ADJUNCT CONTROL IN TELUGU AND ASSAMESE

By

YOUSSEF A. HADDAD

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To the queen and princess of my heart
To my wife Soraya and our daughter Elena

بحبكن كتير!
Yo las adoro tanto!

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LIST OF ABBREVIATIONS

*	unacceptable/ungrammatical
??	degraded
✓	acceptable/grammatical (only used in contrast with * or ??)
1	1st person
3	3rd person
ABS	absolutive
ACC	accusative
CL	classifier
CNP	conjunctive participle
DAT	dative
EMPH	emphatic
EXP NOM	experiential nominative
F	Feminine
GEN	genitive
GRND	gerund
HON	honorific
INF	infinitive
LOC	locative
M	Masculine
N	neutral
NEG	negative
NOM	nominative

P	plural
pro_{EXP}	null expletive
S	singular

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Youssef A. Haddad

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My study explores Adjunct Control in two South Asian languages, Telugu (Dravidian) and Assamese (Indo-Aryan), within the Minimalist Program of syntactic theory. Adjunct Control is a relation of obligatory co-referentiality between two subjects, one in the matrix clause and one in an adjunct/subordinate clause of the same structure. Telugu and Assamese have non-finite Conjunctive Participle (CNP) clauses that function as adjuncts. Both languages show evidence of Adjunct Control into CNP clauses.

Three types of Adjunct Control are examined. These are Forward Control, in which only the matrix subject is pronounced; Backward Control, in which only the subordinate subject is pronounced; and Copy Control, in which case both subjects are pronounced. Telugu licenses all three types of Adjunct Control, while Assamese licenses only Forward and Copy Control. Sentences (1-3) are examples from Telugu.

(1) Forward Control

[aakali	wees-i]	Kumar	sandwic	tinnaa-Du
[hunger	fall-CNP]	Kumar.NOM	sandwich	ate-3.M.S

‘Having felt hungry, Kumar ate a sandwich.’

(2) Backward Control

[Kumar-ki	aakali	wees-i]	sandwic	tinnaa-Du
[Kumar-DAT	hunger	fall-CNP]	sandwich	ate-3.M.S

‘Having felt hungry, Kumar ate a sandwich.’

(3) Copy Control

[Kumar-ki	aakali	wees-i]	atanu/Kumar	sandwic	tinnaa-Du
[Kumar-DAT	hunger	fall-CNP]	he/Kumar.NOM	sandwich	ate-3.M.S

‘Having felt hungry, Kumar ate a sandwich.’

I analyze Adjunct Control as movement, providing a detailed account of the conditions that drive and constrain each type of control. I suggest that the subject starts out in the adjunct before it moves to the matrix clause. The result is non-distinct copies of the same element in both clauses. Decisions regarding the pronunciation of copies take place on the phonological side of the computation. The pronunciation of one copy only (the matrix or adjunct copy) results in Forward or Backward Control. The pronunciation of both copies results in Copy Control.

CHAPTER 1
INTRODUCTION

1.1 Research Questions

This study is based in the Minimalist Program of the Principles-and-Parameters approach to syntactic theory (Chomsky 1981, 1995, 2000, and Chomsky and Lasnik 1995). It explores a phenomenon of Adjunct Control in two South Asian languages: Telugu and Assamese. Adjunct Control is a relation of obligatory co-referentiality between the subject in the matrix clause and the subject in the adjunct.

Control has been a controversial issue in the Chomskyan Generative Grammar for a long time. Until recently, the assumption in the literature has been that control is a relation of co-referentiality between an overt NP in a higher (matrix) clause and a silent NP in a lower (subordinate) clause, as sentences (1-2) illustrate. The silent NP is symbolized by △.

(1) $[_{\text{MATRIX}}$ Tom $_{i}$ hopes $[_{\text{SUBORDINATE COMPLEMENT}}$ $\triangle_{i}$ to win]]

(2) $[[_{\text{MATRIX}}$ Tom $_{i}$ won] $[_{\text{SUBORDINATE ADJUNCT}}$ without $\triangle_{i}$ knowing it]]

These patterns are not the only attested ones, however. Other patterns do exist, leading to the following typology of control (Polinsky and Potsdam 2006: 3-4).

(3) Typology of Control

a. Forward Control – only the matrix NP is pronounced:
$[_{\text{Matrix}}$ NP_{i} … $[_{\text{Subordinate}}$ $\triangle_{i}$ …]]

b. Backward Control – only the subordinate NP is pronounced:
$[_{\text{Matrix}}$ $\triangle_{i}$ … $[_{\text{Subordinate}}$ NP_{i} …]]

c. Copy Control – both the matrix and subordinate NPs are pronounced:
$[_{\text{Matrix}}$ NP_{i} … $[_{\text{Subordinate}}$ NP_{i} …]]

Forward Control is the most researched. Its history goes back to the 60's (Chomsky 1965, Rosenbaum 1967). Backward Control is a less studied phenomenon. It has been investigated in a number of languages, including Japanese (Kuroda 1965, 1978), Tsez (Polinsky and Potsdam 2002), Malagasy (Polinsky and Potsdam 2003), and Korean (Monahan 2003). Copy Control is the least studied phenomenon. It has been explored in Tongan (Chung 1978), and San Lucas Quiavini Zapotec (Lee 2003; Boeckx, Hornstein, and Nunes 2007). Polinsky and Potsdam (2006) provide a survey.

Interestingly, all three types of control are attested in Telugu. Assamese, on the other hand, allows Forward and Copy Control, while the status of Backward Control is less certain. The main questions that the study means to answer are the following:

- **Research question 1:** What are the syntactic characteristics of Adjunct Control in Telugu and Assamese?
- **Research question 2:** What are the mechanics involved in the derivation of the different types of control (Forward, Backward, and Copy)?
- **Research question 3:** How does Adjunct Control contribute to the analysis of Control in general?

The rest of the chapter is organized as follows. Section 1.2 presents the domain of investigation of the study. Section 1.3 lays out the theoretical background upon which the following chapters are built. Section 1.4 provides a brief overview of the dissertation.

1.2 Domain of Investigation

This study is mainly concerned with two South-Asian languages: Modern Telugu[1] (hereafter Telugu), a Dravidian language, and Assamese, an Indo-Aryan language. The Indo-Aryan and Dravidian language families are two major language families that share the South Asian subcontinent. They are also two of the top-five largest language families in the world: the Indo-Aryan languages have more than 640 million speakers (est. 1981) (Masica 1991:

[1] Modern Telugu refers to the Telugu spoken from the 17th Century to the present time. The Telugu spoken prior to the 1600's comprises two stages: Old Telugu (600-1100 AD) and Middle Telugu (1100-1600 AD) (Steever 1997: 8).

8), and the Dravidian languages have more than 220 million speakers (est. 1991) (Steever 1997: 1).[2]

The Indo-Aryan and Dravidian languages share a number of linguistic features. For example, they all have adverbial clauses known as Conjunctive Participle clauses (Masica 2005 and Klaiman 1981, Chapter 4). These common features, however, are due to cultural fusion rather than to a common ancestry. To elaborate, the Indo-Aryan language family has Indo-European origins. The origin of the Dravidian language family, on the other hand, has not been clearly determined. The term 'Dravidian' was coined by Caldwell (1856) in order to describe the languages of South India (Krishnamurti 2003: Chapter 1). The fact that the two language families do not share a common ancestry is also confirmed by Masica (2005: 8) who describes the four major language families of India — Indo-Aryan, Dravidian, Munda and Sino-Tibetan — as "clearly distinct genetic stocks."

Concerning Telugu, it is a South-Central Dravidian language. Of the twenty-three[3] reported Dravidian languages, Telugu has the largest number of native speakers (more than 60 million). It is the official language of the State of Andhra Pradesh and one of the four official languages of the Indian Union. The three other languages are Kannada, Malayalam, and Tamil. In addition to being official, these four languages – unlike the other Dravidian languages – have long and extensive literary traditions. For example, the first Telugu (Old Telugu) inscription dates to the late 6th Century AD (Steever 1997: 1-8; Krishnamurti (1997: 202; 2003: 19-23)).

Assamese, also known as Asamiya, is the major language of the state of Assam in the far northeastern part of India. More than half of the population of Assam (c. 13 out of c. 22 million)

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[2] The Indian subcontinent comprises at least four major language families, the other two being Munda and Sino-Tibetan.

[3] According to Krishnamurti (2003: 19), "there are over twenty-six Dravidian languages known at present."

speak Assamese as a native language, and many others, both in Assam and in the neighboring states of Meghalaya, Arunachal Pradesh, and Nagaland, speak it as a second language (Goswami and Tamuli 2003: 393-394; Masica 1991). Assamese has a long literary tradition that arguably goes back to the 6th or 7th Century AD. However, the earliest literary work that is unmistakably Assamese dates to the 13th Century AD (Goswami and Tamuli 2003: 397).

The study focuses on one aspect of Telugu and Assamese, namely, Obligatory Control into a special type of non-finite, participial clauses known as Conjunctive Participle clauses. Obligatory Control is a relation of obligatory co-referentiality between two arguments in a structure. One of the arguments occupies the matrix clause and is usually pronounced, while the other argument occupies a subordinate clause and is usually implied. Adjunct Control is control in which the two arguments are subjects, one of which occupies the matrix clause of a given structure and the second occupies an adjunct.

Three types of Telugu and Assamese Adjunct Control are examined. These are Forward Control, in which only the matrix subject is pronounced (e.g., (4a) and (5a)); Backward Control, in which only the subordinate/adjunct subject is pronounced (e.g., (4b) and (5b)); and Copy Control in which both subjects are pronounced (e.g., (4c) and (5c)).

(4) Telugu

a. Kumar$_i$ [$\triangle_{i/*k}$ jwaram wacc-i] hospital weLLaa-Du
Kumar.NOM [$\triangle$ fever come-CNP] hospital went-3.M.S
'Having had a fever, Kumar went to hospital.'

b. $\triangle_{i/*k}$ [Kumar-ki$_i$ jwaram wacc-i] hospital weLLaa-Du
$\triangle$ [Kumar-DAT fever come-CNP] hospital went-3.M.S
'Having had a fever, Kumar went to hospital.'

c. [Kumar-ki jwaram wacc-i] Kumar hospital weLLaa-Du
[Kumar-DAT fever come-CNP] Kumar.NOM hospital went-3.M.S
'Having had a fever, Kumar went to hospital.'

(5) Assamese

a.

Ram-e$_i$	[$\triangle_{i/*k}$	xomoi	no-thak-i]	bhat	na-khal-e
Ram-NOM	[$\triangle$	time	NEG-keep-CNP]	rice	NEG-ate-3

‘Having no time, Ram didn’t eat rice.’

b.

?? $\triangle_{i/*k}$	[Ram-Or$_i$	xomoi	no-thak-i]	bhat	na-khal-e
$\triangle$	[Ram-GEN	time	NEG-keep-CNP]	rice	NEG-ate-3

‘Having no time, Ram didn’t eat rice.’

c.

[Ram-Or	xomoi	no-thak-i]	Ram-e	bhat	na-khal-e
[Ram-GEN	time	NEG-keep-CNP]	Ram-NOM	rice	NEG-ate-3

‘Having no time, Ram didn’t eat rice.’

Although structures that involve a CNP clause are generally Obligatory Control structures, a few exceptions exist. For example, sentences (6) and (7) each involve a CNP clause. Yet, disjoint subjects are allowed.

(6) Telugu

[warʃam	paD-i]	janaalu	taDici-pooyaa-ru
[rain	fall-CNP]	people.NOM	wet-became-3.M.P

‘The rain fell and people became wet.’

(7) Assamese

[dhumuha-Ø	ah-i]	bohut	gos-Ø	bhangil
[storm-ABS	come-CNP]	many	trees-ABS	broke

‘A storm came and many trees got broken.’

The following chapters account for structures like (4) through (7) within syntactic theory. Section 1.3 highlights relevant aspects of this theory.

1.3 Analytic Approach

Following Hornstein (1999, 2003), I analyze Adjunct Control as an instance of movement, whereby the subject is base-generated in the adjunct before it moves to the matrix clause. The analysis of Adjunct Control requires answering two questions. First, what are the mechanics involved in the derivation of Telugu and Assamese Adjunct Control structures? Second, what are the mechanics involved in the pronunciation of either or both subjects in the different types of Adjunct Control structures that the Telugu and Assamese allow?

The answer to the first question requires familiarity with the syntactic theory related to control in general. Assuming the Movement Theory of Control (Hornstein 1999) and that the two subjects in an Adjunct Control structure are related via movement, the answer to the second question is based in the broader phenomenon of multiple copy spell-out, whereby more than one copy of the same token are pronounced in a single structure. The main task is to determine the factors that are decisive in the realization of copies, resulting in variation in Adjunct Control.

I address these questions in Section 1.3.2 through 1.3.4. In Section 1.3.2 and 1.3.3, I present a review of two opposing approaches to control theory: the PRO Theory of Control and the Movement Theory of Control. I show that the movement approach is more compatible with the Telugu and Assamese data. Section 1.3.4 deals with the issue of multiple copy spell-out. It brings to the fore the factors that may be decisive in the pronounciation of either or both subjects in the different types of Telugu and Assamese Adjunct Control structures.

First, however, an overview of the framework within which this study is based is appropriate. The study adopts the movement approach to control which has been made possible by changes in syntactic theory during the 1990's. Section 1.3.1 highlights some major aspects of this theory and explains how the changes came about.

1.3.1 From Government and Binding to Minimalism: An Overview

This section is divided into two parts. Section 1.3.1.1 offers an outline of the grammar within the Government and Binding framework as presented in (Chomsky 1981, 1986a, 1986b and Chomsky and Lasnik 1995). Section 1.3.1.2 presents a summary of the grammar from the perspective of the Minimalist Program (Chomsky 1995, 2000, 2001, 2004), underlining the changes in the theory along the way. In addition to the cited works, the discussion in both subsections has benefited extensively from Marantz 1995, Ouhalla 1999, Hornstein 2001, and Hornstein, Nunes, and Grohmann 2005.

1.3.1.1 The architecture of the grammar in Government and Binding

Government and Binding assumes that all human beings are equipped with a Language Faculty, or a cognitive ability to acquire language. This Language Faculty comprises a computational system and a lexicon. The computational system selects items from the lexicon and forms a derivation in accordance with X-bar Theory. Another assumption is that the grammar has four levels of representation: Deep Structure, Surface Structure, Logical Form (LF), and Phonological Form (PF).

Deep Structure is an internal interface level that relates the computational system to the lexicon. At this level, lexical items are inserted into a phrase marker in accordance with the Projection Principle and Theta Theory. The Projection Principle as stated in (8) ensures that the Deep Structure thematic information is preserved at all four levels of representation. Theta Theory dictates that all thematic positions are filled. Subsequent movement into a thematic position is disallowed as it violates the Theta-Criterion (9).

(8) Projection Principle
Representations at each syntactic level (i.e., LF, and Deep and Surface Structure) are projected from the lexicon, in that they observe the Subcategorization properties of lexical items. (Chomsky 1981:29)

(9) Theta Criterion
Each argument bears one and only one theta role, and each theta role is assigned to one and only one argument. (Chomsky 1981:36)

To illustrate, in order to derive a sentence like (10), the computational system selects the lexical items in (11) and inserts them in the phrase marker in (12).

(10) Sue arrived.

(11) {Sue, arrived}

(12) Deep Structure = $[_{CP}\ C^0\ [_{IP}\ [_{I'}\ I^0\ [_{VP}$ arrived Sue$]]]]$

Notice that *arrive* is an unaccusative verb that has one thematic position. This means that it requires only one argument. By leaving no thematic position unoccupied, the derivation satisfies the Projection Principle. If a thematic position is left empty, the derivation crashes.

Overt movement applies between Deep and Surface Structure. In this sense, Surface Structure reflects the final word order of a structure. For example, the Surface Structure of (12) above is (13). By Surface Structure, *Sue* moves to Spec, IP in order to be assigned Case and to satisfy the EPP[4], leaving a trace behind.

(13) Surface Structure = $[_{CP}\ C^0\ [_{IP}\ [_{I'}$ Sue$_i$ $I^0\ [_{VP}$ arrived $\textit{trace}_i]]]]$

Notice that the movement of *Sue* obeys the Projection Principle which holds that thematic information has to be preserved at all levels of representation. *Sue* moves into a Case position but not into a new theta position. And by leaving a trace behind, the thematic information encoded at Deep Structure is preserved.

Further, Surface Structure is the level responsible for sending the derivation to the two external interface levels: PF and LF. These two levels are needed for pronunciation (form) and interpretation (meaning) respectively. PF is interpreted by the sensorimotor system, providing the information needed for the phonetic interpretation/realization of a structure. LF is interpreted by the system of thought, providing the information needed for the semantic interpretation of a linguistic expression.

A structure must satisfy Full Interpretation at PF and LF. Full Interpretation means that every element in the structure “must receive an appropriate interpretation” at these levels (Chomsky 1986: 98). At PF, if the derivation has phonological information (e.g., a stress pattern)

[4] EPP or the Extended Projection Principle dictates that all clauses must have subjects.

that cannot be realized or interpreted by the sensorimotor system, the derivation crashes. Full Interpretation at LF is a little more complicated. This is the level at which certain syntactic conditions apply. For example, an argument is not allowed to move into a new thematic position because this means that the Deep-Structure thematic information is not preserved at LF, which is a violation of the Projection Principle in (8). Another requirement is the Case Filter which dictates that an NP be Case-marked (with abstract or morphological Case) in order to be visible. Visibility has two facets (14-15). Notice that (14) is also a PF requirement.

(14) An NP must be Case-marked in order to be pronounced. (Chomsky 1981: 49, Vergnaud 1982)

(15) An argument, [or more appropriately, an argument chain], must be Case-marked to be visible for theta-role assignment. (Chomsky and Lasnik 1995:46, following Joseph Aoun)

Another property of Government and Binding is that it is a modular grammatical theory which holds that the grammar is made up of several modules: Case Theory, Binding Theory, Bounding Theory, Phrase Structure or X-Bar Theory, Movement Theory, Control Theory, Theta Theory, and Trace Theory. Each module is distinct and subject to constraints and well-formedness requirements. What is common to all of them is that they are all relational. They require interaction between two elements. For example, Case Theory requires a Case assigner and a Case assignee. In addition, as Chomsky and Lasnik (1995: 27) state, “certain unifying concepts enter into many or all modules.” One such concept is Government as defined in (16) (based on Chomsky 1986a: 10-16 and Chomsky and Lasnik 1995: 79). For example, the nominative Case on the subject in (13) is assigned under Government by I^0.

(16) α governs β only if
 a. α is a head
 b. α c-commands β and
 c. there is no barrier γ (mainly, a CP) that intervenes between α and β.

The purpose behind the different modules is to capture the more specific, more abundant, and seemingly unrelated grammatical rules that describe individual syntactic structures and to capture them with more general grammatical principles. For example, grammatical rules that describe anaphoric relations among nominal expressions are realized as Conditions A, B, and C within Binding Theory. This trend to move from specific rules to general grammatical principles was the main concern of Government and Binding in the 1980's. The trend continues to be the main focus of syntactic theory, even more so within the framework of the Minimalist Program as presented in Chomsky 1995 and further developed by Chomsky (2000, 2001, 2004) and by other researchers.

1.3.1.2 The architecture of the grammar in the Minimalist Program

The Minimalist Program, as the name indicates, is an ongoing reductionist project launched by Chomsky in the early 1990's. Its purpose is to eliminate superfluous components of the grammar, preserving grammatical notions based on naturalness, simplicity, and economy, as defined in (17) (Hornstein, Nunes, and Grohmann 2005: Chapter 1).

(17) a. Naturalness implies that only notions that correspond to self-evident facts about language should be preserved.

b. Simplicity follows from naturalness. If only natural notions are preserved and all other theory internal notions are removed, the grammar becomes simpler. Further, given two theories A and B that are equal in every way except that A has fewer rules than B, A is considered superior.

c. Economy is pertinent to derivations and derivational rules. Everything else being equal, a derivational step that requires the least effort (e.g., fewer steps) and that happens only when necessary (i.e., as a Last Resort) is optimal.

Let us begin by examining the four Government and Binding levels of representation in accordance with (17). It is a fact about language that linguistic expressions are a combination of form and meaning. This fact justifies the preservation of the two external interface levels, LF and PF, as "a virtual conceptual necessity" (Chomsky 2000).

Deep Structure and Surface Structure, on the other hand, are not a "virtual conceptual necessity." As Hornstein (2001: 2) describes them, they are "the most abstract levels of UG [Universal Grammar]… the most remote from 'experience' in the sense that they are furthest removed from a sentence's observable properties, its sound and meaning." Such Observations, originally made by Chomsky (1995), are accompanied by analyses which show that the grammar can not only do without these theory-internal levels but also be better off without them.

To illustrate, the idea that at Deep Structure the whole phrase-marker of a linguistic expression is available all at once and that the thematic positions of the phrase-marker are all filled before any movement takes place at Surface Structure is a purely theory-internal idea. What is certain is that words are combined into phrases and that nominal expressions do receive a thematic interpretation at LF. Therefore, Deep Structure could be dispensed with in favor of a simple operation that brings lexical items together; call this operation Merge (Chomsky 2000: 101). Since it is evident that nominal expressions receive a thematic meaning (agent, patient, etc.) when combined with a thematic licenser (e.g., verb), we can deduce that "theta-roles can only be assigned under a Merge operation" (Hornstein, Nunes, & Grohmann 2005: 54).

The discussion suggests that the theory-internal levels are superfluous. The Minimalist Program recognizes the problem, marking the end of the Deep and Surface Structure era and reducing the levels of representation from four to two. This reduction is also a step towards simplicity. Everything else being equal, a grammar with two levels of representation is Minimalistically more desirable than a grammar with four. Now the question is: How does a derivation take place without Deep Structure and Surface Structure?

Like Government and Binding, the Minimalist Program considers language to comprise a lexicon and a computational system. Preserving these two notions is also in line with naturalness.

It is a fact that linguistic expressions are made of lexical items combined together to form phrases. These observations are a reason to believe that the computational system comprises two operations: form a numeration and merge.

Forming a numeration means copying from the lexicon all and only the syntactic objects needed for the derivation. Thus the numeration for sentence (18) is (19):

(18) Sue arrived

(19) Numeration = {Sue_1, arrived_1, $I^0{}_1$, $C^0{}_1$)

The indices in (19) show how many tokens of an item are copied from the lexicon. At the end of the derivation, all the items in the numeration must be exhausted. Further, no new features or items other than those in the numeration may be introduced during the derivation. This requirement is called the Inclusiveness Condition (Chomsky 2000: 113).

Merge combines two objects together to form a new syntactic object. For example, Merge applies to the NP *Sue* and V^0 *arrived* in (19) above. V^0 projects, yielding (20). As indicated by the superscript, *Sue* receives a theta-role that is licensed by V^0. Subsequently, I^0 merges with VP, yielding (21).

(20) $[_{VP}$ arrived $\text{Sue}^{\theta}]$

(21) $[I^0\ [_{VP}$ arrived $\text{Sue}^{\theta}]]$

Another fact about language is that elements within a linguistic expression may be pronounced in one position and interpreted in another. Therefore, it seems that the computational system does not only select lexical items and combine them; it also moves them around. One straightforward example is the case of wh-questions in English. For instance, *what* in (22) is pronounced sentence-initially although it is interpreted as a complement of *eat*.

(22) What did you eat?

This fact about language has led to the intuition that when an element moves, it does not really evacuate its site. More likely, it copies and merges leaving behind a copy that is available for interpretation at LF but that is usually deleted at PF. Therefore, it is more accurate to describe movement as a dual operation of copy-plus-merge (Chomsky 1995).

Economy considerations (17c) constrain the applications of copy-plus-merge. The operation takes place so that a structure may be interpreted at PF and LF. In Minimalist terminology, lexical items (e.g., nouns) enter the derivation with features, some of which are interpretable (e.g., phi-features) and some uninterpretable (e.g., Case). The latter cannot be interpreted at the interfaces and must be checked by an appropriate head before the derivation reaches LF and PF. Movement happens for the purpose of feature checking, which renders uninterpretable features invisible at PF/LF.[5] For example, in (23) *arrived* is an unaccusative verb that cannot check the Case feature of its complement. *Sue* moves (copy-plus-merge) to Spec, IP in order to check its Case feature, and I^0 projects. Finally, assuming that all complete sentences are CPs, a declarative C^0 merges with IP, resulting in the structure in (24).

(23) $[_{IP}$ Sue^{Case} $[_{I'}$ I^0 $[_{VP}$ arrived Sue$^{\theta}$]]]

(24) $[_{CP}$ C^0 $[_{IP}$ Sue^{Case} $[_{I'}$ I^0 $[_{VP}$ $[_{VP}$ arrived Sue$^{\theta}$]]]]]

In Government and Binding, a syntactic object is shipped to LF and PF via Surface Structure. In the Minimalist Program, an operation called Spell-Out (or Transfer) does the job (Chomsky 2000: 118-119, Chomsky 2004: 115-116). Unlike Surface Structure, Spell-Out is not a level of representation. It applies to (24) above, and the derivation converges at LF. At PF, the lower copy of *Sue* is deleted, resulting in (25). Deletion of copies is the topic of Section 1.3.4.

[5] Chomsky (2004) holds that feature checking can take place via Agree (a c-command relationship between a Probe and a Goal) and that all movement happens for the purpose of the EPP.

(25) $[_{CP}\ C^0\ [_{IP}\ \text{Sue}^{\text{Case}}\ [_{I'}\ I^0\ [_{VP}\ [_{VP}\ \text{arrived}\ \cancel{\text{Sue}}^{\theta}]]]]]$

To summarize, the Minimalist Program assumes that the grammar comprises a basic operation Merge and two interface levels LF and PF responsible for form and meaning. Displacement is considered a fact about language. It takes place via a dual operation, copy-plus-merge, also known as movement. Movement happens for a purpose, namely, feature checking.

The reductionist project of Minimalism does not stop here. As pointed out in the previous section, Government and Binding is a modular grammar, made up of a number of modules, as well as certain notions, such as Government. In the Minimalist Program, there is a serious attempt to eliminate any notion that does not "fall out in some natural way from the computational process." In this sense, "there should be no government, no stipulated properties of chains, no binding relations internal to language, no interactions of other kinds" (Chomsky 2000: 113). Therefore, optimally, government and the different modules must be eliminated. One radical attempt along these lines is carried out by Hornstein (2001) who reviews the role of the modules, deeming them unnecessary and attributing all construal to movement. One module that meets its demise in Hornstein's system is the Control Module.

This section has presented an overview of the changes that took place in syntactic theory during the 1990's. The most relevant points are the following:

(26) a. Deep Structure and Surface Structure are no longer part of the theory. Only the interface levels are preserved. These are LF and PF.

b. Merge is the basic structure building operation. It can apply to items selected in the numeration, as well as to phrasal structures. When combined with the operation copy, merge can also apply to an item already in the derivation.

c. No new element can be introduced to the derivation if it is not originally available in the numeration (the Inclusiveness Condition).

d. Only grammatical relations that are necessary for intepretation at the interfaces must be preserved (e.g., scope). Grammatical relations that are made available only for theory-internal reasons but are not necessary for interpretation should be eliminated (e.g., Government).

The following section offers a presentation of how control structures are analyzed in a Government and Binding framework and how the innovations of the Minimalist Program have made an alternative analysis possible.

1.3.2 Control in Government and Binding

In Government and Binding, control constructions similar to (27) have generally been considered to comprise two base-generated subjects, one upstairs and one downstairs. Both are available for interpretation at LF. The former is a lexicalized subject, whereas the latter is a silent PRO. The arguments are coreferential, a relation that is determined through co-indexation. In other words, sentence (27) has the structure in (28). This approach is the PRO Theory of Control.

(27) [Sue tried [to impress Tom]]

(28) [$_{IP}$ Sue$_i$ [$_{vP}$ *trace*$_{Sue}$ tried [$_{IP}$ PRO$_i$ to [$_{vP}$ *trace*$_{PRO}$ impress Tom][6]

In the early framework of Government and Binding (Chomsky 1981, 1986a, 1986b), PRO is presented as a Case-less, phonetically null, and base-generated NP that occupies the subject position of non-finite clauses. Later, based on the observation that a Case-less PRO cannot be visible for theta-role assignment and is thus a violation of the Case Filter as defined in (15) above, Chomsky and Lasnik (1995) hold that PRO is necessarily Case-marked and that it is assigned a special type of Case they call Null Case. PRO "is the sole NP that can bear Null Case" which is licensed in a spec-head relation between a non-finite I^0 and PRO. According to the authors, it is only logical that a minimal I^0 [-Tense, -Finite] assigns minimal or Null Case

[6] The structure anachronistically contains vP which was not available in the earlier versions of Government and Binding.

(Chomsky and Lasnik 1995: 119-120). Null Case serves two jobs. By virtue of being null, it dictates that the subject it marks be obligatorily unpronounced (Unlike the nominative Case of the Lexical DP *Sue* which makes it visible or pronounced). At the same time, by virtue of being a Case, Null Case qualifies an argument chain for theta-marking at LF.

A movement approach to control as illustrated in (29) is simply not possible within the framework of Government and Binding. The traces in (29) indicate that the matrix subject *Sue* starts out in one thematic position in the embedded clause before moving to another thematic position in the matrix clause. This means that the same argument is assigned two theta-roles, which is a violation of the Theta Criterion as formulated in (9), repeated here as (30).

(29) $[_{IP}$ Sue$^{Case/EPP}$ $[_{vP}$ $trace_{Sue}^{\theta 1/\theta 2}$ tried $[_{IP}$ $trace_{Sue}^{EPP}$ to $[_{vP}$ $trace_{Sue}^{\theta 1}$ impress Tom]

(30) Theta Criterion
Each argument bears one and only one theta role, and each theta role is assigned to one and only one argument. (Chomsky 1981:36)

A non-movement/PRO approach as exemplified in (31) does not violate the Theta Criterion. The sentence assumes two external theta roles, a 'try-er' in the matrix clause and an 'impress-er' in the embedded clause. The 'impress-er' starts out as PRO in the thematic Spec,vP of the embedded clause before moving to Spec,IP in order to check Null Case and the EPP. The 'try-er' starts out as a lexical DP *Sue* in thematic Spec,vP of the matrix clause before moving to Spec,IP where it checks nominative Case and the EPP.

(31) $[_{IP}$ $Sue_i^{Case/EPP}$ $[_{vP}$ $trace_{Sue}^{\theta}$ tried $[_{IP}$ $PRO_i^{Null\ Case/EPP}$ to $[_{vP}$ $trace_{PRO}^{\theta}$ impress Tom]

The above discussion lays out the details about the distribution of PRO. With regard to its interpretation, PRO – like any NP-trace – is considered anaphoric. For example, in (31), PRO refers back to its antecedent *Sue*. In other words, it satisfies Condition A which holds that an anaphor is bound in its governing category. However, structures like (32a-b) in which PRO is free are a violation of Condition A. In such sentences, PRO behaves like a non-anaphoric pronominal. It obeys Condition B according to which a pronoun is free in its governing category.

(32) a. [PRO to escape when everybody is watching] is not a good idea.
b. John wondered [how PRO to behave oneself in public].

This bi-polar quality of PRO led to the PRO Theorem in (33) which states that PRO is ungoverned simply because it occupies the subject position of a non-finite CP. A non-finite I^0, and presumably a non-finite C^0, is too weak to govern PRO. Further, a CP, according to Chomsky (1986a: 10-16), is a barrier. In other words, elements inside CP – or, more precisely, elements in IP complement of C^0 – cannot be governed by a head outside CP and thus, cannot be bound, by a node higher than CP. Since PRO is ungoverned, it vacuously satisfies both Conditions A and B. This leads to the dual nature of PRO. Unlike reflexives which are [+anaphoric, -pronominal] or pronouns which are [-anaphoric, +pronominal], PRO can be both: [+anaphoric, +pronominal].

(33) PRO is ungoverned.

The PRO Theorem was acceptable when PRO was considered Case-less in the 1981-1986 Government and Binding version of Control Theory. In the latest version of Government and Binding, however, PRO is Null Case-marked as we saw above. Case assignment requires government by a Case-assigning head. Therefore, to assume that PRO is Case-marked and ungoverned at the same time is contradictory. This is not to mention that it is only stipulative to assume that I^0 and C^0 can govern the Specifier of a finite IP but not the Specifier of a non-finite IP, as Martin (2001: 142; fn. 3) and Watanabe (1996) point out.

With the arrival of the Minimalist Program in the mid 1990's, the aforementioned challenges became even more problematic, and many of the Government and Binding assumptions that lead to the derivation in (31) became either orthogonal or unavailable.

To elaborate, government has no place in Minimalism and can no longer be used as a tool for the interpretation of PRO. Concerning the distribution of PRO, the Theta-Criterion that justifies PRO's existence, ruling out (29) in favor of (31), is a Deep Structure requirement. The Minimalist Program recognizes two levels of representatin that are considered "a virtual conceptual necessity." These are the two interface levels of sound and meaning, PF and LF respectively. Accordingly, Deep Structure is eliminated from the theory. With the elimination of Deep Structure, the Theta Criterion as stated (30) is also done away with. Whereas the idea that every argument must be assigned a theta-role still holds, the restriction that an argument can be assigned one and only one theta-role no longer holds (Polinsky and Potsdam 2002: 264-265 and works within).

Based on the above observations, several researchers rethought the distribution and interpretation of PRO within the framework of the Minimalist Program (e.g., Martin 1996, San Martin 2004, Landau 2000, 2004). At the same time, other researchers have seen it Minimalistically viable and desirable to eliminate PRO completely from the theory and resort to movement instead. One such approach is known as the Movement Theory of Control (O'Neil 1995, Hornstein 1999, 2001, 2003). The following section spells out the details.

1.3.3 Control in the Minimalist Program

1.3.3.1 PRO Theory of Control

The PRO Theory of Control within the Minimalist Program has different incarnations, all of which depart from the Government and Binding approach. Researchers have taken into account work on the distribution of PRO in other languages, such as Icelandic (Sigurðsson 1991), Romanian, and Arabic, among others (San Martin 2004). These languages show that PRO occupies a Case position just like lexical DPs and that finiteness is not always decisive in the licensing of PRO. For example, control obtains even if an embedded clause is subjunctive rather than infinitival.

To illustrate, floating quantifiers in Icelandic show agreement with the null subject in the embedded clauses of control structures. That is, the dative floating quantifier *öllum* 'all' in (34a) indicates that PRO is itself dative, whereas the genitive floating quantifier *allra* 'all' in (34b) indicates that PRO is genitive (Sigurðsson 1991: 331-332 (8c-d)).

(34) Icelandic

a.

Strákarnir		vonast til					
the boys.NOM		hope for					
[að	PRO	lei	ðast	ekki	öllum	í	skóla].
[to	PRO.DAT	to be	bored	not	all.DAT	in	school]

'The boys hope not to be all bored in school.'

b.

Strákarnir		vonast	til		
the boys.NOM		hope	for		
[að	PRO	verða	allra	getið	í ræðnnie].
[to	PRO.GEN	be	all.GEN	mentioned	in the speech]

'The boys hope to be all mentioned in the speech.'

In addition, evidence from languages like Greek, Romanian, and Arabic shows that control into finite clauses is possible (San Martin 2004: Chapter 4). The following sentence is an example from Standard Arabic. Notice that the embedded verb is subjunctive.

(35) Standard Arabic

ħaawala	l-walad-u	[PRO	ʔan	yanʒaħa]
tried.3.M.S	the-child-NOM	[PRO	SUBJUNCTIVE	succeed.3.M.S]

'The child tried to succeed.'

Accordingly, it has been suggested that the distribution of PRO is determined by factors other than Case and finiteness. These factors also determine the interpretation of PRO. Different PRO theories have been proposed in support of this view. In the rest of this section, I provide a synopsis of two theories, one proposed by Landau (2000, 2004) and one by San Martin (2004).

Landau (2004, 2006) holds that lexical DPs and PRO are in complementary distribution. The former is "a natural class," or a less marked element, and the latter is "the elsewhere condition." Landau considers lexical subjects as referential [+R] and PRO as anaphoric [-R]. Both [+R] and [-R] are interpretable features on lexical DPs and PRO respectively.

The distribution of lexical subjects and PRO is distinguished by the Tense and Agreement features [T, Agr] on I^0 and C^0. "Put simply, whenever I or C are specified [+T, +Agr], they automatically come to bear [+R]" which is assigned as an uninterpretable feature on I^0, a feature that can be checked by lexical DP as it bears an interpretable [+R]. "Any other feature constitution – that is, [+T, -Agr], [-T, +Agr], or [-T, -Agr] – is associated with [-R]" that is assigned as an uninterpretable feature on I^0 and can only be checked by PRO which has an interpretable [-R].

In this sense, PRO cannot be substituted with a lexical DP, not because PRO is Case-less or Null Case-marked or even ungoverned, but because it is a null anaphor that can delete an uninterpretable [-R] feature that a lexical DP cannot (Landau 2006: 163).

Whereas the embedded clause in Control structures is necessarily a CP in Landau's framework and much earlier work, it is an IP in San Martin's (2004). San Martin uses examples from Romanian, Macedonain, Hungarian, Spanish, Arabic, and Basque to argue that regardless of Case and Finiteness, it is the size of the complement that determines the type of control. If the matrix verb selects for an IP complement, the result is an Obligatory Control structure that obeys the cross-linguistic generalizations in (36) (San Martin 2004: 48).

(36) The embedded subject of an Obligatory Control structure must be
   a. strictly coreferential with the matrix controller and
   b. phonetically null.

Therefore, like Landau, San Martin shows that the licensing of lexical DPs and PRO is divorced from finiteness and Case. Unlike Landau, however, San Martin (2004: 169 (85)) argues that it is the size of the complement clause that is decisive in the licensing process:

(37) In complement clauses, lexical subjects arise in CPs, whereas PRO is licensed in bare IPs.

In other words, San Martin also argues that "PRO and lexical subjects are in complementary distribution" (207). According to her, IP complements have incomplete I^0 with [+Tense] feature but no [Person] feature. This I^0 [+Tense, -Person] is able to check Case on the embedded subject, which normally shows on elements such as the floating quantifiers in Icelandic, but it is not able to license a lexical/overt DP. An indicative CP, however, licenses a lexical subject because it has a complete I^0 [+Tense, +Person], with the [Person] feature being provided by C^0.

Now the question is: How does PRO receive its interpretation? San Martin (2004: 207), building on Martin (1996), offers the following explanation:

> The interpretation of PRO is derived as follows: PRO is a featureless element that is inserted off-line into the derivation as Last Resort (only when there is no DP left in the Numeration to saturate the existing theta roles). Although it appears in a local relation to a Case assigning Probe [+Tense], its defective nature makes it unable to host the Case Value. In order to prevent a FI [Full Interpretation] violation, the chain of PRO collapses to the most local chain that binds it, the subject or the object chain in Subject and Object Control respectively. This derives the Control effect.

What is it that accounts for the complementary distribution between PRO and lexical subjects? In other words, why doesn't PRO occur in CP complements? Here San Martin follows Chomsky (2000, 2001) by assuming that CPs are phases which are spelt out and thus "are evaluated for interpretation once completed." If PRO occurs inside a CP phase, it is sent for interpretation before the chain it occurs in gets the chance to collapse with a matrix NP chain.

"Thus, at LF, the chain of PRO simply does not have a local well-formed and interpretable chain with which it can collapse and the chain of PRO will violate Full Interpretability" (199).

Landau's and San Martin's approaches are different in several ways, but they both share the standard view of control. They consider control structures to involve two coreferential argument chains, one of which is PRO. Crucially, PRO and lexical DPs are in complementary distribution. Any theory of control that is built on this assumption is incompatible with the Telugu and Assamese data. Both languages have Copy Control structures (38a, 39a). In these structures, both subject are obligatorily coreferential and, most importantly, pronounced. A silent subordinate subject, or what PRO theories consider as PRO, is also possible (38b, 39b). The examples in (38-39) violate the essence of PRO theory, namely, that PRO and lexical DP are in complementary distribution.

(38) Telugu

a.	[Kumar-ki	jwaram	wacc-i]	Kumar	hospital	weLLaa-Du
	[Kumar-DAT	fever	come-CNP]	Kumar.NOM	hospital	went-3.M.S

'Having had a fever, Kumar went to hospital.'

b.	Kumar$_i$	[PRO$_{i/*k}$	jwaram	wacc-i]	hospital	weLLaa-Du
	Kumar.NOM	[PRO	fever	come-CNP]	hospital	went-3.M.S

'Having had a fever, Kumar went to hospital.'

(39) Assamese

a.	[Ram-Or	xomoi	no-thak-i]	Ram-e	bhat	na-khal-e
	[Ram-GEN	time	NEG-keep-CNP]	Ram-NOM	rice	NEG-ate-3

'Having no time, Ram didn't eat rice.'

b.	Ram-e$_i$	[PRO$_{i/*k}$	xomoi	no-thak-i]	bhat	na-khal-e
	Ram-NOM	[PRO	time	NEG-keep-CNP]	rice	NEG-ate-3

'Having no time, Ram didn't eat rice.'

Further, Telugu allows Backward Control, as (40) illustrates. Note that the dative subject is licensed by the subordinate clause. Compare with the Forward Control structure (39b) in which the nominative pronounced subject is licensed by the matrix clause. A PRO theory of control would hold that PRO appears in the matrix clause and the lexical DP appears in the subordinate clause. In this case, the structure would involve an anaphoric PRO c-commanding a correferential lexical DP (R-expression), which should induce a Condition C violation, contrary to fact (Potsdam 2006, Polinsky and Potsdam 2002).

(40) Telugu

$PRO_{i/*k}$	[Kumar-ki_i	jwaram	wacc-i]	hospital	weLLaa-Du
PRO	[Kumar-DAT	fever	come-CNP]	hospital	went-3.M.S

'Having had a fever, Kumar went to hospital.'

The following section presents the relevant details of an alternative approach and shows that it is superior to the PRO theory, at least insofar as the Telugu and Assamese data are concerned.

1.3.3.2 The Movement Theory of Control

As Section 1.3.1 pointed out, the Theta Criterion and the Projection Principle are the main reasons why Government and Binding rejects a movement approach to Control. With the elimination of Deep Structure, the Theta-Criterion is also eliminated. An argument may be assigned more than one theta-role without inducing any violation. Note, however, that every argument must still be assigned a theta-role, and every theta-role must be assigned to an argument. Nonetheless, these restrictions now follow naturally from Full Interpretation rather than from the Projection Principle and Deep-Structure (Brody 1993, Bošković 1994, Chomsky 1995, and Polinsky and Potsdam 2002: 264).. As Brody (1993: 2) puts it, "the Theta-Criterion holds at LF only to the extent required for meaningful interpretation."

Now that multiple theta-role assignment is possible, a movement approach to control has become possible, and with it the derivation in (41). Note that copies replace traces, in accordance with the Copy Theory of Movement (Chomsky 1995).

(41) [$_{IP}$ Sue$^{Case/EPP}$ [$_{vP}$ ~~Sue~~$^{\theta 2}$ tried [$_{IP}$ ~~Sue~~^{EPP} to [$_{vP}$ ~~Sue~~$^{\theta 1}$ impress Tom]

The major departure from the PRO tradition in the above derivation is the list of assumptions in (42) below (especially (42a-b); (42c-d) were introduced earlier in the Minimalist Program). These are the main grounds on which the PRO Theory of Control is abolished (Hornstein 2003: 22 (40)).

(42) a. Theta roles are features and can thus trigger movement.

b. There is no upper bound on the number of theta features that a DP can have.

c. Movement is Greedy.

d. Greed is understood as 'enlightened self interest', whereby an element moves to check a feature of its own or a feature of the target (Lasnik 1995).

Based on (42), sentence (41) is derived in this manner: *Sue* merges in Spec,vP of the embedded clause where it checks a theta-role feature. It moves to Spec,IP to check the EPP feature of the target. This is followed by movement to Spec,vP of the matrix clause where another theta-role feature is checked. The last move is to Spec, IP. This is where the nominative Case feature is checked. Finally, the derivation is shipped to the interfaces via spell-out. At PF, the lower copies of *Sue* are deleted for reasons to be specified.

Theoretically, the movement approach to control is in line with the grammatical downsizing project of the Minimalist Program. A movement analysis does away with all unnecessary construal processes in Control Theory. All construal is now attributed to movement.

Minimalistically, the Movement Theory of Control does not assume any levels of representation apart from LF and PF. No features or elements (e.g., indices) other than the ones in the numeration are inserted during the derivation, which satisfies the Inclusiveness Condition. The two arguments in a control structure are interpreted as coreferential for the mere reason that they are copies of the same token. An argument starts out in the subordinate clause of a given structure. It copies out of the subordinate clause and merges in the matrix clause. The result is non-distinct copies of the same argument in both clauses. Being non-distinct, the two copies are co-referential.

Empirically, the theory is able to account for cases of control which are problematic for the PRO Theory. One such case is Backward Control. According to the movement approach, the Forward and Backward Control structures in (39b) and (40) look like (43a-b). Both structures are alike. The only difference is that the higher copy of the subject is pronounced in the Forward Control structure (43a), while the lower copy is pronounced in the Backward Control structure (43b). No anaphoric elements are involved.

(43) Telugu

a.

Kumar	[~~Kumar-ki~~	jwaram	wacc-i]	hospital	weLLaa-Du
Kumar.NOM	[~~Kumar-DAT~~	fever	come-CNP]	hospital	went-3.M.S

'Having had a fever, Kumar went to hospital.'

b.

~~Kumar~~	[Kumar-ki	jwaram	wacc-i]	hospital	weLLaa-Du
~~Kumar.NOM~~	[Kumar-DAT	fever	come-CNP]	hospital	went-3.M.S

'Having had a fever, Kumar went to hospital.'

Further, the movement approach is potentially capable of accounting for Copy Control structures like (38a) and (39a), repeated as (44-45). From a movement perspective, (44-45) are derivationally similar to (43a-b) in that they involve multiple copies of the same argument. The difference is that one copy survives deletion in the Forward and Backward Control structures (43a-b), while two copies survive deletion in each of (44) and (45). Realization of multiple copies of the same token is not an isolated phenomenon that is unique to Copy Control. It is attested in other types of structures as we will see shortly. Compare to a PRO theoretic attempt at accounting for the fact that a necessarily silent PRO is realized as a lexical DP. My impression is that such an attempt, even if successful, will be unique to control, just as PRO itself as a syntactic object is unique to control.

