after } [s \text{ PRO jumping over} ...] \]
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 -\textit{naa} can be obliquely marked (and changed to -\textit{ne}) by a null (Z) or overt postposition in C. The oblique form (Hindi -\textit{ne}) is similar to the oblique form of nouns in H/G -- Hindi \textit{beTaa/beTe} 'son', Gujarati \textit{darvaatodarvaataa} '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 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 \textit{ERG John GEN alright become-GER-GEN} prayer \textit{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 baie 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 *Somaloona 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 kOra 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 Somaloona hoeche
you-GEN criticism has-happened
*tomake S0malona 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/ii) 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 $k_\ominus$ as an amalgam of the functional head $k$ under C (but of nominal character, by hypothesis) and a new functional head $\ominus$ under a higher AGR node, call it $\textit{AGR}_C$. It is this $\textit{AGR}_C$, 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 Sujiter 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 *suit 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

¹Needless to say, Gerunds in Bangla can have a genitive subject:
(i) oMr aaSaar kono S0mbhabona 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
   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 jiitnaa 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 \([_{\text{IP}} \text{Mary}_1 \text{ to } _{\text{VP}} \text{t}_1 \text{ have gone home } ]\)

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 \(\text{AGR}_0\) P at LF in order to get structural Case checked, deriving the following LF representation:

85 John \([_{\text{AGR}_0 \text{P}} \text{Mary}_1 \text{ believed}_k \text{ AGR}_0\text{P} \text{ [VP } \text{t}_k \text{ [_{\text{IP}} \text{fcj to } _{\text{VP}} \text{t}_1 \text{ have gone home } ]]}]]\)

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 to [VP t to go home ]]]

The SPEC of IP where ttarx 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 $T^\emptyset$ in ECM clauses is different from that of the control clauses like John tried PRO to go home. Specifically, he claims that $T^\emptyset$ 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 $C^\emptyset$ 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 $T_{ECM/raising}$ 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 $C^\emptyset$. 141
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 AGRg --> C 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 AGRg to C if there is no Case checking baking place at AGRgP. 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) \( T_{\text{ECH/raising}} \) 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 \( T_{\text{ECH}} \) has weak V-features (as opposed to \( T_{\text{Control}} \) which has strong V-features) but still ECM complements are AGRg Ps. Watanabe looks at Icelandic sentences of the following type:

89a Maria lofadi [ ad lesa ekki bokina]
Mary promised read not the-book
(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 $T_{\text{Control}}$ has a strong V-feature while $T_{\text{ECM}}$ 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/parait (*de) etre parti

'John seems/appears to have left'

For Kayne these complementizers are $C'$ and they never appear in subject to subject raising cases. Platzak (1986), following Kayne (1984), analyzed the Icelandic infinitival marker ad. as a complementer 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 $\text{AGR}_{\delta}$ Ps. This is crucial for the modified Case theory that Watanabe (1993) con-
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 $AGR_0$ 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/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 main 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-AGR₀ P, as is done in 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-AGR₀ P for Accusative Case. In our proposal, ECM is a property of the tense in DP, in this case CaECM which is read off as Accusative Case. We claim that there is something verbal about CaECM 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 AGR\text{b} has to move to Ca. This is needed because as we said earlier, there is a connection between the \text{-te} ending and \textbf{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, AGRp head moves to Ca to establish this connection between \textit{ko} and \textit{le}.

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 \underline{kaa-naa} gerundial form and is an example of a \textbf{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 $C_{ag}^{ecm}$ is weaker than $C_{a|j}^{ecm}$ -- for purely theory internal reasons ECM verbs with genitive subject can perhaps be made to select $C_{a|j}^{ecm}$, which is even weaker than $C_{a|j}^{ecm}$ -- 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 lan guages 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 huii 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... 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 AGRp as follows:
This checking would create a feature \( F_{agr} \) at /AGR\_ 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 is an overt Case marker like \( ko \) following the object, the following pattern obtains:

9H maiM ne [PRO imaanat 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, \textit{n}aa is not analysed here.

4. A number of studies dealing with the English -\textit{ing} have been reviewed here, chiefly Reuland (1983) and Abney (1987). Thier suggestions, however, are found to be unsuitable for the H/G -\textit{n}aa. In this work we have claimed, based on evidence from both Hindi and Gujarati, that -\textit{n}aa 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. We have looked at four varieties of \textit{infinitival} 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.