(44) Telugu

[Kumar-ki	jwaram	wacc-i]	Kumar	hospital	weLLaa-Du
[Kumar-DAT	fever	come-CNP]	Kumar.NOM	hospital	went-3.M.S

'Having had a fever, Kumar went to hospital.'

(45) Assamese

[Ram-Or	xomoi	no-thak-i]	Ram-e	bhat	na-khal-e
[Ram-GEN	time	NEG-keep-CNP]	Ram-NOM	rice	NEG-ate-3

'Having no time, Ram didn't eat rice.'

The discussion in this section does not mean to imply that the Movement Theory of Control is without problems. On the theoretical side, a major premise in the movement approach, as we have seen, is that theta-roles are features and can trigger movement. According to Chomsky (1995) theta-roles are configurational in the sense that they are the result of relations between a head and its specifier or complement. Such relations, as maintained by Landau (2003), are traditionally accessed only at LF (which is reasonable, since LF is the level of interpretation) and not during the derivation. If this is correct, then theta-roles cannot trigger movement. This means that movement into a theta-position must still be disallowed. Despite the arguments and counterarguments (Boeckx and Hornstein 2004), the issue is theory-internal and remains an open debate.

On the empirical side, another problem with the Movement Theory of Control is that it attributes all types of control interpretation and choice of controller to the narrow syntax, dismissing those instances in which the choice of controller is determined by semantic and pragmatic factors. For example, from a movement perspective, sentence (46) below can only mean that the teacher will eventually go the restroom. It cannot mean that the student needs to go the restroom, which is also a possible meaning.

(46) The student asked the teacher to go to the restroom.

The reason for incorrectly ruling out the latter interpretation is that movement can only target the closest possible site, a restriction that is known as the Minimal Link Condition (Hornstein 1999). In this sense, the embedded subject in (46) can only move to the matrix object position, as (47) shows. Movement to the farther matrix subject position, as illustrated in (48), induces a violation of the Minimal Link Condition. Landau (2003) and Cullicover and Jackendoff (2001) provide more arguments along these lines.

(47) Satisfying MLC

Movement

The student asked the teacher [the teacher to go to the restroom].

Minimal Link

(48) Violating MLC

Movement

The student asked the teacher [the student to go to the restroom].

Minimal Link

The conclusion is that the Movement Theory of Control seems to incorrectly try to promote a theory of control that is totally free from any semantic or pragmatic interference. This observation is an important caveat for any analysis that adopts the movement approach. For example, a movement account of Copy Control in Telugu and Assamese must leave some room for semantic and pragmatic interference in order to be able to account for structures like (49-50), repetion of (6-7) above. Although a syntactic account is viable, as chapter 6 shows, semantic factors still play a role.

(49) Telugu

[warʃam	paD-i]	janaalu	taDici-pooyaa-ru
[rain	fall-CNP]	people.NOM	wet-became-3.M.P

‘The rain fell and people became wet.’

(50) Assamese

[dhumuha-Ø	ah-i]	bohut	gos-Ø	bhangil
[storm-ABS	come-CNP]	many	trees-ABS	broke

‘A storm came and many trees got broken.’

However, if Backward Control and Copy Control are facts about natural languages, which they seem to be, and if Chomsky's speculation that despite the variation in complexity and rule systems across languages, "language structure is largely invariant" (Chomsky 2000: 92), then the movement approach seems to have more chances of survival as a theory of control. Problems are only normal in an on-going project, and only time and more research can tell whether they are really a challenge to the movement approach or whether there are ways around them that still need to be worked out.

One issue still needs to be addressed, namely, the pronunciation vs. deletion of copies in Adjunct Control. The different types of Telugu and Assamese Adjunct Control structures stand out as different due to one salient property: the phonological nature of the subjects. Forward Control involves a pronounced subject in the matrix clause and a silent subject in the subordinate clause. Backward Control is the mirror image of Forward Control; the matrix subject is silent and the subordinate subject is pronounced. Copy Control, on the other hand, includes two pronounced subjects. What factors are involved in the phonological (non-)realization of the copies? This is the topic of the following section.

1.3.4 Multiple Copy Spell-Out and the Realization vs. Deletion of Copies

1.3.4.1 Deletion of copies

In pre-Minimalism, when an element moves, it leaves behind a phonetically null trace. The Minimalist Program does away with traces and adopts the Copy Theory of Movement (Chomsky 1995). Under this theory, when an element moves, it copies out of one position and merges in another. The outcome is two copies of the same token. For example, *the man* in (51) copies out of its theme position downstairs and merges in Spec,IP upstairs. The less marked situation is that only one copy, usually the higher/highest copy, is pronounced. The lower copies are normally deleted.

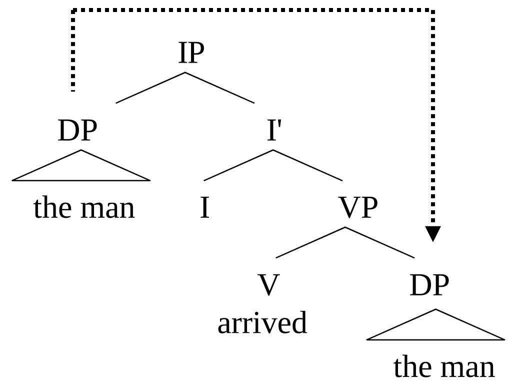
(51) [$_{CP}$ [$_{IP}$ [$_{DP}$ the man] [$_{I'}$ I^0 [$_{VP}$ arrived [$_{DP}$ ~~the man~~]]]]]

Why do the lower copies get deleted? Several answers have been proposed in the literature (Brody 1995, Pesetsky 1998, among several others). One answer that has received considerable support in the literature is provided by Nunes (1995, 2004). Building on work by Kayne (1994), Nunes provides a systematic analysis to account for the deletion of copies. According to Kayne, linear order in a structure is a precedence relation that is regulated by heirarchical structure. If a non-terminal X c-commands a non-terminal Y, but Y does not c-command X, this means that X precedes Y. By the same token, every terminal that is dominated by X precedes the terminals that are dominated by Y. Kayne formulates this idea as the Linear Correspondence Axiom (52).

(52) The Linear Correspondence Axiom
Let X, Y be nonterminals and x, y terminals such that X dominates x and Y dominates y.
Then if X asymmetrically c-commands Y, x precedes y. (Kayne 1994: 33)

Nunes adopts the formulation in (52) and holds that the deletion of the lower copy in (51) takes place in order for the structure to be linearized in accordance with the Linear Correspondence Axiom. As the dotted arrows in (53) illustrate, DP in Spec,IP c-commands the lower DP and thus precedes it. The fact that the lower copy is non-distinct from the copy in Spec,CP means that *the man* precedes and follows itself, which induces a violation of irreflexivity as formulated in (54). At the same time, the verb *arrived* c-commands and is c-commanded by *the man*. This means that it precedes and is preceded by the same element, which is a violation of asymmetry in (55) (Nunes 2004: 24). These violations do not allow the structure to be linearized in accordance with the Linear Correspondence Axiom in (52). The reason is that no linear order can be established between the two copies of *the man* or between *arrived* and *the man*, and consequently the structure does not converge at PF.

(53)



(54) Irreflexivity
If x precedes y, then x and y are distinct copies.

(55) Asymmetry
If x precedes y, y necessarily does not precede x.

In order for the structure in (53) to be linearized, only one copy may be phonologically realized and the other copy must be deleted. "By eliminating 'repeated' material" that induces the violation, linear order can then be established, yielding an appropriate PF object (Nunes 2004: 25).

Deletion of copies does not just happen, however. According to Nunes (2004), it is a PF operation that is arranged for in the syntax. To elaborate, Nunes considers deletion of copies as a PF operation that applies to chains. Chains, on the other hand, are formed in the syntax in accordance with the Conditions on Form Chain in (56) (Nunes 2004: 91 (4)).

(56) Conditions on Form Chain
Two constituents α and β can form the non-trivial chain CH = (α, β) if

a. α is non-distinct from β;

b. α c-commands β;

c. there is at least one feature F of α such that F enters a checking relation with a sublabel of the head of the projection with which α merges and for any such feature F of α, the corresponding feature F of β is accessible to the computational system; and

d. there is no constituent γ such that γ has a feature F' that is of the same type as the feature F of α, and γ is closer to α than β is.

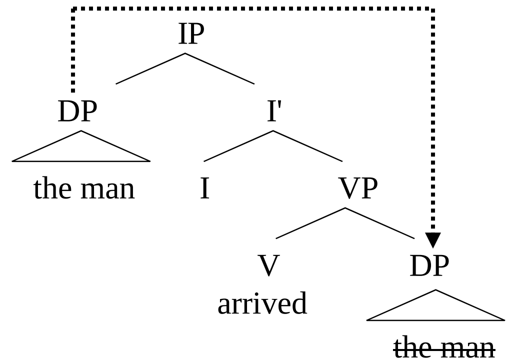
Conditions (56a) and (56b) are straightforward. In (53), for example, the two DPs are non-distinct by virtue of being copies of the same token, *the man*, brought about by movement as copy-plus-merge. Further, the copy in Spec,IP c-commands the copy in VP. According to (56c-d), the movement of *the man* has to take place as a last resort and in accordance with the Minimal Link Condition (Chomsky 1995). In other words, movement must result in feature checking. Also, there should be no other DP that may check the same feature and that c-commands *the man* and is c-commanded by Spec,IP. The two DPs in (53) satisfy the conditons in (56) and, accordingly, they form a chain,

At PF, deletion applies to the chain via the operation Chain Reduction in (57) (Nunes 2004: 27 (44)). "Under the assumption that deletion targets one constituent per application, economy considerations concerning the number of applications of deletion" prevents cases where more copies are deleted than is necessary in order for the structure to converge (Nunes 2004: 27).

(57) Chain Reduction
Delete the minimal number of constituents of a nontrivial chain CH that suffices for CH to be mapped into a linear order in accordance with the Linear Correspondence Axiom.

Therefore, applying (57) to the chain {[$_{DP}$ the man], [$_{DP}$ the man]} in (53) results in the deletion of one copy only, which usually is the lower copy, as (58) shows. Nunes (2004: 30-38) holds that uninterpretable features are not legible at PF. If a copy survives deletion at PF, but it still has formal features, they have to be eliminated by an operation he calls Formal Feature Elimination. Normally, by the time the derivation is delivered to the phonological component, the higher copy has checked more formal/uninterpretable features than the lower copy. This means that the phonological realization of the higher copy requires less Formal Feature Elimination and is thus more economical. Consequently, the lower copy is marked for deletion.

(58)



Before proceeding to the following subsection, it is worth noting that according to Nunes (2004: 50-55) if two non-distinct copies do not form a chain, neither of them can be deleted. As I mentioned above, the reason is that the PF operation Chain Reduction is parasitic on the narrow-syntax operation Form Chain.

Consider the example in (59). The sentence involves coordination of vPs, as (59b) shows. Assume that DP *the pizza* starts out in the lower conjunct before it moves to the higher one. The two copies are non-distinct, but they do not enter a c-command relationship. Therefore, they cannot form a chain. At PF, Chain Reduction can target neither copy. Accordingly, neither is deleted. The structure may not be linearized, however. According to the Linear Correspondence Axiom in (52), the two copies of *the pizza* are still in a precedence relationship. The reason is that the higher vP c-commands the lower vP and thus all the terminals dominated by the higher vP precede all the terminals dominated by the lower vP. This means that if both copies are pronounced, the same element follows and precedes itself, which is a violation of the irreflexivity condition in (54). As a result, the structure must not converge, contrary to facts. To avoid this problem, Nunes maintains that DP *the pizza* and the pronominal *it* are base-generated. That is, they are not related by movement and thus they are distinct copies.

(59) a. Tom ate the pizza and paid for it.
b. Tom [$_{\text{CONJP}}$ [$_{\text{vP}}$ ate [$_{\text{DP}}$ the pizza]] [$_{\text{CONJP'}}$ and [$_{\text{vP}}$ paid [$_{\text{PP}}$ for [$_{\text{DP}}$ the pizza/it]]]]]

Nevertheless, there exist structures in which two elements are related by movement – that is, they are non-distinct – and yet they are pronounced without inducing a violation of the Linear Correspondence Axiom. The following section spells out the details.

1.3.4.2 Realization of multiple copies

Although the unmarked situation is that only one copy in a given chain survives deletion upon linearization, structures in which more than one copy in a chain are pronounced are attested in several languages. Such structures are classified as instances of multiple copy spell-out. Here are three examples from Romani (McDaniel 1986, in Nunes 2004: 38 (72)), Frisian (Hiemstra 1986, in Nunes 2004: 38 (73)), and San Lucas Quiaviní Zapotec (Lee 2003: 102 (83)). Each example includes two non-distinct copies in a c-command relationship. Yet, they both escape deletion without violating the Linear Correspondence Axiom.

(60) Romani

Kas	misline	kas	o Demìri	dikhlâ	~~kas~~?
whom	you.think	whom	Demir	saw	~~kas~~?

‘Who do you think Demir saw?’

(61) Frisian

wêr	tinke	jo	wêr’t	Jan	wennet	~~wêr~~?
Where	think	you	where-that	Jan	lives	~~Where~~?

‘Where do you think that Jan lives?’

(62) San Lucas Quiaviní Zapotec

R-cààa’z	Gye’eihlly	g-auh	(Gye’eihlly)	bxaady
HABITUAL-want	Mike	IRREALIS-eat	(Mike)	grasshopper

‘Mike wants to eat grasshopper.’

According to Nunes (2004: 40), structures like (60-62) are possible only if one of the copies is a head and it adjoins to another head. By PF, the two heads undergo morphological re-analysis, or morphological fusion in the sense of Halle and Marantz (1993), and the copy becomes a part of the node that dominates it. At PF, the structure is linearized. Following Chomsky (1995: 337), Nunes assumes that the Linear Correspondence Axiom does not apply word-internally. Therefore, the fused copy cannot be detected as non-distinct from the other copies in the chain, so it escapes deletion.

To illustrate, Nunes holds that the intermediate copy of the wh-element in each of (60) and (61) adjoins to C^0 of the subordinate clause on its way to Spec, CP of the matrix clause. The wh-element and C^0 are morphologically re-analyzed as a single terminal node of the form $[_C{}^0$ WH $[_C{}^0$ $C^0]]$ and therefore the wh-element becomes "invisible to the Linear Correspondance Axiom" (Nunes 2004: 40) — or, as Kandybowicz (2006) argues, it becomes "morphosyntactically *distinct*" from the other non-adjoined copies. Chain Reduction is subject to economy restrictions; that is, it applies only if the phonological realization of a copy prevents the structure from being linearized. In (60) and (61), the only wh-copy that leads to such consequences is the lowest copy and is therefore deleted. The intermediate copy, on the other hand, no longer causes the derivation to crash, which is why it is not deleted.

Note that the morphological fusion of the intermediate wh-copy and C^0 into $[_C{}^0$ WH $[_C{}^0$ $C^0]]$ can be morphophonologically detected in (61). Whereas the highest and lowest copies are *wêr* 'where', the intermediate fused copy is *wêr't* 'where-that'. This is not necessarily always the case, however, as (60) and (62) imply. According to Nunes, sentence (60) is similar to (61), except for one difference: the wh-element in (60) adjoins to a null head.

Sentence (62) is an example of Copy Control. Boeckx, Hornstein, and Nunes (2007) analyze it as movement. The lower copy copies out of the subordinate clause and merges in the matrix clause. At the end of the derivation, the two non-distinct copies form a chain. At PF, the lower copy adjoins to a covert head, a reflexive s*elf*-affix.[7] The copy and the head form a new word. Linearization cannot see into words. This is why the copy escapes deletion.

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[7] Evidence for this affix comes from structures like (i) in which the lower copy of 'Mike' behaves like a reflexive pronoun. This phenomenon is attested in Chinese, as Boeckx, Hornstein, and Nunes (2007) point out. For example,

In this section, I set the stage for the rest of the study. Most crucially, I highlighted the major premises of the Movement Theory of Control and explained why it is superior to other alternatives with respect to Adjunct Control in Telugu and Assamese. In addition to the Movement Theory of Control, I adopt Nunes's (2004) system in order to explain what determines the deletion or pronunciation of copies in Adjunct Control. This section delineated the main points in Nunes's (2004) system that are relevant to this study. The main idea is that the deletion and pronunciation of copies do not happen randomly but are restricted by certain conditions at the syntax-phonology interface.

Other theoretical assumptions will be discussed as needed in the body of the dissertation. Section 1.4 provides a brief overview of the following chapters.

1.4 Structure of the Study

The following chapters are organized as follows. Chapter 2 is a descriptive overview. It highlights the Telugu and Assamese morphosyntactic characteristics that are most relevant to the topic of Adjunct Control. These include word order, Case, and types of clauses. It also lays out the Adjunct Control data that are analyzed in subsequent chapters. A major contribution of this chapter is that it presents evidence of Copy Control in Telugu and Assamese, a phenomenon that, to my knowledge, has not been documented in grammar books (e.g., Goswami 1982; Krishnamurti and Gwynn 1985).

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sentence (i) (from Lee 2003: 84 (1)) is similar to the Chinese example (ii). The only difference is that '-self' in Chinese is overt, while in San Lucas Quiaviní Zapotec it is covert.

(i) San Lucas Quiaviní Zapotec
R-yu'làà'z Gye'eihlly Gye'eihlly
HABITUAL-like Mike Mike
'Mike likes himself.'

(ii) Chinese
Mama hen xihuan mama-ziji
Mother very like mother-self
'Mom likes herself.'

Chapters 3 and 4 provide a detailed analysis of the different types of Adjunct Control. I follow Hornstein (1999, 2003) and Nunes (1995, 2004) and consider Adjunct Control as being derived via sideward movement. This is a special type of movement that allows an element to copy out of one phrasal structure (e.g., an adjunct/subordinate clause) and merge into another unconnected and independently formed phrasal structure (e.g., a matrix clause). Chapter 3 focuses on Forward and Backward Control. Both types share two characteristics. First, the adjunct merges with the matrix clause at vP. Second, only one subject is phonologically realized.

Chapter 4 deals with Copy Control. In this case, the adjunct merges with the matrix clause at CP, and both subjects are pronounced. The chapter places Copy Control within the bigger picture of multiple copy spell-out. I argue that two copies in a Copy Control structure survive deletion because one of them becomes part of a bigger phonological word — a spelled-out domain — that is opaque to linearization and is inaccessible to Form Chain and Chain Reduction. In order for this to be possible, spell-out and linearization have to apply cyclically (Uriagereka 1999).

Chapters 3 and 4 remain silent about why movement takes place in Telugu and Assamese Adjunct Control. Given that movement in Minimalism has to happen for a reason, Chapter 5 addresses this issue and shows that the Minimalist view of movement as being triggered by feature checking is not sufficient to account for the data under examination. Building on work by Pesetsky and Torrego (2006), I suggest that the subject moves in order to make up for a defect in the adjunct. I show that the adjunct in Adjunct Control structures is a non-goal and suggest that its merge is disallowed unless it is licensed by the movement of its subject.

Chapter 6 deals with the apparent exceptions to Adjunct Control in (6-7) above. These are structures that pattern the same as Adjunct Control structures, but they allow disjoint subjects.

The chapter argues that these exceptions are instances of Expletive Control that have the same derivational history as the other more common instances of Adjunct Control. The major difference is that the subjects in Expletive Control structures are null expletives rather than arguments.

Chapter 7 is a summary and a conclusion. It summarizes the findings of the dissertation and highlights the major theoretical implications.

CHAPTER 2
ADJUNCT CONTROL IN TELUGU AND ASSAMESE: A DESCRIPTIVE OVERVIEW

2.1 Introduction

This chapter presents a detailed description of the phenomenon of Adjunct Control in Telugu and Assamese. The focus is on subject control into non-finite clause known as conjunctive participle or adverbial clause. To set the scene, the chapter also outlines the aspects of Telugu and Assamese morphosyntax that are relevant to the phenomenon in question.

The following sections are organized in this manner. Section 2.2 offers a general linguistic overview of Telugu and Assamese. Section 2.3 presents a descriptive survey of Case, especially as related to Subject NPs. Section 2.4 is a brief description of finite clauses in both languages, with a special focus on agreement. Section 2.5 delineates the characteristics of non-finite clauses, drawing a distinction between non-finite subordinate clauses that do not enforce a control interpretation and conjunctive participle clauses that do. Section 2.6 highlights the different types of adjunct control that are allowed in each language. These are Forward Control (Section 2.6.1), Backward Control (Section 2.6.2), and Copy Control (Section 2.6.3). Exceptions to the phenomenon are presented in Section 2.6.4. Section 2.7 concludes the chapter with a summary.

2.2 Linguistic Overview

Telugu and Assamese are subject pro-drop, head-final, SOV languages (Krishnamurti 1997, 2003; Goswami and Tamuli 2003). That is, both (a) and (b) of (1-2) are grammatical:

(1) Telugu

	a.	atanu	Sarita-ki	ninna	aa-pustakamu	iccaa-Du
		he.NOM	Sarita-DAT	yesterday	that-book	gave-3.M.S
		'He gave Sarita a book yesterday.'				
	b.	pro	Sarita-ki	ninna	aa-pustakamu	iccaa-Du
		pro	Sarita-DAT	yesterday	that-book	gave-3.M.S
		'He gave Sarita a book yesterday.'				

(2) Assamese

a.	xi	azi ratipuwa	PrOxad-ok	e-khon	kitap	dil-e
	he-NOM	today morning	Proxad-ACC	one-CL	book	gave-3
	‘He gave Proxad a book this morning.’					
b.	pro	azi ratipuwa	PrOxad-ok	e-khon	kitap	dil-e
	pro	today morning	Proxad-ACC	one-CL	book	gave-3
	‘He gave Proxad a book this morning.’					

Although the canonical word order in both languages is SOV, OSV is also possible. In fact, apart from the position of the verb which is usually fixed, any constituent can be sentence-initial in a topic position, as the sentences in (3-4) demonstrate.

(3) Telugu

a.	Kumar	Sarita-ki	ninna	aa-pustakamu	iccaa-Du
	Kumar.NOM	Sarita-DAT	yesterday	that-book	gave-3.M.S
	‘Kumar gave Sarita a book yesterday.’				
b.	Sarita-ki	Kumar	ninna	aa-pustakamu	iccaa-Du
c.	ninna	Kumar	Sarita-ki	aa-pustakamu	iccaa-Du
d.	aa-pustakamu	Kumar	Sarita-ki	ninna	iccaa-Du

(4) Assamese

a.	Ram-e	azi ratipuwa	PrOxad-ok	e-khon	kitap	dil-e
	Ram-NOM	today morning	Proxad-ACC	one-CL	book	gave-3
	‘Ram gave Proxad a book this morning.’					
b.	azi ratipuwa	Ram-e	PrOxad-ok	e-khon	kitap	dil-e
c.	PrOxad-ok	Ram-e	azi ratipuwa	e-khon	kitap	dil-e
d.	e-khon kitap	Ram-e	azi ratipuwa	PrOxad-ok		dil-e

The immediate pre-verbal position in both languages is a focus position. For example, the subject may occupy a preverbal position for emphatic purposes (e.g., (5b) and (6b)). At the same time, question words, which are focal elements, occupy a preverbal position (e.g., (5c) and (6c)). Note, however, that question words may also be pronounced in-situ (e.g., (5d) and (6d)).

(5) Telugu

a.

Kumar	Sarita-ki	phone	ceesaa-Du
Kumar.NOM	Sarita-DAT	phone	did-3.M.S

‘Kumar called Sarita.’

b.

Sarita-ki	Kumar	phone	ceesaa-Du
Sarita-DAT	Kumar.NOM	phone	did-3.M.S

‘No one but Kumar called Sarita.’

c.

Sarita-ki	ewaru	phone	ceesaa-Du
Sarita-DAT	who.NOM	phone	did-3.M.S

‘Who called Sarita?’

d.

ewaru	Sarita-ki	phone	ceesaa-Du
who.NOM	Sarita-DAT	phone	did-3.M.S

‘Who called Sarita?’

(6) Assamese

a.

Ram-e	mor	ghorto	bhangil-e
Ram.NOM	my	house	destroy-3

‘Ram destroyed my house.’

b.

mor	ghorto	Ram-e	bhangil-e
my	house	Ram-NOM	destroyed-3

‘No one but Ram destroyed my house.’

c.

mor	ghorto	kone	bhangil-e
my	house	who.NOM	destroyed-3

‘Who destroyed my house?’

d.

kone	mor	ghorto	bhangil-e
who.NOM	my	house	destroyed-3

‘Who destroyed my house?’

The following section delineates the main characteristics of Case in Telugu and Assamese, focusing mainly on Case-marked subject NPs.

2.3 Case in Telugu and Assamese: A Descriptive Overview

Case in Telugu and Assamese is a morphological and syntactic category. Morphologically, Case-marking in both languages is agglutinative in nature. Syntactically, an NP must inflect for Case in order to be used in a sentence; its inflection determines its function (Krishnamurti 2003; Goswami and Tamuli 2003: 319; Masica 1991: 230-236).

Since this study is concerned with subject control into adjuncts, the focus in the following subsections is mainly on the Case of Telugu and Assamese subject NPs. These can be Structural Case-marked (e.g., nominative) or Inherent Case-marked (e.g., dative). Structural Case is associated with grammatical relationships. For example, although the subject of passive constructions in English is a theme, it is Structural Case-marked nominative because it is a subject. Inherent Case, on the other hand, is associated with a theta-role. For instance, an experiencer subject NP — that is, an NP whose physical or emotional state the predicate describes — is Inherent Case-marked dative in Telugu and genitive in Assamese.

2.3.1 Telugu Case-Marked Subject NPs

Telugu is a nominative-accusative language. The subject can be Case-marked nominative or dative, depending on the predicate. Nominative is the unmarked case. In other words, a nominative NP is also the basic stem. Dative, on the other hand, is formed by adding a layer II suffix to the oblique stem. According to Krishnamurti (2003: 218) and Masica (1991), an oblique suffix in Dravidian languages is a layer I morpheme that makes an NP eligible to receive layer II case markers. Take the Telugu nouns for ‘house’ and ‘dog’ (Table 2-1). The nominative form and the basic stem coincide. The dative case-marker, as well as the other postpositions (e.g., locative), are added to the oblique stem which is also the genitive form. Krishnamurti and Gwynn (1985, Chapters 9 and 26) provide a more detailed description of morphological case in Telugu.

Table 2-1 Some types of case in Telugu

Case	Form	‘house’	‘dog’
Basic Stem/Nominative	Ø	illu	kukka
Oblique Stem/genitive	Varies	iNTi	kukka
Dative	-ku/-ki	iNTi-ki	kukka-ku/ki
Locative	-loo	iNTi-loo	kukka-loo

In Telugu, unless the predicate is an experiential predicate (a predicate that expresses a physical or emotional state — e.g., hunger or anger — or possession), the subject is Structural Case-marked nominative, in which case the verb agrees with it (e.g., (7a) and (7b)).

(7)	a.	Kumar	Naatyamu	ceesaa-Du
		Kumar.NOM	dance	did-3.M.S
		'Kumar danced.'		
	b.	caalaa mandi	Naatyamu	ceesaa-ru
		many people.NOM	dance	did-3.M.P
		'Many people danced.'		

In sentences with experiential predicates, a dative NP functions as the subject. For example, it functions as an antecedent to an anaphor or as the unpronounced argument of the subordinate clause in a control construction.[1] In (8a-b), *Kumar* is dative Case-marked because *koopam waccindi* 'got angry' and *aakali westondi* 'feel hungry' are experiential predicates. In (8c), *Kumar* functions as the antecedent to the anaphor *tana-ku tana-meedhe* 'himself'. In (8d), the dative NP is the unpronounced controllee (presented as Δ), which can only be the subject.

(8)	a.	Kumar-ki	koopam	waccin-di		
		Kumar-DAT	anger	came-3.N.S		
		'Kumar got angry.'				
	b.	Kumar-ki	aakali	weston-di		
		Kumar-DAT	hunger	feel-3.N.S		
		'Kumar feels hungry.'				
	c.	Kumar-ki	tana-ku tana-meede	koopam	waccin-di	
		Kumar-DAT	him-DAT him-upon	anger	came-3.N.S	
		'Kumar got angry with himself.'				
	d.	Kumar_i	[Δ_i	koopam	raawaTam[2]]	ishTapaDa-Du
		Kumar.NOM	[Δ.DAT	anger	coming]	doesn't like-3.M.S
		'Kumar does not like to get angry.'				

[1] The unpronounced argument of a subordinate clause in a control structure can only be a subject. However, Dubinsky and Hamano (2006) analyze a case of control in which the unpronounced argument is a possessor NP.

[2] *RaawaTam* 'coming' is the gerundive form of *waccin-di* 'came-3.N.S' in (8a).

Unlike nominative NPs, however, dative NPs do not trigger agreement on the verb. In the above sentence, the verb agrees with *koopam* ‘anger’ or *aakali* ‘hunger’ rather than with *Kumar-ki* ‘Kumar-DAT’. For further illustration, the sentences in (9) below also have dative subjects. The verb in (9a) agrees with the singular NP *paniwaaDu* ‘servant’, whereas in (9b) it agrees with the plural NP *paniwaallu* ‘servants’.

(9) a. atani-ki paniwaaDu unna-Du
he-DAT servant is-3.M.S
‘He has a servant.’

b. atani-ki paniwaallu unna-ru
he-DAT servants are-3.M.P
‘He has servants.’

2.3.2 Assamese Case-Marked Subject NPs

Like Telugu, Assamese is a nominative-accusative language (contra Amritavalli and Sarma 2002). Whereas the subject in Telugu may be Case-marked nominative or dative, depending on the predicate, the subject in Assamese may be case-marked nominative, absolutive, genitive, or accusative (Goswami 1982, Nath 2001, and Goswami and Tamuli 2003). And as we will see shortly, nominative is further split into two categories: nominative and experiential nominative. Assamese Case-marked NPs experience minimum morphophonemic variation, although pronouns seem to be more susceptible to such variation (Table 2-2).

Table 2-2 Some types of case in Assamese

Case	Form	‘man-the-case’	‘he’
Nominative	-e/Ø	manuh-zan-e	xi
Absolutive	-Ø	manuh-zan-Ø	xi
Accusative	-(a)k	manuh-zan-ak	ta-k
Genitive	-Or	manuh-zan-or	ta-r

Nominative subjects occur with transitive predicates (e.g., (10)) and unergative predicates (e.g., (11)). Absolutive subjects occur with unaccusative predicates (e.g., (12)).

(10) a. Ram-e khotha-tu xunil-e
Ram-NOM news-CL heard-3
'Ram heard the news.'

b. Ram-e bhat khal-e
Ram-NOM rice ate-3
'Ram ate rice.'

(11) a. Ram-e nasil-e
Ram-NOM danced-3
'Ram danced.'

b. Ram-e aahil-e
Ram-NOM came-3
'Ram came.'

(12) a. PrOxad-Ø xu-i goil
Proxad-ABS sleep-INF went
'Proxad feel asleep.'

b. bohut manuh-Ø moril
many people-ABS died
'Many people died.'

Accusative subjects, on the other hand, are a rare phenomenon. They occur only "with the verb *lag* 'want/need', which is invariably in the third person" (Goswami and Tamuli 2003: 432). Sentence (13a) is an example. Note, however, that (13b) is an alternative with a nominative subject. Accusative subjects will not receive further attention in this study.

(13) a. Ram-ok toka lag-e
Ram-ACC money want-3
'I wants/needs money.'

b. Ram-e pani bisaril-e
Ram-NOM water wanted-3
'Ram wanted water.'

Genitive subjects occur with experiential predicates. They are experiencers whose emotional or physical state the predicate describes (e.g., (14a-b)).

(14)	a.	Ram-Or	khong	uthil
		Ram-GEN	anger	raised
		'Ram got angry.'		
	b.	Ram-Or	thanda	lagil
		Ram-GEN	cold	felt
		'Ram felt cold.'		

In addition, gentive subjects show up in constructions for 'inalienable' and 'alienable' possessions (e.g., (15a-b)) (Nath 2001: p. 21 (20-21)). Unlike Telugu experiential predicates, Assamese predicates do not show agreement in non-nominative subject constructions.

(15)	a.	Ram-Or	du-khan	haat	ase
		Ram-GEN	two-CL	hands	has
		'Ram has two hands.'			
	b.	Ram-Or	du-ta	laguwa	asil
		Ram-GEN	two-CL	servant	had
		'Ram had two servants.'			

Like dative subjects in Telugu, genitive subjects in Assamese function as antecedents to anaphors (e.g., (16a)) and are the unpronounced arguments in control structures (e.g., (16b)).

(16)	a.	Ram-Or	niz-Or uporot	khong	uthil	
		Ram-GEN	self-GEN above/on	anger	raised	
		'Ram got angry with himself.'				
	b.	Ram-e_i	[Δ_i	thanda	lagabo]	ni-bisar-e
		Ram-NOM	[Δ.GEN	cold	feeling]	NEG-want-3
		'Ram doesn't want to feel cold.'				

A further note on experiencer subjects is in order for the purpose of this study. Compare the sentences in (17). While both (17a) and (17b) are somewhat synonymous, sentence (17b) implies a more conscious effort on the part of the subject. Using *kor* 'do' renders the subject more volitional. The same observation applies to (18a-b):

(17)	a.	Ram-Or	e-ta	buddhi	khelal
		Ram-GEN	one-CL	idea	played
		'Ram got an idea.' OR 'An idea occurred to Ram.'			

b.	Ram-e	e-ta	buddhi	koril-e	
	Ram-NOM	one-CL	idea	did-3	
	'Ram did/planned an idea.'				

(18)	a.	Ram-Or	phurti	lagil	
		Ram-GEN	exhilaration	felt	
		'Ram felt very happy.'			
	b.	Ram-e	phurti	koril-e	
		Ram-NOM	exhilaration	did-3	
		'Ram celebrated/partied.'			

To elaborate, experiential predicates with *kor* 'do' allow expressions like 'on purpose' or 'knowingly' (e.g., (19a) and (20a)). The same expressions make non-volitional experiential predicates unacceptable (e.g., (19b) and (20b)).

(19)	a.	Ram-e	jani-buji	e-ta	buddhi	koril-e
		Ram-NOM	knowingly	one-CL	idea	did-3
		'Ram got an idea on purpose.' Also meaning 'Ram knowingly tricked someone.'				
	b.	*Ram-Or	jani-buji	e-ta	buddhi	khelal
		Ram-GEN	knowingly	one-CL	idea	played
		'An idea occurred to Ram on purpose.'				

(20)	a.	Ram-e	jani-buji	khong	koril-e
		Ram-NOM	knowingly	anger	did-3
		'Ram got angry on purpose.' meaning 'Ram knowingly expressed his anger.'			
	b.	*Ram-Or	jani-buji	khong	uthil
		Ram-NOM	knowingly	anger	did-3
		'Ram angered on purpose.'			

Nevertheless, this observation does not deprive the nominative subjects in (17b) and (18b), as well as in (19a) and (20a), of being experiencers on a par with their genitive counterparts. According to Abbi (1991), experiential predicates can be divided into at least three categories: State Experiential, Process Experiential, and Stative Action Process Experiential. The first and second types describe a physical, mental, or emotional state (e.g., 'be hungry' or 'get hungry').

The last type indicates that "an experiencer is in a certain state or condition with respect to an action undertaken by himself. In this respect, it is always reflexive" (255-256).

Based on Abbi's remarks, *khong uthil* 'anger raised' and *phurti lagil* 'exhilaration felt' can be classified as state or process predicates which Case-mark their subjects genitive. The predicates *khong korile* 'anger did' and *phurti korle* 'exhilaration did', on the other hand, are Stative Action Process Experiential predicates which Case-mark their subject experiential nominative (EXP NOM). The two types of predicates have a difference in meaning: *khong uthil* 'anger raised' and *phurti lagil* 'exhilaration felt' simply mean 'get angry' and 'feel very happy' respectively, while *khong korile* 'anger did' and *phurti korle* 'exhilaration did' mean 'express one's anger' (e.g., yell) and 'celebrate'. The Case assigned by either type of predicate is related to the theta-role experiencer regardless of the morphological materialization. The reason why experiential nominative subjects are not considered simply nominative is based on empirical grounds. The two types of nominative subjects exhibit different behaviors in Adjunct Control structures as we will see in Section 2.6.3 below.[3]

The following section provides a brief description of finite clauses in Telugu and Assamese. The focus is mainly on the agreement behavior of finite predicates in each language.

2.4 Finite Clauses in Telugu and Assamese

2.4.1 Finite Clauses in Telugu

Finite declarative clauses in Telugu take verbs that are inflected for tense and agreement. The verb may belong to one of the following morphological paradigms: past, non-past (future or habitual), or negative (future or habitual). Concerning agreement, verbs inflect for person, gender

[3] Note that the distinction between nominative and experiential nominative subjects may very well be extended to Telugu. However, the two types of subjects do not behave differently with respect to Adjunct Control. This is why the distinction, if it exists, is not discussed.

(only with 3rd person), and number. For example, the verb *ammu* ‘to sell’ takes one of the forms in (21a-c) if used in a declarative finite clause with a 3rd person feminine subject. Compare to (21d-f) in which the verb agrees with a 3rd person masculine subject. The variation in suffix forms is morphophonological (Kirshnamutri 1997: 216-221). [4]

(21) Telugu

a. amm-in-du
sell-PAST-3.N.S
‘she sold’

b. ammu-tun-di
sell-NONPAST-3.N.S
‘she sells/will sell’

c. amm-a-du
sell-NEG-3.N.S
‘She won’t/doesn’t sell’

d. amm-aa-Du
sell-PAST-3.M.S
‘he sold’

e. ammu-taa-Du
sell-NONPAST-3.M.S
‘he sells/will sell’

f. amm-a-Du
sell-NEG-3.M.S
‘he won’t/doesn’t sell’

2.4.2 Finite Clauses in Assamese

Finite clauses in Assamese have verbs that are inflected for aspect, tense, and agreement, in this order.

There are three types of aspect in Assamese: imperfective *-is*, habitual *–Ø*, and perfective which collapses with the simple past into one portmanteau morpheme *-il*. Tense is also divided

[4] Negative past verbs are compounds made of the stem + *lee* ‘the negative past form of verb to be’ (e.g., (i)).

(i) ammu-lee-du
sell-was not-3.N.S
‘she didn’t sell’

into three categories: past *–il*, present which is associated with the stem itself, and future *–ib*. Regarding agreement, verbs inflect for person (1st, 2nd, and 3rd) and honorificity (only with 2nd Person as [+, -, *or* Ø honorific]). Assamese verbs do not inflect for gender or number. For example, any of the forms of the verb *likh* 'to write' in (22) below can be used in a finite clause to agree with a 3rd person, singular or plural, feminine or masculine subject. The variation in (22c) and (22e) is morphophonological (Goswami and Tamuli 2003:422-423).[5]

(22) Assamese

a. likh-Ø-e
write-HABITUAL-3
's/he/they write(s)'

b. likh-ib-a
write-FUTURE-3
's/he/they will write'

c. likh-is-e
write-IMPERFECTIVE-3
's/he/they has/have written'

d. likh-il-e
write-PAST-3
's/he/they wrote'

e. likh-is-il-Ø
write-IMPERFECTIVE-PAST-3
's/he/they had written'

Variation in tense and/or aspect in finite clauses does not have an effect on Adjunct Control. This is why most of the examples from both languages will depict one tense form: the past. The following section provides a descriptive overview of non-finite subordinate clauses. The focus is on adjuncts.

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[5] Aspect in both Telugu and Assamese can also be expressed by forming compound stems. An example from Assamese is *bhangi thak* 'break-Non-finite + stay', which means 'to break suddenly'. Notice that the main meaning lies in the first stem. The second stem is only aspectual, which is expected in a head-final language (Krishnamurti and Gwynn 1985: Ch. 16; Goswami and Tamuli 2003: 425-430; and Masica 1991: 270-271).

2.5 Non-Finite Clauses in Telugu and Assamese

Telugu and Assamese have two types of non-finite subordinate clauses that function as adjuncts. The first type is what I will refer to as infinitive clauses (INF clauses). The second type is known as adverbial clauses or conjunctive participle clauses (CNP clauses) (Linholm 1975 and Klaiman 1981). Section 2.5.1 deals with INF clauses. Section 2.5.2 delineates the characteristics of CNP clauses, which are the main domain of investigation of the current study.

2.5.1 Infinitive Clauses in Telugu and Assamese

An INF clause in Telugu and Assamese comprises a non-finite verb that Case-marks its subject like any finite verb. The subject of an INF clause does not have to be coreferential with the subject of the matrix clause. The following subsections spell out the details.

2.5.1.1 Infinitive clauses in Telugu

In Telugu, the verb of an INF clause may take one of the forms in (23-27). As the examples illustrate, the first three forms (23-25) are participial adjectives that need an overt complementizer in order to function in subordinate clauses. The forms in (26-27), on the other hand, do not take an overt complementizer. Nevertheless, since their behavior with regard to control patterns with the behavior of the forms in (23-25), I group all five forms together.

(23) Past Participle: Verb stem + *-ina*; e.g.,

a. cepp-ina maaTa => 'the spoken word'

b. cees-ina-tarwaata => 'after having done'

c. [Kumar bhojanamu tayaru cees-ina-tarwaata] Sarita tinnaa-di
[Kumar.NOM dinner prepare do-INF-after] Sarita.NOM ate-3.N.S
'After Kumar prepared dinner, Sarita ate.'

d. [Kumar-ki jwaram wacc-ina-anduku]
[Kumar-DAT fever come-INF-because]

Sarita (atani-ki) mandulu iccin-di
Sarita.NOM (him-DAT) medicines gave-3.N.S
'Because Kumar had a fever, Sarita gave him medicine.'

(24) Future or Habitual: Verb stem + *-ee*; e.g.,

a. wacc-ee eeDu => 'the coming year'

b. cees-ee mundu => 'before doing'

c.

[Kumar	pani-ki	well-ee-mundu]	Sarita-ki	fon	ceesaa-Du
[Kumar.NOM	work	go-INF-before]	Sarita-DAT	phone	did-3.M.S

'Before going to work, Kumar called Sarita.'

d.

[raatri	ayy-ee-sariki]	baaluDu	nidra	pooyaa-Du
[night	come-INF-by the time]	child	sleep	happen-3.M.S

'By the time the night came, the child fell asleep.'

(25) Durative: Verb stem + *-tunna* / *-Tunna*; e.g.,

a. was-tunna-waaDu => 'the coming man'

b. cees-tunna-appudu => 'while doing'

c.

[Kumar	sinima	cuus-tunna-appuDu]	Sarita	popkorn	tinnaa-di
[Kumar.NOM	movie	watch-INF-while]	Sarita.NOM	popcorn	ate-3.N.S

'While Kumar was watching a movie, Sarita ate popcorn.'

d.

[tana	bharta-too	naaTyam	cees-tunna-appuDu]
[her	husband-with	dance	did-INF-while]

Sarita	(atani-ki)	kathalu	ceppin-di
Sarita	(him-DAT)	stories	told-3.N.S

'While Sartia was dancing with her husband, she told him stories.'

(26) Conditional: Verb stem + *-tee*;

a. amm-itee => 'if one sells/if one sold'

b.

[Kumar	kofi	kalip-itee]	Sarita	taagutun-di
[Kumar.NOM	coffee	mix-INF]	Sarita-NOM	will drink-3.N.S

'If Kumar makes coffee, Sarita will drink it.'

c.

[Kumar	iNTiki	tondaraga	wos-tee]
[Kumar.NOM	home	early	come-INF]

Sarita	aanand -istun-di
Sarita.NOM	happy-will be-3.N.S

'If Kumar comes home early, Sarita will be happy'

(27) Concessive: Verb stem + *inaa*

a. amm-inaa => 'although one sells/although one sold'

b. [Kumar iNTiki tondaraga wacc-ina]
Kumar.NOM home early come-INF

Sarita aananda-paDalee-du
Sarita.NOM happy-didn't go-3.N.S
'Although Kumar came home early, Sarita wasn't happy.'

c. [Kumar manci kofi kalip-inaa] Sarita taagalee-du
[Kumar.NOM good coffee make-INF] Sarita.NOM didn't drink-3.N.S
'Although Kumar made good coffee, Sarita didn't drink.'

2.5.1.2 Infinitive clauses in Assamese

In Assamese, the subordinate non-finite verb may take several forms, depending on the intended meaning. Following are three examples. The first form in (28) is a nominal or gerundive that is normally Case-marked. It is followed by an overt complementizer when used in an INF clause. The forms in (29-30) do not take an overt complementizer. All three forms have the same characteristics with respect to control: no control interpretation is required.

(28) Nominal: Verb stem + *-a*

a. thak-a => 'keeping'

b. thak-a-r karone => 'because of keeping'

c. [Ram-Or tini-ta loguwa thak-a-r karone]
[Ram-GEN three-CL servant keep-INF-GEN because]

xi / tar ghoiniyek-e ghoro-r kam no-kor-e
he / his wife-NOM house-GEN work NEG-do-3
'Because Ram has three servants, he / his wife doesn't do housework.'

b. [loratu-e bhalkoi nas-a-r karone]
[boy-NOM well dance-INF-GEN because]

tar mak-Or bhal lagil
his mother-GEN good felt
'Because the boy danced well, the mother felt good.'

(29) Contingent: Verb stem + *-õte*

a. kha-õte => 'while eating'

b. [Ram-e bhat kha-õte]
[Ram-NOM rice eat-INF]

xi	Proxad-ok	gai	thaka	xunil-e
he.NOM	Proxad-ACC	sing	keep	heard-3

'While Ram was eating rice, he heard Proxad singing.'

c.

[Ram-e	ga-õte]	Proxad-e	nasil-e
[Ram-NOM	sing-INF]	Proxad-NOM	danced-3

'While Ram was singing, Proxad danced.'

(30) Future conditional: Verb stem + -*(i)le*

a. kor-ile => 'if one does'

b.

[Ram-e	ga-ile]	Proxad-e	nasib-a
[Ram-NOM	sing-INF]	Proxad-NOM	will dance-3

'If Ram sings, Proxad will dance.'

c.

[PrOxad-Or	bhok	lag-ile]	xi	bhat	khawib-a
[Praxad-GEN	hunger	strike/feel-INF]	he.NOM	rice	will eat-3

'If Proxad is hungry, he will eat rice.'

The following section introduces another type of Telugu and Assamese subordinate clauses, namely, conjunctive participle or CNP clauses.

2.5.2 Conjunctive Participle Clauses in Telugu and Assamese

Conjunctive Participle clauses in the Indian Subcontinent are a defining characteristic which South Asian languages inherited from Sanskrit (Dwarikesh 1971). In Telugu and Assamese, like in most South Asian languages, CNP clauses are non-finite clauses with no (overt) complementizer. They express an action that is anterior to or simultaneous with that of the finite clause. Further, the CNP verb shows no inflection for tense or agreement.

Although the CNP clause and the matrix clause might have a cause-effect relation, they can be fairly translated into English as two clauses joined by the conjunction *and*. Despite this conjunctive nature, however, they behave like adverbial subordinate clauses — for example, unlike conjuncts, they may be embedded within another clause whose predicate they functionally modify — which is why they are considered adverbial participle clauses or adjuncts (Masica

2005: 110, Haspelmath 1995, and Jayaseelan 2004, among several others). The following sections spell out the details.

2.5.2.1 Conjunctive Participle clauses in Telugu

In Telugu, a CNP clause contains a verb that takes one of the forms in (31) (Krishnamurti and Gwynn 1985, ch.18).

(31) Participial: Verb stem + -*i*; e.g.,

a. wacc-i => 'having come'

b.

Kumar	[jwaram	wacc-i]	hospital	weLLaa-Du
Kumar.NOM	[fever	come-CNP]	hospital	went-3.M.S

'Having had a fever, Kumar went to hospital.'

c.

Sarita	[niiLLu	kaac-i]	tea	tayaru	ceesin-di
Sarita.NOM	[water	boil-CNP]	tea	prepare	did-3.N.S

'Having boiled the water, Sarita prepared the tea.'

d.

Sarita-ki	[aa	maaTa	win-i]	koopamu	waccin-di
Sarita.D	[that	matter	hear-CNP]	anger	came-3.N.S

'Having heard the news, Sarita got angry.'

(32) Durative: Verb stem + *-tuu/-Tuu*; e.g.,

a. cees-tuu => 'while doing/taking'

b.

Kumar	[Sarita-too	naTyamu	cees-tuu]
Kumar.NOM	[Sarita-with	dance	do-CNP]

aami-ki	kata	ceppaa-Du
her-DAT	story	told-3.M.S

'While dancing with Sarita,Kumar told her a story.'

c.

Kumar	[atani	bhaarya-to	diner	cees-tuu]
Kumar.NOM	[his	wife-with	dinner	take-CNP]

Arun-ki	fon	ceeddaam-anukunnaa-Du
Arun-DAT	phone	making-decided-3.M.S

'While Kumar was having dinner with his wife, he decided to call Arun.'

2.5.2.2 Conjunctive Participle clauses in Assamese

Assamese CNP verbs, unlike their Telugu counterparts, have a single form, presented in (33).

(33) Verb Stem + -*i*; e.g.,

a. thak-i => 'keeping, having kept'

b.

Ram-e	[xomoi	no-thak-i]	bhat	na-khal-e
Ram-NOM	[time	NEG-keep-CNP]	rice	NEG-ate-3

'Having no time, Ram didn't eat rice.'

c.

Ram-Ø	[bhagar	lag-i]	xui	thakil
Ram-ABS	[exhaustion	feel-CNP]	sleep	kept

'Having felt exhausted, Ram fell asleep.'

d.

Ram-Or	[train	dhoribo	no-ar-i]	khong	uthil
Ram-GEN	[train	catch	NEG-able-CNP]	anger	raised

'Not being able to catch the train, Ram got angry.'

The following section shows that CNP clauses are subordinate clauses despite their conjunctive meaning.

2.5.2.3 The subordinate nature of CNP clauses

As I mentioned earlier, semantically CNP clauses may denote a conjunctive meaning. Syntactically, however, they behave like adverbial clauses. For one thing, they do not obey the Coordinate Structure Constraint. This constraint disallows extraction of an element out of a conjunct (Ross 1967, cited in Kehler 1996). To illustrate, whereas (34a) is grammatical, (34b) is unacceptable because an NP is extracted out of a conjunct.

(34) a. Tom ate a sandwich and drank a soda.
b. * What did Tom eat a sandwich and drink _______?

In order to prove that CNP clauses are not conjuncts, we need to show that they do not obey the Coordinate Structure Constraint. Before doing so, however, we have to make sure that conventional conjuncts in Telugu and Assamese actually obey the Coordinate Structure Constraint. Examples (35-36) indicate that they do. The (a) sentences in (35-36) are grammatical just like (34a) above; the (b) sentences are ungrammatical for the same reason (34b) is.

(35) Telugu

a.

Kumar	oka	pustakam	konnaa-Du
Kumar.NOM	one	book	bought-3.M.S

mariyu oka magazine cadiwaa-Du
and one magazine read-3.M.S
'Kumar bought a book and read a magazine.'

b. * aa-magazine Kumar oka pustakam konnaa-Du
that-magazine Kumar.NOM one book bought-3.M.S

mariyu _______ cadiwaa-Du
and _______ read-3.M.S
'A magazine Kumar bought a book and read.'

(36) Assamese
a. ram-e kitap e-khon kinil-e
Ram-NOM book one-CL bought-3

aru alosani e-khon porhil-e
and magazine one-CL read-3
'Ram bought a book and read a magazine.'

b. * alosani e-khon ram-e kitap e-khon
magazine one-CL Ram-NOM book one-CL

kinil-e aru _______ porh-il-e
bought-3 and _______ read-3
'A magazine, Ram bought a book and read.'

The Coordinate Structure Constraint can be violated without affecting grammaticality if there is a cause-effect relation between the conjuncts (e.g., (37a-b)) (Kehler 1996: 2 (5), from Lakoff (1986)). This point is important because many of the Telugu and Assamese constructions we are dealing with may imply a cause-effect relation and might turn out to be grammatical for the wrong reasons.

(37) a. The guys in the Caucasus drink this stuff and live to be a hundred.
b. That's the stuff that the guys in the Caucasus drink and live to be a hundred.

Interestingly, Kehler's and Lakoff's observation does not hold for Telugu and Assamese conventional conjuncts. In other words, even if the relation between the conjuncts is that of cause and effect, extraction still induces ungrammaticality. To illustrate, the (a) sentences in (38-39) are coordinate structures. The two conjuncts in each sentence can be considered as a sequence of a cause and an effect. Nevertheless, the extraction of 'my house' out of one of the conjuncts results in ungrammaticality, as (38b) and (39b) indicate.

(38) Telugu

a.	Kumar-ki	koopamu	waccin-di	
	Kumar-DAT	anger	got-3.N.S	
	mariyu	Naa-illu	kuulcaa-Du	
	and	my-house	destroyed-3.M.S	
	'Kumar got angry and destroyed my house.'			
b.	* Naa-illu-ni	Kumar-ki	koopamu	waccin-di
	My-house-EMPH	Kumar-DAT	anger	got-3.N.S
	mariyu	________	kuulcaa-Du	
	and	________	destroyed-3.M.S	
	'My house Kumar got angry and destroyed.'			

(39) Assamese

a.	ram-Or		khong	uthil	
	Ram-GEN		anger	raised	
	aru	mor	ghorto	bhangil-e	
	and	my	house	destroyed-3	
	'Ram got angry and destroyed my house.'				
b.	* mor	ghorto	ram-Or	khong	uthil
	my	house	Ram-GEN	anger	raised
	aru	______		bhangil-e	
	and	______		destroyed-3	
	'My house, Ram got angry and destroyed.'				

Now we turn to structures with CNP clauses to see if they violate the Coordinate Structure Constraint. If they do, then they are conjuncts and they live up to their 'name' both semantically and syntactically. Otherwise, we can fairly assume that they are subordinate clauses, as the data seems to indicate. Sentences (40a) and (41a) contain a CNP clause each. They can read as (40b) and (41b) respectively and still be grammatical. That is, they are acceptable despite the extraction of the NP 'my house'.

(40) Telugu

a. Kumar [koopamu wacc-i] Naa-illu kuulcaa-Du
Kumar.NOM [anger get-CNP] my-house destroyed-3.M.S
'Getting angry, Kumar destroyed my house.'

b. Naa-illu-ni Kumar [koopamu wacc-i] _____ kuulcaa-Du
My-house-EMPH Kumar.NOM [anger get-CNP] _____ destroyed-3.M.S
'My house, having got angry, Kumar destroyed.'

(41) Assamese

a. Ram-e [khong uth-i] mor ghorto bhangil-e
Ram-NOM [anger get-CNP] my house destroyed-3
'Having got angry, Ram destroyed my house.'

b. mor ghorto Ram-e [khong uth-i] _____ bhangil-e
my house Ram-NOM [anger get-CNP] _____destroyed-3
'My house, having got angry, Ram destroyed.'

Violating the Coordinate Structure Constraint is one way to prove that CNP clauses are subordinate clauses. Another criterion is "clause-internal word order" (Haspelmath 1995: 12). Coordinate clauses do not normally overlap. In other words, one conjunct cannot break the continuity of another conjunct. A subordinate clause, on the other hand, may be embedded in the matrix clause, breaking its continuity. The sentences in (42-43) indicate that the CNP clause may be realized either outside (42a-43a) or inside (42b-43b) the matrix clause. Notice that the pronounced subject in each of the sentences is Case-marked nominative by the matrix predicate. The CNP predicate in (42) would Case-mark its subject dative, while the CNP predicate in (43) would Case-mark its subject genitive.

(42) Telugu

a. [aakali wees-i] Kumar bhojanamu tayaru ceesikunaa-Du
[hunger fall-CNP] Kumar.NOM dinner prepare did for self-3.M.S
'Having felt hungry, Kumar prepared a dinner for himself.'

b. Kumar [aakali wees-i] bhojanamu tayaru ceesikunaa-Du
Kumar.NOM [hunger fall-CNP] dinner prepare did for self-3.M.S
'Having felt hungry, Kumar prepared a dinner for himself.'

(43) Assamese

a.

[ananda	lag-i]	Ram-e	pagolor nisine	nasil-e
[happiness	feel-CNP]	Ram-NOM	like a crazy person	danced-3

'Having felt happy, Ram danced like a crazy person.'

b.

Ram-e	[ananda	lag-i]	pagolor nisine	nasil-e
Ram-NOM	[happiness	feel-CNP]	like a crazy person	danced-3

'Having felt happy, Ram danced like a crazy person.'

Based on the above discussion, I consider CNP clauses as subordinate clauses. More specifically, they are adjuncts, or adverbial subordinate clauses, whose function is to modify the matrix predicate (Haspelmath 1995: 3, Masica 2005: 110).

The following section presents Adjunct Control data from Telugu and Assamese. These data will be the subject of analysis in the following chapters.

2.6 CNP Clauses and Adjunct Control

One relevant feature of CNP clauses is that they obey what is called the Same-Subject Condition (Klaiman 1981: 88) or the Common-Subject Requirement (Linholm 1975: 30). This means that the unpronounced subject of the CNP clause and the subject of the matrix clause are obligatorily coreferential, and that a sentence with a CNP clause is an instance of Obligatory Control. In other words, the (b) sentences in (44-47) are infelicitous under the designated reading, even though the (a) sentences are provided as context or prior knowledge.

(44) Telugu

a.

Sarita_i	niillu	kaacin-di
Sarita.NOM	water	boiled-3.N.S

'Sarita boiled water.'

b.

* Kumar	$[\Delta_i$	niillu	kaac-i]	tii	tayaru	ceesaa-Du
Kumar.NOM	$[\Delta$	water	boil-CNP]	tea	prepare	did-3.M.S

'She boiled the water, and Kumar prepared the tea.'

(45) Telugu

a.

Sarita_i	sinima	cuusin-di
Sarita.NOM	a movie	watched-3.N.S

'Sarita watched a movie.'

	b.	* Kumar	[Δ_i	sinima	cuus-tuu]	popkorn	tinnaa-Du
		Kumar.NOM	[Δ	movie	watch-CNP]	popcorn	ate-3.M.S
		'While She was watching a movie, Kumar ate popcorn.'					

(46) Assamese

	a.	Proxad $_i$	bhalkoi	gal-e			
		Proxad	well	sang			
		'Proxad sang well.'					
	b.	* Ram-Or	[Δ_i	bhalkoi	ga-i]	bhal	lagil
		Ram-GEN	[Δ	well	sing-CNP]	good	felt
		'Proxad sang well, and Ram felt good.'					

(47) Assamese

	a.	Proxad-Ø_i	xomoi	no-thakil				
		Proxad -ABS	time	NEG-kept				
		'Proxad didn't have time.'						
	b.	* Ram-e	[Δ_i	xomoi	no-thak-i]	bhat	na-khal-e	
		Ram-NOM	[Δ	time	NEG-keep-CNP]	rice	NEG-ate-3	
		'Proxad having had no time, Ram didn't eat rice.'						

This obligatory coreferentiality qualifies Telugu and Assamese sentences with CNP clauses as control constructions. Typologically, there are at least three types of control: Forward Control (48a), Backward Control (48b), and Copy Control (48c) (Polinsky and Potsdam 2006). In Forward Control constructions, the matrix subject is pronounced, while the subordinate subject is implied. In Backward Control constructions, the opposite is true. In Copy Control constructions, both subjects are pronounced.

(48)	a.	Forward	[$_{\text{Matrix}}$	[$_{\text{Subordinate}}$ ~~Subject~~…]	[$_{\text{Matrix}}$ Subject…]]
	b.	Backward	[$_{\text{Matrix}}$	[$_{\text{Subordinate}}$ Subject…]	[$_{\text{Matrix}}$ ~~Subject~~…]]
	c.	Copy	[$_{\text{Matrix}}$	[$_{\text{Subordinate}}$ Subject…]	[$_{\text{Matrix}}$ Subject…]]

Telugu shows evidence for all three types of control delineated in (48). Assamese shows evidence for Forward and Copy Control; Backward Control constructions are either dispreferred or unacceptable. I begin with Forward Control.

2.6.1 Forward Control in Telugu and Assamese

Both Telugu and Assamese show evidence for Forward Control into CNP clauses. The following subsections provide multiple examples and point out the pecularities of each language.

2.6.1.1 Forward Control in Telugu

Observe sentences (49-53) below. These are instances of Forward Control in which the matrix subject is pronounced, determining the identity of the unpronounced CNP subject.

(49)	Kumar	[~~Kumar-ki~~	aakali	wees-i]
	Kumar.NOM	[~~Kumar-DAT~~	hunger	fall-CNP]
	bhojanamu	tayaru	ceesikunaa-Du	
	dinner	prepare	did for self-3.M.S	

‘Having felt hungry, Kumar prepared a dinner for himself.’

(50)	Kumar	[~~Kumar-ki~~	jwaram	wacc-i]	hospital	weLLaa-Du
	Kumar.NOM	[~~Kumar-DAT~~	fever	come-CNP]	hospital	went-3.M.S

‘Having had a fever, Kumar went to hospital.’

(51)	Kumar	[~~Kumar-ki~~	koopamu	wacc-i]	Naa-illu	kuulcaa-Du
	Kumar.NOM	[~~Kumar-DAT~~	anger	get-CNP]	my-house	destroyed-3.M.S

‘Getting angry, Kumar destroyed my house.’

(52)	??Sarita-ki	[~~Sarita~~	aa	maaTa	win-i]	koopamu	waccin-di
	Sarita-DAT	[~~Sarita.NOM~~	that	matter	hear-CNP]	anger	came-3.N.S

‘Having heard the news, Sarita got angry.’

(53)	??Kumar-ki	[~~Kumar~~	bazaaru-loo	Sarita-ni	cuus-i]
	Kumar-DAT	[~~Kumar.NOM~~	market-in	Sarita-ACC	see-CNP]
	Sarita-miida	preema	kaligin-di		
	Sarita-on	love	occurred-3.N.S		

‘Upon seeing Sarita in the market, Kumar fell in love with her.’

Notice that in all of the above sentences the Case-marking of the CNP subject would be different from the Case-marking of the matrix subject. It is worth noting, however, that different Case-marking is not a requirement. The above examples have been selected in order to make obvious that the structures are instances of Forward Control. To illustrate, the matrix subject and the CNP subject in (54) below take on the same Case; they are both nominative. The same applies to (59), except that both subjects are dative. In both cases, Forward Control still obtains.

(54) [~~Kumar unnu Sarita~~ diner cees-tuu]
[~~Kumar.NOM and Sarita.NOM~~ dinner take-CNP]

Kumar unnu Sarita okari-ki okaru kathalu ceppukumaa-ru
Kumar.NOM and Sarita.NOM one-to one stories tell-3.M.P
'While having dinner, Kumar and Sarita told each other stories.'

(55) ?? [~~Kumar-ki~~ juttu uuDipooy-i] Kumar-ki picci paTTin-di
[~~Kumar-DAT~~ hair lose-CNP] Kumar-DAT craziness caught
'Having lost his hair, Kumar got angry.'

A point about the degraded sentences (52), (53), and (55) above is in order. Notice that in these sentences the matrix subject is dative – unlike the matrix subjects in (49), (50), (51), and (54) which are nominative. For reasons I have not been able to determine, Adjunct Control constructions that involve a dative subject in the matrix clause were judged as awkward by my Telugu consultants. Structures (56) through (59) are additional examples that some speakers found degraded, while others found them totally unacceptable.[6]

(56) ??/*[~~Kumar~~ atani bhaarya-to diner cees-tuu]
[~~Kumar.NOM~~ his wife-with dinner take-CNP]

Kumar -ki Nidra waccin-di
Kumar-DAT sleep came-3.N.S
'While having dinner with his wife, Kumar became sleepy.'

(57) ??/*[~~Kumar~~ waana-loo taDis-i]
[~~Kumar.NOM~~ rain-in get wet-CNP]

Kumar-ki daggu-u jalubu-u waccin-yi
Kumar-DAT cough-and cold-and came-3.N.P
'Having got wet in the rain, Kumar caught a cold and a cough.'

[6] Everything else being equal, sentences which involve the matrix predicate *koopamu waccin-di* 'get angry' (e.g., (52), were not judged as degraded as the other structures that involve a dative subject in the matrix clause (e.g., (56-59).

(58) ??/*

Kumar-ki	[~~Kumar~~	illu	pooy-i]	picci	paTTin-di
Kumar-DAT	[~~Kumar.NOM~~	house	lose-CNP]	craziness	caught

‘Having lost his house, Kumar went crazy.’

(59) *

Sarita-ki	[~~Sarita~~	France-loo	perig-i]
Sarita-DAT	[~~Sarita.NOM~~	France-in	grow up-CNP]

French	baagaa	waccin-di
French	well	came-3.N.S

‘Having grown up in France, Sarita spoke good French.’

When faced with constructions like (56-59), the consultants preferred to use an INF clause instead of a CNP clause. For example, (60) was considered more acceptable than (57). Another alternative was to express the same idea using a matrix predicate that licenses a nominative subject; compare (61) to (58).

(60)

[waana-loo	taDis-ee-sariki]	Kumar-ki	daggu-u jalubu-u	waccin-yi
[rain-in	get wet-INF-since]	Kumar-DAT	cough-and cold-and	came-3.N.P

‘Since he got wet in the rain, Kumar caught a cold and a cough.’

(61)

[~~Kumar~~	illu	pooy-i]	Kumar	picci-waaDu	ayyaa-Du
[~~Kumar.NOM~~	house	lose-CNP]	Kumar.NOM	a crazy man	became-3.M.S

‘Having lost his house, Kumar went crazy.’

It is hard to explain the reasons behind the restriction and the variation among speakers. It is even harder to explain why some sentences that involve a CNP clause and a dative subject in the matrix clause are more acceptable than others. At the same time, it is worth mentioning that the phenomenon is not exactly unique. Whereas Telugu seems to disprefer dative subjects in the matrix clauses of control structures, Hindi disallows dative subjects in subordinate clauses. This fact is illustrated in (62). Sentence (62a) has an experiential predicate and a dative subject. The same structure is used as a non-finite clause in (62b). The sentence is ungrammatical (Davison 1993: 47-49; (3) and (6a)). I will make no attempt at explaining this restriction in this study. I present the relevant data for completeness.

(62) Hindi

a.

pitaa-koo	apnee	bhaaii-par	kroodh	aataa	hai
father-DAT	self	brother-on	anger	come	is

‘Father is angry with his brother.’

b.

* pitaa	[bhaaii-par	kroodh	aa-naa]	nahii	caahtaa
father	[brother-on	anger	come-(non-finite)]	not	want

‘Father does not want to get angry at his brother.’

2.6.1.2 Forward Control in Assamese

Assamese also shows evidence for Forward Control. However, it does not display restrictions concerning the type of predicate that is allowed in the matrix clause. Sentences (63-69) below are examples of Forward Control in which only the matrix subject is pronounced.

(63)

Ram-e	[~~Ram-Or~~	xomoi	no-thak-i]	bhat	na-khal-e
Ram-NOM	[~~Ram-GEN~~	time	NEG-keep-CNP]	rice	NEG-ate-3

‘Having no time, Ram didn’t eat rice.’

(64)

[~~Ram-Or~~	e-ta	bhal	buddhi	khela-i]	Ram-e	phurti	koril-e
[~~Ram-GEN~~	one-CL	good	idea	play-CNP]	Ram-NOM	party	did-3

‘Having got a nice idea, Ram celebrated.’

(65)

Ram-Ø	[~~Ram-Or~~	bhagar	lag-i]	xui	thakil
Ram-ABS	[~~Ram-GEN~~	exhaustion	feel-CNP]	sleep	kept

‘Having felt exhausted, Ram fell asleep.’

(66)

[~~Ram-e~~	kam-tu	kor-i]	Ram-Ø	gusi	gol
[~~Ram-NOM~~	work	do-CNP]	Ram-ABS	away	went

‘Having done the work, Ram left.’

(67)

[~~Ram-e~~	kukur-tu	heru-i]	Ram-Or	dukh	lagil
[~~Ram-NOM~~	dog-CL	lose-CNP]	Ram-GEN	sad	felt

‘Having lost his dog, Ram felt sad.’

(68)

[~~Ram-e~~	loteri	jik-i]	Ram-Or	phurti	lagil
[~~Ram-NOM~~	lottery	win-CNP]	Ram-GEN	exhilaration	felt

‘Having won the lottery, Ram felt very happy.’

(69)

Ram-Or	[~~Ram-e~~	phurti	kor-i]	bohk	lagil
Ram-GEN	[~~Ram-NOM~~	exhilaration	do-CNP]	hunger	felt

‘Having had a party, Ram felt hungry.’

The above examples are selected with a CNP subject and a matrix subject that are Case-marked differently. Nevertheless, this is not mandatory.The following examples show that the subjects can both be nominative (e.g., (70)) or both genitive (e.g., (71)).

(70)	[~~Ram-e~~	loteri	jik-i]	Ram-e	notun	ghor	kinil-e
	[~~Ram-NOM~~	lottery	win-CNP]	Ram-NOM	new	hous	bought-3

‘Having won the lottery, Ram bought the new house.’

(71)	[~~Ram-Or~~	e-ta	bhal	buddhi	khel-i]	Ram-Or	bhal	lagil
	[~~Ram-GEN~~	one-CL	good	idea	play-CNP]	Ram-GEN	good	felt

‘Having got a nice idea, Ram felt good.’

2.6.2 Backward Control in Telugu and Assamese

As indicated in (49b) above, repeated here as (72), Backward Control is the case when the subordinate/CNP subject is pronounced and the matrix subject is implied.

(72) Backward Control [$_{\text{Matrix}}$ [$_{\text{Subordinate}}$ Subject…] [$_{\text{Matrix}}$ ~~Subject~~…]]

Telugu Backward Control structures are grammatical, as originally observed by Subbarao (2004). Assamese Backward Control structures, however, are not as acceptable for my speakers, contra Subbarao (2004).

2.6.2.1 Backward Control in Telugu

Observe the Telugu sentences in (73-76). These are the same as the Forward Control constructions in (49-53) above, except for one difference: the pronounced subject in each sentence belongs to the CNP clause, making it an instance of Backward Control.

(73)	~~Kumar~~	[Kumar-ki	aakali	wees-i]
	~~Kumar.NOM~~	[Kumar-DAT	hunger	fall-CNP]
	bhojanamu	tayaru	ceesikunaa-Du	
	dinner	prepare	did for self-3.M.S	

‘Having felt hungry, Kumar prepared a dinner for himself.’

(74)	~~Kumar~~	[Kumar-ki	jwaram	wacc-i]	hospital	weLLaa-Du
	~~Kumar.NOM~~	[Kumar-DAT	fever	come-CNP]	hospital	went-3.M.S

‘Having had a fever, Kumar went to hospital.’

(75) ??~~Sarita-ki~~ [Sarita aa maaTa win-i] koopamu waccin-di
~~Sarita-DAT~~ [Sarita.NOM that matter hear-CNP] anger came-3.N.S
'Having heard the news, Sarita got angry.'

(76) ??~~Kumar-ki~~ [Kumar bazaaru-loo Sarita-ni cuus-i]
~~Kumar-DAT~~ [Kumar.NOM market-in Sarita-ACC see-CNP]

Sarita-miida preema kaligin-di
Sarita-on love occurred-3.N.S
'Having seen Sarita in the market, Kumar fell in love with her.'

I mentioned in Section 2.6.1.1 that Adjunct Control constuctions with a dative subject in the matrix clause are uncommon in Telugu. Such constructions are mostly considered degraded or unacceptable. Some are considered even more unacceptable when realized as instances of Backward Control. For example, the Backward Control structures (77-78) are judged as more degraded than their Forward Control counterparts (56-57) above.

(77) *~~Kumar-ki~~ [Kumar atani bhaarya-to diner cees-tuu]
~~Kumar-DAT~~ [Kumar-NOM his wife-with dinner take-CNP]

Nidra waccin-di
sleep came-3.N.S
'While having dinner with his wife, Kumar became sleepy.'

(78) * ~~Kumar-ki~~ [Kumar waana-loo taDis-i]
~~Kumar-DAT~~ [Kumar-NOM rain-in get wet-CNP]

daggu-u jalubu-u waccin-yi
cough-and cold-and came-3.N.P
'Having got wet in the rain, Kumar caught a cold and a cough.'

2.6.2.2 Backward Control in Assamese

Whereas Backward Control structures are acceptable in Telugu, they are not as easy to obtain in Assamese. If the Forward Control structures in (63-69) above are presented as instances of Backward Control, their acceptability drops dramatically, as sentences (79-84) below indicate. Notice that the pronouced subject is licensed by the CNP clause. The sentences are considered dispreferred-to-unacceptable for exactly this reason.

(79) ??/*~~Ram-e~~ [Ram-Or xomoi no-thak-i] bhat na-khal-e
~~Ram-NOM~~ [Ram-GEN time NEG-keep-CNP] rice NEG-ate-3
'Having no time, Ram didn't eat rice.'

(80) ??/*[Ram-Or e-ta bhal buddhi khel-i]
[Ram-GEN one-CL good idea play-CNP]

~~Ram-e~~ phurti koril-e
~~Ram-NOM~~ party did-3
'Having got a nice idea, Ram celebrated.'

(81) ??/*~~Ram-Ø~~ [Ram-Or bhagar lag-i] xui thakil
~~Ram-ABS~~ [Ram-GEN exhaustion feel-CNP] sleep kept
'Having felt exhausted, Ram fell asleep.'

(82) ??/*[Ram-e kukur-tu heru-i] ~~Ram-Or~~ dukh lagil
[Ram-NOM dog-CL lose-CNP] ~~Ram-GEN~~ sad felt
'Having lost his dog, Ram felt sad.'

(83) ??/*[Ram-e loteri jik-i] ~~Ram-Or~~ phurti lagil
[Ram-NOM lottery win-CNP] ~~Ram-GEN~~ exhilaration felt
'Having won the lottery, Ram felt very happy.'

(84) ??/*~~Ram-Or~~ [Ram-e phurti kor-i] bohk lagil
~~Ram-GEN~~ [Ram-NOM exhilaration do-CNP] hunger felt
'Having had a party, Ram felt hungry.'

Now consider the acceptable Backward Control structure in (85) below. Compared to the structures (79-84) above, (85) seems to stand out as an exception. A closer examination, however, shows that Assamese native speakers are likely to process the sentence as an instance of Forward Control. Here is why: the CNP subject is nominative, while the matrix subject is absolutive. The demarcation between these two types of Case, nominative and absolutive, is not as underscored as, say, between nominative and genitive. As a matter of fact, nominative does substitute absolutive in some instances, as already pointed out by Edwards (2003). According to Edwards, nominative Case is indicative of more responsibility on the part of the subject. To illustrate, compare (86a-b) (from Edwards 2003: 53; (71a-b)). Ram is more responsible for his death in (86b) than he is in (86a). Note that the verb in (86b) does not show agreement with the nominative subject, although in some instances it may.

(85)	[Ram-e	kam-tu	kor-i]	~~Ram-Ø~~	gusi	gol
	[Ram-NOM	work	do-CNP]	~~Ram-ABS~~	away	went
	'Having done the work, Ram left.'					

(86)	a.	Ram-Ø	aksident-ot	moril		
		Ram-ABS	accident-in	died		
		'Ram died in an accident.'				
	b.	Ram-e	bhiri	khua-r	karone	moril
		Ram-NOM	cigarette	smoking-GEN	because	died
		'Ram died because of smoking cigarette.'				

All this is to indicate that (85), repeated below as (87a), is more likely to be interpreted by Assamese native speakers as (87b), whereby the subject is licensed by the matrix clause. This may explain why it is not considered unacceptable on a par with the other instances of Backward Control.

(87)	a.	[Ram-e	kam-tu	kor-i]	gusi	gol
		[Ram-NOM	work	do-CNP]	away	went
		'Having done the work, Ram left.'				
	b.	Ram-e	[kam-tu	kor-i]	gusi	gol
		Ram-NOM	[work	do-CNP]	away	went
		'Having done the work, Ram left.'				

The following section presents evidence for the less studied phenomenon of Copy Control.

2.6.3 Copy Control

Both Telugu and Assamese show evidence of a cross-linguistically rare phenomenon of control: Copy Control. Copy Control constructions involve a matrix subject and a CNP subject that are, not only obligatorily co-referential, but also both pronounced. Such structures are possible under the following conditions:

- **Condition 1**: The CNP clause is sentence-initial.
- **Condition 2**: The CNP subject is an R-expression (non-pronominal).

2.6.3.1 Copy Control in Telugu

The sentences in (88-93) are the Copy Control equivalent of the Telugu Forward and Backward constructions in the previous subsections. In all of the sentences, the CNP clause is sentence-initial, and the CNP subject is an R-expression. Note that the CNP and matrix subjects may be Case-marked differently (e.g., (88-89) and (92-93)) or the same (e.g., (90-91)). Sentences (91-93) are degraded because they involve a dative subject in the matrix clause.

(88) [Kumar-ki$_i$ aakali wees-i]
[Kumar.DAT hunger fall-CNP]

atanu$_i$/Kumar bhojanamu tayaru ceesikunaa-Du
he.NOM /Kumar.NOM dinner prepare did for self-3.M.S
'Having felt hungry, Kumar prepared a dinner for himself.'

(89) [Kumar-ki$_i$ jwaram wacc-i]
[Kumar.DAT fever come-CNP]

atanu$_i$ /Kumar hospital weLLaa-Du
he.NOM /Kumar.NOM hospital went-3.M.S
'Having had a fever, Kumar went to hospital.'

(90) [Kumar$_i$ sinima cuus-tuu]
[Kumar.NOM movie watch-CNP]

atanu$_i$/Kumar popkorn tinnaa-Du
he.NOM /Kumar.NOM popcorn ate-3.M.S
'While watching a movie, Kumar ate popcorn.'

(91) ??[Kumar-ki$_i$ juttu uuDipooy-i]
[Kumar-DAT hair lose-CNP]

atanu-ki$_i$/Kumar-ki picci paTTin-di
he-DAT /Kumar-DAT craziness caught
'Having lost his hair, Kumar got angry.'

(92) ??[Sarita$_i$ aa maaTa win-i]
[Sarita-NOM that matter hear-CNP]

Sarita-ki koopamu waccin-di
Sarita-DAT anger came-3.N.S
'Having heard the news, Sarita got angry.'

(93) ??[Kumar$_i$ bazaaru-loo Sarita-ni cuus-i]
[Kumar.NOM market-in Sarita-ACC see-CNP]

atanu-ki$_i$/Kumar-ki Sarita-miida preema kaligin-di
he-DAT /Kumar-DAT Sarita-on love occurred-3.N.S
'Having seen Sarita in the market, Kumar fell in love with her.'

The two subjects in the above examples are obligatorily co-referential. Disjoint subjects result in ungrammaticality, as sentences (94-96) show.

(94) *[Kumar-ki$_i$ aakali wees-i]
[Kumar.DAT hunger fall-CNP]

atanu$_k$/Rao bhojanamu tayaru ceesaa-Du
he.NOM /Rao.NOM dinner prepare did-3.M.S
'Kumar felt hungry, and he/Rao prepared dinner.'

(95) *[Kumar-ki jwaram wacc-i]
[Kumar.DAT fever come-CNP]

aame/Sarita (atani-ki) mandulu iccin-di
she.NOM/Sarita.NOM (him-DAT) medicines gave-3.N.S
'Kumar had a fever, and she/Sarita gave him medication.'

(96) *[Kumar$_i$ sinima cuus-tuu]
[Kumar.NOM movie watch-CNP]

atanu$_k$/Rao popkorn tinnaa-Du
he.NOM /Rao.NOM popcorn ate-3.M.S
'While Kumar was watching a movie, he/Rao ate popcorn.'

It is important to note that the grammatical sentences (88-93) are judged by the Telugu consultants as redundant, but not unacceptable. According to them, pronouncing one of the subjects is sufficient. In other words, Forward or Backward Control can do the job. Redundancy is eliminated if the matrix subject is pronounced as an epithet and/or if the sentence is made longer. To illustrate, sentences (97-98) make use of an epithet in the matrix clause. Sentence (99) is longer compared to (88-93) above. None of these sentences is judged as redundant.

(97) [Kumar-ki koopamu wacc-i] aa pichooDu akkadi-nunci wellipoyinaa-Du
[Kumar-DAT anger come-CNP] that idiot.NOM there-from left-3.M.S
'Kumar having got angry, the idiot left.'

(98) [Kumar illu pooy-i] aa pichooDu picci-waaDu ayyaa-Du
[Kumar.NOM house lose-CNP] that idiot.NOM a crazy man became-3.M.S
'Having lost his house, Kumar went crazy.'

(99) [Sarita enimid-inTiki bhojanamu tayaru ceesikun-i]
[Sarita.NOM eight-time dinner prepare do for self-CNP]

aame/Sarita tommid-inTiki tinnaa-di
she.NOM/Sarita.NOM nine-time ate-3.N.S
'Sarita prepared dinner for herself at 8:00, and she ate at 9:00.'

I mentioned at the beginning of this subsection that Copy Control obtains if two conditions are met. The CNP clause has to be sentence-initial, and the CNP subject has to be an R-expression (non-pronominal). Concerning the first condition, if the CNP clause is realized sentence-internally, a Copy Control construction becomes ungrammatical, as illustrated in (100). This observation holds whether an R-expression is used in the CNP clause or in the matrix clause (e.g., (100a) and (100b)). It also holds if an epithet is used (e.g., (100c)).

(100) a. *atanu/Kumar [atanu-ki/Kumar-ki aakali wees-i]
he.NOM/Kumar.NOM [he-DAT/Kumar.DAT hunger fall-CNP]

bhojanamu tayaru ceesikunaa-Du
dinner prepare did for self-3.M.S
'Having felt hungry, Kumar prepared a dinner for himself.'

b. *atanu/Kumar [atanu/Kumar Sarita-too naTyamu cees-Tuu]
he/Kumar.NOM [he-NOM/Kumar.NOM Sarita-with dance do-CNP]

aami-ki kata ceppaa-Du
her-to story told-3.M.S
'While dancing with Sarita, Kumar told her a story.'

c. *Kumar/ aa pichooDu [aa pichooDu-ki/Kumar-ki koopamu wacc-i]
Kumar.NOM/that idiot.NOM [that idiot-DAT/Kumar-DAT anger come-CNP]

Naa-illu kuulcaa-Du
my-house destroyed-3.M.S
'Kumar got angry and the idiot destroyed my house.'

Concerning the condition that the CNP subject has to be an R-expression, it is worth mentioning that an R-expression may be any NP that is not pronominal. The data introduced thus far involve proper nouns. This is not a requirement, however, as (101a-b) illustrate.

(101) a. [yeenugu waac-i] adi janaalu-nu bayapeTTin-di
[elephant come-CNP] it people-ACC scared-3.N.S
'The elephant came and scared the people.'

b. [Naa boss-ki pooyina-waaram jwaramu wacc-i]
[my boss-DAT last-week fever come-CNP]

atanu muuDu roojulu mandulu waaDaa-Du
he.NOM three days medicine used
'My boss got sick last week, and he was on medication for three days.'

If a pronominal is used as a CNP subject, a Copy Control construction becomes ungrammatical as (102a-b) indicate.

(102) a. *[atani-ki aakali wees-i]
[he-DAT hunger fall-CNP]

atanu/Kumar bhojanamu tayaru ceesikunaa-Du
he.NOM/Kumar.NOM dinner prepare did for self-3.M.S
'Having felt hungry, Kumar prepared a dinner for himself.'

b. *[atani-ki jwaram wacc-i] atanu/Kumar hospital weLLaa-Du
[he.DAT fever come-CNP] he.NOM/Kumar.NOM hospital went-3.M.S
'Having had a fever, Kumar went to hospital.'

The pronominal in (102a-b) cannot refer to someone other than Kumar. In other words, although both subjects are pronounced, they cannot have disjoint referents. This observation is true even if the context allows it. Take sentence (103a), for example. The idea can only be expressed with disjoint subjects. Yet, the sentence is ungrammatical because a CNP clause enforces a control reading. To express the same idea, an INF clause must be used (e.g., (103b)).

(103)	a.	*[Kumar-ki	aakali	wees-i]		
		[Kumar-DAT	hunger	fall-CNP]		
		amma	atani-ki	annam	peTTin-di	
		mother	him-DAT	food	kept	

‘Kumar having got hungry, his mother gave him food.’

b.	[Kumar-ki	aakali	wees-ina-anduku]		
	[Kumar-DAT	hunger	fall-INF-because]		
	amma	atani-ki	annam	peTTin-di	
	mother	him-DAT	food	kept	

‘Because Kumar got hungry, his mother gave him food.’

Before proceeding to the following section, a word about the copies in Copy Control is appropriate. The matrix subject in the Copy Control examples (88-93) may be realized as an exact copy of the CNP subject. This applies only if the CNP subject does not exceed one or two words, as (104a-b) illustrate. Compare to (105a-b) in which the CNP subject is a conjunct. In this case, only a pronoun or an epithet may be used as a subject in the matrix clause.

(104)	a.	[yeenugu	waac-i]	yeenugu	janaalu-nu	bayapeTTin-di
		[elephant	come-CNP]	elephant	people-ACC	scared-3.N.S

‘The elephant came and scared the people.’

b.	[Naa boss-ki	pooyina-waaram	jwaramu	wacc-i]	
	[my boss-DAT	last-week	fever	come-CNP]	
	Naa boss	muuDu	roojulu	mandulu	waaDaa-Du
	my boss.NOM	three	days	medicine	used

‘My boss got sick last week, and he was on medication for three days.’

(105)	a.	[Kumar maryu	Sarita	sinima	cuus-tuu]
		[Kumar.NOM and	Sarita.NOM	movie	watch-CNP]

waLLu / aa pichooLLu/ *Kumar maryu Sarita	popkorn tinna-ru
they/those idiots.NOM/*Kumar.NOM and Sarita.NOM	popcorn ate-3.M.P

‘While Sarita and Kumar were watching a movie, they ate popcorn.’

b.	[Kumar unnu Sarita	muddu	peTTukon-i]
	Kumar.NOM and Sarita.N	kiss	put to each other-CNP]

waLLu / aa pichooLLu/ *Kumar maryu Sarita	wellipooyaa-ru
they/those idiots.NOM/*Kumar.NOM and Sarita.NOM	left-3.M.P

‘Kumar and Sarita kissed each other and left.’

2.6.3.2 Copy Control in Assamese

Similar to Telugu, Assamese allows Copy Control if conditions 1 and 2 below hold. Unlike Telugu, Assamese has an extra restriction on the type of CNP subject that is allowed to be pronounced. Only subjects of psychological or experiential CNP predicates are allowed to be overt. This restriction is expressed as condition 3.

- **Condition 1:** The CNP clause is sentence-initial.
- **Condition 2:** The CNP subject is an R-expression (non-pronominal).
- **Condition 3:** The CNP clause contains an experiential predicate.

Condition 3 is based on the fact that Copy Control structures that involve non-experiential CNP predicates are considered unacceptable, at least by some of the speakers I consulted. By comparison, Copy Control structures that contain experiential predicates are judged as acceptable by all the consultants. The subjects of experiential predicates in Assamese are usually genitive. Sentences (106-109) are some examples.

(106)

[Ram-Or$_i$	khong	uth-i]
[Ram-GEN	anger	raise-CNP]

xi$_i$/Ram-e	mor	ghorto	bhangil-e
he.NOM /Ram-NOM	my	house	destroyed-3

‘Having got angry, Ram destroyed my house.’

(107)

[Ram-Or$_i$	phurti	lag-i]
[Ram-GEN	exhilaration	do-CNP]

xi$_i$/Ram-e	pagolor	nisena	nasil-e
he.NOM /Ram-NOM	crazy person	like	danced-3

‘Having felt very happy, Ram danced like a crazy person.’

(108)

[Ram-Or$_i$	bhagar	lag-i]	etiya	xi$_i$/Ram-Ø	xui	thakil
[Ram-GEN	exhaustion	feel-CNP]	now	he/Ram-ABS	sleep	kept

‘Having felt exhausted, Ram now fell asleep.’

(109)	[Ram-Or$_i$	xomoi	no-thak-i]
	[Ram-GEN	time	NEG-keep-CNP]

xi$_i$/Ram-e	bhat-o	na-khal-e
he/Ram-NOM	rice-even	NEG-ate-3

'having no time, Ram didn't even eat rice.'

As I mentioned in Section 2.3.2, there are two types of experiential predicates in Assamese, those that license a genitive subject and those that license an experiential nominative subject. The difference between the two types is illustrated in examples (19-20) above, repeated as (110-111). Sentences (110a) and (111a) comprise what Abbi (1991) calls State Experiential and Process Experiential predicates. These license genitive subjects, and they do not allow the occurrence of adverbs like 'intentionally' or 'knowingly'. Sentences (110b) and (111b), on the other hand, contain Stative Action Process Experiential predicates. In addition to being experiential, these predicates are volitional, which is why they license experiential-nominative subjects and they allow adverbs such as 'knowingly'.

(110)	a.	Ram-Or	(*jani-buji)	e-ta	buddhi	khelal
		Ram-GEN	(knowingly)	one-CL	idea	played
		'An idea occurred to Ram (*on purpose).'				
	b.	Ram-e	jani-buji	e-ta	buddhi	koril-e
		Ram-NOM	knowingly	one-CL	idea	did-3
		'Ram got an idea on purpose.' Also meaning 'Ram knowingly tricked someone.'				
(111)	a.	Ram-Or	(*jani-buji)	khong	uthil	
		Ram-NOM	(knowingly)	anger	did	
		'Ram angered (*on purpose).'				
	b.	Ram-e	jani-buji	khong	koril-e	
		Ram-NOM	knowingly	anger	did-3	
		'Ram got angry on purpose.' meaning 'Ram knowingly expressed his anger.'				

What is pertinent to this section is that Assamese allows Copy Control, not only if the subject is an experiential genitive NP, but also if it is an experiential nominative NP, as (112-114) below show. As condition 3 above points out, Copy Control structures are judged as acceptable as long as the CNP clause contains an experiential predicate. This restriction holds regardless of the morphological Case of the CNP subject.

(112) [Ram-e$_i$ khong kor-i]
[Ram-EXP NOM anger raise-CNP]

xi$_{i/}$/Ram-e mor ghorto bhangil-e
he.NOM/Ram-NOM my house destroyed-3
'Having got angry (having expressed his anger), Ram destroyed my house.'

(113) [Ram-e$_i$ phurti kor-i]
[Ram-EXP NOM exhilaration do-CNP]

etiya tar$_i$/Ram-Or bohk lagil
now he.GEN/Ram-GEN hunger felt
'Having had a party, Ram now felt hungry.'

(114) [Ram-e$_i$ dukh kor-i]
[Ram-EXP-NOM sadness do-CNP]

xi$_i$/Ram-e bhat-o na-khal-e
he/Ram-NOM rice-even NEG-ate-3
'Having made himself sad, Ram didn't even eat rice.'

On the other hand, if the CNP subject is not genitive or experiential nominative, judgment pertaining to Copy Control becomes inconsistent. Of the four native speakers I have consulted, two considered instances of Copy Control like (115-117) as acceptable, while two considered them as unacceptable. Notice that the CNP clause is sentence initial and the CNP subject is an R-expression. Apparently, the only reason why the sentences are considered unacceptable by two of the consultants is because the CNP predicate is not an Experiential predicate.

(115) ✓/*[Ram-e kam-tu kor-i] xi gusi gol
[Ram-NOM work do-CNP] he.ABS away went
'Having done the work, Ram left.'

(116) ✓/*[Ram-e kukur-tu heru-i] tar dukh lagil
[Ram-NOM dog-CL lose-CNP] he.GEN sad felt
'Having lost his dog, Ram felt sad.'

(117)	✓/*[Ram-e	loteri	jik-i]	tar	phurti	lagil
	[Ram-NOM	lottery	win-CNP]	he.GEN	exhilaration	felt

‘Having won the lottery, Ram felt very happy.’

The acceptable examples of Copy Control in this section comprise an R-expression or a pronoun in the matrix clause. Another alternative is an epithet, as the sentences in (118) show.

(118) a.

[Ram-Or	khub	bhok	lag-i]
[Ram-GEN	very	hunger	feel-CNP]

beseratu-e	posa	bhat	khal-e
the poor guy-NOM	stale	rice	ate-3

‘Ram felt very hungry, and the poor guy ate stale rice.’’

b.

[Ram-e	khong	kor-i]
[Ram-EXP NOM	anger	raise-CNP]

gadhatu-e	mor ghorto	bhangil-e
the donkey-NOM	my house	destroyed-3

‘Ram got angry (expressed his anger), and he/the idiot destroyed my house.’

In the discussion about Telugu Copy Control, I mentioned that epithets make Copy Control structures sound less redundant. In Assamese, on the other hand, even if no epithet is involved, Copy Control is enforced if the sentence begins with a pronounced CNP subject that is Case-marked differently from the matrix subject. In other words, say the speaker begins a sentence with the CNP clause in (118a) above. The clause contains an experiential predicate and an overt genitive subject. In order to finish the sentence with a matrix clause that licenses a nominative subject, the speaker automatically inserts an overt pronoun; otherwise, the sentence becomes degraded. Descriptively, not pronouncing the matrix subject means that the structure qualifies as a Backward Control construction. The tendency to insert a pronominal is consistent with the data in Section 2.6.2.2 which shows that Assamese disprefers Backward Control constructions.

Nevertheless, if both the CNP and the matrix predicates license the same Case, Copy Control becomes redundant, although not unacceptable. In this case, an epithet makes the sentence sounds less redundant. Otherwise, Forward Control is preferred. For example, when presented with (119a-b), speakers automatically choose the latter, considering the former acceptable but redundant. The following chapter provides a detailed explanation for this preference. For now, it suffices to say that, when the predicates check the same Case (e.g., nominative) on their subjects, speakers assign the pronounced subject to the matrix clause, leaving the CNP subject silent, as (119c) indicates.

(119) a. Ram-e loteri jik-i xi notun ghor kinil-e
Ram-NOM lottery win-CNP he.NOM new house bought-3
'Having won the lottery, Ram bought the new house.'

b. Ram-e loteri jik-i notun ghor kinil-e
Ram-NOM lottery win-CNP new house bought-3
'Having won the lottery, Ram bought the new house.'

c. Ram-e [loteri jik-i] notun ghor kinil-e
Ram-NOM [lottery win-CNP] new house bought-3
'Having won the lottery, Ram bought the new house.'

Most importantly, the two pronounced subjects in Assamese Copy Control have to be co-referential. Disjoint subjects result in ungrammaticality, as the sentences in (120) illustrate.

(120) a. *[Ram-Or$_i$ khong uth-i] xi$_k$/Proxad-Ø gusi gol
[Ram-GEN anger raise-CNP] he.ABS/Proxad-ABS away went
'Ram got angry, and Proxad left.'

b. *[Ram-Or$_i$ xomoi na-thak-i]
[Ram-GEN time NEG-keep-CNP]

xi$_k$/ PrOxad-e bhat-o na-khal-e
he.NOM/Proxad-NOM rice-even NEG-ate-3
'Ram didn't have any time; Proxad didn't even eat rice.'

c. *[Ram-e loteri jik-i] tar ghoiniyek-Or phurti lagil
[Ram-NOM lottery win-CNP] his wife-GEN exhilaration felt
'Ram won the lottery; his wife felt very happy.'

In addition, just like in Telugu, Copy Control in Assamese is unacceptable if the CNP clause is not sentence-initial (e.g., (121)), and/or if the CNP subject is pronominal (e.g., (122)).

(121) *Ram-e [tar/Ram-Or xomoi no-thak-i]
Ram-NOM [he/Ram-GEN time NEG-keep-CNP]

bhat na-khal-e
rice NEG-ate-3
'Having no time, Ram didn't eat rice.'

(122) *[tar bhagar lag-i]
[he-GEN exhaustion feel-CNP]

etiya xi/Ram-Ø xui thakil
now he/Ram -ABS sleep kept
'Having felt exhausted, Ram now fell asleep.'

The Telugu and Assamese data presented in Sections 2.6.1 through 2.6.3 indicate that structures with CNP clauses require a control interpretation. Exceptions do exist, however. These are discussed in the following section.

2.6.4 Exceptions

Although the Same Subject Condition is usually obeyed, and thus control is normally enforced, violations do occur. Observe the structures in (123-124), for example. Notice that, contrary to expectation, disjoint subjects are allowed in the environment of a CNP clause.

(123) Telugu
a. [bombu pel-i] caala mandi canipoyaa-ru
[bomb.NOM explode-CNP] many people.NOM died-3.M.P
'A bomb exploded, and people died.'
b. [warʃam paD-i] cetlu/mokkalu peri-ga-yi
[rain.NOM fall-CNP] trees/plants.NOM grew-3.N.P
'The rain fell and the trees/plants grew.'

(124) Assamese
a. [e-ta ghor-ot zui-Ø lag-i] bohut manuh-Ø moril
[one-CL house-LOC fire-ABS happen-CNP] many people-ABS died.
'A house burnt and many people died.'

b. [dhumuha-Ø ah-i] bohut gos-Ø bhangil
[storm-ABS come-CNP] many trees-ABS broke
'A storm came and many trees got broken.'

Just as Adjunct Control into CNP clauses is not unique to Assamese and Telugu but common to most South Asian languages, violations of adjunct control also occur in many of these languages; for example, Bengali (Klaiman 1981), Marathi (Pandharipande 1997), Hindi (Davison 1981), and Tamil (Linholm 1975). Klaiman's is a systematic study on exactly this issue. The author examines Bengali CNP clauses and arrives at the following conclusion: the Same Subject Condition applies when either the matrix clause or the CNP clause expresses a "volitional activity." If the activities in both clauses are non-volitional, the condition can be violated (Klaiman 1981: 120). This generalization applies to Telugu and Assamese. If either of the activities in (123a-b) or (124a-b) above is volitional, the sentence becomes unacceptable. This idea is illustrated in (125-126) below. In the (a) sentences the CNP predicate is volitional, and in the (b) sentences the matrix clause is volitional. All four sentences are ungrammatical.

(125) Telugu

a.

*[Kumar	bombu-ni	pelc-i]
[Kumar.NOM	bomb-ACC	explode-CNP]

caala mandi	canipoya-ru
many people.NOM	died-3.M.P

'Kumar exploded a bomb, and people died.'

b.

*[bombu	pel-i]	ambulens	waccin-di
[bomb.NOM	explode-CNP]	ambulance.NOM	came-3.N.S

'A bomb exploded, and an ambulance came.'

(126) Assamese

a.

*[Ram-e	ghortot	zui	laga-i]
[Ram -NOM	house	fire	happen-CNP]

bohut	manuh-Ø	moril
many	people-ABS	died

'Ram burnt the house; many people died.'

b.

*[e-ta	ghorot	zui	lag-i]
[one-CL	house-LOC	fire	happen-CNP]

bohut manuh-e police-aloi phone koril-e
many people.NOM police-DAT phone did-3
'A house burnt and many people called the police.'

Commenting on a similar case in Bengali, Klaiman adds:

> I hope I have shown that the conditioning is to a very large extent semantic, and that it is impossible to adequately describe any of these processes without reference to the underlying semantic opposition VOLITIONAL / NONVOLITIONAL… The one possibility I would confidently rule out is that any existing theoretical model can handle the facts. The material presented in this study calls for a new approach to meaning in grammar. (125-126)

Chapter 6 suggests that this semantic restriction is also a conspiracy in the syntax and that the examples that violate the Same Subject Condition are in fact instances of Obligatory Control.

2.7 Conclusion

This chapter presented a linguistic overview of Telugu and Assamese morphosyntax, highlighting aspects that are relevant to the topic of Adjunct Control. One aspect that is most pertinent for our purposes is the licensing of Case-marked subjects in the different types of clauses in each language. Both languages have Inherent and Structural Case-marked subjects. In Telugu, the two types are licensed in finite, as well as in INF and CNP clauses (Table 2-3). In Assamese, the status of Structural Case-marked subjects in CNP clauses is uncertain (Table 2-4). In Backward Control structures, such subjects are judged as degraded or unacceptable. In Copy Control structures, some speakers consider them acceptable.

Table 2-3 Subjects licensed in Telugu

	Type and	form	finite clauses	INF clauses	CNP clauses
Inherent Case	DAT	-ki	✓	✓	✓
Structural Case	NOM	-Ø	✓	✓	✓

Table 2-4 Subjects licensed in Assamese

	Type and	form	finite clauses	INF clauses	CNP clauses
Inherent Case	GEN	-Or	✓	✓	✓
	EXP-NOM	-e/-Ø			
Structural Case	NOM	-e/-Ø	✓	✓	✓/??/ *
	ABS	-Ø			

In addition, Telugu and Assamese have non-finite Conjunctive Participle (CNP) clauses that function as adjuncts. Both languages show evidence for Adjunct Control into CNP clauses (Table 2-5). Telugu licenses Forward, Backward, and Copy Control. Assamese only licenses Forward and Copy Control; Backward Control structures are considered degraded or unacceptable.

Table 2-5 Types of Adjunct Control allowed in Telugu and Assamese

	Forward Control	Backward Control	Copy Control
Telugu	✓	✓	✓
Assamese	✓	??/ *	✓

The following chapter presents a detailed analysis of Forward and Backward Adjunct Control in Telugu and Assamese. It provides an account of the conditions that drive and constrain their occurrence. It also deals with the problems that the analysis brings about, especially as related to Case theory.

CHAPTER 3
FORWARD/BACKWARD ADJUNCT CONTROL IN TELUGU AND ASSAMESE: THE ANALYSIS

3.1 Introduction

This chapter provides an analysis of Forward and Backward Adjunct Control in Telugu and Assamese. In both types of control, only one of the two co-referential subjects in a given structure is pronounced. Forward Control is the case when the pronounced subject is licensed by the predicate in the matrix clause (1a). Backward Control, on the other hand, means that the pronounced subject is licensed by the subordinate/CNP predicate (1b). In both cases, the overt subject determines the identity of the unpronounced subject.

(1) a. Forward Control [$_{\text{Matrix}}$ [$_{\text{CNP}}$ ~~Subject~~…] [$_{\text{Matrix}}$ Subject…]]
b. Backward Control [$_{\text{Matrix}}$ [$_{\text{CNP}}$ Subject…] [$_{\text{Matrix}}$ ~~Subject~~…]]

The rest of the chapter is organized as follows. Section 3.2 puts forth the structures that this chapter means to analyze. Although these structures are documented in Chapter 2, this section goes beyond listing to show that Case differences or similarities between the CNP subject and the matrix subject have no say in the type of Adjunct Control that is licensed.

Section 3.3 shows that the Adjunct Control structures under examination are instances of Obligatory Control. This is important because within the framework of the Movement Theory of Control, Non-Obligatory Control structures are not derived via movement. Rather, they are analyzed as involving *pro*. This is the same *pro* that is believed to exist in pro-drop languages. If the Telugu and Assamese control structures that this study is concerned with are occurrences of Non-Obligatory Control, the discussion in the rest of the chapter becomes irrelevant.

Section 3.4 delineates the steps involved in the derivation of Forward and Backward Control structures in Telugu and Assamese. Both types of control are analyzed as instances of sideward movement (Nunes 2004).

If the analysis of control as movement is on the right track, this means that the subject in Telugu and Assamese Adjunct Control moves out of one Case position into a new Case position. That is, it undergoes multiple Case checking. This idea is problematic on both theoretical and empirical grounds. Sections 3.5 and 3.6 address exactly this issue and propose a solution. Section 3.7 is a summary and a conclusion.

3.2 Forward/Backward Control: The Facts

3.2.1 Forward Control

The sentences in (2) through (5) below are examples of Telugu and Assamese Forward Control. In (2) and (4), the Forward Control structures involve CNP and matrix subjects that are Case-marked differently. In (3) and (5), the CNP and matrix subjects are Case-marked the same. Under the Movement Theory of Control, the subject starts out in the CNP clause and moves to the matrix clause. The result is two identical copies of the same NP. At PF, the CNP copy is deleted for reasons to be specified in Section 3.4. Note that the Telugu sentences (2c), (2d), and (3b) are marginal for an independent reason: Telugu seems to disprefer a dative subject in the matrix clause of Adjunct Control structures. I do not have an explanation why this is so. All that I can say at this point is that it is a semantic/pragmatic preference.

(2) Telugu (CNP and matrix subject Case-marked differently)

a.

Kumar	[~~Kumar-ki~~	jwaram	wacc-i]	hospital	weLLaa-Du
Kumar.NOM	[~~Kumar-DAT~~	fever	come-CNP]	hospital	went-3.M.S

'Having had a fever, Kumar went to the hospital.'

b.

Kumar	[~~Kumar-ki~~	aakali	wees-i]	sandwic	tinnaa-Du
Kumar.NOM	[~~Kumar-DAT~~	hunger	fall-CNP]	sandwich	ate-3.M.S

'Having felt hungry, Kumar ate a sandwich.'

c.

??Kumar-ki	[~~Kumar~~	bazaaru-loo	Sarita-ni	cuus-i]
Kumar-DAT	[~~Kumar.NOM~~	market-in	Sarita-ACC	see-CNP]

Sarita-miida	preema	kaligin-di
Sarita-on	love	occurred-3.N.S

'Upon seeing Sarita in the market, Kumar fell in love with her.'

d. ??Sarita-ki [~~Sarita~~ aa maaTa win-i] koopamu waccin-di
Sarita-DAT [~~Sarita.NOM~~ that matter hear-CNP] anger came-3.N.S
'Having heard the news, Sarita got angry.'

(3) Telugu (CNP and matrix subject Case-marked the same)
a. Kumar [~~Kumar~~ Sarita-too naTyamu cees-tuu]
Kumar.NOM [~~Kumar.NOM~~ Sarita-with dance do-CNP]

aami-ki kata ceppaa-Du
her-DAT story told-3.M.S
'While dancing with Sarita, Kumar told her a story.'

b. ??Kumar-ki [~~Kumar-ki~~ juttu uuDipooy-i] picci paTTin-di
Kumar-DAT [~~Kumar-DAT~~ hair lose-CNP] craziness caught-3.N.S
'Having lost his hair, Kumar got angry.'

(4) Assamese (CNP and matrix subject Case-marked differently)
a. Ram-e [~~Ram-Or~~ phurti lag-i]
Ram-NOM [~~Ram-GEN~~ exhilaration feel-CNP]

pagolor nisena nasil-e
crazy person like danced-3
'Having felt very happy, Ram danced like a crazy person.'

b. Ram-Ø [~~Ram-Or~~ bhagar lag-i] xui thakil
Ram-ABS [~~Ram-GEN~~ exhaustion feel-CNP] sleep kept
'Having felt exhausted, Ram fell asleep.'

c. Ram-Or [~~Ram-e~~ kukur-tu heru-i] dukh lagil
Ram-GEN [~~Ram-NOM~~ dog-CL lose-CNP] sad felt
'Having lost his dog, Ram felt sad.'

d. Ram-e [~~Ram-e~~ khong kor-i] mor ghorto bhangil-e
Ram-NOM [~~Ram-EXP-NOM~~ anger did-CNP] my house destroyed-3
'Having got angry (expressed his anger), Ram destroyed my house.'

(5) Assamese (CNP and matrix subject Case-marked the same)
a. Ram-e [~~Ram-e~~ loteri jik-i] notun ghor kinil-e
Ram-NOM [~~Ram-NOM~~ lottery win-CNP] new house bought-3
'Having won the lottery, Ram bought the new house.'

b. Ram-Or [~~Ram-Or~~ e-ta bhal buddhi khela-i] bhal lagil
Ram-GEN [~~Ram-GEN~~ one-CL good idea play-CNP] good felt
'Having got a nice idea, Ram felt good.'

Forward Control is obvious in sentences (2a-d) and (4a-d). The Case-marking of the pronounced subjects shows that they are licensed by the matrix predicate and that the structures are instances of Forward Control. In (3a-b) and (5a-b), on the other hand, the matrix and CNP subjects in each construction are Case-marked the same. This means that the structures can be instances of Forward Control. At the same time, they may be analyzed as instances of Backward Control. In the latter case, the CNP subject is overt and the matrix subject is implied, as illustrated in (6-7) below. Both types of control result in the same word order, which is why they cannot be teased apart.

(6) Telugu (CNP and matrix subject Case-marked the same)

a.

~~Kumar~~	[Kumar	Sarita-too	naTyamu	cees-tuu]
~~Kumar.NOM~~	[Kumar.NOM	Sarita-with	dance	do-CNP]

aami-ki	kata	ceppaa-Du
her-DAT	story	told-3.M.S

'While dancing with Sarita, Kumar told her a story.'

b.

??~~Kumar-ki~~	[Kumar-ki	juttu	uuDipooy-i]	picci	paTTin-di
~~Kumar-DAT~~	[Kumar-DAT	hair	lose-CNP]	craziness	caught-3.N.S

'Having lost his hair, Kumar got angry.'

(7) Assamese (CNP and matrix subject Case-marked the same)

a.

~~Ram-e~~	[Ram-e	loteri	jik-i]	notun	ghor	kinil-e
~~Ram-NOM~~	[Ram-NOM	lottery	win-CNP]	new	house	bought-3

'Having won the lottery, Ram bought the new house.'

b.

~~Ram-Or~~	[Ram-Or	e-ta	bhal	buddhi	khela-i]	bhal	lagil
~~Ram-GEN~~	[Ram-GEN	one-CL	good	idea	play-CNP]	good	felt

'Having got a nice idea, Ram felt good.'

In order to make sure that Forward Control is allowed, the four sentences are repeated in (8) and (9), only this time the CNP clauses are realized sentence-initially. Notice that the overt subjects are pronounced in the vicinity of the matrix clause, which is an indication that (3a-b) and (5a-b) above qualify as Forward Control constructions.

(8) Telugu (CNP and matrix subject Case-marked the same)

a.

[~~Kumar~~	Sarita-too	naTyamu	cees-tuu]
[~~Kumar.NOM~~	Sarita-with	dance	do-CNP]

Kumar	aami-ki	kata	ceppaa-Du
Kumar.NOM	her-DAT	story	told-3.M.S

'While dancing with Sarita,Kumar told her a story.'

b.

[~~Kumar-ki~~	juttu	uuDipooy-i]	Kumar-ki	picci	paTTin-di
[~~Kumar-DAT~~	hair	lose-CNP]	Kumar-DAT	craziness	caught

'Having lost his hair, Kumar got angry.'

(9) Assamese (CNP and matrix subject Case-marked the same)

a.

[~~Ram-e~~	loteri	jik-i]	Ram-e	notun	ghor	kinil-e
[~~Ram-NOM~~	lottery	win-CNP]	Ram-NOM	new	hous	bought-3

'Having won the lottery, Ram bought the new house.'

b.

[~~Ram-Or~~	e-ta	bhal	buddhi	khela-i]	Ram-Or	bhal	lagil
[~~Ram-GEN~~	one-CL	good	idea	play-CNP]	Ram-GEN	good	felt

'Having got a nice idea, Ram felt good.'

It could be argued that the pronounced subject in each sentence belongs to the CNP clause and that it is extraposed to a clause-final position. Extraposition of this type leads to ungrammaticality, as illustrated in (10-11). In all four sentences, the pronounced subject is licensed by the CNP clause, as Case shows. The sentences are ungrammatical, not because they are instances of Backward Control, but because the CNP subject is extraposed to a post-verbal position.

(10) Telugu (CNP and matrix subject Case-marked differently)

a.

*[jwaram	wacc-i	Kumar-ki]	~~Kumar~~	hospital	weLLaa-Du
[fever	come-CNP	Kumar-DAT]	~~Kumar.NOM~~	hospital	went-3.M.S

'Having had a fever, Kumar went to the hospital.'

b.

*[aakali	wees-i	Kumar-ki]	~~Kumar~~	sandwic	tinnaa-Du
[hunger	fall-CNP	Kumar-DAT]	~~Kumar.NOM~~	sandwich	ate-3.M.S

'Having felt hungry, Kumar ate a sandwich.'

(11) Assamese (CNP and matrix subject Case-marked differently)

a.

*[phurti	lag-i	Ram-Or]
[exhilaration	feel-CNP	Ram-GEN]

~~Ram-e~~	pagolor	nisena	nasil-e
~~Ram-NOM~~	crazy person	like	danced-3

‘Having felt very happy, Ram danced like a crazy person.’

b.

*[bhagar	lag-i	Ram-Or]	~~Ram-Ø~~	xui	thakil
[exhaustion	feel-CNP	Ram-GEN]	~~Ram-ABS~~	sleep	kept

‘Having felt exhausted, Ram fell asleep.’

It is worth noting that the ungrammaticality of the sentences in (10) and (11) follows from the fact that the verb in both languages canonically occurs clause-finally. Telugu seems to categorically disallow sentences of the word order OVS, as the sentences in (12) illustrate. Assamese is more permissive than Telugu, allowing OVS structures, in which case the post-verbal NP is interpreted as an afterthought. Such structures, however, are only considered acceptable in finite clauses like the ones in (13). Extraposition in non-finite clauses results in ungrammaticality. The bottom line is that the pronounced subjects in (8a-b) and (9a-b) above belong to the matrix clauses. In other words, the structures are instances of Forward Control. Whether the CNP subject and the matrix subject are Case-marked differently or the same has no influence on the type of control that is allowed.

(12) Telugu – OVS

a.

*hospital	weLLaa-Du	Kumar
hospital	went-3.M.S	Kumar

b.

*jwaram	waccin-di	Kumar-ki
fever	came-3.N.S	Kumar-DAT

(13) Assamese – OVS

a.

pagolor	nisena	nasil-e,	Ram-e
crazy person	like	danced-3,	Ram-NOM

Closest Meaning: ‘He danced like a crazy person, Ram.’

b.

xui	thakil,	Ram-Ø
sleep	kept,	Ram-ABS

Closest Meaning: ‘He fell asleep, Ram.’

3.2.2 Backward Control

Unlike Forward Control, which is acceptable in both Telugu and Assamese, Backward Control is only acceptable in Telugu. The sentences in (14) and (15) below are examples from Telugu. The sentences in (14) contain subjects that are Case-marked differently, whereas those in (15) contain subjects that are Case-marked the same. In both cases, the subject starts out in the CNP clause and moves to the matrix clause. At PF, the CNP copy is preserved and the matrix copy is deleted.

(14) Telugu (CNP and matrix subject Case-marked differently)

a. ~~Kumar~~ [Kumar-ki jwaram wacc-i] hospital weLLaa-Du
~~Kumar.NOM~~ [Kumar-DAT fever come-CNP] hospital went-3.M.S
'Having had a fever, Kumar went to the hospital.'

b. ~~Kumar~~ [Kumar-ki aakali wees-i] sandwic tinnaa-Du
~~Kumar.NOM~~ [Kumar-DAT hunger fall-CNP] sandwich ate-3.M.S
'Having felt hungry, Kumar ate a sandwich.'

c. ??~~Kumar-ki~~ [Kumar bazaaru-loo Sarita-ni cuus-i]
~~Kumar-DAT~~ [Kumar.NOM market-in Sarita-ACC see-CNP]

Sarita-miida preema kaligin-di
Sarita-on love occurred-3.N.S
'Upon seeing Sarita in the market, Kumar fell in love with her.'

d. ??~~Sarita-ki~~ [Sarita aa maaTa win-i] koopamu waccin-di
~~Sarita-DAT~~ [Sarita.NOM that matter hear-CNP] anger came-3.N.S
'Having heard the news, Sarita got angry.'

(15) Telugu (CNP and matrix subject Case-marked the same)

a. ~~Kumar~~ [Kumar Sarita-too naTyamu cees-tuu]
~~Kumar.NOM~~ [Kumar.NOM Sarita-with dance do-CNP]

aami-ki kata ceppaa-Du
her-DAT story told-3.M.S
'While dancing with Sarita, Kumar told her a story.'

b. ??~~Kumar-ki~~ [Kumar-ki juttu uuDipooy-i] picci paTTin-di
~~Kumar-DAT~~ [Kumar-DAT hair lose-CNP] craziness caught-3.N.S
'Having lost his hair, Kumar got angry.'

We saw in the previous section that the structures in (15) qualify as examples of Forward Control. Now we need to make sure that they may also qualify as examples of Backward Control. Observe the sentences in (16). Sentence (16a) is an example of Forward Control. Sentence (16b) is ungrammatical because it involves extraction of the time expression/adverb out of the CNP clause, which is an adjunct.[1] Scrambling within the adjunct boundaries, on the other hand, is acceptable as (16c) shows. In this case, the time expression is scrambled past the CNP subject but it is still within the boundaries of the CNP clause.

(16) Telugu

a.

Kumar	[~~Kumar-ki~~	enimidiki	aakali wees-i /wees-ina-anduku]
Kumar.NOM	[~~Kumar-DAT~~	at 8:00	hunger fall-CNP / fall-INF-because]

tommidiki	bhojanamu	tayaru	ceesukunaa-Du?
at 9:00	dinner	prepare	did for self-3.M.S?

'Kumar got hungry at 8:00 and prepared dinner at 9:00.'

b.

*enimidiki	Kumar	[~~Kumar-ki~~	aakali wees-i /wees-ina-anduku]
at 8:00	Kumar.NOM	[~~Kumar-DAT~~	hunger fall-CNP / fall-INF-because]

tommidiki	bhojanamu	tayaru	ceesukunaa-Du?
at 9:00	dinner	prepare	did for self-3.M.S?

'Kumar got hungry at 8:00 and prepared dinner at 9:00.'

c.

[enimidiki	Kumar-ki	aakali wees-i /wees-ina-anduku]
[at 8:00	Kumar-DAT	hunger fall-CNP / fall-INF-because]

~~Kumar~~	tommidiki	bhojanamu	tayaru	ceesukunaa-Du?
~~Kumar~~.NOM	at 9:00	dinner	prepare	did for self-3.M.S?

'Kumar got hungry at 8:00 and prepared dinner at 9:00.'

Now consider the grammatical structure in (17a). Based on the discussion about (16), we can conclude that the only way (17a) can be acceptable is if it reads as (17b) where the scrambling of the time expression *aaruinTiki* 'at 6:00' takes place within the boundaries of the CNP clause. If the sentence were analyzed as (17c), it should be considered ungrammatical since

[1] That the matrix clause has a distinct time expression, *tommidiki* 'at 9:00', rules out the possibility that *enimidiki* 'at 8:00' belongs to the matrix clause.

it would involve extraction out of an island. This indicates that (17a) qualifies as an example of Backward Control. By the same token, the structures in (15) above may qualify as instances of Backward Control.

(17) Telugu

a.

aaruinTiki	Kumar unnu Sarita	kalis-i	eeDuinTiki	wellaa-ru
at 6:00	Kumar and Sarita.NOM	meet-CNP	at 7:00	left-3.M.P

'Kumar and Sarita met at 6:00 and left at 7:00.'

b.

~~Kumar unnu Sarita~~	[aaruinTiki	Kumar unnu Sarita	kals-i]
~~Kumar and Sarita.NOM~~	[at 6:00	Kumar and Sarita.NOM	meet-CNP]

eeDuinTiki	wellaa-ru
at 7:00	left-3.M.P

'Kumar and Sarita met at 6:00 and left at 7:00.'

c.

*aaruinTiki	Kumar unnu Sarita	[~~Kumar unnu Sarita~~	kals-i]
at 6:00	Kumar and Sarita.NOM	[~~Kumar and Sarita.NOM~~	meet-CNP]

eeDuinTiki	wellaa-ru
at 7:00	left-3.M.P

'Kumar and Sarita met at 6:00 and left at 7:00.'

Unlike Telugu, Assamese Adjunct Control structures may not be realized as instances of Backward Control. The result ranges from degradation to unacceptability, as (18) shows. Section 3.4.2.2 offers a possible explanation as to why this is the case.

(18) Assamese (CNP and matrix subject Case-marked differently)

a.

??~~Ram-e~~	[Ram-Or	phurti	lag-i]
~~Ram-NOM~~	[Ram-GEN	exhilaration	feel-CNP]

pagolor	nisena	nasil-e
crazy person	like	danced-3

'Having felt very happy, Ram danced like a crazy person.'

b.

??~~Ram-Ø~~	[Ram-Or	bhagar	lag-i]	xui	thakil
~~Ram-ABS~~	[Ram-GEN	exhaustion	feel-CNP]	sleep	kept

'Having felt exhausted, Ram fell asleep.'

c.

??~~Ram-e~~	[Ram-e	khong	kor-i]	mor ghorto	bhangil-e
~~Ram-NOM~~	[Ram-EXP-NOM	anger	did-CNP]	my house	destroyed-3

'Having got angry (expressed his anger), Ram destroyed my house.'

d. ??/*~~Ram-Or~~ [Ram-e kukur-tu heru-i] dukh lagil
~~Ram-GEN~~ [Ram-NOM dog-CL lose-CNP] sad felt
'Having lost his dog, Ram felt sad.'

Again, this phenomenon is independent of whether the CNP subject and the matrix subject are Case-marked the same or differently. The sentences in (19) must be considered degraded to unacceptable under the proposed parsing. Of course when presented to native speakers as a string of words, they are parsed as Forward Control structures.

(19) Assamese (CNP and matrix subject Case-marked the same)

a. ??/*~~Ram-e~~ [Ram-e loteri jik-i] notun ghor kinil-e
~~Ram-NOM~~ [Ram-NOM lottery win-CNP] new house bought-3
'Having won the lottery, Ram bought the new house.'

b. ??~~Ram-Or~~ [Ram-Or e-ta bhal buddhi khela-i] bhal lagil
~~Ram-GEN~~ [Ram-GEN one-CL good idea play-CNP] good felt
'Having got a nice idea, Ram felt good.'

When extraction is involved, however, things become clearer. For example, a structure like (20a) is directly ruled out by native speakers as unacceptable. To them, 'in January' and 'in March' belong to the same event of the matrix clause, and thus the sentences are semantically awkward. We know that the structure in (20b) is not allowed because it involves extraction out of an island. But (20c) is also ruled out because it is an instance of Backward Control. This proves that Backward Control is not allowed in Assamese. Compare to (17b) from Telugu.

(20) Assamese

a. *January-t Ram-e loteri jik-i
January-in Ram-NOM lottery win-CNP

March-ot notun ghor kinil-e
March-in new house bought-3
'Ram won the lottery in January and bought a new house in March.'

b. *January-t Ram-e [~~Ram-e~~ loteri jik-i]
January-in Ram-NOM [~~Ram-NOM~~ lottery win-CNP]

March-ot notun ghor kinil-e
March-in new house bought-3
'Ram won the lottery in January and bought a new house in March.'

c.	*~~Ram-e~~	[January-t	Ram-e	loteri	jik-i]
	~~Ram-NOM~~	[January-in	Ram-NOM	lottery	win-CNP]

March-ot notun ghor kinil-e
March-in new house bought-3
'Ram won the lottery in January and bought a new house in March.'

This section presented evidence that Forward Control in Telugu and Assamese and Backward Control in Telugu are licensed independently from the Case similarities or differences between the CNP and matrix subjects. For the purpose of clarity, most of the Adjunct Control examples used in the following sections comprise two differently Case-marked subjects. Before proceeding to the analysis, Section 3.3 shows that the structures under examination are occurrences of Obligatory Control.

3.3 Telugu and Assamese Adjunct Control as Obligatory Control

Traditionally, Obligatory Control structures share a number of characteristics (Williams 1980, Hornstein 1999, Jackendoff and Culicover 2003, Polinsky and Potsdam 2004, among others). Four major characteristics are listed in (21).

(21) Properties of Obligatory Control
The subordinate subject
a. Requires a c-commanding antecedent
b. Requires a local antecedent
c. Disallows split antecedents
d. Requires a sloppy reading under ellipsis

To illustrate, observe the examples in (22-25) (based on Hornstein 2001: 46 (56-59)). In structure (22a), the unpronounced controllee — the subordinate subject — and the overt controller *Tom* in the matrix clause are in a c-command relationship. The sentence is grammatical. Compare to (22b). The sentence is ungrammatical under the designated reading because *Tom* in the matrix clause does not enter a c-command relationship with the unpronounced subordinate subject, and thus does not meet the requirement in (21a).[2]

(22) a. Tom left [after ~~Tom~~ washing himself].
b. *Tom's mother left [after ~~Tom~~ washing himself].

Further, the requirement in (21b) above dictates that the controller be local, possibly in the next higher clause. Sentence (23a) meets this requirement. In (23b), on the other hand, the controller is too remote, resulting in unacceptability.

(23) a. Tom left [after ~~Tom~~ washing himself].
b. *Tom said that Sue left [after ~~Tom~~ washing himself].

The prohibition against split antecedents in (21c) follows from the requirements in (21a) and (21b). If Obligatory Control requires a local c-commanding antecedent, it follows that two non-conjoined NPs cannot both be local, c-commanding controllers. This is the same as saying that two non-conjoined NPs cannot both be antecedents to the same trace (Hornstein 1999: 80). The prohibition explains why (24a) and (24b) below are ungrammatical. In (24a), *Tom* in the highest clause is too remote to control *Tom* in the adjunct. In (24b), assuming that the subordinate clause adjoins to the matrix clause at vP (or VP), *Sue* does not enter a c-command relationship with the subordinate subject and, thus, cannot be a controller.

(24) a. *Tom said that Sue left [after ~~Tom and Sue~~ washing themselves].
b. *Tom kissed Sue [after ~~Tom and Sue~~ washing themselves].

The restriction in (21d) dictates that structures like (25) should mean that Sue left after she, not Tom, ate. That is, the sentence must have the sloppy reading in (25a) rather than the strict reading in (25b).

[2] Here and below, I use the terms controller and controllee to refer to the two co-referential elements in a control structure. The controller is the element in the matrix clause, and the controllee is the element in the subordinate clause. The usage is only a matter of convenience; it is independent of the type of control (Forward vs. Backward), or whether the element referred to is pronounced or unpronounced.

(25) Tom left [after ~~Tom~~ eating], and Sue did too.
 a. Sue left after she ate.
 b. *Sue left after Tom ate.

If tested against the properties in (21), Telugu and Assamese Adjunct Control qualifies as Obligatory Control. To begin with, Adjunct Control requires a c-commanding antecedent. This is true of Forward and Backward Control in Telugu and of Forward Control in Assamese.[3] For example, the Telugu Forward and Backward Control structures (26a) and (26b) are ungrammatical under the designated reading because the controller and the controllee do not enter a c-commanding relationship. The same observation applies to the Assamese Forward Control structure (27a). Compare to (26c-d) and (27b) in which the controller and the controllee are in a c-command relationship.

(26) Telugu
 a. Forward Control
 *atani$_i$ amma [~~atani-ki$_i$~~ aakali wees-i] atani-ki annam peTTin-di
 his mother [~~he-DAT~~ hunger fall-CNP] him-DAT food kept-3.N.S
 'Having got hungry, his mother gave him food.'
 Intended meaning: 'He got hungry, and his mother gave him food.'

 b. Backward Control
 *~~atani$_i$ amma~~ [atani-ki$_i$ aakali wees-i] atani-ki annam peTTin-di
 ~~his mother~~ [he-DAT hunger fall-CNP] him-DAT food kept-3.N.S
 'Having got hungry, his mother gave him food.'
 Intended meaning: 'He got hungry, and his mother gave him food.'

 c. Forward Control
 atanu$_i$ [~~atani-ki$_i$~~ aakali wees-i] sandwic tinnaa-Du
 he.NOM [~~he-DAT~~ hunger fall-CNP] sandwich ate-3.M.S
 'Having got hungry, he ate a sandwich.'

 d. Backward Control
 ~~atanu$_i$~~ [atani-ki$_i$ aakali wees-i] sandwic tinnaa-Du
 ~~he.NOM~~ [he-DAT hunger fall-CNP] sandwich ate-3.M.S
 'Having got hungry, he ate a sandwich.'

[3] I will not examine Assamese Backward Control structures because they are already degraded.

(27) Assamese

a. *tar$_i$ mak-Or [~~xi~~$_i$ bhalkoi nas-i] bhal lagil
his mother-GEN [~~he-NOM~~ well dance-CNP] good felt
Intended meaning: ‘He danced well, and his mother felt good.’

b. tar$_i$ [~~xi~~$_i$ bhalkoi nas-i] bhal lagil
he.GEN [~~he-NOM~~ well dance-CNP] good felt
‘Having danced well, he felt good.’

Further, the antecedent has to be local. The Telugu Forward and Backward Control structures (28a-b) and the Assamese Forward Control structure (29a) each involve a non-local antecedent under the intended meaning. The sentences are ungrammatical. Sentences (28c-d) and (29b), on the other hand, involve a local antecedent. The sentences are acceptable.

(28) Telugu

a. Forward Control
*[Kumar [~~Sarita~~ sinima cuus-Tuu]
[Kumar.NOM [~~Sarita.NOM~~ movie watch-CNP]

popcorn tinna-Du aNi] Sarita ceppin-di
popcorn ate-3.M.S so/that]Sarita.NOM said-3.N.S
Intended meaning: ‘Sarita said that Kumar ate popcorn while Sarita was watching a movie.’

b. Backward Control
*[~~Kumar~~ [Sarita sinima cuus-Tuu]
[~~Kumar.NOM~~ [Sarita.NOM movie watch-CNP]

popcorn tinna-Du aNi] Sarita ceppin-di
popcorn ate-3.M.S so/that]Sarita.NOM said-3.N.S
Intended meaning: ‘Sarita said that Kumar ate popcorn while Sarita was watching a movie.’

c. Forward Control
[Kumar [~~Kumar~~ sinima cuus-Tuu]
[Kumar.NOM [~~Kumar.NOM~~ movie watch-CNP]

popcorn tinna-Du aNi] Sarita ceppin-di
popcorn ate-3.M.S so/that] Sarita.NOM said-3.N.S
‘Sarita said that Kumar ate popcorn while Kumar was watching a movie.’

d. Backward Control
[~~Kumar~~ [Kumar sinima cuus-Tuu]
[~~Kumar.NOM~~ [Kumar.NOM movie watch-CNP]

popcorn tinna-Du aNi] Sarita ceppin-di
popcorn ate-3.M.S so/that]Sarita.NOM said-3.N.S
'Sarita said that Kumar ate popcorn while Kumar was watching a movie.'

(29) Assamese
a. *PrOxad-e kol-e [ze Ram-e
Proxad-NOM said-3 [that Ram-NOM

[~~PrOxad-Or~~ xomoi na-thak-i] bhat na-khal-e]
[~~Proxad-GEN~~ time NEG-keep-CNP] rice NEG-ate-3]
Intended meaning: 'Proxad said that he (Proxad) didn't have time, and Ram didn't eat rice.'

b. PrOxad-e kol-e [ze Ram-e
Proxad-NOM said-3 [that Ram-NOM

[~~Ram-Or~~ xomoi na-thak-i] bhat na-khal-e]
[~~Ram-GEN~~ time NEG-keep-CNP] rice NEG-ate-3]
'Proxad said that Ram didn't have time, and Ram didn't eat rice.'

Further, the unpronounced subject of Obligatory Control constructions does not allow split antecedents. As I mentioned earlier, this requirement follows from the two previous properties, namely, that Obligatory Control requires a local and c-commanding antecedent. In (30a-b), for example, the CNP subject has two c-commanding antecedents, a local antecedent 'Kumar' and an unlocal antecedent 'Sarita'. Yet, it can only take 'Kumar' as an antecedent. The same applies to the Assamese example (31); only 'Ram' can determine the identity of the CNP subject.

(30) Telugu
a. Forward Control
*Kumar [~~Kumar unnu Sarita~~ sinima cuus-Tuu]
Kumar.NOM [~~Kumar unnu Sarita.N~~ movie watch-CNP]

popcorn tinna-Du aNi Sarita ceppindi
popcorn ate-3.M.S so/that Sarita said
Intended meaning: 'Sarita said that while she and Kumar were watching a movie, Kumar ate popcorn.'

b. Backward Control
*~~Kumar~~ [Kumar unnu Sarita sinima cuus-Tuu]
~~Kumar.NOM~~ [Kumar unnu Sarita.N movie watch-CNP]

popcorn tinna-Du aNi Sarita ceppindi
popcorn ate-3.M.S so/that Sarita said
Intended meaning: 'Sarita said that while she and Kumar were watching a movie, Kumar ate popcorn.'

(31) Assamese
*PrOxad-e kol-e ze Ram-e
Proxad-NOM said-3 that Ram-NOM

[~~Ram aru PrOxad-Or~~ khong uth-i] ghorto banghil-e
[~~Ram and Proxad-GEN~~ anger arise-CNP] house destroyed-3
Intended meaning: 'Proxad said that he and Ram got angry, and Ram destroyed the house.'

Finally, Obligatory Control requires a sloppy reading under ellipsis. Adjunct control structures in Telugu and Assamese share this property as well. To illustrate, the elided parts of Telugu Forward and Backward Control structures (32a-b) mean that Arun left because/after he himself got angry. They do not mean that Arun left because/after Kumar got angry. The same applies to the elided part of the Assamese Forward Control structure in (33). Proxad destroyed the house because/after he himself got angry; not because/after Ram got angry.

(32) Telugu
a. Forward Control
Kumar [~~Kumar-ki~~ koopamu wacc-i]
Kumar.NOM [~~Kumar-DAT~~ anger come-CNP]

akkadi-nunci wellipoyinaa-Du Arun kuDa
there-from left-3.M.S Arun.NOM also
'Having got angry, Kumar left, and Arun did too.'
Meaning: 'Arun also got angry and left.'
Not: 'Kumar got angry, and Arun left.'

b. Backward Control
~~Kumar~~ [Kumar-ki koopamu wacc-i]
~~Kumar.NOM~~ [Kumar-DAT anger come-CNP]

akkadi-nunci	wellipoyinaa-Du	Arun	kuDa
there-from	left-3.M.S	Arun.NOM	also

‘Having got angry, Kumar left, and Arun did too.’
Meaning: ‘Arun also got angry and left.’
Not: ‘Kumar got angry, and Arun left.’

(33) Assamese

Ram-e	[~~Ram-Or~~	khong	uth-i]
Ram-NOM	[~~Ram-GEN~~	anger	come-CNP]

ghorto	bhangil-e,	aru	PrOxad-e	O	take	koril-e
house	destroyed-3,	and	Proxad-NOM	also	same	did-3

‘Ram got angry and destroyed the house, and Proxad did too.’
Meaning: ‘Proxad also got angry and destroyed the house.’
Not: ‘Ram got angry, and Proxad destroyed the house.’

Based on the evidence presented in this section, we can conclude that Telugu and Assamese Adjunct Control structures are instances of Obligatory Control.[4] Now we turn to the details of the movement analysis.

3.4 Telugu and Assamese Adjunct Control as Sideward Movement

It is well-known that adjuncts are islands to movement, except in such cases as parasitic gap constructions which, according to Nunes (1995, 2004), involve sideward movement. This is an operation that allows movement between two unconnected syntactic objects. Hornstein (1999, 2003) follows Nunes and considers Adjunct Control structures as instances of sideward movement.

Under the Copy Theory of Movement as proposed by Chomsky (1995), all movement takes place between two positions that are in a c-command relationship. A constituent copy-plus-merges into a c-commanding position and the two copies form a chain. In Nunes’s system, the Copy Theory of Movement is reformulated as the Copy-plus-Merge Theory of Movement. According to this theory, movement comprises four independent operations: Copy,

[4] The appendix at the end of this dissertation provides evidence that Telugu and Assamese Adjunct Control also qualifies as Exhaustive Control as analyzed in Landau 2000, 2004.

Merge, Form Chain, and Chain Reduction. The two operations Copy and Merge are in principle similar to Chomsky's, except that chain formation does not follow naturally from them. Chain formation is an independent operation which Nunes formulates as follows:

(34) Form Chain
Two constituents X and Y form a chain iff
a. X and Y are non-distinct;
b. X c-commands Y.

With Form Chain as an independent step, movement does not have to target a c-commanding position. In other words, movement between two unconnected syntactic objects is now possible. For example, X in (35) may copy out of the syntactic object L and merge in the unconnected syntactic object M, as (35a) illustrates. Subsequently, L and M undergo merge in (35b). This type of movement is called sideward movement (Nunes 2004). Note that if L is an adjunct, it becomes an island after – not before – merging with M.[5]

(35) a. $[_{L}\ X\ldots] \xrightarrow{\text{COPY}} \mathbf{X} \xrightarrow{\text{MERGE}} [_{M}\ X\ [\ldots]]$
b. $[_{M}\ [_{L}\ X\ldots]\ [_{M}\ X\ [\ldots]]]$

Whereas the three operations Copy, Merge, and Form Chain take place in the syntax, Chain Reduction takes place in the phonological component. According to Nunes, if two elements form a chain, one of them has to be deleted. Both operations, Form Chain and Chain Reduction, take place for the purpose of linearization. They satisfy the Linear Correspondence

[5] It is worth mentioning that the idea of a c-commanding antecedent in relation to control interpretation as used in Section 3.3 becomes anachronistic when looked at from the perspective of sideward movement (or the Copy-plus-Merge Theory of Movement (Nunes 2004)). As the discussion here shows, sideward movement does not target a c-commanding position. Therefore, it is possible for two copies of the same element to end up in a non-command relationship, which is actually the case of the Copy Control structure analyzed in Chapter 4. Such cases raise the question: if Adjunct Control is derived via sideward movement, which is divorced from c-command, how is the control interpretation determined? In other words, what explains why the two subjects in an Adjunct Control structure have the same referent? According to Hornstein (2001), movement does. The fact that the two subjects in an Adjunct Control structure are derived by movement means that they are non-distinct copies of the same token, and thus they are necessarily co-referential. In this sense, movement becomes the major theory of construal, and restrictions on control interpretation are mainly restrictions on movement.

Axiom in (36) which dictates that an element cannot asymmetrically c-command and be asymmetrically c-commanded by the same element in a structure. By the same token, an element cannot follow and precede itself, as this induces a violation of irreflexivity. Both asymmetry and irreflexivity are defined in (37) and (38) respectively (Nunes 2004: 24). To satisfy the Linear Correspondence Axiom, Chain Reduction applies at PF. This PF operation reads as (39).

(36) Linear Correspondence Axiom
Let X, Y be nonterminals and x, y terminals such that X dominates x and Y dominates y. Then if X asymmetrically c-commands Y, x precedes y. (Kayne 1994: 33)

(37) Asymmetry
If x precedes y, y necessarily does not precede x.

(38) Irreflexivity
If x precedes y, then x and y are distinct copies.

(39) Chain Reduction
Delete the minimal number of constituents of a nontrivial chain CH that suffices for CH to be mapped into a linear order in accordance with the LCA (Nunes 2004: 27 (44)).

To illustrate, sentence (40) below contains two non-distinct copies of *Tim* in a c-command relationship; thus, they form a chain. The pronunciation of both copies induces a violation of the Linear Correspondence Axiom. As the arrows show, the verb *called* ends up c-commanding and being c-commanded by the same element. This is a violation of asymmetry as stated in (37). At the same time, the two copies of *Tim* being non-distinct, *Tim* ends up preceding and following itself, which is a violation of the irreflexivity condition in (37). In order for the structure to be linearized in accordance with the Linear Correspondence Axiom, one of the copies has to be deleted. Chain reduction applies and marks one of the copies for deletion. The lower copy undergoes deletion because it has less checked features.

c-commanded c-commanding
(40) Tim was **called** ~~Tim~~ by Sue.

In the following sections, I adopt Nunes's system in order to account for Adjunct Control in Telugu and Assamese. I start with Forward Control.

3.4.1 Forward Control

This section analyzes Forward Control structures in Telugu and Assamese as instances of sideward movement. Section 3.4.1.1 deals with Forward Control structures in which the CNP clause is realized sentence internally (e.g., (41a-b)). Section 3.4.1.2 provides an analysis of Forward Control structures in which the CNP clause is realized sentence-initially (e.g., (42a-b)).

(41) a. Telugu

Kumar	[~~Kumar-ki~~	daggu-u	jalubu-u	wacc-i]
Kumar.NOM	[~~Kumar-DAT~~	cough-and	cold-and	come-CNP]

mandulu	waaDaa-Du
medicines	used-3.M.S

'Having caught a cough and a cold, Kumar took medication.'

b. Assamese

Ram-e	[~~Ram-Or~~	xomoi	no-thak-i]	bhat	na-khal-e
Ram-NOM	[~~Ram-GEN~~	time	NEG-keep-CNP]	rice	NEG-ate-3

'Having no time, Ram didn't eat rice.'

(42) a. Telugu

[~~Kumar-ki~~	daggu-u	jalubu-u	wacc-i]
[~~Kumar-DAT~~	cough-and	cold-and r	come-CNP]

Kumar	mandulu	waaDaa-Du
Kumar.NOM	medicines	used-3.M.S

'Having caught a cough and a cold, Kumar took medication.'

b. Assamese

[~~Ram-Or~~	xomoi	no-thak-i]	Ram-e	bhat	na-khal-e
[~~Ram-GEN~~	time	NEG-keep-CNP]	Ram-NOM	rice	NEG-ate-3

'Having no time, Ram didn't eat rice.'

3.4.1.1 Forward Control as sideward movement

Observe the Telugu sentence in (43). Following Hornstein (1999, 2003) and Nunes (1995, 2001, 2004), we can propose that the sentence has the derivation in (44). In (44a), the CNP clause and the matrix clause form independently, and 'Kumar' copies out of the CNP clause. In

(44b), ‘Kumar’ merges in the matrix clause. The copy-plus-merge operation between the two unconnected syntactic objects, the CNP and the matrix clauses, is an instance of sideward movement.[6] Following, the CNP clause adjoins to matrix vP, as shown in (44c). Upon adjunction, the CNP clause becomes an island. In (44d), the matrix subject ‘Kumar’ moves from Spec,vP to Spec, IP to check the EPP feature. As the dotted arrows in (44e) show, the copy of ‘Kumar’ in Spec,IP c-commands both the copy in the CNP clause and the copy in Spec,vP, forming a chain with each — thus, Form Chain. Step (44f) takes place at PF; this is when Chain Reduction applies, and the lower copy in each chain is deleted in order for the structure to be linearized in accordance with the Linear Correspondence Axiom.

(43) Telugu

Kumar	[~~Kumar-ki~~	jwaram	wacc-i]	hospital	weLLaa-Du
Kumar.NOM	[~~Kumar-DAT~~	fever	come-CNP]	hospital	went-3.M.S

‘Having had a fever, Kumar went to the hospital.’

(44) a. i. [$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar-ki] jwaram wacc-i] $\xrightarrow{\text{COPY}}$ [$_{\text{NP}}$ Kumar]
[$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar-DAT] fever come-CNP]

ii. [$_{\text{Matrix vP}}$ hospital weLLaa-Du]
[$_{\text{Matrix vP}}$ hospital went-3.M.S]

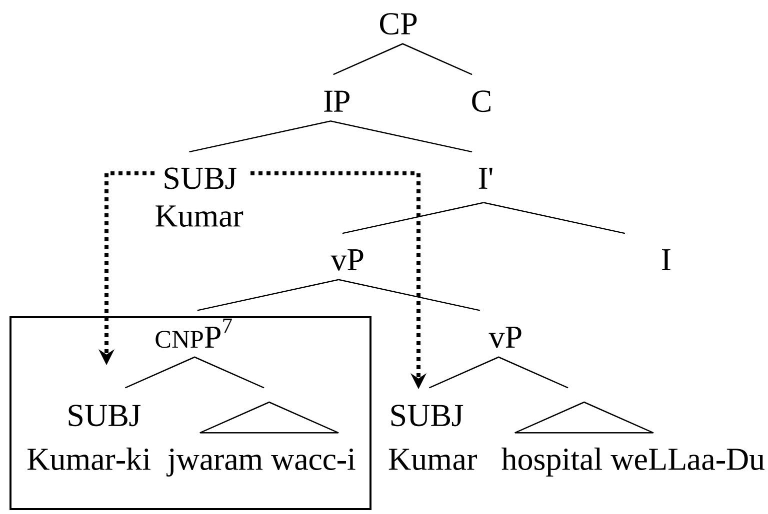
b. [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Kumar] hospital weLLaa-Du]

c. [$_{\text{Matrix IP}}$ [$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar-ki] jwaram wacc-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ Kumar] hospital weLLaa-Du]]]

d. [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Kumar] [$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar-ki] jwaram wacc-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ Kumar] hospital weLLaa-Du]]]

[6] One problem here is that ‘Kumar’ moves out of one Case position into another Case position. I deal with this problem in Section 3.5 below.

e.



f. At PF: [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Kumar] [$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ ~~Kumar-ki~~] jwaram wacc-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ ~~Kumar~~] hospital weLLaa-Du]]]

The exact same derivation applies to the Assamese sentence (45), as illustrated in (46).

(45) Assamese
Ram-e [~~Ram-e~~ loteri jik-i] notun ghor kinil-e
Ram-NOM [~~Ram-NOM~~ lottery win-CNP] new house bought-3
'Having won the lottery, Ram bought a new house.'

(46) a. i. [$_{\text{CNP}}$ [$_{\text{NP}}$ Ram-e] loteri jik-i] $\xrightarrow{\text{COPY}}$ [$_{\text{NP}}$ Ram]
[$_{\text{CNP}}$ [$_{\text{NP}}$ Ram-NOM] lottery win-CNP]

ii. [$_{\text{Matrix vP}}$ notun ghor kinil-e]
[$_{\text{Matrix vP}}$ new house bought-3]

b. [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Ram-e] notun ghor kinil-e]

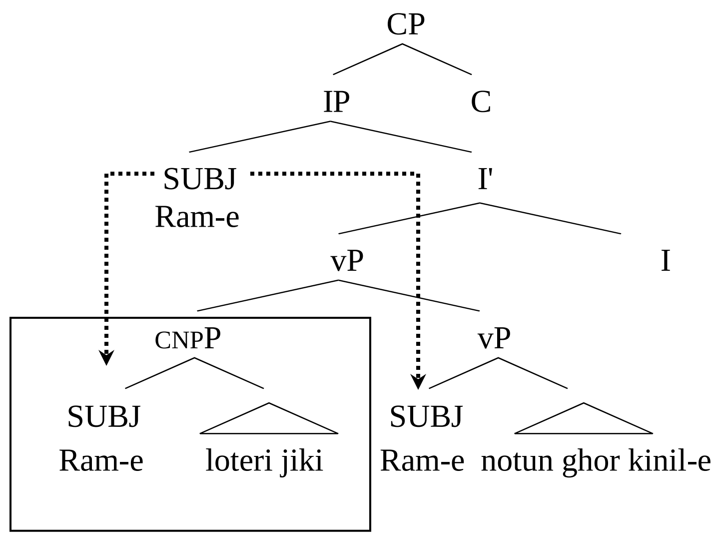
c. [$_{\text{Matrix IP}}$ [$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ Ram-e] loteri jik-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ Ram-e] notun ghor kinil-e]]]

d. [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Ram-e] [$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ Ram-e loteri jik-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ Ram-e] notun ghor kinil-e]]]

---

[7] The size of CNP clauses is not especially relevant to the discussion in this chapter or in Chapter 4 (it becomes relevant in Chapter 5). This is why I continue to label them as CNPP. A brief note is in order, however. I follow Jayaseelan (2004) by assuming that CNP clauses are IPs. This is a reasonable assumption. A CNP clause allows negation and other adverbs (e.g., time expressions), whose locus is generally believed to be higher than vP (Cinque 1999). At the same time, a CNP clause does not allow an overt complementizer, which may be an indication that they do not project as high as CP.

e.



f. At PF: [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Ram-e] [$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ ~~Ram-e~~] loteri jik-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ ~~Ram-e~~] notun ghor kinil-e]]]

The following section deals with structures that involve a sentence-initial CNP clause.

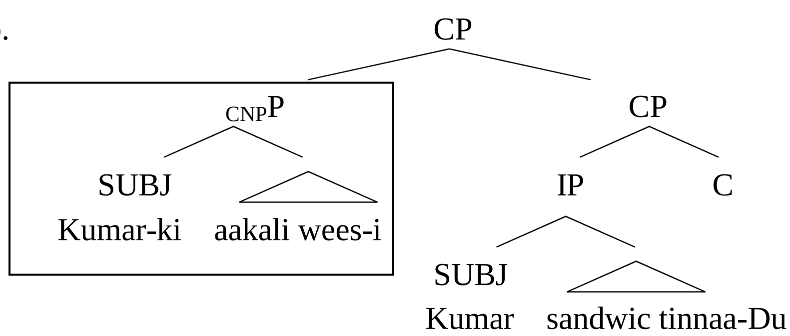
3.4.1.2 Forward Control as sideward plus remnant movement

Forward Control may also obtain in constructions where the CNP clause is sentence-initial, such as (47a) and (48a). As (47b) and (48b) show, the CNP clause in such constructions is pronounced at CP of the matrix clause.

(47) Telugu

a. [~~Kumar-ki~~ aakali wees-i] Kumar sandwic tinnaa-Du
[~~Kumar-DAT~~ hunger fall-CNP] Kumar.NOM sandwich ate-3.M.S
'Having felt hungry, Kumar ate a sandwich.'

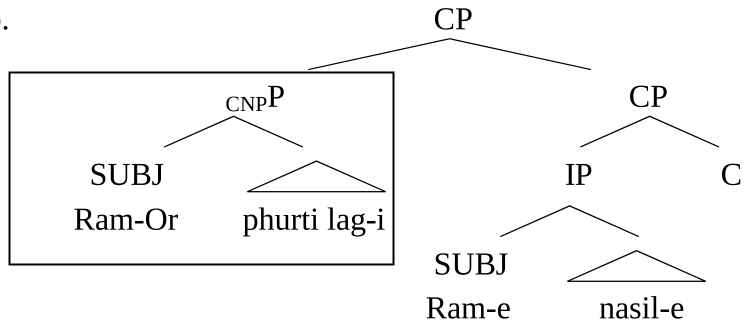
b.



(48) Assamese

a. [~~Ram-Or~~ phurti lag-i] Ram-e nasil-e
[~~Ram-GEN~~ exhilaration feel-CNP] Ram-NOM danced-3
'Having felt so happy, Ram danced.'

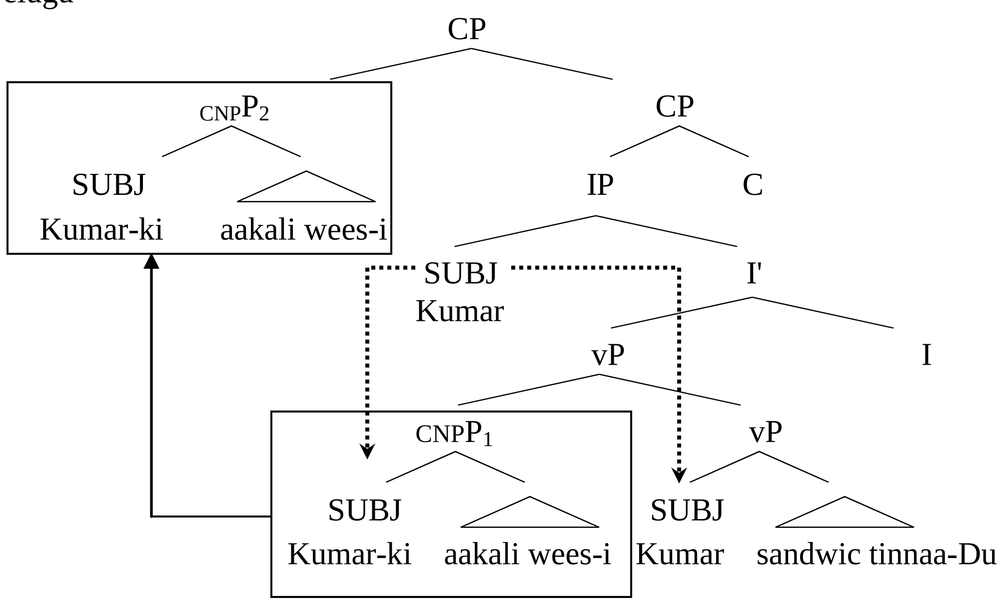
b.



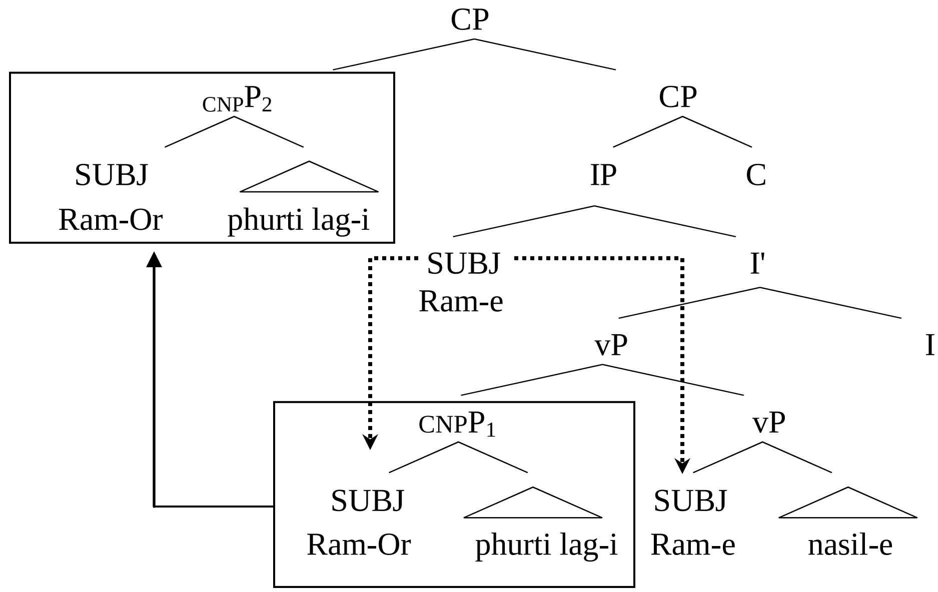
Let us assume that the CNP clause in (47-48) is not only pronounced at CP of the matrix clause, but also base-generated there. This means that at no point in the derivation can the CNP and matrix subjects enter a c-command relationship, and thus the two non-distinct copies cannot form a chain. Accordingly, Chain Reduction, which is dependent on Form Chain, must fail to apply, and no deletion must take place, contrary to fact.

An alternative approach is to assume that the CNP clause is base-generated at vP of the matrix clause before it moves to the position where it is pronounced. In other words, (47a) and (48a) have the structure in (49) and (50) respectively.

(49) Telugu



(50) Assamese



The copy of the subject in Spec,IP of the matrix clause c-commands both the copy in Spec, vP and the copy in the lower CNP clause (CNP_1). It forms a chain with each of them. At PF, Chain Reduction applies, and the lower copy in each chain is deleted. Further, the two copies of the CNP clause, CNP_2 and CNP_1, also form a chain; at PF, the lower copy is deleted.

The movement of the CNP clause in (49-50) is commonly referred to as remnant movement. It involves movement of a constituent out of which extraction has taken place (Müller 2000). Assuming that control is movement, the CNP clause in each of (49) and (50) moves to matrix CP after the CNP subject has moved to the matrix clause.

Now the question is: How does the subject in CNP_2 get deleted? In order to account for a similar case of remnant movement, Nunes (2004: 50-55) adopts a more elaborate definition of a chain and chain links. Following Chomsky (1995: 300), he holds that “the individual links of a chain must … be identified not only in terms of their content, but also in terms of their local structural configuration.”

To illustrate, consider the chain {Kumar, Kumar-ki} in (49). It is made up of the copy of the subject in Spec,IP of the matrix clause and the copy of the subject in the CNP clause. Nunes holds that the two copies must be identified, not only in terms of their content as 'Kumar', but also in terms of their local structural configuration. That is, the chain {Kumar, Kumar-ki} must be identified as (51) in which one link is identified as the sister of matrix I' and the other link as the sister of CNP' of the CNP clause. At PF, Chain Reduction instructs the phonological component to delete the occurrence of *Kumar-ki* that has the structural configuration (*Kumar-ki*, [$_{\text{CNP'}}$ *aakali wees-i*]). Two such copies exist in (49), one in CNP_1 and one in CNP_2. As Nunes (2004: 54) maintains, "assuming that the phonological component blindly scans the structure to carry out the deletion instructed by Chain Reduction," it ends up deleting the two copies of (*Kumar-ki*, [$_{\text{CNP'}}$ *aakali wees-i*]), as (52) shows.

(51) {(Kumar, [I' …]), (Kumar-ki, [$_{\text{CNP'}}$ aakali wees-i])}

(52) Telugu

[~~Kumar-ki~~	aakali	wees-i]	Kumar	[~~Kumar-ki~~	aakali	wees-i]
[~~Kumar-DAT~~	hunger	fall-CNP]	Kumar.NOM	[~~Kumar-DAT~~	hunger	fall-CNP]

sandwic	tinnaa-Du
sandwich	ate-3.M.S

'Having felt hungry, Kumar ate a sandwich.'

The analysis can be extended to the Assamese example in (50). In this case, the copy of the subject in Spec,IP of the matrix clause and the copy in the CNP clause form the chain in (53). When Chain Reduction applies, it scans the structure, not for the lower copy per se, but rather for the configuration (*Ram-Or*, [$_{\text{CNP'}}$ *phurti lag-i*]). Two copies of this configuration are detected in the structure and, consequently, both are deleted, as (54) illustrates.

(53) {(Ram-e, [I' …]), (Ram-Or, [$_{\text{CNP'}}$ phurti lag-i])}

(54) Assamese

[~~Ram-Or~~	phurti	lag-i]	Ram-e	[~~Ram-Or~~
[~~Ram-GEN~~	exhilaration	feel-CNP]	Ram-NOM	[~~Ram-GEN~~

phurti	lag-i]	nasil-e
exhilaration	feel-CNP]	danced-3

‘Having felt so happy, Ram danced.’

The analysis thus far accounts for one side of the coin: Forward Control. We are left with Backward Control, which is the topic of the following section.

3.4.2 Backward Control

This section provides an analysis of Backward Control constructions in Telugu and Assamese. These are the mirror image of the Forward Control structures presented in Section 3.4.1. They are constructions in which the subordinate/CNP subject is pronounced, determining the identity of the implied subject of the matrix clause.

The section is organized as follows: Section 3.4.2.1 presents an analysis of Telugu Backward constructions as instances of sideward movement. Concerning Backward Control constructions in Assamese, we saw in Section 2.2 that they are judged as unacceptable or degraded. Section 3.4.2.2 provides a possible explanation and highlights the implications for Case theory.

3.4.2.1 Backward Control in Telugu

Observe the structure in (55). In both sentences, the CNP subject is pronounced and the matrix subject is implied.

(55) Telugu

~~Kumar~~	[Kumar-ki	aakali	wees-i]	sandwic	tinnaa-Du
~~Kumar.NOM~~	[Kumar-DAT	hunger	fall-CNP]	sandwich	ate-3.M.S

‘Having felt hungry, Kumar ate a sandwich.’

The same mechanism involved in Forward Control and the pronunciation of the matrix subject is involved in Backward Control and the pronounciation of the CNP subject. In other words, the derivational history of the sentence in (55) is almost identical to that of (43) and (45) above. More specifically, sentence (55) has the derivational history delineated in (56). What makes this derivation different from the derivation of a Forward Control structure is the outcome of the PF operation Chain Reduction. In Forward Control constructions, Chain Reduction deletes the CNP copy of the subject NP, as illustrated in (44f) and (46f) above. In (56), however, Chain Reduction deletes the matrix copy of the subject NP, leading to Backward Control, as (56f ') illustrates.

(56) a. i. [$_{CNP}$ [$_{NP}$ Kumar-ki] aakali wees-i] ⟶ [$_{NP}$ Kumar]
[$_{CNP}$ [$_{NP}$ Kumar-DAT] hunger fall-CNP]

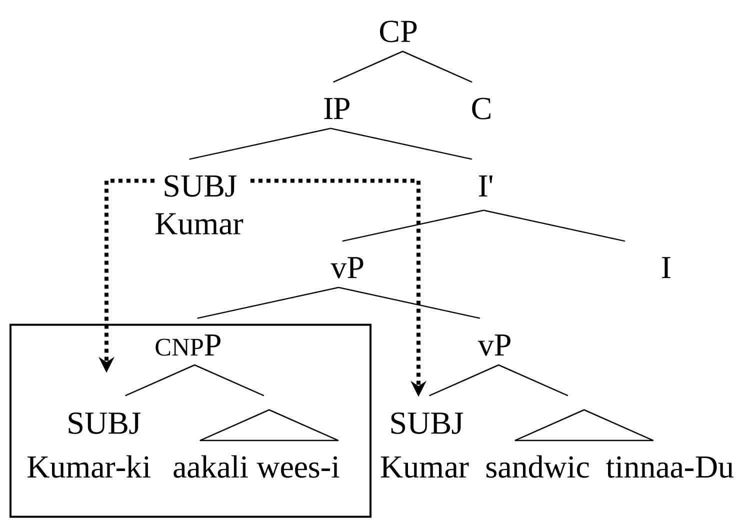
ii. [$_{Matrix\ vP}$ sandwic tinnaa-Du]
[$_{Matrix\ vP}$ sandwich ate-3.M.S]

b. [$_{Matrix\ vP}$ [$_{NP}$ Kumar] sandwic tinnaa-Du]

c. [$_{Matrix\ IP}$ [$_{vP}$ [$_{CNP}$ [$_{NP}$ Kumar-ki] aakali wees-i]
[$_{vP}$ [$_{NP}$ Kumar] sandwic tinnaa-Du]]]

d. [$_{Matrix\ IP}$ [$_{NP}$ Kumar] [$_{vP}$ [$_{CNP}$ [$_{NP}$ Kumar-ki] aakali wees-i]
[$_{vP}$ [$_{NP}$ Kumar] sandwic tinnaa-Du]]]

e.



f '. At PF: [$_{Matrix\ IP}$ [$_{NP}$ ~~Kumar~~] [$_{vP}$ [$_{CNP}$ [$_{NP}$ Kumar-ki] aakali wees-i]
[$_{vP}$ [$_{NP}$ ~~Kumar~~] sandwic tinnaa-Du]]]

The outcome in (56) is a little suprising. The unmarked situation is for the higher/matrix copy to be pronounced and the lower/subordinate copy to be deleted. Why is it possible to delete the matrix copy and pronounce the CNP copy in Telugu? In Nunes's system, the lower copy is usually deleted because in most cases it has fewer checked features than the higher copy. This puts the higher copy at an advantage. When Chain Reduction applies, it picks the copy with more unchecked features (i.e., the lower copy) and the higher copy escapes deletion.

Let us extend this idea to the Telugu structure (55) and its derivation in (56). As the dotted arrows in (56e) indicate, at least two chains of the subject *Kumar* are formed. The first chain is {(SUBJ, $[_{\text{Matrix}}$ I']), (SUBJ, $[_{\text{Matrix}}$, v'])}. Out of these two copies, the higher copy in Spec,IP has an advantage of checking more features (mainly Case), which is why the lower copy is deleted. The second chain is {(SUBJ, $[_{\text{Matrix}}$ I']), (SUBJ, $[_{\text{CNP'}}$…])}. These two copies are on equal footing as far as feature checking is concerned. Both copies have checked Case, and neither copy has an uninterpretable feature that needs to be checked. When Chain Reduction applies, the operation is free to select either copy for deletion. If Chain Reduction chooses the lower copy, Forward Control obtains. If Chain Reduction chooses the higher copy, Backward Control obtains.

The above analysis raises the question: Why does the CNP subject move if it does not have a feature to check? For now, I will assume that it moves, not to check a feature of its own, but to check a feature on the target. This kind of movement is triggered by Enlightened Self-Interest (Lasnik 1995), rather than Greed. Chapter 5 offers a different and detailed analysis of this issue.

It is interesting to note that this optionality is not unique to Telugu. It is also attested in Malagasy Object Control (Potsdam 2006). To illustrate, Potsdam offers evidence from Malagasy that shows an alternation between Forward and Backward Control within the same structure, as exemplified in (57) (in original (3a-b)). Potsdam adopts the movement approach to control in order to analyze the relevant structures. The embedded subject copy-plus-merges into the matrix object position. Both copies have all their features checked. At PF, Linearization detects the two copies as non-distinct elements in a c-command relationship. At PF, Chain Reduction applies. Since both copies have all their features check, either one of them can be deleted. In the case of Forward Control, the copy in the matrix clause is pronounced (57a). In the case of Backward Control, the embedded copy is pronounced (57b).

(57) Malagasy

a.	naneren' i	Mery	ny zaza	[hofafana	~~ny zaza~~	ny trano
	forced	Mary	the child	[sweep	~~the child~~	the house

'Mary forced the child to sweep the house.'

b.	naneren' i	Mery	~~ny zaza~~	[hofafan'	ny zaza	ny trano
	forced	Mary	~~the child~~	[sweep	the child	the house

'Mary forced the child to sweep the house.'

Now we turn to Backward Control (or the lack of it) in Assamese.

3.4.2.2 Backward Control in Assamese

Unlike in Telugu where Backward Control structures are grammatical, the acceptability of Backward Control in Assamese ranges from degraded to totally unacceptable. Here are the details.

All four speakers I have consulted consider Backward Control constructions like the ones in (58) and (59) as degraded. These are structures with Inherent Case-marked CNP subjects. In (58a-b) the CNP subject is genitive, while in (59a-b) the subject is experiential-nominative.

(58) Genitve CNP subject

a.	??~~Ram-e~~	[Ram-Or	dukh	log-i]	bhat	na-khal-e
	~~Ram-NOM~~	[Ram-GEN	sad	feel-CNP]	rice	NEG-ate-3

'Having felt sad, Ram didn't eat rice.'

b.	??~~RamØ~~	[Ram-Or	bhagar	lag-i]	xui	thakil
	~~Ram-ABS~~	[Ram-GEN	exhaustion	feel-CNP]	sleep	kept

'Having felt exhausted, Ram fell asleep.'

(59) Experiential-Nominative CNP subject

a.

??~~Ram-Or~~	[Ram-e	phurti	kor-i]	bohk	lagil
~~Ram-GEN~~	[Ram-EXP NOM	exhilaration	do-CNP]	hunger	felt

'Having celebrated, Ram felt hungry.'

b.

??~~Ram-Or~~	[Ram-e	khong	kor-i]	kosto	hoise
~~Ram-GEN~~	[Ram-EXP NOM	anger	did-CNP]	trouble	was

'Having got angry (expressed his anger), Ram was in trouble.'

When the CNP subject is Structural Case-marked like in (60a-b), two consultants found Backward Control degraded, while the two other consultants found them completely unacceptable.[8]

(60) Nominative CNP subject

a.

??/*~~Ram-Or~~	[Ram-e	kukur-tu	heru-i]	dukh	lagil
~~Ram-GEN~~	[Ram-NOM	dog-CL	lose-CNP]	sad	felt

'Having lost his dog, Ram felt sad.'

b.

??/*~~Ram-Or~~	[Ram-e	loteri	jik-i]	phurti	lagil
~~Ram-GEN~~	[Ram-NOM	lottery	win-CNP]	exhilaration	felt

'Having won the lottery, Ram felt very happy.'

Regardless of the Case-marking of the CNP subject, when presented with Backward Control constructions similar to those in (58-60), the consultants' first reaction is that the subject in the matrix clause is missing. To them, the structures are salvaged if they read like (61a-f), which are instances of Copy Control. Of course, another option is to realize them as Forward Control structures like the ones in (4) above, repeated here as (62).

(61) Copy Control

a.

[Ram-Or	dukh	log-i]	xi/Ram-e	bhat	na-khal-e
[Ram-GEN	sad	feel-CNP]	he.NOM/Ram-NOM	rice	NEG-ate-3

'Having felt sad, Ram didn't eat rice.'

[8] Regional variation does not seem to have a say in these judgments. Two of the Assamese consultants come from Upper Assam where a more standard dialect of Assamese is spoken, and two come from Lower Assam where a more Urban dialect is spoken. The sentences in (60) are judged differently by speakers of the same region. In other words, one Upper Assam speaker and one Lower Assam speaker find the sentences marginal, and one Upper Assam speaker and one Lower Assam speaker find them totally unacceptable. Obviously, more field research needs to be done concerning Assamese Backward Control structures.

b. [Ram-Or bhagar lag-i] xi/Ram-Ø xui thakil
[Ram-GEN exhaustion feel-CNP] he.ABS/Ram-ABS sleep kept
'Having felt exhausted, Ram fell asleep.'

c. [Ram-e phurti kor-i] tar/Ram-Or bohk lagil
[Ram-EXP NOM exhilaration do-CNP] he.GEN/Ram-GEN hunger felt
'Having celebrated, Ram felt hungry.'

d. [Ram-e khong kor-i] tar/Ram-Or kosto hoise
[Ram-EXP NOM anger did-CNP] he.GEN/Ram-GEN trouble was
'Having got angry (expressed his anger), Ram was in trouble.'

e. ✓/*[Ram-e kukur-tu heru-i] tar/Ram-Or dukh lagil
[Ram-NOM dog-CL lose-CNP] he.GEN/Ram-GEN sad felt
'Having lost his dog, Ram felt sad.'

f. ✓/*[Ram-e loteri jik-i] tar/Ram-Or phurti lagil
[Ram-NOM lottery win-CNP] he.GEN/Ram-GEN exhilaration felt
'Having won the lottery, Ram felt very happy.'

(62) Assamese (CNP and matrix subject Case-marked differently)

a. Ram-e [~~Ram-Or~~ phurti lag-i]
Ram-NOM [~~Ram-GEN~~ exhilaration feel-CNP]

pagolor nisena nasil-e
crazy person like danced-3
'Having felt very happy, Ram danced like a crazy person.'

b. Ram-Ø [~~Ram-Or~~ bhagar lag-i] xui thakil
Ram-ABS [~~Ram-GEN~~ exhaustion feel-CNP] sleep kept
'Having felt exhausted, Ram fell asleep.'

c. Ram-Or [~~Ram-e~~ kukur-tu heru-i] dukh lagil
Ram-GEN [~~Ram-NOM~~ dog-CL lose-CNP] sad felt
'Having lost his dog, Ram felt sad.'

d. Ram-e [~~Ram-e~~ khong kor-i] mor ghorto bhangil-e
Ram-NOM [~~Ram-EXP NOM~~ anger did-CNP] my house destroyed-3
'Having got angry (expressed his anger), Ram destroyed my house.'

Notice that not all speakers accept (61e-f). The speakers who find the Backward Control constructions in (60), in which the CNP subject is nominative, degraded find their Copy Control counterparts (61e-f) acceptable. Those who find (60a-b) unacceptable also rule out (61e-f).

That a Backward Control derivation is problematic in Assamese is somewhat surprising. Given what we know about Backward Control derivation in Telugu, Assamese should behave the same. The answer to this puzzle resides in the Case characteristics of the CNP subject.

Let us assume that every argument enters the computation with an uninterpretable Structural Case feature that needs to be checked, even if the argument takes on Inherent Case. Let us also assume that Assamese CNP clauses do not check Structural Case while Telugu CNP clauses do. This means that when an Assamese Adjunct Control structure reaches PF, the CNP subject will still have an uninterpretable Structural Case feature that needs to be checked. Take sentence (63), for example. The derivational history of (63), as delineated in (64), is almost identical to the derivational history of the Telugu Backward structure in (56) above. Both derivations involve steps (a-e). What makes (64) different is step (f ') where Chain Reduction applies. In (56f ') above, the matrix subject and the CNP subject are on equal footing with regard to feature checking. This is why the deletion of the matrix subject yields an acceptable outcome: Backward Control. In (64), the CNP copy has an unchecked Structural Case feature. This puts it at a disadvantage. When Chain Reduction applies, the operation prefers to delete the CNP subject, as (64f ') indicates. This is why the matrix copy is normally the one that escapes deletion.

(63)	~~Ram-e~~	[Ram-Or	khub	bhok	lag-i]	posa	bhat	khal-e
	~~Ram-NOM~~	[Ram-GEN	much	hunger	felt-CNP]	stale	rice	ate-3

‘Having felt very hungry, Ram ate stale rice.’

(64) a. i. [$_{\text{CNP}}$ [$_{\text{NP}}$ Ram-Or] khub bhok lag-i] $\xrightarrow{\text{COPY}}$ [$_{\text{NP}}$ Ram]
[$_{\text{CNP}}$ [$_{\text{NP}}$ Ram-GEN] much hunger felt-CNP]

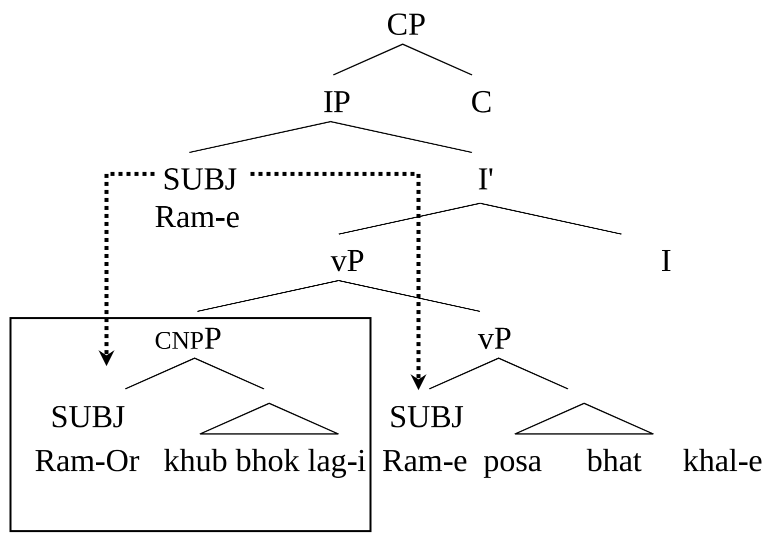
ii. [$_{\text{Matrix vP}}$ posa bhat khal-e]
[$_{\text{Matrix vP}}$ stale rice ate-3]

b. [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Ram-e] posa bhat khal-e]

c. [$_{\text{Matrix IP}}$[$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ Ram-Or] khub bhok lag-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ Ram-e] posa bhat khal-e]]]

d. [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Ram-e] [$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ Ram-Or khub bhok lag-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ Ram-e] posa bhat khal-e]]]

e.



(f ') At PF: [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Ram-e] [$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ ~~Ram-Or~~] khub bhok lag-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ ~~Ram-e~~] posa bhat khal-e]]]

What about the speakers who found the Backward Control structures in (60a-b) marginal but not totally unacceptable? These structures involve Structural Case-marked CNP subjects. Two explanations – or, more likely, stipulations – are possible. It might be speculated that nominative Case on CNP subjects is a default Case that is realized in the absence of a licensing head. Although a Default Case-marked subject makes Backward Control tolerable, sentences (60a-b) are still considered marginal because the matrix subject, whose Case is licensed by a functional head, has an advantage over the Default Case-marked CNP subject. Thus, Chain Reduction favors the former over the latter.

Another possibility is that the phenomenon is a change in progress and that Assamese CNP clauses are becoming like Telugu CNP clauses that license Structural Case-marked subjects.

Before moving to the following section, it is worth noting that Subbarao (2004) presents data that is in line with the data presented in this section. His conclusion, however, is different.

According to Subbarao, Assamese does allow Backward Control only if the matrix subject is not Case-marked genitive. The author provides the examples in (65-66) (Subbarao 2004: 20-22; (11), (13), (18) and (19)). In (65), the matrix subject is absolutive. Both Forward Control (65a) and Backward Control (65b) are allowed.[9] In (66), however, the matrix subject is genitive. Only Forward Control is allowed (66a). Backward Control is unacceptable (66b).

(65) a. Forward Control

[$_{CP}$ [$_{IP}$ Xita-Ø [$_{vP}$ [$_{CNP}$ ~~Xita-Or~~ xahOx thak-i-u]
[$_{CP}$ [$_{IP}$ Xita-ABS [$_{vP}$ [$_{CNP}$ ~~Xita-GEN~~ courage keep-CNP-also]

[$_{vP}$ ~~Xita-Ø~~ pOlay gol]]]]
[$_{vP}$ ~~Xita-ABS~~ ran away]]]]
'Xita ran away although she had a lot of courage.'

b. Backward Control

[$_{CP}$ [$_{IP}$ ~~Xita-Ø~~ [$_{vP}$ [$_{CNP}$ Xita-Or xahOx thak-i-u]
[$_{CP}$ [$_{IP}$ ~~Xita-ABS~~ [$_{vP}$ [$_{CNP}$ Xita-GEN courage keep-CNP-also]

[$_{vP}$ ~~Xita-Ø~~ pOlay gol]]]]
[$_{vP}$ ~~Xita-ABS~~ ran away]]]]
'Xita ran away although she had a lot of courage.'

(66) a. Forward Control

[$_{CP}$ [$_{IP}$ Ram-Or [$_{vP}$ [$_{CNP}$ ~~Ram-Ø~~ ei kotha-tu xun-i]
[$_{CP}$ [$_{IP}$ Ram-GEN [$_{vP}$ [$_{CNP}$ ~~Ram-ABS~~ this news-CL heard-CNP]

[$_{vP}$ ~~Ram-Or~~ khong uthil]]]]
[$_{vP}$ ~~Ram-GEN~~ anger raised]]]]
'Having heard the news, Ram got angry.'

b. Backward Control

* [$_{CP}$ [$_{IP}$ ~~Ram-Or~~ [$_{vP}$ [$_{CNP}$ Ram-Ø ei kotha-tu xun-i]
* [$_{CP}$ [$_{IP}$ ~~Ram-GEN~~ [$_{vP}$ [$_{CNP}$ Ram-ABS this news-CL heard-CNP]

[$_{vP}$ ~~Ram-Or~~ khong uthil]]]]
[$_{vP}$ ~~Ram-GEN~~ anger raised]]]]
'Having heard the news, Ram got angry.'

[9] My consultants considered structures like (65b), with an Inherent Case-marked CNP subject, degraded. Nevertheless, (65b) was judged as more acceptable than control structures with a tructural Case-marked CNP subject (e.g., (66b)).

Based on these examples, Subbarao suggests that “when the matrix predicate requires a [genitive] subject in a Forward Control structure the corresponding Backward Control structure with a nominative subject is not permitted” (Subbarao 2004: 21-22).

If the explanation presented in this section is on the right track, then the reason why the Backward Control structure (66b) is unacceptable is due to the type of the CNP predicate rather than the Case-marking of the matrix subject. As the sentences in (67), repetition of (59) above, show, even if the matrix predicate licenses a genitive subject, Backward Control constructions are somehow tolerated as long as the CNP clause has an experiential predicate. In addition, sentence (19c) above, repeated here as (68), shows that Backward Control may be unacceptable even if the matrix subject is nominative Case-marked (Section 3.2.2 provides more details). The reason why (68) is totally unacceptable – at least to some speakers – is because the CNP predicate is a non-experiential predicate.

(67) Assamese

a.	??~~Ram-Or~~	[Ram-e	phurti	kor-i]	bohk	lagil
	~~Ram-GEN~~	[Ram-EXP NOM	exhilaration	do-CNP]	hunger	felt

‘Having celebrated, Ram felt hungry.’

b.	??~~Ram-Or~~	[Ram-e	khong	kor-i]	kosto	hoise
	~~Ram-GEN~~	[Ram-EXP NOM	anger	did-CNP]	trouble	was

‘Having got angry (expressed his anger), Ram was in trouble.’

(68) Assamese

*~~Ram-e~~	[January-t	Ram-e	loteri	jik-i]
~~Ram-NOM~~	[January-in	Ram-e	lottery	win-CNP]

March-ot	notun	ghor	kinil-e
March-in	new	house	bought-3

‘Ram won the lottery in January and bought a new house in March.’

This section has presented an analysis of Telugu and Assamese Adjunct Control as sideward movement. The section has also concluded that the CNP subject in both languages is Case-marked. In Telugu, the CNP subject is Inherent and Structural Case-marked, which is why

Forward and Backward Control can be used interchangeably. In Assamese, on the other hand, the CNP subject takes on Inherent Case – and maybe default Case – but not Structural Case, which is why Backward Control is not favored.

Knowing that the subject also checks Case in the matrix clause, we are now face-to-face with a theoretical problem of multiple Case checking. The theoretical issues are built on empirical grounds. The Movement Theory of Control claims that control is just like raising in that they both are derived via movement. The moving element in raising structures does not undergo multiple Case checking. If Control is derived in the same manner, then the moving element in control structres must not undergo multiple Case checking either (Landau 2003). Sections 3.5 and 3.6 address these problems and show that they are not necessarily a challenge to the approach adopted here.

3.5 Multiple Case Checking and Copy Control

Case Theory and the Case Filter as delineated in (Chomsky 1981) and (Chomsky and Lasnik 1995) require that every argument be Case-marked in order to be visible. Visibility can be understood as a PF requirement, as the original formulation of the Case Filter in (69a) indicates; if an NP is not Case-marked, it cannot be phonologically realized. It can also be understood as an LF requirement, as the later formulation of the Case Filter in (69b) shows; at LF, a link in an argument chain must have Case in order for the chain to be visible for a theta-role. The Case Filter can be satisfied by either Structural or Inherent Case. Once an argument is Case-marked, however, it freezes for all further A-movement (Chomsky and Lasnik 1995: 111-119; Chomsky 2000: 127).

(69) Case Filter
a. An NP must be Case-marked in order to be pronounced (Chomsky 1981: 49, Vergnaud 1982).

b. An argument chain must be Case-marked to be visible for theta-role assignment (Chomsky and Lasnik 1995:46, 119; following Joseph Aoun).

Evidence from Backward Control (and Copy Control) indicates that the CNP subject in Adjunct Control structures is Case-marked prior to sideward movement, which makes the movement approach to control suspect from a traditional Case-Theory perspective. The reason is that the movement approach seems to suggest that multiple Case checking is possible, something that Case Theory does not allow. Fortunately, there is strong evidence that multiple Case checking is a fact about natural languages, rendering the idea that an NP can only check Case once a stipulation.

3.5.1 Multiple Case Checking: Inherent-Structural

The literature is replete with evidence that multiple Case checking is possible. Belletti (1988), Mohanan (1994), Sigurðsson (2004), Woolford (2006), and Yoon (2004) among others provide evidence from several languages (e.g., Hindi, Finish, Icelandic, Korean) to argue that an Inherent Case-marked NP may also check Structural Case. In some languages, both Case markers are phonologically realized. For example, Yoon (2004: 268 (12a)) shows that Korean subject NPs check nominative Case on top of the dative Case-marker and that the two Case-markers are pronounced (e.g., (70)). Evans (2005) offers similar examples from Kayardild, an Australian language.

(70) Korean

Cheli-eykey-ka	ton-i	manh-ta
Cheli-DAT-NOM	money-NOM	a lot-DECLARATIVE

'It is Cheli who has a lot of money.'

The Korean case is exceptional, however. Although an Inherent Case-marked argument may also check Structural Case, often morphological restrictions in the language allow only one Case to be realized. The tendency is that Inherent Case takes precedence morphologically. The sentences in (71) are an example. Sentence (71b) is the passive equivalent of (71a). In (71b), the genitive Case-marked NP *Sjúklinganna* 'the patients' moves to the subject position where it checks nominative Case on a par with *við* 'we' in (71a). Whereas the nominative Case marker is realized on *við*, only the genitive is pronounced on *Sjúklinganna* (Bejar and Massam 1999: 68: (6), from Andrews 1990 as cited in Harley 1995).

(71) Icelandic

a.

Við	vitjuðum	sjúklinganna
We.NOM	visited	the patients.GEN

'We visited the patients.'

b.

Sjúklinganna	var	vitjað	~~sjúklinganna~~
The patients.GEN	was	visited	~~the patients.GEN~~

'The patients were visited.'

The reason behind the realization of Inherent Case, Woolford (2006: 117; fn. 4) suggests, is that it is more marked, and that in some languages "faithfulness to the nonstructural Cases is more important than using the less marked Structural Cases." Or, as Halle and Marantz (1993, in Bejar and Massam 1999: 77) put it, "the more highly specified case [i.e., Inherent Case] is realized."

Therefore, the idea that in Assamese an Inherent Case-marked CNP subject moves to the matrix clause where it checks Structural Case is not unheard of. One question remains: What about an Assamese CNP subject that checks Inherent Case in the matrix clause as well? Is multiple Inherent Case checking possible?

Since Inherent Case is interwined with theta-role, the answer depends on the possibility of multiple-theta role checking. According to Hornstein (1999, 2003), the latter is possible. It follows that Multiple Inherent Case checking is also possible (Boeckx and Hornstein 2006).

3.5.2 Multiple Case Checking: Structural-Structural

Unlike Assamese, Telugu CNP subject NPs check not only Inherent Case but also Structural Case before moving to a new Structural Case position. This requires multiple

Structural Case checking, a phenomenon that is also attested in several languages (Bejar and Massam 1999, Merchant 2006, among others). One example comes from Hungarian (e.g., (72)) (adapted from Bejar and Massam 1999: 74 (2), from Kiss 1985 as cited in Massam 1985). *Kiket* 'who' starts out as *ki* in the embedded clause where it is Case-marked nominative. On its way to Spec, CP, it checks accusative case against *szeretnél* 'you.would.like'. Eventually, the Case that is checked last is pronounced.

(72) Hungarian

kiket	mondtad	hogy	szeretnél	ha	~~ki~~	eljönnének
who.ACC	you.said	that	you.would.like	if	~~who.NOM~~	came

'Who did you say that you would like it if they came?'

According to Bejar and Massam (1999: 74), the reason the last Case is pronounced is that the interpretability of Case features is local, requiring that "they be dominated by an appropriate functional head. In other words, Case is interpreted compositionally. Effectively, this means that the Case subscript is left behind when DP moves out of one Case-checking configuration into a higher one." We will see in the following section that this view does not apply to raising constructions. Accordingly, an alternative explanation will be provided. What is important for our purposes, however, is that multiple Case checking is needed on independent grounds and that it is not an ad hoc stipulation that is used to account for Telugu and Assamese Adjunct Control.

The following section addresses the issue of discrepancy in the Case behavior of subject NPs in control vs. raising.

3.6 Case in Raising vs. Control

One type of evidence used to argue against the movement approach comes from the difference in Case behavior between raising subject NPs and their control counterparts. This section delineates the problem as presented in Landau (2003), highlights its relevance to Telugu and Assamese, and suggests a solution.

3.6.1 Landau's Analysis

One proponent of the PRO Theory of Control is Landau (2000, 2003, 2004, 2006) who holds that control is different from raising and that the two constructions have different derivational histories. Landau holds that Control structures consist of two distinct argument chains, one comprising PRO and the other the matrix subject. Raising structures, on the contrary, involve only one argument chain.

To illustrate, the control sentence (73a) is assumed to have the structure in (73b). PRO is base-generated in the vP of the embedded CP where it is assigned a theta-role (unlike Hornstein, Landau – and PRO Theory in general – does not consider theta-roles to be features). PRO then moves to Spec, IP where it checks Case and the EPP feature of the embedded I^0. The two copies of PRO form a chain. *Tom* is base-generated in vP of the matrix clause where it is assigned a theta-role. It moves to Spec, IP where it checks Case and the EPP feature of matrix I^0. The two copies of *Tom* form a chain. Details aside, the identity of PRO is determined by the identity of *Tom* through Agree.

(73) a. Tom hopes to know the answer.

b. $[_{CP}[_{IP}$ $\text{Tom}_i^{\text{Case, EPP}}$ $[_{vP}$ $\cancel{\text{Tom}}^{\theta(b)}$ hopes
$[_{CP}[_{IP}$ $\text{PRO}_i^{\text{Case,EPP}}$ to $[_{vP}$ $\cancel{\text{PRO}}^{\theta(a)}$ know the answer]

The raising sentence (74a), on the other hand, is assumed to have the structure in (74b). *Tom* starts out in vP of the embedded IP (according to PRO Theory, with the exception of San Martin 2004, only control structures have CP embedded clauses). *Tom* makes the trip to matrix Spec, IP, passing through subordinate Spec, IP. Notice that *seems* occupies a VP rather than a vP because it is unaccusative. At the end of the derivation, all the copies of *Tom* form a chain.

(74) a. Tom seems to know the answer.

b. $[_{CP}[_{IP}$ $\text{Tom}^{\text{Case,EPP}}$ $[_{VP}$ seems $[_{IP}$ $\cancel{\text{Tom}}^{\text{EPP}}$ to [vP $\cancel{\text{Tom}}^{\theta(a)}$ know the answer]

Landau, building on work by Sigurðisson (1991), uses evidence from Icelandic to prove his point. Compare the control structure (75) (Landau 2003: 492 (40b), from Sigurðsson 1991) with the raising Structure (76) (Landau 2003: 492 (41b), from O'Neil 1997, attributed to Höskuldur Thráinsson). Notice that the dative floating quantifier *öllum* 'all' in each sentence agrees with the unpronounced subject. It agrees with PRO in (75) and with a deleted copy or trace in (76).

(75) Icelandic

Strákarnir		vonast til					
the boys.NOM		hope for					
[að	PRO	lei	ðast	ekki	öllum	í	skóla].
to	PRO.DAT	to be	bored	not	all.DAT	in	school

'The boys hope not to be all bored in school.'

(76) Icelandic

Strákunum	virðast					
the boys.DAT	seem					
[~~Strákunum~~[10]	lei	ðast	ekki	öllum	í	skóla].
~~the boys.DAT~~	to be	bored	not	all.DAT	in	school

'The boys seem not to be all bored in school.'

What is crucial for our purposes is the difference in the Case-marking of the matrix subjects. The matrix subject in the control structure (75) is Case-marked nominative, which is different from the Case-marking of the embedded subject, which is dative. The matrix subject of the raising structure (76), however, takes on the same Case as the embedded subject: dative.

Landau maintains that if control is movement, just like raising, then Case in (75) should pattern the same as in (76). He uses this as an argument that control is different from raising. Only raising is derived by movement, whereby the embedded subject and the matrix subject form one A-chain which is Case-marked once. Control is not derived by movement. PRO does

[10] In Landau (2003), the embedded subject is presented as a t-trace.

exist, and PRO and the matrix subject form two distinct A-chains that are each Case-marked once. In this case, the PRO chain is dative, and the matrix subject is nominative.

3.6.2 Raising vs. Control in Telugu and Assamese

Landau's argument applies to Telugu and Assamese as well. Observe the Telugu sentences in (77). In (77a), the subject is dative. In (77b), it is nominative.

(77) Telugu

a.	Sarita-ki	Nidra	waccin-di	
	Sarita-DAT	sleep	came-3.N.S	
	'Sarita felt sleepy.'			
b.	Sarita	aadiwaaraal-lo		pani-ceestun-di
	Sarita.NOM	Sundays-on		work-do-3.N.S
	'Sarita works on Sundays.'			

When each of the sentences in (77) is used in a raising construction with the verb 'begin', the subject is realized with the Case it checks in the embedded clause. Sentence (78a) is the raising counterpart of (77a). *Sarita* is dative in both. Sentence (78b) is the raising counterpart of (78b). *Sarita* is nominative in both. The raising verb has no effect on the subject as far as Case is concerned.

(78) Telugu

a.	Sarita-ki	Nidra	raaw-aTam	modalu-ayyin-di
	Sarita-DAT	sleep	come-GRND	begin-happened-3.N.S
	'Sarita began to feel sleepy.'			
b.	Sarita	aadiwaaraal-lo	pani-ceey-aTam	modalu-peTTin-di
	Sarita.NOM	Sundays-on	work-do-GRND	begin-did-3.N.S
	'Sarita began to work on Sundays.'			

When the sentences in (77) are used in control constructions, however, the subjects take on the Case associated with the control verb. For example, in (79) the verb *ishTam-leeDu* 'not like' is a control verb that Case-marks its subject dative. This is why the subject is dative in both (79a-b). According to Landau, if control is movement, (79a-b) should pattern with (78a-b), but they don't.

(79) Telugu

a.

Sarita-ki	Nidra	raaw-aTam	ish-Tam-lee-Du
Sarita-DAT	sleepy	come-GRND	like-GRND-is not-3.M.S

‘Sarita does not like to feel sleepy.’

b.

Sarita-ki	aadiwaaraal-lo	pani-ceey-aTam	ish-Tam-lee-du
Sarita-DAT	Sundays-on	work-do-GRND	like-GRND-is not-3.N.S

‘Sarita does not like to work on Sundays.’

The same applies to Assamese. Observe the sentences in (80). In (80a) the subject is genitive. In (80b), it is nominative. When the sentences are used in raising constructions, the subject preserves the Case it has checked downstairs, as (81a-b) illustrate.

(80) Assamese

a.

Ram-Or	khong	uthil
Ram-GEN	anger	got

‘Ram got angry.’

b.

Ram-e	khong	koril-e
Ram-NOM	anger	did-3

‘Ram got angry.’

(81) Assamese

a.

Ram-Or	khub	xonkale	khong	uth-a	zen	lage
Ram-GEN	very	fast	anger	get-GRND	like	feel

‘Ram seems to get angry easily.’

b.

Ram-e	khub	xonkale	khong	kor-a	zen	lage
Ram-NOM	very	fast	anger	do-GRND	like	feel

‘Ram seems to get angry easily.’

Compare to (82). Sentence (82a) has a dative subject. When used in a control structure like (82b), its subject takes on the case associated with the matrix verb; in this case, nominative.

(82) Assamese

a.

Ram-Or	thanda	lagil
Ram-GEN	cold	felt

‘Ram felt cold.’

b.

Ram-e	thanda	lag-a-bo	ni-bisar-e
Ram-NOM	cold	feel-GRND-FUT	NEG-want-3

‘Ram doesn’t want to feel cold.’

It seems that Landau's argument applies beyond Icelandic, which makes it strong enough to make the movement approach to Control questionable. A counterargument, however, is available as the following section shows.

3.6.3 Case in Raising vs. Control: the Counterargument

One counterargument has been proposed by Boeckx and Hornstein (2006). Their reply is summarized in Section 3.6.3.1. The argument falls short of accounting for multiple Structural Case checking. Section 3.6.3.2 builds on Boeckx and Hornstein's (2006) work, as well as on Bejar and Massam's (1999), in an attempt to provide a more complete picture.

3.6.3.1 Boeckx and Hornstein's analysis

Boeckx and Hornstein (2006) reply to Landau by giving a movement account of the Icelandic control data. They observe that multiple Case checking in Icelandic Control structures only occurs when the case on either the embedded subject or the matrix subject or both is Inherent Case. Under the standard assumption that Inherent Case is directly associated with theta-role and that an A-chain in a control configuration bears two theta-roles, it follows naturally that multiple Inherent Case-assignment is possible. In other words, if the controller and the controllee, which are two copies of the same argument, bear two different theta-roles, there is no reason why these two copies should not bear two distinct Inherent Cases associated with the theta-roles.

As I understand Boeckx and Hornstein's proposal, the difference between control and raising in Icelandic can be presented schematically as in (83). In the control structure (83a), the subject checks a theta-role and possibly Inherent Case in the embedded clause. Then the subject moves to the matrix clause where it checks another theta-role and possibly another Inherent Case. Finally, the subject lands in Spec,IP where it checks Structural Case. If Inherent Case is checked in the matrix clause, it gets pronounced since it is the more marked situation. Otherwise, Structural Case is realized. In raising constructions (83b), the subject checks a theta-role feature and possibly Inherent Case in the embedded clause before it moves to Spec,IP of the matrix clause where it checks Structural Case. If Inherent Case is checked downstairs, it is eventually realized for the same aforementioned reason, namely, markedness.

(83) a. Control:

[$_{CP}$ [$_{IP}$ Subject [$_{vP}$	Subject	[$_{IP}$ Subject	[$_{vP}$ Subject …]
STRUCTURAL	(INHERENT)/θ2		(INHERENT)/ θ1

b. Raising:

[$_{CP}$ [$_{IP}$ Subject	[$_{IP}$ Subject	[$_{vP}$ Subject …]
STRUCTURAL		(INHERENT)/θ1

The following section points out a problem in Boeckx and Horsntein's account and proposes a solution.

3.6.3.2 Case and Theta-Role Visibility

The problem with Boeckx and Hornstein's proposal is that it is based on the assumption that Structural Case cannot be checked in embedded non-finite clauses and that a chain is always realized with one and only one Structural Case. These assumptions might work for Assamese in which a CNP subject most probably checks Inherent Case only. The assumptions do not work for Telugu, however, in which the CNP subject does check Structural Case.

Here we might adopt Bejar and Massam's account that multiple Structural Case checking is possible and simply add it to Boeckx and Hornstein's argument. In this way, we will be able to account for the Telugu data. Bejar and Massam's system has a small problem, however. According to their system, Case is interpreted locally, and the last Case that an argument checks is the one that is phonologically realized. This observation does not apply to the raising constructions presented in the previous section (e.g. (80-81)). What seems to be happening in raising constructions is that a subject NP checks Case downstairs before moving into a Case position upstairs. Contrary to Bejar and Massam's prediction, however, the Case associated with the subordinate clause is realized. In other words, although the subject is "dominated by an appropriate functional head" in the matrix clause, the Case subscript that the subject takes on in the subordinate clause "is [NOT] left behind when DP moves out of one Case-checking configuration into a higher one."

In order to solve this problem, I build on both systems – Boeckx and Hornstein's and Bejar and Massam's – and suggest a Principle that I call Theta-Role Visibility.

(84) Theta-Role Visibility [11]

a. An argument is visible for one round of Case checking iff it merges into a thematic position.

b. A round of Case comprises Inherent Case followed by Structural Case, depending on the availability of an appropriate licenser for each.

What Theta-Role Visibility amounts to is the following. An argument's first merge is a thematic position. This makes it visible for a round of Inherent and Structural Case checking, depending on the availability of an appropriate licenser for each. If both licensers are available, the argument checks both Cases. The result is usually the phonological realization of Inherent Case. If an argument moves into a new thematic position, the argument becomes visible for a new round of Case checking even if it has already checked Case. This explains why the subject in the control structures in Icelandic, Telugu, and Assamese is realized with the Case of the matrix clause. This is because the subject checks a new theta-role feature in the matrix clause, which makes it visible for a new round of Case checking.

Let us see how Theta-Role Visibility as defined in (84) applies to the Adjunct Control structures under examination. Take the Telugu sentences in (85) as an example. *Kumar* checks a theta-role feature [θ1] and Case [CASE1] in the CNP clause. [CASE1] comprises Structural Case

[11] This is just the reverse of the traditional Case Visibility which assumes that an argument must check Case in order to be visible for theta-role assignment (Chomsky and Lasnik 1995:46, following Joseph Aoun).

only (nominative) in (85a), but Inherent Case plus Structural Case (dative plus nominative, with the former phonologically realized) in (85b). *Kumar* undergoes Sideward Movement to a new thematic position [θ2] in the matrix clause. This makes it visible for a new round of Case checking [CASE2], which happens to comprise Structural Case only (nominative) in both sentences. At PF, Chain Reduction chooses which copy to delete and which to pronounce.The result can be either Forward or Backward Control.

(85) a. $[_{CP}$ $[_{IP}$ Kumar^{CASE2} $[_{vP}$ $[_{CNP}$ Kumar $^{\theta 1/CASE1}$ sinema cees-tuu]
$[_{CP}$ $[_{IP}$ Kumar.NOM $[_{vP}$ $[_{CNP}$ Kumar.NOM movie watch-CNP]

$[_{vP}$ Kumar $^{\theta 2}$ popkorn tinna-Du]]]
$[_{vP}$ Kumar popcorn ate-3.M.S]]]
'While watching a movie, Kumar ate popcorn.'

b. $[_{CP}$ $[_{IP}$ Kumar^{CASE2} $[_{vP}$ $[_{CNP}$ Kumar-ki $^{\theta 1/CASE1}$ jwaram wacc-i]
$[_{CP}$ $[_{IP}$ Kumar.NOM $[_{vP}$ $[_{CNP}$ Kumar.DAT fever come-CNP]

$[_{vP}$ Kumar $^{\theta 2}$ hospital weLLaa-Du]]]
$[_{vP}$ Kumar hospital went-3.M.S]]]
'Having had a fever, Kumar went to the hospital.'

What happens if the argument moves into a new Case position without moving into a new thematic position? This is exactly the case of the Icelandic passive construction in (71b) and the Icelandic, Telugu, and Assamese raising constructions presented above. The argument moves into a Case position without landing in a new/second theta-role position first. According to Theta-Role Visibility, if the argument has already completed a round of Case checking — that is, if it has checked Structural Case, possibly on top of Inherent Case — no further Case checking is possible. In other words, movement does not make the argument visible for a new round of Case checking. This is why the subject is realized with the Case it checks in the subordinate clause.

Theta-Role Visibility seems to work for Telugu and Assamese, as well as Icelandic. As a matter of fact, all the cases of multiple Structural Case checking that I know of involve movement into a new theta-role position. Nevertheless, there is one instance of multiple Case checking that involves movement into a non-theta role position: copy raising structures of the type illustrated in (86) below. Fujii (2005: 13-15) argues that structures similar to (86) involve movement (contra Potsdam and Runner 2001), and that this movement involves multiple Case checking.

(86) a. Tom seems as if he knows the answer

b. $[_{CP}[_{IP}$ Tom^{CASE2} $[_{VP}$ seems $[_{CP}$ as if $[_{IP}$ ~~Tom~~^{CASE1} he [vP ~~Tom~~$^{\theta 1}$ knows the answer]

The argument for multiple Case checking is based on structures like (87a-b) (in original (43a) and (45)). In both structures, *John* starts out in the lower CP before moving to the subject position of the infinitival clause *to seem*. According to Fujii, the ungrammaticality of (87a) is a proof that *John* needs to check Case in its new position. Following Bejar and Massam (1999), he holds that *John* strands its Case behind before moving to the higher subject position. The infinitival clause does not check Case; neither does the nominal *belief*. Consequently, the higher copy of *John* does not check Case, "which induces a Case Filter violation." Compare to the grammatical alternative (87b). The verb *believe* is able to check the Case feature on *John*. Accordingly, no Case Filter violation is induced.

(87) a. *the belief [John to seem $[_{CP}$ like John is intelligent]

b. I believe/expect [John to seem $[_{CP}$ like John is intelligent]]

Closer examination shows that Fujii's argument is suspect. The ungrammaticality of (87a) follows from the selectional requirements and the uninterpretable Case feature on *belief* rather than on *John*. As originally observed by Stowell (1982), even if the nominal in (87) has a finite CP complement that licenses a Case-marked subject, the structure will still be ungrammatical unless the complement is introduced with an overt complementizer. This observation is illustrated in (88a-b) (Pesetsky and Torrego 2006: 5 (8a) and (9a)). In both structures, *Mary* checks its Case feature against the functional layers in the CP complement. Therefore, the Case feature on *Mary* cannot be the reason why (88a) is ungrammatical. According to Pesetsky and Torrego (2006), (88a) is ungrammatical because the nominal *proof* has an uninterpretable Case feature that may be checked by *that* or by a preposition, but not by an NP/DP. Section 5.5 in this dissertation offers more details.

(88) a. *your proof Mary could not have committed the crime
b. your proof that Mary could not have committed the crime

If Pesetsky and Torrego's argument is on the right track, then the ungrammaticality of (87a) is the result of an unchecked Case feature on *belief* rather on *John*. Accordingly, it is reasonable to assume that even if copy raising is movement, no multiple case-checking takes place. The reason is that the subject does not touch down in a thematic position when it moves to the higher clause. If this is correct, then the Theta-Role Visibility as formulated in (84) continues to hold.[12]

[12] The discussion does not explain why the raising subject in (i) is realized with two different Structural Cases, accusative and nominative. One way around this problem is to assume the Inverse Case Filter (Bošković 1997, 2002: 170-171). More specifically, there seems to be a requirement that an accusative Case licenser – in this case, the verb *expected* – check/value the Case feature of an element. This requirement does not seem to be as restrictive with respect to nominative Case.
Consider (ii) and (iii), for example. The standard assumption is that *here* is not Case-marked. Nevetheless, it is allowed in a subject position (e.g., (ii), but not in an object position (e.g., (iiia). In other words, I^0 in (ii) does not obey the Inverse Case Filter in that it does not have to put the nominative Case it bears into effective use. In (iiia), on the other hand, the verb *love* needs to make use of the accusative Case it bears. Note that (iiib) is grammatical simply because the verb has the chance to value the Case of *it* (Bošković 2002: 171, fn.4).
(i) Tom expected her to seem as if she is sick.

(ii) Here is a good place to live.

(iii) (a) *I love here.
(b) I love it here.

3.7 Conclusion

This chapter presented a detailed analysis of Forward and Backward Control structures in Telugu and Assamese. Both types of Control are analyzed as instances of Sideward Movement. They both have the same derivational history. The difference between the two lies in the phonological component where Chain Reduction applies for the purpose of linearization. Forward Control is licensed in both languages and it obtains when Chain Reduction chooses to delete the CNP subject NP. Backward Control, on the other hand, obtain when Chain Reduction deletes the matrix subject NP. This latter option is available only for Telugu. The reason is that the CNP clause in Telugu checks the Structural Case feature of the subject. In this way, the CNP subject and the matrix subject are on equal footing with regard to feature checking and consequently Chain Reduction is free to mark either copy for deletion. An Assamese CNP clause, on the other hand, does not check the Structural Case feature of its subject. This puts the CNP subject at a disadvantage, making it a more susceptible victim of Chain Reduction.

In addition to the analysis, the chapter dealt with the theoretical problem of multiple Case checking that the movement approach to control faces. Section 3.5 showed that there is enough empirical evidence to rule out any challenge that traditional Case Theory might present to the movement approach. Section 3.6 dealt with the empirical side of multiple Case checking. Considering that the movement approach derivationally puts control in the same category as raising, the section focused on the discrepancies in the Case behavior of subject NPs in raising vs. control structures and puts forth a solution that can be summarized in a principle I call Theta-Role Visibility.

CHAPTER 4
COPY ADJUNCT CONTROL IN TELUGU AND ASSAMESE:
THE ANALYSIS

4.1 Introduction

Chapter 2 provided evidence for the different types of Adjunct Control allowed in Telugu and Assamese. Chapter 3 outlined the mechanisms involved in the derivation of two types of Adjunct Control: Forward and Backward Control. This chapter analyzes a third type of Adjunct Control that both languages allow: Copy Control.

As (1) illustrates, Copy Control constructions involve two coreferential subjects that are phonologically realized. The sentences in (2) and (3) are examples. They show that the CNP subject and the matrix subject are obligatorily coreferential. Disjoint subjects result in ungrammaticality. The two subjects may be Case-marked differently (e.g., (2a-b) and (3a-b)), or the same (e.g., ((2c-d) and (3c-d)).[1] The matrix subject maybe realized as a pronoun, an epithet, or an R-expression.[2]

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[1] In (3d), the CNP subject is Case-marked experiential-nominative, while the matrix subject is agentive nominative. Although the types of Case involved correspond to different thematic roles, the phonological forms are the same.

[2] The sentences in (2-3) exclude instances of control that have received inconsistent judgments from my consultants. These are limited to the Telugu Adjunct Control structures with a dative subject in the matrix clause (e.g., (ia-b)), and to the Assamese Adjunct Control structures with a non-experiential predicate in the CNP clause (e.g., (iia-b).Chapters 2and 3 offers more details concerning why these sentences are degraded:

(i) Telugu

a.

??[Kumari	aa maaTa	win-i]	atanu-ki	koopamu	waccin-di
[Kumar-NOM	that matter	hear-CNP]	he-DAT	anger	came-3.F.S

'Having heard the news, Kumar got angry.'

b.

??[Kumar-ki	juttu	uuDipooy-i]	atanu-ki	picci	paTTin-di
[Kumar-DAT	hair	lose-CNP]	he-DAT	craziness	caught-3.F.S

'Having lost his hair, Kumar got angry.'

(ii) Assamese

a.

✓/*[Ram-e	kukur-tu	heru-i]	tar/ besera-tu-r	dukh	lagil
[Ram-NOM	dog-CL	lose-CNP]	he.GEN/poor guy	sad	felt

'Having lost his dog, Ram felt sad.'

(b)

✓/*[Ram-e	loteri	jik-i]	xi	notun	ghor	kinil-e
[Ram-NOM	lottery	win-CNP]	he.NOM	new	house	bought-3

'Having won the lottery, Ram bought the new house.'

(1) Copy Control [$_{\text{Matrix}}$ [$_{\text{Subordinate}}$ Subject$_i$…] [$_{\text{Matrix}}$ Subject$_i$…]]

(2) Telugu

a. [Kumar-ki$_i$ jwaram wacc-i]
[Kumar.DAT fever come-CNP]

atanu$_{i/*k}$/Kumar hospital weLLaa-Du
he.NOM /Kumar.NOM hospital went-3.M.S
'Having had a fever, Kumar went to the hospital.'

b. [Kumar-ki$_i$ koopamu wacc-i]
[Kumar-DAT anger come-CNP]

atanu$_{i/*k}$/ aa pichooDu$_{i/*k}$/Kumar akkadi-nunci wellipoyinaa-Du
he.NOM / that idiot.NOM /Kumar.NOM there-from left-3.M.S
'Kumar got angry, and he/the idiot left.'

c. [Kumar$_i$ sinima cuus-tuu]
[Kumar.NOM movie watch-CNP]

atanu$_{i/*k}$/ aa pichooDu$_{i/*k}$/Kumar Nidra pooyaa-Du
he.NOM/ that idiot.NOM /Kumar.NOM asleep fell-3.M.S
'Kumar was watching a movie, and he/the idiot fell asleep.'

d. [Sarita$_i$ enimid-inTiki bhojanamu tayaru ceesikun-i]
[Sarita.NOM eight-time dinner prepare do for self-CNP]

aame$_{i/*k}$/Sarita tommid-inTiki tinnaa-di
she.NOM/Sarita.NOM nine-time ate-3.F.S
'Sarita prepared dinner for herself at 8:00, and she ate at 9:00.'

(3) Assamese

a. [Ram-Or$_i$ bhagar lag-i]
[Ram-GEN exhaustion feel-CNP]

etiya xi$_{i/*k}$/Ram-Ø xui thakil
now he.ABS/Ram-ABS sleep kept
'Having felt exhausted, Ram now fell asleep.'

b. [Ram-Or$_i$ khub bhok lag-i]
[Ram-GEN very hunger feel-CNP]

xi$_{i/*k}$/ beseratu-e$_{i/*k}$ /Ram-e posa bhat khal-e
he.NOM /the poor guy-NOM/Ram-NOM stale rice ate-3
'Ram felt very hungry, and he/the poor guy ate stale rice.''

c. [Ram-Or$_i$ e-ta bhal buddhi khela-i]
[Ram-GEN one-CL good idea play-CNP]

tar$_{i/*k}$ /Ram-Or phurti lagil
he.GEN /Ram-Or exhilaration felt
'Having got a nice idea, Ram felt very happy.'

d. [Ram-e$_i$ khong kor-i]
[Ram-EXP NOM anger raise-CNP]

xi$_{i/*k}$/gadhatu-e$_{i/*k}$ /Ram-e mor ghorto bhangil-e
he.NOM/the donkey-NOM /Ram-NOM my house destroyed-3
'Ram got angry (expressed his anger), and he/the idiot destroyed my house.'

As I mentioned in Chapter 2, Copy Control obtains only if two conditions are met. The CNP clause has to be sentence-initial, and the CNP subject has to be a non-pronominal R-expression. If either of these two conditions is violated, Copy Control becomes unacceptable. For example, the CNP clause in (4a) and (5a) is not sentence-initial; both sentences are ungrammatical. The CNP clause in (4b) and (5b) is sentence-initial, but the CNP subject is a pronominal; again, both sentences are ungrammatical.

(4) Telugu
a. *atanu/Kumar [atanu-ki/Kumar-ki aakali wees-i]
he.NOM/Kumar.NOM [he-DAT/Kumar.DAT hunger fall-CNP]

bhojanamu tayaru ceesikunaa-Du
dinner prepare did for self-3.M.S
'Having felt hungry, Kumar prepared a dinner for himself.'

b. *[atani-ki aakali wees-i]
[he-DAT hunger fall-CNP]

Kumar/atanu bhojanamu tayaru ceesikunaa-Du
Kumar.NOM/he.NOM dinner prepare did for self-3.M.S
'Having felt hungry, Kumar prepared a dinner for himself.'

(5) Assamese
a. *xi/Ram-e [tar/Ram-Or ananda lag-i] nasil-e
he.NOM/Ram-NOM [he/Ram-GEN happiness feel-CNP] danced-3
'Having felt happy, Ram danced.'

b.	*[tar	ananda	lag-i]	Ram-e/xi	nasil-e
	[he-GEN	happiness	feel-CNP]	Ram–NOM/he.NOM	danced-3
	'Having felt happy, Ram danced.'				

Section 4.3 presents the derivational history of the Copy Control structures under examination. The presentation is based on the assumption that Copy Control is movement. There is a possibility, however, that Copy Control obtains as a result of base-generated resumption. In this case, the matrix subject NP is a base-generated resumptive copy rather than a copy of a moving element. Section 4.2 examines this possibility and concludes that Copy Control must be movement. Sections 4.4 through 4.6 address problems that the derivation presented in Section 4.3 faces. Section 4.7 is a conclusion.

4.2 Copy Control as Movement

There are two types of resumptive elements argued for in the literature. These are base-generation resumptive elements that relate to their antecedent via binding, and resumptive elements that are the result of movement (Aoun, Choueiri, and Hornstein 2001 and Boeckx 2003 among others).[3] There are at least three reasons to believe that Copy Control is the result of movement and to rule out the possibility of base-generation.

To begin with, base-generated resumptive elements show up in positions out of which movement is illegal. For example, they show up in complex noun phrases, wh-islands, and adjunct islands (Aoun, Choueiri, and Hornstein 2001: 372; McCloskey 2005: 11-12).

Let us assume that movement out of CNP clauses, including sideward movement, is illegal for the simple reason that CNP clauses are adjuncts. In this case, one would expect a resumptive element to be realized inside the CNP clause all the time, contrary to facts. Copy Control obtains

[3] Aoun, Choueiri, and Hornstein (2001) label base-generated resumption as true resumption, and they consider resumption that is the outcome of movement as apparent resumption. Beockx (2003), building on Sells 1984, generally agrees with Aoun, Choueiri, and Hornstein's (2001) distinction, but he names the two types of resumption differently. He labels base-generated resumption as intrusive resumption and resumption that is the outcome of movement as true resumption.

only if the CNP clause is sentence-initial. If the CNP clause is sentence-internal, Copy Control is unacceptable. This implies that sideward movement out of CNP clauses is legal and that no base-generated resumptive elements are involved. The conclusion is in line with the assumption that the CNP subject undergoes sideward movement before the CNP clause acquires the status of an adjunct; that is, before it actually adjoins to the matrix clause (Rodriguez 2004: 114 and works within).

In addition, McCloskey (2005: 1-3) observes that a resumptive element may be either a pronoun (clitic, strong pronoun, or even *pro* (Cinque 1990)) or an epithet. “That is, resumptive pronouns simply are (formally) pronouns.” As we have seen in the multiple examples in Section 4.1 and in Chapter 2, both pronounced subjects in a Copy Control construction may be R-expressions. This observation is not restricted to proper nouns (*Kumar*, *Ram*, etc.); it extends to all types of NPs, as (6-7) illustrate. Longer copies are normally judged as redundant, but they are not ungrammatical.

(6) Telugu

[boss-ki / Naa boss-ki	pooyina-waaram	koopamu	wacci]
[boss-DAT /my boss-DAT	last-week	anger	come]

boss / Naa boss	ibbandi	peTTa-Du
boss.NOM / my boss	trouble	put-3.M.S

‘My boss got angry last week, and he caused/created lots of trouble.’

(7) Assamese

[boss-tu-r /mor boss-tu-r	bhal	lag-i]
[boss-CL-GEN / my boss-CL-GEN	good	feel-CNP]

Boss-tu-e /mor boss-tu-e	employee-burok	bonus	dil-e
Boss-CL-NOM / my boss-CL-NOM	employee-ACC	bonus	gave-3

‘The boss felt good and gave his employees bonus.’

McCloskey does not mention whether his observation targets based-generated resumption or resumption that is the outcome of movement or both. Assuming that it targets both, the exceptions to this observation in (6) and (7) are more easily accommodated if the matrix subjects are the outcome of movement. The reason is that movement is understood as copy-plus-merge. The CNP subject copies out of the CNP clause and merges in the matrix clause as an exact copy. Compare to the view that (6) and (7) are the outcome of base-generated resumption. Under this view, it is hard to explain how a resumptive element base-generates as an exact copy of the element it refers to.

Further, resumptive elements normally appear in what otherwise is the locus of a gap or a trace (Boeckx 2003: 14, McCloskey 2005: 94, Sells 1984, and Shlonsky 1992 among several others). Assuming that "movement always proceeds from a subordinated to a subordinating domain," as Nunes (2001: 327-329) convincingly argues, this means that gaps occupy a subordinate structure.[4] Similarly, resumptive elements must be restricted to subordinated domains. If Copy Control were the result of base-generated resumption, one would expect the subordinate/CNP subject to be a resumptive pronominal and the matrix subject to be an R-expression. This is not the case, however. In Copy Control constructions, the subordinate subject *has to be* an R-expression, otherwise the structure is ungrammatical. It is hard to imagine how a base generated resumptive pronominal could be realized as an R-expression that has to relate to an antecedent - possibly a pronoun or an epithet – via binding.

Notice that this restriction does not pose a problem for the movement approach to Copy Control. Under the Copy Theory of Movement (Chomsky 1995), the CNP subject copies out of

[4] Nunes (2001: 327-329) argues that "movement always proceeds from a subordinated to a subordinating domain." Evidence comes from structures like (i) below (Nunes 2001: 327-328; (62a) and (66a-b)). Sentence (ia) is ungrammatical because by the time *borrow* requires *which book* to undergo Sideward Movement, PP *without finding which book* is already an island out of which movement is prohibited, as PP in (ib) shows. "If the computational system could first start building the matrix derivational workspace before building an embedded derivational workspace, the sentence in [(ia)], for instance, would be incorrectly ruled in by a derivation where sideward movement proceeded from the object of *borrow* to the object of *finding*" (Nunes 2001: 329)

(i) a. *Which book did you borrow after leaving the bookstore without finding?
b. [CP PRO [vP[vP leaving the bookstore] [PP without PRO finding [which book]]]]
c. borrow

the CNP clause and merges in the matrix clause as an exact copy of the same token. Decisions concerning which copy should be pronounced as an R-expression and which copy should be a pronominal are made in the phonological component, most probably in accordance with precedence relations as we will see in Section 4.5.[5]

This section has tried to show that the pronominal subject in Copy Control constructions is unlikely to be a based-generated resumptive element. The reasons can be summarized as follows. First, base-generated resumptive pronominals show up in islands (adjuncts, NP clauses) that are immune to movement, and they show up all the time. Copy Control, on the other hand, is not restricted by the adjunctive nature of the CNP clause. Rather, it is restricted by the position of the CNP clause with respect to the matrix clause — that is, whether the CNP clause is sentence-initial or sentence-internal.

Second, resumptive elements are strictly pronominals (pronouns or epithets). Although the matrix subject in Copy Control structures may be a pronominal, it may also be realized as an R-expression that is a non-distinct copy of the CNP subject. Resumption R-expressions can be straightforwardly accounted for if they are considered as the outcome of movement, but not as straightforwardly if they are considered to be base-generated.

Finally, resumptive pronominals only show up in subordinated domains that usually fail to function as launching sites for movement. When a pronominal subject is pronounced in a Copy Control construction, it shows up in the landing site: the matrix clause.

The above discussion is not meant to spell out a theory of resumption. This task is beyond the scope of the present work. It is simply a brief diagnosis in order to show that Copy Control is

[5] The cases of resumption-as-movement presented by Aoun, Choueiri, and Hornstein (2001) and Boeckx (2003) also seem to obey the restriction that resumptive elements are pronominals that occupy a subordinated domain. This is because the authors argue for a stranding approach to resumption that is reminiscent of quantifier floating. I return to this issue in Section 4.6 where I suggest a non-stranding alternative.

unlikely to be an instance of base-generated resumption. The chapter proceeds by analyzing Copy Control as movement.

4.3 Copy Control: The Derivational History

The derivation of Forward/Backward Control presented in Chapter 3 applies, with minor adjustments, to Copy Control. Both derivations rely on Nunes's (2004) theory of movement. According to Nunes, movement comprises four independent operations: Copy, Merge, Form Chain, and Chain Reduction. When a syntactic object α moves, it copies out of a subordinated domain and merges into a subordinating domain. Following, the two copies of α form a chain in accordance with Form Chain as formulated in (8). At PF, the structure is linearized in order to satisfy the Linear Correspondence Axiom in (9). The main idea behind (9) is that in real time a syntactic object cannot follow and precede itself at the same time. This is when Chain Reduction, as stated in (10), applies. Accordingly, only one of the copies of α is phonologically realized.

(8) Two constituents X and Y form a chain iff
  a. X and Y are non-distinct;
  b. X commands Y.

(9) Let X, Y be nonterminals and x, y terminals such that X dominates x and Y dominates y. Then if X asymmetrically c-commands Y, x precedes y. (Kayne 1994: 33)

(10) Delete the minimal number of constituents of a nontrivial chain CH that suffices for CH to be mapped into a linear order in accordance with the LCA (Nunes 2004: 27 (44)).

Based on the above, the Telugu Copy Control structure in (11) will have the derivational history outlined in (12). The CNP clause and the matrix clause form independently in (12a). The CNP subject copy-plus-merges with matrix vP in (12b). In (12c), the matrix subject moves from Spec,vP to Spec,IP to check the EPP feature. Following, the CNP clause merges with the matrix clause at CP, as (12d-i) shows. The tree in (12d-ii) is a snapshot of the derivation up to this point. It mainly highlights c-command. As the dotted arrows show, the two matrix copies of Kumar {[$_{NP}$ Kumar^{d}], [$_{NP}$ Kumar^{c}]} enter a c-command relationship and form a chain. The two CNP copies {[$_{\text{NP}}$ Kumar^{b}], [$_{\text{NP}}$ Kumar^{a}]} also enter a c-command relationship and form a chain. No CNP copy, on the other hand, enters a c-command relation with a matrix copy. At PF, Chain Reduction applies for the purpose of Linearization. As (12e) illustrates, the lower copy of Kumar in each chain is deleted. Thus, [$_{\text{NP}}$ Kumar^{c}] and [$_{\text{NP}}$ Kumar^{a}] undergo deletion. Two copies, [$_{\text{NP}}$ Kumar^{b}] and [$_{\text{NP}}$ Kumar^{d}], survive deletion, resulting in Copy Control.

(11) Telugu

[Kumar	sinima	cuus-tuu]	Kumar	popkorn	tinnaa-Du
[Kumar.NOM	movie	watch-CNP]	Kumar.NOM	popcorn	ate-3.M.S

‘While watching a movie, Kumar ate popocorn.’

(12) a. i. [$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar] [$_{\text{vP}}$ [$_{\text{NP}}$ Kumar] sinima cuus-tuu]]
[$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar.NOM] [$_{\text{vP}}$ [$_{\text{NP}}$ Kumar.NOM] movie watch-CNP]]

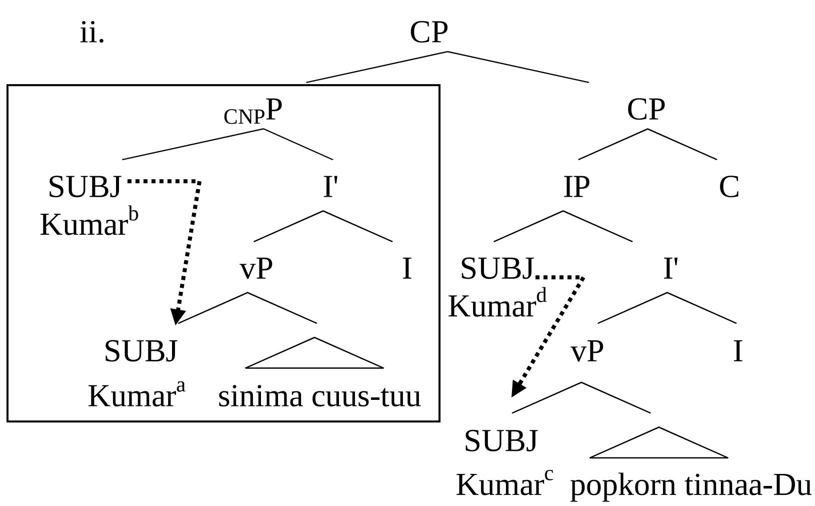
ii. [$_{\text{Matrix vP}}$ popkorn tinnaa-Du]
[$_{\text{Matrix vP}}$ popcorn ate-3.M.S]

b. i. [$_{\text{NP}}$ Kumar]
ii. [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Kumar] popkorn tinnaa-Du]

c. [$_{\text{CP}}$ [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Kumar] [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Kumar] popkorn tinnaa-Du]

d. i. [$_{\text{CP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar^{b}] [$_{\text{vP}}$ [$_{\text{NP}}$ Kumar^{a}] sinima cuus-tuu]]
[$_{\text{CP}}$ [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Kumar^{d}] [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Kumar^{c}] popkorn tinnaa-Du]]]]

ii.



e. [$_{\text{CP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar^{b}] [$_{\text{vP}}$ [$_{\text{NP}}$ ~~Kumar~~^{a}] sinima cuus-tuu]]
[$_{\text{CP}}$ [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Kumar^{d}] [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ ~~Kumar~~^{c}] popkorn tinnaa-Du]]]]

The main difference between (12) and the derivational history of Forward/Backward Control structures is the merging site of the CNP clause. In Copy Control constructions, the CNP clause merges clause-initially at CP, as (12d) shows. In Forward/Backward Control constructions, however, the CNP clause merges clause-internally at vP.

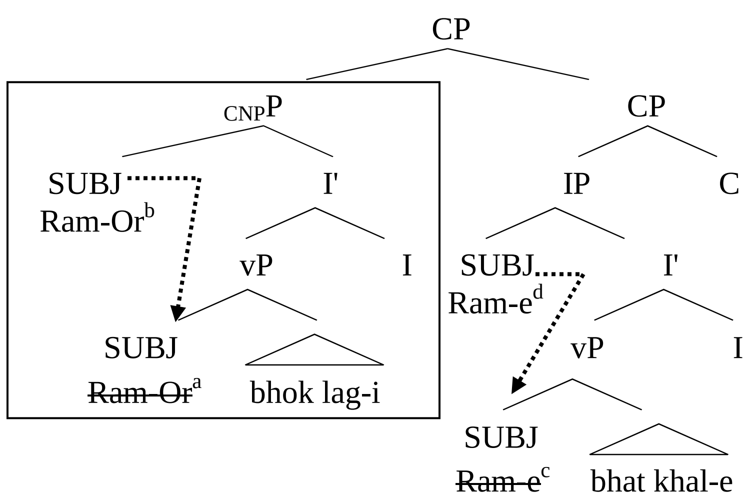
The exact same steps apply to Assamese. Thus, the Copy Control structure in (13) has the derivation in (14). The CNP clause merges with the matrix clause at CP. The dotted arrows in (14) indicate that the two matrix copies of *Ram* {[NP Ram-e^{d}], [NP Ram-e^{c}]} enter a c-command relationship and form a chain. They also indicate that the two CNP copies {[NP Ram-Or^{b}], [NP Ram-Or^{a}]} enter a c-command relationship and form a chain. None of copies of the CNP subject enters a c-command relationship with the matrix subject. At PF, Chain Reduction applies for the purpose of Linearization. As a result, the lower copies of *Ram*, [$_{NP}$ Ram-Or^{a}] and [$_{NP}$ Ram-e^{c}], are deleted. The two higher copies, [$_{NP}$ Ram-Or^{b}] and [$_{NP}$ Ram-e^{d}],survive deletion. The outcome is Copy Control.

(13) Assamese

[Ram-Or	bhok	lag-i]	Ram-e	bhat	khal-e
[Ram-GEN	hunger	feel-CNP]	Ram-NOM	rice	ate-3

‘Having felt hungry, Ram ate rice.’

(14)



One question that comes to mind is: How is a control interpretation established without c-command? In other words, how does the matrix subject determine the identity of the CNP subject – or vice versa – if the two do not enter a c-command relationship? The simple answer, and probably the only one, is movement. The two copies are co-referential because they are copies of the same token derived via movement.

The analysis presented in this section faces three problems. These can be summarized as follows:

- **Problem 1:** The two pronounced subjects in a Copy Control structure escape deletion due to the lack of c-command and Form Chain. Nevertheless, according to the Linear Correspondence Axion as stated in (9), they are still non-distinct copies in a precedence relationship. Accordingly, they still induce a violation.

- **Problem 2:** The CNP clause becomes an adjunct – and thus an island for movement – only when it adjoins to the matrix clause. In a Copy Control structure, the CNP clause merges with the matrix clause at CP rather than at vP. This means that the CNP clause is accessible for movement for a longer period of time, which may result in the overgeneration of undesired structures.

- **Problem 3:** The analysis in this section does not explain why the CNP subject has to be an R-expression while the matrix subject can be either an R-expression or a pronominal (a pronoun or an epithet).[6]

The following sections explain the problems in more detail and suggest solutions. I begin with the issue of linearization.

4.4 Copy Control and Linearization

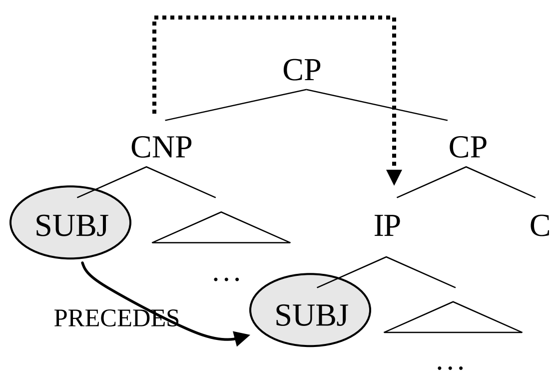
The Linear Correspondence Axiom as formulated in (9), repeated here as (15), predicts that the derivations in (12) and (14) above must not converge. The reason resides in the definition of precedence. As (15) indicates, a terminal x precedes a terminal y if x and y are in a c-command relationship or if the non-terminal X that dominates x c-commands y.

[6] Another problem is related to movement: Why does movement take place? Chapter 5 provides a detailed answer to this question.

(15) Let X, Y be nonterminals and x, y terminals such that X dominates x and Y dominates y. Then if X asymmetrically c-commands Y, x precedes y. (Kayne 1994: 33)

If we apply (15) to the derivations in (12) and (14), we realize that at the end of the derivation the non-terminal CNP clause asymmetrically c-commands the matrix subject, as (16) illustrates. Therefore, the CNP subject must precede the matrix subject. Since the two subjects are copies of the same token — that is, they are non-distinct — then the same element precedes and follows itself in the same structure, inducing a violation of the Linear Correspondence Axiom. Therefore, one of the copies must be deleted in order for the structure to converge.

(16)



Such instances of sideward movement are labeled as “unwanted” in Nunes’s system. The reason is that they involve two non-distinct copies that are in a precedence relationship; thus, they need to be linearized and one of them has to be deleted. Nevertheless, the two copies do not form a chain because neither copy c-commands the other. Consequently, Chain Reduction cannot apply at PF and the structure cannot be mapped into a linear order in accordance with the Linear Correspondence Axiom. To avoid such “unwanted applications of sideward movement,” Nunes (2004: 51-52, 159) holds that Form Chain, although an independent operation, is mandatory. If Form Chain does not apply, the derivation crashes.

The derivations in (12) and (14) do converge, however. Two copies escape Chain Reduction and are actually pronounced. This means that the theory must be able to accommodate the data. Fortunately, there is a way to do so without compromising the essence of Kayne's Linear Correspondence Axiom and without tampering with Nunes's theory of movement.

Knowing that Copy Control may be grouped with other instances of multiple copy spell-out in which more than one copy of the same token are phonologically realized, it is only reasonable to examine some analyses proposed for the phenomenon before putting forward a separate analysis. Section 4.4.1 undertakes this task and presents two analyses, one proposed by Nunes (2001, 2004) and one by Fujii (2005). Building on Section 4.4.1 and on work related to cyclic linearization, Section 4.4.2 shows that if Multiple Spell-Out (Uriagereka 1999) is added to Nunes's system, whereby a structure is transferred to the phonological component multiple times throughout the derivation rather than once at the end of the derivation, Copy Control may receive an analysis similar to the analysis offered for the other instances of multiple copy spell-out.

4.4.1 Multiple Copy Spell-Out

Multiple copy spell-out is attested in several languages. For example, Afrikaans allows multiple copies of a wh-chain to be pronounced in a question (e.g., (17)) (du Plessis 1977). Vata allows multiple copies of a verb chain to be pronounced (e.g., (18)) (Koopman 1984). Kandybowicz (2006) analyzes pronominal resumption, verbal repetition, and predicate clefting in Nupe as multiple copy spell-out. Sentence (19) is an example of pronominal resumption.

(17) Afrikaans

Met wie	het	jy	nou	weer	gesê	met wie
With who	did	you	now	again	said	with who

het	Sarie	gedog	met wie	gaan	Jan	trou?
did	Sarie	thought	with who	go	Jan	marry?

'Whom did you say again that Sarie thought Jan is going to marry?'

(18) Vata

Li	à	li-da	zué	saká.
eat	1.P	eat-PAST	yesterday	rice

'We did eat rice yesterday.'

(19) Nupe

Gana	Musa	kpe	ganan	uu	gi	bise	o
Gana	Musa	know	COMP	3.S	eat	hen	o

‘Musa knows that GANA (emphatic) ate the hen.’

Before trying to propose an explanation for the Telugu and Assamese Copy Control phenomenon, I survey the literature for possible accounts.

4.4.1.1 Nunes’s analysis

The multiple copies realized in each of (17-19) above are non-distinct copies in a c-command relationship. Based on Nunes’s system, the two copies form a chain and, accordingly, they must undergo Chain Reduction. But they do not. How do two copies of the same token escape Chain Reduction? According to Nunes (2004: 40), this is possible only if one of the copies hides inside another word, thus, becoming invisible to the Linear Correspondence Axiom. More specifically, if a copy in a given chain adjoins to another head, both the copy and the head are “morphologically reanalyzed as a single terminal element” or a single “phonological word.” In the theory of Distributed Morphology (Halle and Marantz 1993), this process is called Fusion. The Linear Correspondence Axiom cannot see into fused links and, consequently, the lower copy escapes deletion.

To illustrate, the lower copy of *li* ‘eat’ in (18) above adjoins to *–da* ‘past-marker’. The two heads are fused into a single terminal and are reanalyzed as a new phonological word. In this way, the Linear Correspondencce Axiom does not detect the two occurrences of *li* ‘eat’ as copies of the same token. This means that the structure can be linearized without the deletion of either copy. Consequently, neither copy undergoes Chain Reduction, given that Chain Reduction is a costly operation that applies minimally for the purpose of linearization and convergence, as (20) explicitly states.

(20) Delete the *minimal* number of constituents of a nontrivial chain CH that suffices for CH to be mapped into a linear order in accordance with the LCA. (Nunes 2004: 101 (31)) [my emphasis]

Not all instances of multiple copy spell-out are analyzed as involving an invisible fused copy — or a new phonological word. One such case is copy raising in English. The following section summarizes Fujii's analysis of copy raising as an instance of multiple copy spell-out.

4.4.1.2 Fujii's analysis

English allows structures like (21) which involve a raising verb (e.g., *seem*) and two subjects that are obligatorily coreferential and pronounced. These are known in the literature as copy raising constructions (Rogers 1971, Postal 1974, among others).

(21) a. Tom$_i$ seems as if he$_{i/*k}$ is seeing someone.
b. *Tom seems as if ~~he~~ is seeing someone.

Fujii (2005) analyzes such instances of copy raising as movement. Details aside, Fujii presents empirical evidence to show that the subordinate clause in (21a) is a CP and that the structure invloves movement.[7] As he points out, however, this type of movement seems to be different from, say, wh-movement as exemplified in (22). In both cases, an argument moves out of a lower CP into a higher clause. The obvious difference between the two structures is that two copies of the moving element are pronounced in (21a) while only one is pronounced in (22).

(22) What did you say that Tom bought ~~what~~?

In order to account for this difference, Fujii holds that the movement of the subject in (21a) does not land in Spec,CP on its way to the matrix clause, while the movement of the wh-element in (22) does. This idea is schematized in (23a-b). Evidence for (23a) comes from structures like

[7] The argument excludes structures like (i) which allow disjoint subjects. Following Potsdam and Runner (2001), Fujii considers the matrix subject in such constructions to be a thematic argument of the matrix verb. Accordingly, the structure does not involve raising.
(i) Tom looks like someone has punched him in the face.

(24). The argument is that if *Tom* landed in Spec,CP on its way to Spec,IP of the matrix clause, wh-movement out of the subordinate CP would not be possible (Fujii 2005: 10-12).

(23) a. [$_{CP}$ Tom seems [$_{CP}$ [$_{C'}$ as if [$_{IP}$ Tom is seeing someone]]]]]

b. [$_{CP}$ What did [$_{IP}$ you say [$_{CP}$ what [$_{C'}$ that [$_{IP}$ Tom bought what]]]]]

(24) a. Who does Tom seem like he has met?

b. [$_{CP}$ WHO does [$_{IP}$ Tom seem [$_{CP}$ WHO [$_{C'}$ like [$_{IP}$ Tom/he has met WHO]]]]]

How does landing vs. not landing in Spec,CP affect the phonological realizations of copies at PF? The answer resides in the formulation of Chain Reduction. In Nunes 2004, Chain Reduction applies at the end of the derivation. Fujii resorts to Cyclic Chain Reduction, whereby Chain Reduction applies cycle by cycle or, more specifically, phase by phase. Following Chomsky (2000, 2001), Fujii assumes that a phase is a vP or a CP. His formulation of Cyclic Chain Reduction is stated as (25). Fujii also adopts Chomsky's Phase Impenetrability Condition in (26) which states that when a phase is spelled out, its edge can still take part in further syntactic operations. Fujii formulates (27) as a consequence of (26).

(25) Delete all copies of chain CH [within a phase] but the highest one. (Fujii 2005: 1-2; (1))

(26) Phase Impenetrability Condition
At the phase ZP containing phase HP, the domain of H is not accessible to operations, but only the edge of HP. (Chomsky 2001:11, 2004: 108)

(27) The Role of Phase Edge in Chain Reduction:
The highest copy in phase PH that has not undergone deletion can be deleted later only if it is in the edge of PH. (Fujii 2005: 3; (7))

Let us have a closer look at (23-24), repeated with more details as (28a-b), in the light of Cyclic Chain Reduction. In both (28a) and (28b), the subordinate CP forms first. In (28b), but not in (28a), the moving element uses Spec,CP as an escape hatch. By the time the following phase head is introduced, the lower phase is spelled out and Cyclic Chain Reduction (CCR1) applies, deleting the lower copy of *Tom* in (28a) and of *what* in (28b). At this point, all of lower CP minus its edge is spelled out, as the boldface part of each sentence shows. When the following phase (the higher CP) is spelled out, Cyclic Chain Reduction (CCR2) applies. *What* in Spec,CP of (28b), being at the edge of the lower phase, undergoes deletion. The subordinate copy of *Tom* in (28a), on the other hand, survives deletion in accordance with (26) and (27), or, as Fujii (2005: 2) puts it, the lower copy survives deletion because it is "invisible for the operation [CCR2] since [it is] not contained in the relevant domain."

CCR2 CCR1

(28) a. [$_{CP}$ [$_{IP}$ Tom seems [$_{CP}$ [$_{C'}$ as if **[$_{IP}$ Tom is [$_{vP}$ ~~Tom~~ [$_{VP}$ seeing someone]]]]]]**

CCR2 CCR1

b. [$_{CP}$ What did [$_{IP}$ you say [$_{CP}$ ~~what~~ **[**$_{C'}$ that **[$_{IP}$ Tom [$_{vP}$ ~~Tom~~ [$_{VP}$ bought ~~what~~]]]]]]**

Fujii's analysis is certainly elegant, but it is not without problems. First, the structure in (28a) violates the Linear Correspondence Axiom. The two copies of the subject are non-distinct and in a precedence relationship.[8] If both are pronounced, this means that the same element c-commands itself, which is a violation of linearization.

Further, although Chain Reduction applies cyclically in Fujii's system, Fujii remains silent with respect to the operation Form Chain. Let us assume that Form Chain may apply across phases. This means that the two copies of the subject in copy raising constructions do form a chain. Therefore, Chain Reduction must apply. When Chain Reduction (CCR2) applies in the higher CP, it cannot mark the lower copy of the subject for deletion because it is in a different

[8] Fujii (2005: 22-26) offers an explanation concerning why the lower copy is a pronominal rather than an exact copy of the matrix subject. Section 4.6 provides a slightly different view.

phase; but it should be able to mark the higher copy since it is within its jurisdiction, so to speak. Yet, we never see structures like (29) where the higher subject is deleted. (Notice that deletion of copies at PF takes place regardless of Case and visibility.)

(29) ~~Tom~~ seems as if Tom is seeing someone.

Fujii tacitly avoids the problem exemplified in (29) by limiting deletion to the lower copies only, as (25) above explicitly states. Evidence from Backward Control — not only in Telugu, but also in Japanese (Kuroda 1965, 1978), Tsez (Polinsky and Potsdam 2002), Malagasy (Polinsky and Potsdam 2003), and Korean (Monahan 2003) — shows that the higher copy is also susceptible to deletion, which makes the formulation in (25) a stipulation.

Note, however, that according to the Phase Impenetrability Condition in (26), the domain of the phase is not accessible to any operation, including Form Chain. This means that Form Chain cannot operate across phases. Instead of solving the problem in (29), however, the failure of Form Chain to apply creates an even more complicated problem. The reason is that at PF linearization is able to detect that the two copies of *Tom* are non-distinct and in a precedence relation. Yet, the failure of Form Chain to apply means that no Chain Reduction is possible. The result is again a violation of the Linear Correspondence Axiom.

This said, it is important to note that the problems in Fujii's analysis are minor. The following section suggests that they can be avioded by adopting Uriagereka's (1999) Multiple Spell-Out approach whereby every time a part of the structure is spelled out, it is converted into a phonological word that linearization cannot see into.

4.4.2 Multiple Copy Spell-Out and Multiple Spell-Out

Chomsky's (2000, 2004) Phase Impenetrability Condition, as stated in (26) above, follows from the assumption that a structure is transferred to the phonological component — or spelled out — phase by phase, whereby a phase is a vP or a CP. This means that a structure undergoes spell-out several times throughout the derivation. Every time a phase is spelled out, which takes place when a new phase head is introduced, its complement is no longer transparent to further syntactic operations. To elaborate, when a CP-phase is spelled out, IP-complement-of-C^0 (but not the edge of CP: Spec,CP and C^0) becomes opaque to all syntactic operations.

Empirical support of this approach comes from Bošković and Frank 2001 and Fox and Pesetsky 2005 among several others. Bošković and Frank present evidence from Bulgarian clitic-ordering to argue in favor of multiple spell-out by phase. Fox and Pesetsky build a theory of cylic linearization and order perservation based on phases, and they use it to account for the constraints on Object Shift (Holmberg's Generalization) and Quantifier Movement (Inverse Holmberg effect) in Scandinavian.[9, 10]

Uriagereka (1999) also argues that Multiple Spell-Out is part of the computational system. He holds that spell-out applies, not only at the end of the derivation, but multiple times throughout the derivation.[11] According to Uriagereka (1999: 256), every time a domain is

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[9] Fox and Pesetsky's cyclic linearization and order preservation maintain that the order of the elements within each phase (or spell-out domain) is determined at the end of the phase by the operation Spell-Out, and that this order cannot be altered or contradicted later in the derivation. This approach works for the Telugu and Assamese structures under investigation. Nevertheless, the details are orthogonal to the argument in the rest of this section, which is why I do not present them here. What is important for the purpose of this study is that Multiple Spell-Out is needed on independent grounds and is not an ad hoc stipulation that is used to account for the phenomenon of Copy Control only. Two points about Fox and Pestesky's approach are in order, however.

(i) The authors argue that Move is actually Re-merge rather than Copy-plus-Merge (Fox and Pesetsky 2005: 41); evidence from Copy Control, as well as other instances of Multiple Copy Spell-Out, shows that Copy-plus-Merge is superior to Re-merge.

(ii) The function of Spell-Out in Fox and Pesetsky's system is to make sure that the order of the elements within each spell-out domain is preserved throughout the derivation. While this idea works well for Telugu and Assamese Copy Control, an additional function of Spell-Out is needed: turning a spell-out domain into a lexical compound or a giant word, as Uriagereka (1999) and the rest of this section argues.

If (i) and (ii) are added to Fox and Pesetsky's system, cyclic linearization and order preservation become compatible with the present analysis without becoming incompatible with the Scandinavian data that the authors examine.

[10] Ko (2007) applies of Fox and Pesetsky's cylic linearization and order perservation to scrambling in Korean.

[11] According to Uriagereka (1999), spell-out applies to specific syntactic objects he calls Command Units. A Command Unit is a syntactic object that is derived through a "continuous application of Merge." That is, through the

spelled-out, it is converted into a non-phrasal structure or a giant lexical compound that is interpretable, yet inaccessabile to further syntactic operations.

Spell-out transfers a phase to the phonological component, and linearization takes place in the phonological component. This means that every time a phase is spelled out, it is also linearized. Subsequently, the spelled-out phase is converted into a giant word that is transparent to interpretation but opaque to all syntactic operation.

The following sections examine the influence of Multiple Spell-Out on the analysis of copy raising and Copy Control. Section 4.4.2.1 shows that Multiple Spell-Out is superior to Cyclic Chain Reduction. Section 4.4.2.2 extends the analysis to Copy Control.

4.4.2.1 Multiple Spell-Out and copy raising

As I mentioned in Section 4.4.1.2 above, Fujii's (2005) analysis of copy raising structures like (30) faces a problem. The two pronounced subjects in (30b), [$_{NP}$ Tom^{c}] and [$_{NP}$ Tom^{b}], are in a precedence relationship and, consequently, one of them has to be deleted in order for the structure to linearize. Yet, this does not happen due to the cyclicity of Form Chain and Chain Reduction. The result is a violation of the Linear Correspondence Axiom.

(30) a. Tom seems as if he is seeing someone.

CCR2 CCR1

b. [$_{CP}$ [$_{IP}$ Tom^{c} seems [$_{CP}$ [$_{C'}$ as if **[$_{IP}$ Tom^{b} is[$_{vP}$ ~~Tom~~^{a} [$_{VP}$ seeing someone]]]]]]]**

Let us observe the derivational history of (30) in the light of Multiple Spell-Out as described in the previous section. Subordinate CP forms in (31a). [$_{NP}$ Tom^{a}] in Spec,vP

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extension of the same syntactic object via the Merge of a new element. For example, [x[y]] is a Command Unit. By contrast, "discontinuous application of Merge" (i.e., the Merge of two already formed Command Units) does not result with a Command Unit. For example, merging [x [y]] and [a[b]] results with [[x [y]] [a[b]]], which is not a Command Unit. Following Chomsky (2000, 2001, 2004), however, I assume that multiple spell-out is phase based rather than Command Unit based, and that a phase maybe vP or CP, but not IP. The main reason behind this choice is that phase theory, at least as I understand it, offers more precise specifications concerning the edge of a spelled-out domain. For the porpose of my analysis, it is important that the edge of a spelled-out domain remains active. Uriagereka, on the other hand, seems to imply that the whole Command Unit is syntactically inactive once spelled-out.

copy-plus-merges as $[_{NP}$ Tom$^{b}]$ in Spec,IP. $[_{NP}$ Tom$^{b}]$ and $[_{NP}$ Tom$^{a}]$ are non-distinct and in a c-command relationship; thus, they form a chain. The matrix IP is introduced in (31b). $[_{NP}$ Tom$^{b}]$ copy-plus-merges as $[_{NP}$ Tom$^{c}]$ in Spec,IP of the matrix clause, crossing over Spec,CP of the subordinate clause. The matrix CP is introduced in (31c). This is when subordiante CP is spelled-out. Chain Reduction applies to the chain $\{[_{NP}$ Tom$^{b}]$, $[_{NP}$ Tom$^{a}]\}$ and the lower copy is deleted. The CP-phase is linearized and converted into a phonological word, as the grey font signifies. As Uriagereka (1999: 256) puts it, the spelled-out CP is "no longer phrasal …; in essence, [it] is like a giant lexical compound, whose syntactic terms are obviously interpretable but are not accessible to movement, ellipsis, and so forth."

(31) a. $[_{CP}$ $[_{C'}$ as if $[_{IP}$ Tom^{b} is $[_{vP}$ Tom^{a} $[_{VP}$ seeing someone$]]]]]$
b. $[_{IP}$ Tom^{c} seems $[_{CP}$ $[_{C'}$ as if $[_{IP}$ Tom^{b} is $[_{vP}$ Tom^{a} $[_{VP}$ seeing someone$]]]]]$
CCR1
c. $[_{CP}$ $[_{IP}$ Tom^{c} seems $[_{CP}$ $[_{C'}$ as if **$[_{IP}$ Tom^{b} is$[_{vP}$ ~~Tom~~^{a} $[_{VP}$ seeing someone$]]]$**$]]]]$

How does this approach solve the violation of the Linear Correspondence Axiom induced in Fujii's analysis? By converting the subordinate CP to a lexical compound, not only is the subordinate subject inaccessible to any syntactic operation, including Form Chain and Chain Reduction, but it is also invisible to linearization. Remember from Section 4.3.1.1 that in Nunes's system an element may escape deletion if it hides within a phonological word by fusing with another head. The situation here is similar. The lower copy hides within the big phonological word that is produced by the operation spell-out. Linearization cannot see into fused elements. Therefore, any word that hides within a spelled out domain is not a problem for linearization or the Linear Correspondence Axiom.

An almost identical conclusion has been arrived at by Nunes and Uriagereka (2000). One major point makes the approach to Multiple Spell-Out as adopted here different. I consider a spelled-out domain categorically inaccessible to any syntactic operations. A spelled-out domain in Nunes and Uriagereka's (2000: 24, 32) analysis "is still accessible to the computational system, despite the fact that its constituent parts are, in a sense, gone; thus, for instance, [a spelled-out domain] … is visible to linearization when the whole structure is spelled-out" although "the computational system treats it as a lexical item." This is possible "if c-command is obtained by the composition of the elementary relations of sisterhood and containment, as proposed by Chomsky (1998: 31)."

Nunes and Uriagereka adopt this mysterious operation of Form Chain in order to account for (32) below. If Form Chain operates into a spelled-out domain, then [which paper ^{d}] may form a chain with [which paper ^{b}] inside the spelled-out PP, [PP after [CP [which paper ^{b}] reading [which paper ^{a}]]]]]. If Form Chain cannot operate across phases, [which paper ^{d}] and [which paper ^{b}] cannot form a chain, and thus Chain Reduction fails to apply. In this case, the system fails to account for the deletion of [which paper ^{b}].

(32) [$_{CP}$[which paper ^{d}] did [$_{IP}$John [$_{vP}$[$_{vP}$ file [~~which paper~~ ^{c}]]
[$_{PP}$ after [$_{CP}$ [~~which paper~~ ^{b}] reading [~~which paper~~ ^{a}]]]]]

Fortunately, there is way to account for (32) while still considering spelled-out domains inaccessible to Form Chain and Chain Reduction. If the PP-adjunct in (32) is considered a CP, as Grohmann (2003) suggests, then [which paper ^{b}] will occupy the edge of the phase, as (33) illustrates. In this way, when the adjunct is transferred to the phonological component, [which paper ^{b}], being at the edge of CP, will still be accessible to further syntactic operations, including Form Chain. When the following phase is spelled out, [which paper ^{b}] is already part of a chain {[which paper ^{d}], [which paper ^{b}] } and, consequently, undergoes Chain Reduction for the purpose of linearization.[12]

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[12] Another solution is to consider PP a phase; in this case, [which paper ^{b}] moves to the edge of PP.

(33) $[_{CP}$[which paper [d]] did $[_{IP}$John $[_{vP}[_{vP}$ file [~~which paper~~ [c]]]
$[_{CP}$ [~~which paper~~ [b]] after **reading [~~which paper~~ [a]]]]]]**.

4.4.2.2 Multiple Spell-Out and Copy Control

Let us have another look at the derivation of the Telugu example in (12) above, repeated here as (34). The steps of the derivation are delineated in (35).[13] The CNP clause and the matrix clause form independently in (35a), before the CNP subject copy-plus-merges with matrix vP in (35b). Following, the matrix subject moves from Spec,vP to Spec,IP to check the EPP feature, as sketched in (35c). The two non-distinct copies of Kumar enter a c-command relationship and form a chain {$[_{NP}$ Kumar[d]], $[_{NP}$ Kumar[c]]}. In (35d), matrix CP is spelled out and linearized. Chain Reduction applies and marks the lower copy of Kumar, $[_{NP}$ Kumar[c]], for deletion. The spelled-out domain is converted into a phonological word that is opaque to further syntactic operations, as symbolized by the grey font. Finally, the CNP clause merges with the matrix clause at CP. Although Matrix CP is spelled-out, its edge is still accessible to such an operation. The two non-distinct CNP copies of *Kumar* enter a c-commanding relationship and form a chain {$[_{NP}$ Kumar[b]], $[_{NP}$ Kumar[a]]}.The whole structure is spelled-out and linearized again. Chain Reduction applies and marks the lower CNP copy of Kumar, $[_{NP}$ Kumar[a]], for deletion. The structure converges as (35e).

(34) Telugu

[Kumar	sinima	cuus-tuu]	Kumar	popkorn	tinnaa-Du
[Kumar.NOM	movie	watch-CNP]	Kumar.NOM	popcorn	ate-AGR

‘Having had a fever, Kumar went to the hospital.’

(35) a. i. $[_{CNP}$ $[_{NP}$ Kumar[b]] $[_{vP}$ $[_{NP}$ Kumar[a]] sinima cuus-tuu]]
ii. $[_{\text{Matrix vP}}$ popkorn tinnaa-Du]

[13] The discussion in this section depends on the standard assumption that CNP clauses are IPs, but crucially not CPs (Jayaseelan 2004). In other words, they are not phases. Further, for the purpose of the presentation here, I only focus on CP as a spell-out domain. Commonly, vP is also considered a phase. However, the study is concerned with subject NPs; these occupy the edge of vP and, thus, are still accessible even after vP is spelled-out.

b. i. [$_{\text{NP}}$ Kumar]
ii. [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Kumar^{c}] popkorn tinnaa-Du]

c. [$_{\text{CP}}$ [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Kumar^{d}] [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Kumar^{c}] popkorn tinnaa-Du]

d. [$_{\text{CP}}$ **[$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Kumar^{d}] [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ ~~Kumar~~^{c}] popkorn tinnaa-Du]**

e. [$_{\text{CP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar^{b}] [$_{\text{vP}}$ [$_{\text{NP}}$ ~~Kumar~~^{a}] sinima cuus-tuu]]
[$_{\text{CP}}$ **[$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Kumar^{d}] [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Kumar^{c}] popkorn tinnaa-Du]]]]**

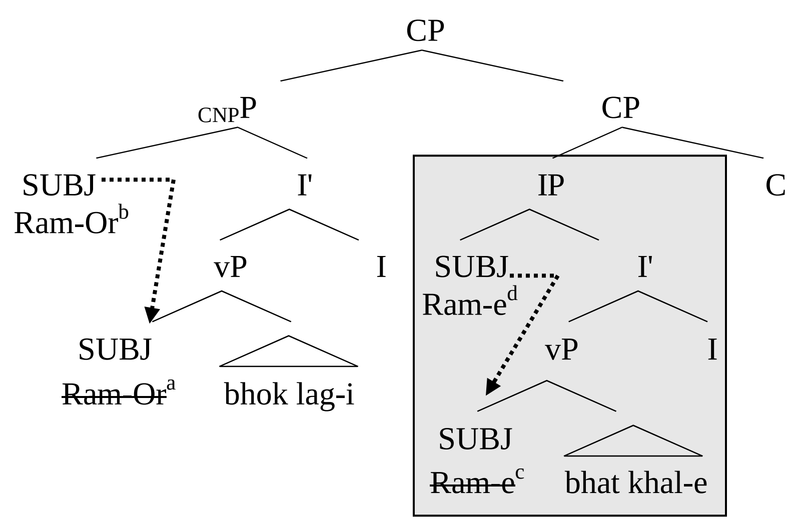
The same steps apply to Assamese. Consider sentence (36). The tree in (37) is a summary of its derivational history. As the dotted arrows show, the two matrix copies of *Ram* enter a c-command relationship and form a chain {[$_{\text{NP}}$ Ram^{d}], [$_{\text{NP}}$ Ram^{c}]}. The matrix clause is spelled out and linearized, and the lower copy is marked for deletion. The complement of matrix CP becomes a non-phrasal lexical compound, as indicated by the grey box. Following, the CNP clause merges at matrix CP. The two CNP copies of *Ram* enter a c-command relationship and form a chain {[$_{\text{NP}}$ Ram^{b}], [$_{\text{NP}}$ Ram^{a}]}, and the lower copy is deleted. The structure converges with two copies of *Ram* phonologically realized.

(36) Assamese

[Ram-Or	bhok	lag-i]	Ram-e	bhat	khal-e
[Ram-GEN	hunger	feel-CNP]	Ram-NOM	rice	ate-AGR

'Having felt hungry, Ram ate rice.'

(37)



The derivations in (35) and (37) do not violate the Linear Correspondence Axiom. Linearization is not able to detect $[_{NP}$ Kumar$^{d}]$/ $[_{NP}$ Ram$^{d}]$ of the matrix clause as a token of the same element as $[_{NP}$ Kumar$^{b}]$/ $[_{NP}$ Ram$^{b}]$. The reason is that the matrix copy is hidden inside a spelled-out domain that behaves like a phonological word, and linearization cannot see into phonological words. Consequently, precedence in the sense of Kayne 1994 is not detected and no violation is induced.

Two issues remain. One is related to Nunes's treatment of Form Chain. The second point has to do with the timing of the spell-out of matrix CP in (35) and (37).

As Section 4.3 points out, the two pronounced copies in Copy Control structures do not form a chain for an independent reason: they do not enter a c-command relationship. In Nunes's system, Form Chain is obligatory in order to serve one purpose: linearization. The lack of Form Chain is a violation if linearization and the Linear Correspondence Axion are not satisfied. Stated differently, if linearization detects two non-distinct copies, one of them has to be deleted. In order for deletion – or Chain Reduction – to apply, the two non-distinct copies have to form a chain. If the two copies are no longer non-distinct (because one of the copies is in a fused word or in a spelled-out domain), Form Chain is no longer an essential, derivation-saving operation. Therefore, the fact that the two pronounced subjects in Copy Control constructions are not in a c-command relationship and do not form a chain is no longer an issue.

This might sound like an ad hoc stipulation that only serves the analysis of Copy Control structures. Nevertheless, we have seen that the two pronounced copies in copy raising constructions like (38) do enter a c-command relationship and, ideally, are able to form a chain. If this happened, the only copy that would be able to escape deletion is the subordinate copy. The reason is that it is inside a phase. The matrix copy, on the hand, would be marked for deletion before the whole structure is spelled-out. This does not happen, however, which indicates that Form Chain must fail to apply. In this sense, the lack of Form Chain is not only tolerated but also required.

(38) $[_{CP}$ $[_{IP}$ Tom seems $[_{CP}$ $[_{C'}$ as if **$[_{IP}$ Tom is seeing someone$]$**$]]]]$

Nunes's extensive work involves cases of multiple copy spell-out that are the result of movement minus Chain Reduction. Such cases involve duplication of focalized elements in Brazilian Sign Language and clitic duplication in some dialects of Argentinean Spanish (Nunes 2004: 38-61). One might wonder, however, why his work does not involve similar cases that are the result of movement minus Form Chain. The reason is that spell-out in Nunes's system takes place one time at the end of the derivation. This means that linearization happens only once after the syntax; that is, after all movement, feature checking, and — crucially — Form Chain take place. Multiple Spell-Out, however, dictates that parts of the derivation (arguably, phases) be spelled out before others. This means that linearization happens several times. This also means that a structure might involve one or more copies of a certain token which are well beyond the syntax, including Form Chain. At the same time, the structure might involve other copies of the same token that are still in the syntax and subject to Form Chain. This situation does not exist in Nunes's system, yet it seems to be needed on empirical grounds. This same situation leads to movement minus Form Chain.

The analysis shows the power of Nunes's theory of movement. The theory formulates movement as comprising four *independent* steps: Copy, Merge, Form Chain, and Chain Reduction. And just as Chain Reduction does not apply under certain circumstances, Form Chain may also do the same.

As a matter of fact, the theory is so powerful that it allows Merge also not to apply. In other words, movement may, under certain circumstances, comprise only Copy. To illustrate, Nunes holds that instances of Across-The-Board movement take place if the numeration is exhausted but one more instance of Merge is needed in order for a structure to converge. One may argue that a token that is already in the structure does Copy, but it only merges if (i) it needs to check a feature of its own or (ii) the numeration is exhausted and it is the only element that can check a feature on a target. It is hard to think of empirical evidence to test this claim, but it is a fair theoretical prediction.

This leaves us with the spell-out timing of CP in (35) and (37). The standard approach is that a phase is spelled-out when another phase head is introduced or at the end of the derivation. The spell-out of CP in Copy Control seems to fall in neither category. When CP is spelled-out, neither a new phase head is introduced, nor is it the end of the derivation (an adjunct still awaits merge). Closer examination shows that matrix CP is actually spelled-out at the end of the derivation. This observation follows from the properties of adjuncts. As Chomsky (2004: 117) points out, adjuncts are not selected by the head of the structure they adjoin to, and "if α is adjoined to β, the construction behaves as if α isn't there apart from semantic interpretation." In other words, when the matrix CP is complete, the computation processes the structure as if it is the end of the derivation, and CP is spelled out.

What may be considered new here is that the edge of matrix CP is still accessible to further computation (namely, the merge of the CNP clause) despite being spelled-out in an end-of-the-derivation fashion. This is not a totally bizarre idea. If we consider the edge of CP as responsible for linking CP to other structures in discourse (Rizzi 1997, Chomsky 2004), then it is fair to assume that this edge is still active even after the final spell-out.

I mentioned at the beginning of Section 4.4 that there is a way for the theory to account for Copy Control in Telugu and Assamese without compromising the essence of Kayne's Linear Correspondence Axiom and without tampering with Nunes's theory of movement. The rest of the section showed that Copy Control, as well as copy raising, is derivationally only slightly different from other instances of multiple copy spell-out. According to Nunes, occurrences of multiple copy spell-out involve two non-distinct copies, one of which has become distinct due to fusion. At PF, linearization cannot see into the fused element. Accordingly, no precedence relationship is detected, and no deletion/Chain Reduction takes place. The same mechanism applies in the case of Copy Control. The steps are summarized as follows:

- **Step 1:** Two subject NPs are non-distinct copies of the same token.
- **Step 2:** Due to Multiple Spell-Out, one copy hides within a spelled out domain and becomes part of a giant phonological word. This outcome is, in essence, identical to fusion.
- **Step 3:** As a result, two copies escape deletion without inducing a violation of the Linear Correspondence Axiom simply because no precedence is detected.

The only difference between Nunes's multiple copy spell-out and Copy Control is that the former involves movement minus Chain Reduction, while the latter involves movement minus Form Chain and Chain Reduction. Both types of movement are allowed only if no violation of the Linear Correspondence Axiom is induced.

Forward/Backward Control is unaffected by this addition to the theory. Consider the Forward Structure in (39) and its derivation in (40). The CNP clause and the matrix clause form independently, and the CNP subject 'Kumar' copies out of the CNP clause (40a). Kumar merges in Spec,vP of the matrix clause (40b). Following, the CNP clause adjoins to matrix vP and becomes an island (40c). The matrix subject 'Kumar' moves from Spec,vP to Spec, IP to check the EPP feature, and C^0 projects (40d). At this point, assuming that vPs are phases, matrix vP is spelled-out, as indicated by the grey font. The domain/complement of v^0 is linearized and converted into a phonological word, but the edge of vP (including v^0, spec,vP, and the CNP clause/adjunct of vP) is still accessible to further computation. The copy of 'Kumar' in Spec,IP c-commands the copy in the CNP clause and the copy in Spec,vP, forming a chain with each, as the dotted arrows in (40d) indicate. Step (40f) takes place at PF. The lower copy in each chain is deleted in accordance with Chain Reduction. Finally, the whole structure is spelled out.

(39) Telugu
[$_{\text{CP}}$ [$_{\text{IP}}$ Kumar [$_{\text{vP}}$ [$_{\text{CNP}}$ ~~Kumar-ki~~ jwaram wacc-i] [$_{\text{vP}}$ Kumar hospital weLLaa-Du]]]]
[$_{\text{CP}}$ [$_{\text{IP}}$ Kumar.NOM [$_{\text{vP}}$ [$_{\text{CNP}}$ ~~Kumar-DAT~~ fever come-CNP] [$_{\text{vP}}$ hospital went-3.M.S]]]]]
'Having had a fever, Kumar went to hospital.'

(40) a. i. [$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar-ki] jwaram wacc-i] $\xrightarrow{\text{COPY}}$ [$_{\text{NP}}$ Kumar]
[$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar-DAT] fever come-CNP]

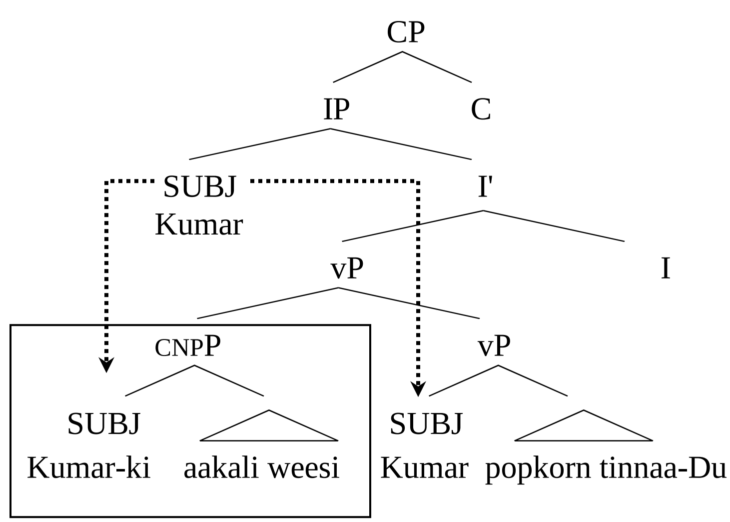
ii. [$_{\text{Matrix vP}}$ hospital weLLaa-Du]
[$_{\text{Matrix vP}}$ hospital went-3.M.S]

b. [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Kumar] hospital weLLaa-Du]

c. [$_{\text{Matrix IP}}$[$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar-ki] jwaram wacc-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ Kumar] hospital weLLaa-Du]]]

d. [$_{\text{CP}}$ [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Kumar] [$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar-ki] jwaram wacc-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ Kumar] hospital weLLaa-Du]]]

e.



f. At PF: [$_{\text{Matrix IP}}$ [$_{\text{NP}}$ Kumar] [$_{\text{vP}}$ [$_{\text{CNP}}$ [$_{\text{NP}}$ ~~Kumar-ki~~] jwaram wacc-i]
[$_{\text{vP}}$ [$_{\text{NP}}$ ~~Kumar~~] hospital weLLaa-Du]]]

Notice that matrix CP is spelled-out after the CNP clause has adjoined to matrix vP. In other words, the CNP clause is part of the spelled-out domain and is, accordingly, part of the linearized structure. This explains why the CNP subject (or the matrix subject in Telugu) suffers deletion. The conclusion can be summarized as follows. If the CNP clause merges at matrix vP, it is spelled-out and linearized with matrix CP. Accordingly, Forward/Backward Control obtains. If the CNP clause merges at matrix CP instead, matrix CP is spelled-out and linearized independently. As a result, Copy Control obtains.

One problem remains. By merging at CP, the CNP clause acquires a prolonged lifespan as a non-island, which may result with the overgeneration of ungrammatical structures. The following section spells out the details and suggests a solution.

4.5 Adjunction to CP and Unwanted Instances of Sideward Movement

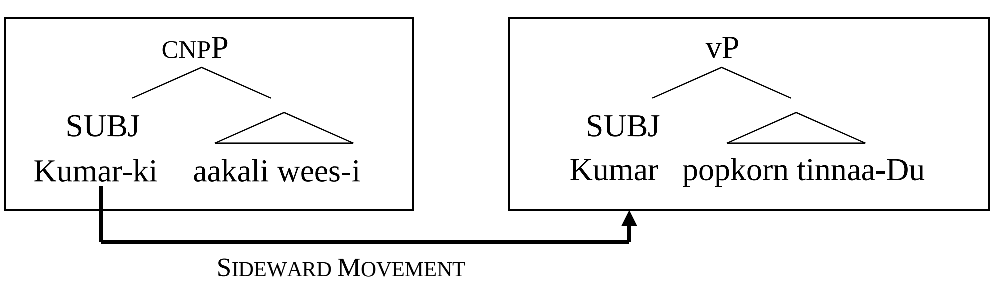
The CNP clause becomes an island only when it adjoins to the matrix clause. Prior to that, sideward movement out of the CNP clause is allowed. In Forward/Backward Control structures, the CNP clause adjoins to the matrix clause at vP right after the CNP subject undergoes sideward movement. Consider (41), for example. As (42) shows, 'Kumar' copies out of the CNP clause and merges in Spec,vP of the matrix clause (42a) before the CNP clause adjoins to matrix vP (42b). After that, the CNP clause becomes an adjunct out of which movement is disallowed.

(41) Telugu

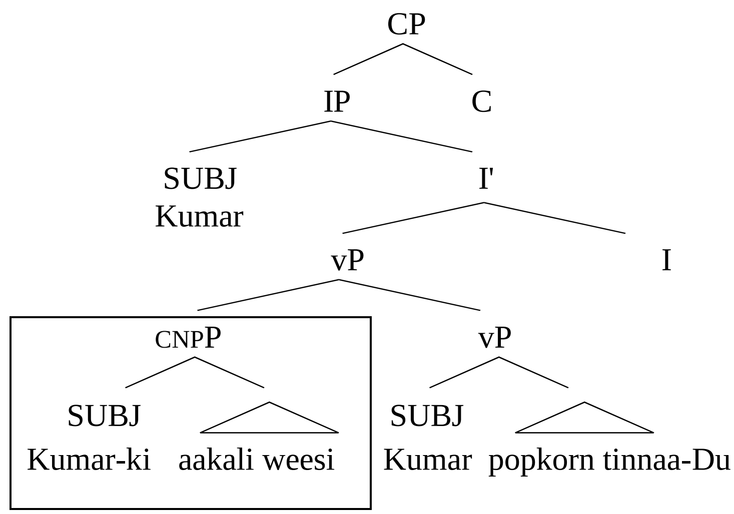
Kumar	[~~Kumar-ki~~	aakali	wees-i]	popkorn	tinnaa-Du
Kumar.NOM	[~~Kumar-DAT~~	hunger	fall-CNP]	popcorn	ate-3.M.S

'Having got hungry, Kumar ate popcorn.

(42) a.



b.



In Copy Control structures, on the other hand, the CNP clause adjoins to the matrix clause at CP. This means that the CNP clause is available for further instances of sideward movement that may overgenerate ungrammatical structures. Take the anomalous derivation in (43), for example. The derivation starts with the numeration in (43a). The CNP clause and matrix vP form independently in (43b). Notice that Spec,vP of the matrix clause is already filled and that the thematic requirements of matrix vP are satisfied. In other words, no sideward movement of *Kumar* is necessary. When matrix I^0 projects in (43c), either *Sarita* in Spec,vP or *Kumar* in the CNP clause must be able to occupy Spec,IP, especially that neither copy is closer to Spec,IP than the other. The CNP clause is not an island yet, so sideward movement may happen. Let us assume that it does, as demonstrated in (43d-e). Following, the CNP clause adjoins to the matrix clause at CP (43f). Ideally, the structure should not converge as (44). But it does.

(43) a. {Kumar$_1$, Sarita$_1$sinima$_1$, cuus$_1$, -tuu$_1$, popkorn$_1$, tinn$_1$, Tense$_1$, Agr$_1$}
{Kumar, Sarita, movie, watch, CNP, popcorn, eat, Tense, Agr}

b. i. [$_{CNP}$ [$_{NP}$ Kumar] [$_{vP}$ [$_{NP}$ Kumar] sinima cuus-tuu]]
[$_{CNP}$ [$_{NP}$ Kumar.NOM] [$_{vP}$ [$_{NP}$ Kumar.NOM] movie watch-CNP]]

ii. [$_{Matrix\ vP}$ [$_{NP}$ Sarita] popkorn tinnaa-di]
[$_{Matrix\ vP}$ [$_{NP}$ Sarita.NOM] popcorn ate-3.N.S]

c. [$_{Matrix\ IP}$ [$_{Matrix\ vP}$ [$_{NP}$ Sarita] popkorn tinnaa-di]

d. [$_{NP}$ Kumar]

e. [$_{CP}$ [$_{Matrix\ IP}$ [$_{NP}$ Kumar] [$_{Matrix\ vP}$ [$_{NP}$ Sarita] popkorn tinnaa-di]

f. [$_{CP}$ [$_{CNP}$ [$_{NP}$ Kumar] [$_{vP}$ [$_{NP}$ Sarita] sinima cuus-tuu]]

[$_{CP}$ [$_{Matrix\ IP}$ [$_{NP}$ Kumar] [$_{Matrix\ vP}$ [$_{NP}$ Kumar] popkorn tinnaa-di]]]]

(44) Telugu

*[Kumar	sinima	cuus-tuu]
[Kumar.NOM	movie	watch-CNP]

Kumar	Sarita	popkorn	tinnaa-di
Kumar.NOM	Sarita.NOM	popcorn	ate-3.N.S

'While Kumar was watching a movie, Kumar Sarita ate popcorn.'

The easy and quick answer concerning why (43) is not a possible derivation is that *Kumar*, being an argument, has to merge in a thematic domain before it moves to the higher functional layers. Unfortunately, this answer does not do the trick because *Kumar* has already merged in a thematic domain and taken on a theta-role by the time sideward movement takes place.

This scenario is meant to point out that, under the current assumptions, sideward movement becomes so permissive that it overgenerates. In the old days, an argument merges in a thematic position only if it has not taken on a theta-role yet. By the same token, it is allowed to merge in a Case position only if it has not checked Case yet. Over the last decade or so, research has shown that an NP may take on more than one theta-role and more than one Case, two assumptions that are argued for on independent grounds (Bošković 1994 and Bejar and Massam 1999, among others). In this sense, movement allows an NP to copy-plus-merge just anywhere regardless of its Case and thematic characteristics. This is true of sideward as well as intra-clausal movement.

Intra-clausal movement seems to be less problematic, however. Such movement takes place within a single derivational workspace and always targets a higher c-commanding position.

Under the current assumptions about multiple theta-role and multiple Case checking, the landing site cannot be enforced by the feature characteristics of the moving element. Rather, it is enforced by the Extension Condition (Chomsky 1995: 248) which holds that merge extends the structure by applying at the root.

Unlike intra-clausal movement, sideward movement involves movement from one derivational workspace to another. Such movement does not involve a c-command relationship between the launching site and the landing site (Hornstein and Kiguchi 2001:11). This means that neither the feature characteristics of the moving element nor the Extension Condition may restrict this kind of movement or dictate its landing site. The former is not restrictive under the view that an NP may bear multiple theta-roles and multiple Case. The latter is obeyed without resorting to c-command; in other words, a sideward moving element targets the root of a particular structure, and thus extends the structure, without actually moving to a higher c-commanding position.

As a solution I suggest that sideward moving elements undergo merge in the same fashion they undergo their first merge. This idea is formulated in (45).

(45) If an element α targets a domain X when it undergoes first merge, α targets X when it undergoes sideward movement.
A domain X can be a thematic domain, a phi domain, or a discourse domain.

The restriction in (45) dictates that a sideward moving element behave like an element selected from the numeration. For one thing, they both obey the Extension Condition and extend the structure without resorting to c-command. In other words, c-command relations are orthogonal to both. In (45), I suggest that sideward moving elements and elements selected from the numeration also behave in the same way with respect to the locus of merge.[14]

[14] This restriction in (45) has benefited a lot from Grohmann's (2003) Prolific Domains and the theory of Anti-Locality of Movement. Grohmann (2003: 309-314) provides a similar, though not identical, formulation.

If (45) is on the right track, then the adjunction of the CNP clause to matrix CP no longer overgenerates structures like (44). To illustrate, consider the derivation of (44) revisited in (46). The numeration in (46a) is selected from the lexicon. The CNP clause and the matrix clause form independently in (46b). As (46b-ii) shows, matrix vP already has all its theta-roles satisfied, leaving no room for another argument to merge. By the time *Kumar* Copies out of the CNP clause (46c), the only landing site available for merge is Spec,IP (46d). According to (45), *Kumar* can only merge in a thematic position. The reason is that its first merge in the CNP clause also targets a thematic position. Merging in Spec,IP is a violation of (45), which is why the derivation crashes.

(46) a. {Kumar$_1$, Sarita$_1$sinima$_1$, cuus$_1$, -tuu$_1$, popkorn$_1$, tinn$_1$, Tense$_1$, Agr$_1$}
{Kumar, Sarita, movie, watch, CNP, popcorn, eat, Tense, Agr}

b. i. [$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar] [$_{\text{vP}}$ [$_{\text{NP}}$ Kumar] sinima cuus-tuu]]
[$_{\text{CNP}}$ [$_{\text{NP}}$ Kumar.NOM] [$_{\text{vP}}$ [$_{\text{NP}}$ Kumar.NOM] movie watch-CNP]]

ii. [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Sarita] popkorn tinnaa-di]
[$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Sarita.NOM] popcorn ate-3.N.S]

c. [$_{\text{Matrix IP}}$ [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ Sarita] popkorn tinnaa-di]

d. [$_{\text{NP}}$ Kumar]

Note that the sideward movement of *Kumar* in (46c) is not optional. Otherwise, based on the numeration in (46a), (47) below with disjoint subjects should be a possible outcome, but it is not. I address this issue of obligatory movement in details in Chapter 5.

(47) Telugu
*[Kumar sinima cuus-tuu]
[Kumar.NOM movie watch-CNP]

Sarita popkorn tinnaa-Du
Sarita.NOM popcorn ate-3.M.S
'While Kumar was watching a movie, Sarita ate popcorn.'

Another point is in order. In principle, it is possible to satisfy the restriction in (45) by having *Kumar* merge in the object position of the matrix clause since this position also belongs to the thematic domain. Yet, Object Control structures like (48) are ungrammatical.

(48) *[Kumarki$_i$ jwaram wacc-i]
[Kumar-DAT$_i$ fever come-CNP]

Sarita atani-ki$_i$ mandulu iccin-di
Sarita him-to$_i$ medicines gave-3.N.S
'Kumar had fever, and Sarita gave him medicine.'

Here I consider movement to take place as a last-resort, derivation-saving operation (or set of operations). To elaborate, the last available landing site in the matrix clause that the CNP subject may move to is matrix Spec,vP. Since movement is not optional, the CNP subject moves once matrix v^0 projects because this is the last chance. If the CNP subject does not move to matrix Spec,vP, it cannot move at all and the derivation crashes. By the same token, if the CNP subject moves earlier, say to the object position, movement is no longer a last-resort, derivation-saving operation.

The following section deals with the nature of the pronounced subjects in Copy Control constructions. It offers an explanation concerning why each of the subjects takes the form it does, that is, as an R-expression or a pronominal.

4.6 Phonological Realization of Copies

In Section 4.2, I ran a diagnosis to show that the phonological realization of the two subjects in Copy Control constructions is the result of movement rather than base-generated resumption. The conclusion was based on three mismatches between the characteristics of base-generated resumptive elements on the one hand and the behavior and type of overt subjects allowed in Copy Control structures on the other hand. First, base-generated resumptive pronominals show up in islands (adjuncts, NP clauses) that are immune to movement, and they show up all the time. Copy Control, on the other hand, is not restricted by the adjunctive nature of the CNP clause. Rather, it is restricted by the position of the CNP clause with respect to the matrix clause — that is, whether the CNP clause is sentence-initial or sentence-internal.

Second, resumptive elements are strictly pronominals (pronouns or epithets). Although the matrix subject in Copy Control structures may be a pronominal, it may also be realized as an R-expression that is a non-distinct copy of the CNP subject. Resumption R-expressions can be straightforwardly accounted for if they are considered as the outcome of movement, but not as straightforwardly if they are considered to be base-generated.

Third, resumptive pronominals only show up in subordinated domains that usually fail to function as launching sites for movement. When a pronominal subject is pronounced in a Copy Control construction, it shows up in the landing site: the matrix clause.

This section is mainly concerned with the second and third points. We know for a fact that the matrix subject in Telugu and Assamese Copy Control structures may be realized as a pronoun, an epithet, or an R-expression, and that it has to be co-referential with an R-expression in the subject position of the CNP clause. The section will try to answer two questions. First, if (Copy) Control involves the movement of the CNP subject out of the adjunct into the matrix clause, why can the two copies be phonologically distinct? In other words, what allows the matrix subject to be realized as either a pronoun or an epithet or an R-expression? Second, why does the CNP subject have to be an R-expression? I begin by addressing the first question.

4.6.1 Movement and the PF Realization of Copies

In this section, I will refer to pronouns and epithets that are residues of movement as PF pronominals. Aoun, Choueiri, and Hornstein (2001: 372; (3)) analyze PF pronominals (more specifically, strong pronouns and epithets) as appositives adjoined to R-expressions. The R-expression moves, and the PF pronominal is stranded. This idea is illustrated in (49).

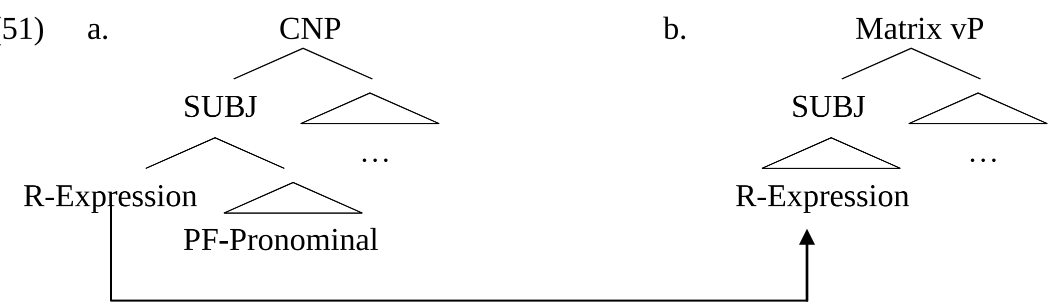
(49) R-expression . . . [$_{\mathrm{DP}}$ R-expression [$_{\mathrm{DP}}$ strong pronoun/epithet phrase]]

Although slightly different from Aoun, Choueiri, and Hornstein's, Boeckx's (2003) approach leads to the same result. He holds that PF pronominals merge as part of the DP containing the R-expression. When movement applies, only the R-expression undergoes movement, as (50) indicates.

(50) R-expression . . . [$_{\mathrm{DP}}$ R-expression [$_{\mathrm{D'}}$ [$_{\mathrm{D}}$ PF pronominal]]

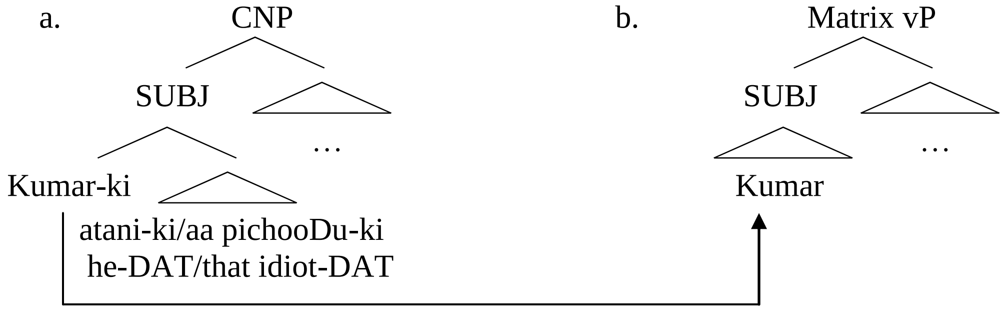
Both approaches fail to account for Telugu and Assamese Copy Control. If Nunes's argument that movement only takes place from a subordinated to a subordinating domain is on the right track (fn. 4), then the subject copies out of the CNP clause and merges into the matrix clause rather than the other way around. In this case, (49) and (50) predict that the R-expression in (51) below must copy out of the CNP clause (51a) and merge into the matrix clause (51b). The stranded CNP copy must be a PF pronominal.

(51)



This prediction is not born out, as (52- 53) show. In (52a) and (53a), the subject has the structure proposed in (49-50). The R-expression copies out of the CNP clause (52a, 53a) and merges in the matrix clause (52b, 53b). The PF pronominal is stranded in the CNP clause. The outcome is the ungrammatical structures in (52c) and (53c). The reason is that the CNP subject has to be an R-expression rather than a PF pronominal.

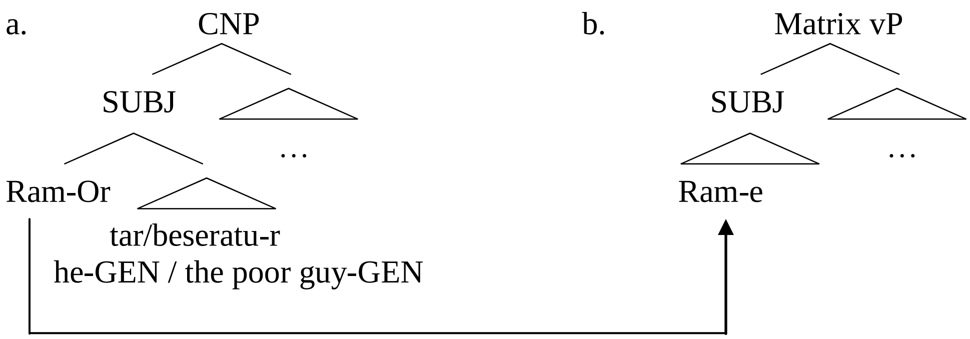
(52) Telugu



c. *[atani-ki / aa pichooDu-ki koopamu wacc-i]
[he-DAT / that idiot-DAT anger come-CNP]

Kumar akkadi-nunci wellipoyinaa-Du
Kumar.NOM there-from left-3.M.S
'Kumar got angry, and the idiot left.'

(53) Assamese

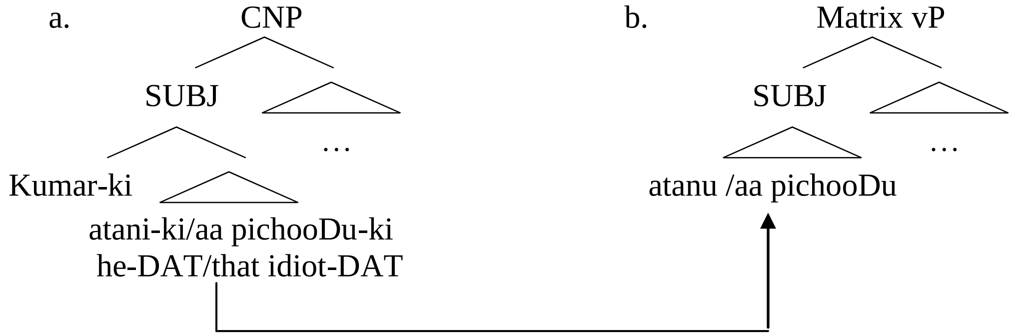


c. *[tar / beseratu-r khub bhok lag-i]
[he.GEN / the poor guy-GEN very hunger feel-CNP]

Ram-e posa bhat khal-e
Ram-NOM stale rice ate-3
'Ram felt very hungry, and the poor guy ate stale rice.'

It can be assumed that linear order dictates that the R-expression appear first. Since linearly the CNP clause is realized first, the R-expression appears in the CNP clause. In this way, instead of moving the R-expression to the matrix clause and stranding the PF pronominal, the computational system moves the PF pronominal to the matrix clause and strands the R-expression, as illustrated in (54a-b) and (55a-b). The result is the grammatical structures in (54c) and (55c).

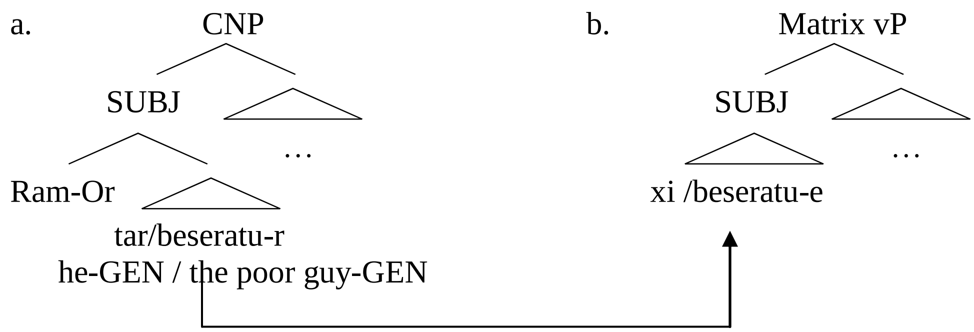
(54) Telugu



c. [Kumar-ki koopamu wacc-i]
[Kumar.DAT anger come-CNP]

atanu / aa pichooDu akkadi-nunci wellipoyinaa-Du
he.NOM / that idiot.NOM there-from left-3.M.S
'Kumar got angry, and the idiot left.'

(55) Assamese



c. [Ram-Or khub bhok lag-i]
[Ram-GEN very hunger feel-CNP]

xi / beseratu-e posa bhat khal-e
he.NOM / the poor guy-NOM stale rice ate-3
'Ram felt very hungry, and the poor guy ate stale rice.'

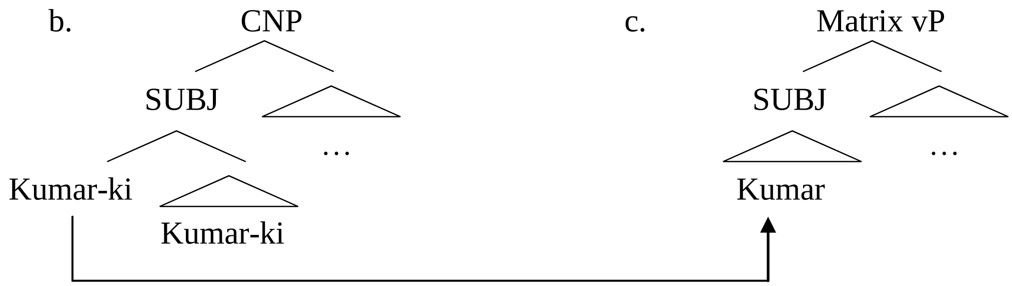
Although the outcome in (54-55) is grammatical, the stranding analysis still fails to account for the instances of Copy Control in which both copies are R-expressions, as illustrated in (56a) and (57a). In order for (49) and (50) to be able to account for such structures, the CNP subject must start as an R-expression whose appositive (or adjunct) is an exact copy, as (56b, 57b) show. Subsequently, one of the copies moves into the matrix clause and the other is stranded (56c, 57c).

(56) Telugu

a. [Kumar-ki koopamu wacc-i]
[Kumar-DAT anger come-CNP]

Kumar akkadi-nunci wellipoyinaa-Du
Kumar.NOM there-from left-3.M.S
'Kumar got angry, and he left.'

b. c.

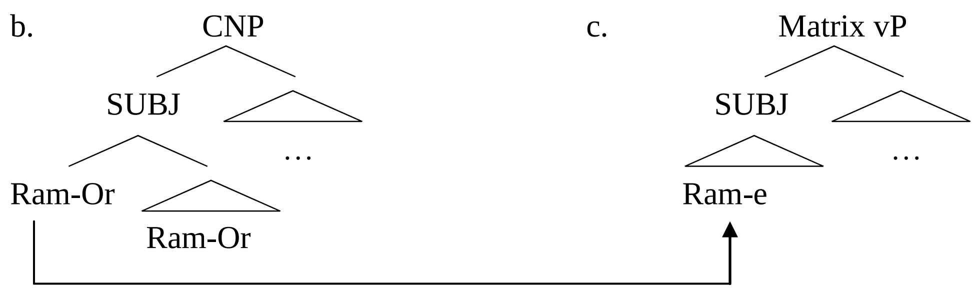


(57) Assamese

a. [Ram-Or khub bhok lag-i]
[Ram-GEN very hunger feel-CNP]

Ram-e posa bhat khal-e
Ram-NOM stale rice ate-3
'Ram felt very hungry, and he ate stale rice.'

b. c.



Appositives as presented in (49-50) may take the form of an epithet (or a strong pronoun),[15] as (58a) and (59a) illustrate. I do not know of a case where the appositive is an exact copy of the expression it attaches to. At least in Telugu and Assamese, such structures are unacceptable, as (58b) and (59b) indicate.

[15] A pronominal appositive is attested in American Sign Language. If a signer is talking about a person or an object,s/he "first signs the person or object noun being discussed, then either points or gazes to a particular point in space in front of the body. This sets that location as a representation of the original noun. From that point on in the conversation, the signer need only point to that location as a pronominal reference to the original noun" (Tserdanelis and Wong 2004: 459).

(58) Telugu

a. koopamu wacc-i Kumar aa pichooDu akkadi-nunci wellipoyinaa-Du
anger come-CNP Kumar that idiot.NOM there-from left-3.M.S
'Kumar got angry, and the idiot left.'

b. *koopamu wacc-i Kumar Kumar akkadi-nunci wellipoyinaa-Du
anger come-CNP Kumar Kumar.NOM there-from left-3.M.S
'Kumar got angry, and the idiot left.'

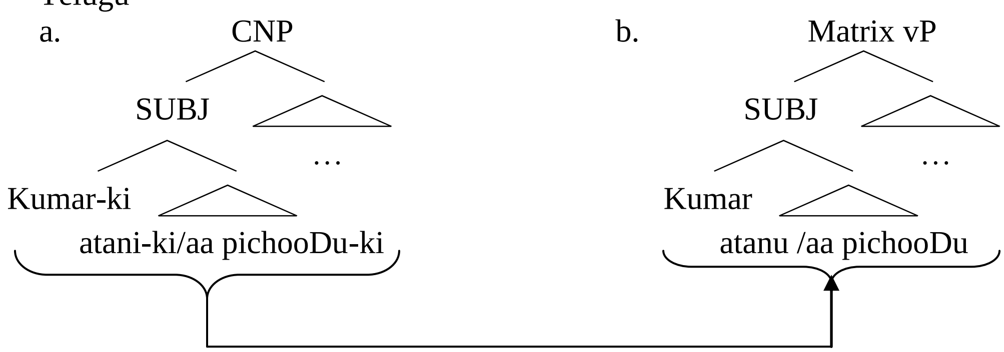
(59) Assamese

a. xomoi no-thak-i Ram gadhatu-e bhat-o na-khal-e
time NEG-keep-CNP Ram the donkey-NOM rice-even NEG-ate-3
'Ram, the idiot, didn't have time and didn't even eat rice.'

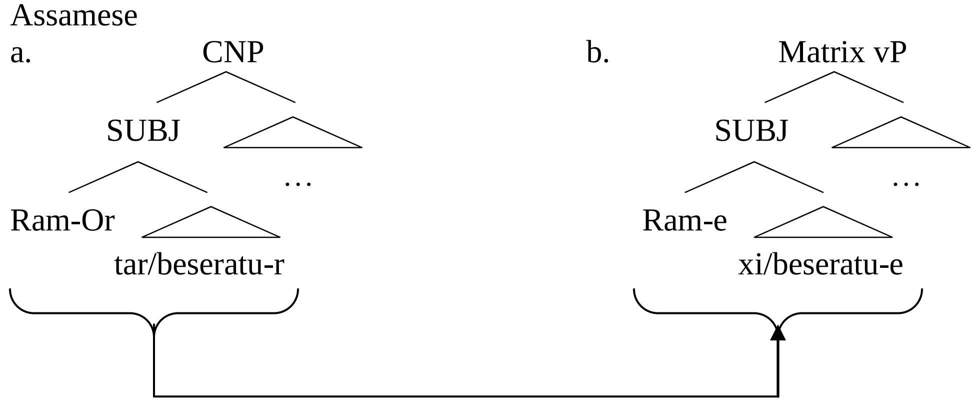
b. *xomoi no-thak-i Ram Ram-e bhat-o na-khal-e
time NEG-keep-CNP Ram Ram-NOM rice-even NEG-ate-3
'Ram, Ram, didn't have time and didn't even eat rice.'

A non-stranding alternative of Aoun, Choueiri, and Hornstein's (2001) and Boeckx's (2003) approach can help account for the Telugu and Assamese data. Instead of only copying a part of the CNP subject (e.g., the R-expression) and stranding the rest (e.g., the PF pronominal), I suggest that the whole CNP subject copy-plus-merges into the matrix clause, as (60-61) show.

(60) Telugu



(61) Assamese



The outcome of (60-61) is (62-63) below where both the CNP subject and the matrix subject comprise an R-expression with an appositive. At PF, the CNP subject is pronounced as an R-expression for reasons to be discussed in the following section. Further, the phonological component decides how the matrix subject is pronounced. Three options are available: an R-expression, a pronoun, or an epithet.[16]

(62) Telugu

[[Kumar-ki [atani-ki / aa pichooDu-ki]]	koopamu	wacc-i]
[[Kumar-DAT [he-DAT / that idiot-DAT]]	anger	come-CNP]
[Kumar [atanu / aa pichooDu]]	akkadi-nunci	wellipoyinaa-Du
[Kumar.NOM [he.NOM / that idiot.NOM]]	there-from	left-3.M.S

'Kumar got angry, and the idiot left.'

(63) Assamese

[[Ram-Or [tar / beseratu-r]]	khub bhok		lag-i]
[[Ram-GEN [he.GEN / the poor guy-GEN]]	very hunger		feel-CNP]
[Ram-e [xi / beseratu-e]]	posa	bhat	khal-e
[Ram-NOM [he.NOM / the poor guy-NOM]]	stale	rice	ate-3

'Ram felt very hungry, and the poor guy ate stale rice.'

This approach is superior to Aoun, Choueiri, and Hornstein's (2001) and Boeckx's (2003). It accounts for the Telugu and Assamese Copy Control data. At the same time, it is more in line with the Copy Theory of Movement. No stipulative stranding is involved.

One question remains: Why does the CNP subject have to be an R-expression? The following section presents a possible answer.

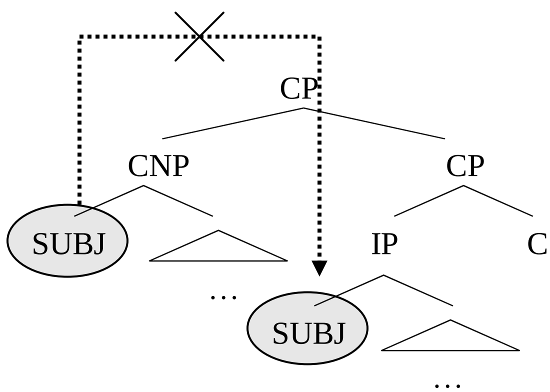
4.6.2 Lack of Cataphoricity and the Nature of the CNP Subject

Recall from Section 4.3 that Copy Control structures involve a CNP clause that is adjoined to the matrix clause at CP, resulting in two subjects in a non-c-command relationship. This idea is illustrated in (64). Lack of c-command implies that whatever enforces an R-expression in the

[16] A fourth option is a silent copy *pro*. Assamese disfavors this option because structures with a matrix *pro* can also be parsed as Backward Control constructions. Such constructions are marginal in Assamese.

CNP clause and allows a PF pronominal in the matrix clause is unlikely to be Condition C. This is certainly a desired conclusion. Here is why. If we consider (65a) and (66a) ungrammatical due to a Condition C violation, then we must find a way to explain why (65b) and (66b) are grammatical despite a Condition C violation. According to Condition C, an R-expression is simply free (Chomksy 1986: 164-165). That is, it cannot be bound by any element; this includes a PF-pronominal, as well as another R-expression.

(64)



(65) Telugu

a. *[atanu Sarita-too naTyamu cees-tuu]
  [he.NOM Sarita-with dance do-CNP]

Kumar aami-ki kata ceppaa-Du
Kumar.NOM her-DAT story told-3.M.S
'While Kumar was dancing with Sarita, he told her a story.'

b. [Kumar Sarita-too naTyamu cees-tuu]
[Kumar.NOM Sarita-with dance do-CNP]

Kumar aami-ki kata ceppaa-Du
Kumar.NOM her-DAT story told-3.M.S
'While Kumar was dancing with Sarita, he told her a story.'

(66) Assamese

a. *[tar PrOxad-Or oporot khong uth-i]
  [he.GEN Proxad-GEN on anger come-CNP]

Ram-e tar lagot kaziya koril-e
Ram-NOM him.GEN with fight did-3
'Having got angry with Proxad, Ram had a fight with him.'

b.	[Ram-Or	PrOxad-Or	oporot		khong	uth-i]
	[Ram-GEN	Proxad-GEN	on		anger	come-CNP]
	Ram-e	tar	lagot	kaziya		koril-e
	Ram-NOM	him.GEN	with	fight		did-3

‘Having got angry with Proxad, Ram had a fight with him.’

It is worth noting that the same observation applies to the object NPs in (65b) and (66b). The CNP object is an R-expression and the matrix object is a pronoun. Obviously the former does not c-command the latter. Yet, if the CNP subject is a pronoun and the matrix subject is an R-expression, as (67a) and (68a) exemplify, the result is ungrammaticality under the designated reading. By the same token, both object NPs can be co-referential R-expressions without inducing a violation (e.g., (67b) and (68b)).

(67) Telugu

a.	*[aami-too$_i$		naTyamu	cees-tuu]	
	[her-with		dance	do-CNP]	
	Kumar	Sarita-ki$_i$	kata	ceppaa-Du	
	Kumar.N	Sarita-DAT	story	told-3.M.S	

‘While Kumar was dancing with her, he told Sarita a story.’

b.	[Sarita-too		naTyamu	cees-tuu]	
	[Sarita-with		dance	do-CNP]	
	Kumar	Sarita-ki		kata	ceppaa-Du
	Kumar.NOM	Sarita-DAT		story	told-3.M.S

‘While Kumar was dancing with Sarita, he told her a story.’

(68) Assamese

a.	*[tar$_i$	oporot	khong	uth-i]		
	[him.GEN	on	anger	come-CNP]		
	Ram-e	PrOxad-Or$_i$		lagot	kaziya	koril-e
	Ram-NOM	Proxad.GEN		with	fight	did-3

‘Having got angry with him, Ram had a fight with Proxad.’

b.	[PrOxad-Or	oporot	khong	uth-i]
	[Proxad-GEN	on	anger	come-CNP]

Ram-e	PrOxad-Or	lagot	kaziya	koril-e
Ram-NOM	Proxad-GEN	with	fight	did-3

'Having got angry with Proxad, Ram had a fight with him.'

The examples in (67) and (68) indicate that the case of the subject NPs in Telugu and Assamese Copy Control is not control-related. Rather, it follows from a more ubiquitous restriction on cataphoricity. Unlike English and other similar languages, Telugu and Assamese lack cataphoricity. Each of the sentences in (69-72) involves an R-expression and a pronominal that are not in a c-command relationship. In the (a) sentences, the R-expression linearly precedes the pronominal. The sentences are grammatical. In the (b) sentences, the pronominal linearly precedes the R-expression. The sentences are ungrammatical under the designated reading. Notice that the English equivalents are considered acceptable, at least by some speakers. I suggest that lack of cataphoricity also disallows Copy Control structures with a PF pronominal linearly preceding a coreferential R-expression.[17]

(69) Telugu

a.

pillalu$_i$	cus-ina	aa-movie	waalla-nu$_i$	bayapettin-di
children.NOM	see-INF	that-movie	them-ACC	frighten-3.N.S

'That movie which the children watched frightened them.'

b.

*waallu$_i$	cus-ina	aa-movie	pillala-ni$_i$	bayapettin-di
they.NOM	see-INF	that-movie	children-ACC	frighten-3.N.S

'That movie which they watched frightened the children.'

(70) Telugu

a.

ninna	nenu	pillala-ni$_i$	cusaa-nu
yesterday	I.NOM	children-ACC	saw-1.S

appaDu	waallu$_i$	aDukuntunna-ru
at the time	they.NOM	were playing-3.M.P

'Yesterday I saw the children and they were playing.'

b.

*ninna	nenu	waalla-nu$_i$	cusaa-nu
yesterday	I.NOM	them-ACC	saw-1.S

[17] Napoli (1992) builds on work by Larson (1988) and Jackendoff (1990) to show that c-command is not the only way to establish domains (in the sense of binding domains) and that linear precedence plays a role as well.

appaDu pillalu$_i$ aDukuntunna-ru
at the time the children.NOM were playing-3.M.P
'Yesterday I saw them and the children were playing.'

(71) Assamese
a. lora-sowali-bur-e$_i$ sow-a sinima-khon-e
boy-girl-CL(P)-NOM see-INF movie-CL-NOM

tahat-ok$_i$ bhoy khwal-e
them-ACC fear made-3
'The movie that the children saw frightened them.'

b. *tahat-e$_i$ sow-a sinima-khon-e
they-NOM see-INF movie-CL-NOM

lora-sowali-bur -ok$_i$ bhoy khwal-e
boy-girl-CL(P)-ACC fear made-3
'The movie that they saw frightened the children.'

(72) Assamese
a. moy lora-sowali-bur-ok$_i$ kali dekhil-o
I.NOM boy-girl-CL(P)-ACC yesterday saw-1

tahat-e$_i$ tetiya kheli asil
they-NOM at the time play were
'I saw the children yesterday and they were playing.'

b. *moy tahat-ok$_i$ kali dekhil-o
I.NOM them-ACC yesterday saw-1

lora-sowali-bur-e$_i$ tetiya kheli asil
boy-girl-CL(P)-NOM at the time play were
'I saw them yesterday and the children were playing.'

One final point before I conclude. The CNP subject in Telugu and Assamese Copy Control structures has to be an R-expression. It cannot be a pronominal, even if the matrix subject is itself a pronominal. This is exemplified in the ungrammaticality of (73-74).

(73) Telugu
*[atani-ki koopamu wacc-i] atanu akkadi-nunci wellipoyinaa-Du
[he-DAT anger come-CNP] he.NOM there-from left-3.M.S
'Kumar got angry, and the idiot left.'

(74) Assamese

*[tar	khub bhok	lag-i]	xi	posa	bhat	khal-e
[he.GEN	very hunger	feel-CNP]	he.NOM	stale	rice	ate-3

'Ram felt very hungry, and the poor guy ate stale rice.'

I take the ungrammaticality of (73-74) as a language specific behavior. Sentences (75-76) from Dakkhini and Karnataka Konkani suggest that other languages of South Asia might not have this restriction (Arora and Subbarao 2004: 40: (80-81)).[18]

(75) Dakkhini

[us-ku	bukhaar	aa-ke]	uno	mar.gayaa
[he-DAT	fever	come-CNP]	he.NOM	died

'Having had a fever, he died.'

(76) Karnataka Konkani

[tak-ka	taap	yewa-nu]	tO	gellO
[he-DAT	fever	come-CNP]	he	died

'Having had a fever, he died.'

Based on the above discussion, we can conclude that the forms of the subjects, R-expressions vs. PF pronominals, in Copy Control structures follow from language-specific factors of cataphoricity and economy rather than from the nature of the derivation or the nature of movement. If this conclusion is correct, then movement — or the operations it comprises — becomes a more straightforward operation relieved from the burden of stranding.

4.7 Conclusion

This chapter provided an analysis of Copy Control into CNP clauses in Telugu and Assamese. It showed that Copy Control is derivationally similar to Forward/Backward Control except for one step. Whereas the CNP clause in Forward/Backward Control merges at vP of the matrix clause, in Copy Control it merges at CP. In order to account for the Telugu and Assamese data, the analysis brought about a change to Nunes's system. Building on work by Fujii (2005)

[18] Arora and Subbarao briefly suggest that the CNP pronominal subject in (116-117) is a phonological realization of PRO.

and Uriagereka (1999) among others, I suggested that linearization takes place phase by phase. As a result, the matrix clause, being a phase, is spelled out, linearized, and transformed into a phonological word prior to the adjunction of the CNP clause. After adjunction, linearization cannot detect the CNP subject and the matrix subject as non-distinct copies of the same token. The reason is that the matrix subject is now part of a bigger word, the spelled out domain of the matrix clause. Consequently, two subjects escape deletion, resulting in Copy Control.

Finally, the chapter introduces a non-stranding alternative to Aoun, Choueiri, and Hornstein's (2001) and Boeckx's (2003) analysis of PF pronominals that result from movement. The authors argue that a PF pronominal is a part of an R-expression's first merge. Subsequently, the R-expression moves, and the pronominal is stranded. I agree with the idea that the PF pronominal and the R-expression undergo their first merge as one phrasal structure. Nevertheless, the Telugu and Assamese data suggest that, not only the R-expression, but the whole phrasal structure copies and merges in the subordinating domain. Decisions concerning which part to pronounce, the R-expression or the PF pronominal, are made at PF. Lack of cataphoricity in Telugu and Assamese — plus other language-specific restrictions — enforces the CNP subject to be realized as an R-expression while the matrix subject is allowed to take on one of three forms. These are a pronoun, an epithet, or an R-expression.

CHAPTER 5
TRIGGER: WHY MOVEMENT IN CONTROL?

5.1 Introduction

The discussion in the previous chapters assumed that the movement of the subject out of the CNP clause in Adjunct Control constructions is possible. There is no mention, however, about why the subject moves. Within the Minimalist Program, movement does not happen for free, which brings us face-to-face with the topic of this chapter: why movement?

The chapter is organized as follows. Sections 5.2 through 5.4 survey the literature for a possible answer. Section 5.2 checks whether Enlightened Self Interest as proposed by Lasnik (1995) is the reason why the CNP subject moves. Section 5.3 tests Dubinsky and Hamano's (2006) Event-based analysis of Obligatory Control and the idea that control involves movement only if the two clauses in a control structure do not express separate events. Section 5.4 checks whether the size of the adjunct (IP vs. CP) is decisive with respect to movement. The three accounts fail to explain why movement in Telugu and Assamese Adjunct Control structures takes place. In Section 5.5, I propose a new analysis based on Pesetsky and Torrego's (2006) proposal that a probe-goal relationship must be established between any two elements undergoing merge. I suggest that CNP clauses in Telugu and Assamese are non-goals. The movement of the CNP subject makes up for this imperfection and makes it possible for the adjunct to merge with the matrix clause. In Section 5.6, I extend the analysis to English. Section 5.7 is a conclusion.

5.2 Enlightened Self Interest and Control

The Minimalist Program holds that movement takes place as a Last Resort for the purpose of feature checking. Originally, Last Resort assumed that movement is greedy, as the formulation in (1) indicates (Chomsky 1995). According to (1), an element can only move to check a feature of its own. Lasnik (1995, 2002: 28 (21b)) argues that Last Resort must take the form of Enlightened Self Interest as formulated in (2). In this sense, an element moves to satisfy a need of its own or a need of the target. Later, Chomsky (2000: 127) adopts Lasnik's idea and redubs it as Suicidal Greed.

(1) Greed
Movement of α to β is for the satisfaction of formal requirements of α .

(2) Enlightened Self Interest
Movement of α to β is for the satisfaction of formal requirements of α or β.

The following subsections examine the two possibilities offered in (2) in order to see if they can explain why the CNP subject moves. Section 5.2.1 examines the possibility that α moves to β for the satisfaction of formal requirements of α. In other words, the CNP subject moves in order to check a feature of its own. Section 5.2.2 explores the possibility that α moves to β for the satisfaction of formal requirements of β. That is, the CNP subject moves in order to check a feature on the target.

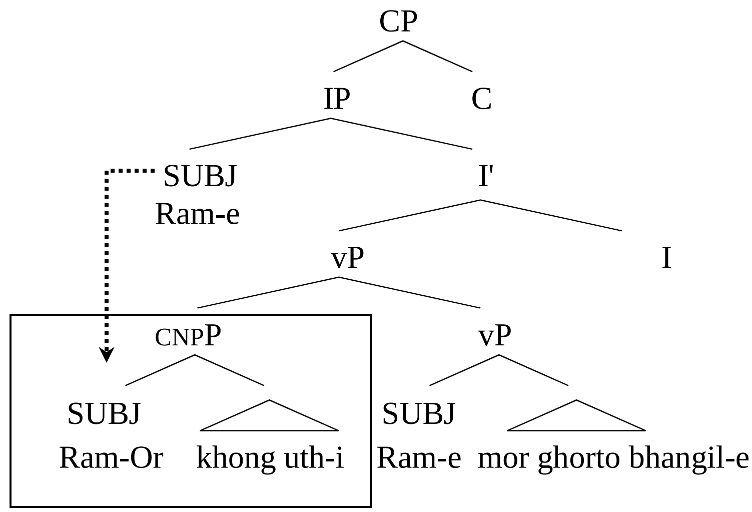
5.2.1 α Moves to β for the Satisfaction of α

It can be speculated that the CNP subject in Adjunct Control structures moves to the matrix clause in order to check its Case feature. This idea may work for Assamese in which CNP clauses do not seem to license Structural Case on the subject. Thus, it can be argued that the CNP subject moves to the matrix clause to check Structural Case. Evidence comes from the degradation of Assamese Backward Control structures like (3). At a certain point in the derivation, the two non-distinct copies of 'Ram'enter a c-command relationship and form a chain, as the dotted arrow in (4) signifies. When linearization applies at PF, Chain Reduction has to delete one of the two copies. The victim of deletion is normally the CNP subject. The reason is that it has at least one unchecked feature, namely, Structural Case.

(3) Assamese

??~~Ram-e~~ [Ram-Or khong uth-i] mor ghorto bhangil-e
~~Ram-NOM~~ [Ram-NOM anger raise-CNP] my house destroyed-3
'Having got angry, Ram destroyed my house.'

(4)



This line of reasoning does not work for Telugu, however. Telugu CNP clauses do license Structural Case-marked subjects. Evidence comes from grammatical instances of Backward Control constructions like (5) below. As (6) shows, at a certain point in the derivation two non-distinct copies of *Kumar*, the matrix subject and the CNP subject, enter a c-command relationship and form a chain. At PF, linearization applies and Chain Reduction marks one of the copies for deletion. Because both copies have checked all their features, including Structural Case, Chain Reduction is free to choose either copy. If the matrix copy is deleted, the result is Forward Control; otherwise, Backward Control.[1]

---

[1] Another type of evidence comes from Backward Control structures in which the CNP clause licenses a nominative subject while the matrix clause is a dative subject (e.g., (i)). As mentioned in Chapter 2, such structures are considered marginal because Telugu disfavors a dative subject in the matrix clause of Adjunct Control structures. The marginality of (i) is independent of Backward Control, as the degradation of the Forward Control counterpart in (ii) shows.

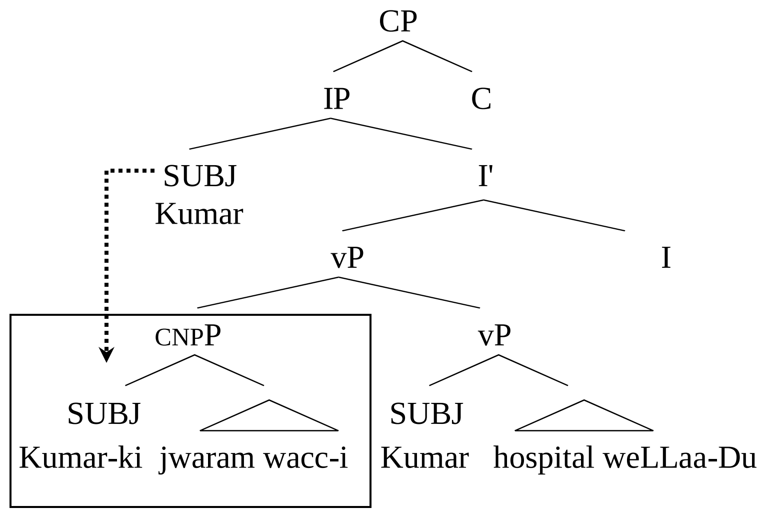
(i) ??~~Sarita-ki~~ [Sarita aa maaTa win-i] koopamu waccin-di
~~Sarita-DAT~~ [Sarita.NOM that matter hear-CNP] anger came-3.N.S
'Having heard the news, Sarita got angry.'

(ii) ??Sarita-ki [~~Sarita~~ aa maaTa win-i] koopamu waccin-di
Sarita-DAT [~~Sarita.NOM~~ that matter hear-CNP] anger came-3.N.S
'Having heard the news, Sarita got angry.'

(5) Telugu

~~Kumar~~ [Kumar-ki jwaram wacc-i] hospital weLLaa-Du
~~Kumar.NOM~~ [Kumar-DAT fever come-CNP] hospital went-3.M.S
'Having had a fever, Kumar went to hospital.'

(6)



The main idea is that Case cannot be the reason why the CNP subject moves to the matrix clause, at least not in Telugu. Apart from Case, I cannot think of another uninterpretable feature that the CNP subject might bear and that might trigger movement. A subject normally plays a role in the checking of uninterpretable phi-features on functional layers (I^0) and/or, arguably, the theta-role feature on lexical layers (v^0). These, however, are not uninterpretable features on the subject itself. Accordingly, the idea that α moves to β for the satisfaction of α does not seem to work.

Section 5.2.2 checks whether the movement of the CNP subject results in the checking of a feature on the target. Since Assamese CNP subjects might move for their own purposes, namely, to check Case, the focus of the following section will be only on Telugu.

5.2.2 α Moves to β for the Satisfaction of β

The first landing site of a sideward moving CNP subject is Spec,vP of the matrix clause. If the idea that α moves to β for the satisfaction of β is correct, this means that the CNP subject moves in order to check a feature on v^0. Hornstein (1999, 2003), as well as Lasnik (2002), Bošković (1994), and Bošković and Takahashi (1998), among others, argues that theta-roles are features, just like Case and phi-features. If this is correct, then the movement of the CNP subject to Spec,vP results in the satisfaction of the thematic requirement of v^0. This seems like the end of the story. Nonetheless, there is a reason to believe that the theta-role feature of the matrix predicate does not necessarily trigger movement all the time. Here is why.

Altruistic sideward movement of the type depicted in this subsection takes place when an instance of merge is needed for the derivation to converge, yet there are no tokens left in the numeration to satisfy this need (Nunes 2001, 2004). What this amounts to is the following. The CNP subject moves to Spec,vP in order to check the theta-role feature on v^0 only if there is no token left in the numeration that can undergo merge in order to salvage the derivation. To elaborate, matrix vP can satisfy its theta-role requirement either via External Merge, whereby an item selected from the numeration merges as an argument, or via Internal Merge, whereby an item that is already in the structure copy-plus-merges in Spec,vP. The latter option applies in order to save the derivation only if the former option is not possible because the numeration is already exhausted.

If this is correct, we should expect structures with CNP clauses to allow disjoint subjects. These would be structures where the matrix predicate has its thematic requirements satisfied by an element from the numeration rather than by the CNP subject. This does not happen, however. Consider (7) for example. The derivation starts with the numeration in (7a) which consists of the two potential arguments, *Kumar* and *Sarita*. The indices in the numeration indicate the number of copies of each token. The CNP clause and matrix vP form independently in (7b), reducing the indices of most of the items in the Numeration to zero, as (7c) shows. Notice, however, that the copy *Sarita* has not been used up yet. This means that it can check (it actually has to check) the theta-role feature of matrix vP, as (7d) shows. This makes the sideward movement of *Kumar* unnecessary. Accordingly, a structure like (8) should be possible, contrary to facts. The bottom line is that the CNP subject has to move and that sideward movement does not only happen when the numeration is exhausted.

(7) a. {Kumar$_1$, Sarita$_1$, koopamu$_1$, wacc$_1$, -i$_1$, akkadi$_1$, nunci$_1$, wellipoy$_1$, Tense$_1$, Agr$_1$}

b. i. [$_{CNP}$ [$_{NP}$ Kumar-ki] koopamu wacc-i]
[$_{CNP}$ [$_{NP}$ Kumar-DAT] anger come-CNP]

ii. [$_{Matrix\ vP}$ akkadi-nunci wellipoyinaa-di]
[$_{Matrix\ vP}$ there-from left-3.N.S]

c. {Kumar$_0$, Sarita$_1$, koopamu$_0$, wacc$_0$, -i$_0$, akkadi$_0$, nunci$_0$, wellipoy$_0$, Tense$_1$, Agr$_1$}

d. [$_{Matrix\ vP}$ [$_{NP}$ Sarita] akkadi-nunci wellipoyinaa-di]

(8) *[Kumar-ki Koopamu wacc-i] Sarita akkadi-nunci wellipoyinaa-di
[Kumar-DAT anger come-CNP] Sarita.NOM there-from left-3.N.S
'Kumar got angry, and Sarita left.'

It is important to note that a scenario like the one delineated in (7), although not viable for structures involving a CNP clause, is possible if the structure involves a different type of adjunct. Recall from Section 2.3 that Telugu, as well as Assamese, has other types of non-finite adjuncts which I called INF clauses. These are similar to Telugu CNP clauses with regard to Case and agreement. In other words, both CNP and INF clauses license Inherent and Structural Case-marked subjects, and the verb in both types of clauses shows no overt agreement. INF clauses stand out as different in two ways, however. First, they may take an overt complementizer. Second, they allow disjoint subjects. These differences are illustrated in the Telugu examples in (9); compare to sentence (8) above.

(9) a. [Kumar sinima cuus-tunna-appuDu] Sarita popkorn tinnaa-di
[Kumar.NOM movie watch-INF-while] Sarita.NOM popcorn ate-3.N.S
'While Kumar was watching a movie, Sarita ate popcorn.'

b. [Kumar-ki koopamu wacc-ina-anduku]
[Kumar-DAT anger come-INF-because]

Sarita akkadi-nunci wellipoyinaa-di
Sarita.NOM there-from left-3.N.S
'Because Kumar got angry, Sarita left.'

Although structures with INF clauses allow disjoint subjects, if the subject of the non-finite adjunct is not pronounced, Obligatory Control applies. In other words, the unpronounced subject (symbolized by Δ) in both (10a) and (10b) can only be *Sarita*. No matter how much context is provided, a reading with disjoint subjects is infelicitous.[2]

(10) Telugu
a. [$\Delta_{i/*k}$ Koopamu wacc-ina-anduku]
[Δ anger come-INF-because]

Sarita_i akkadi-nunci wellipoyinaa-di
Sarita.NOM there-from left-3.N.S
'Because Sarita got angry, she left.'

b. [$\Delta_{i/*k}$ sinima cuus-tunna-appuDu] Sarita_i popkorn tinnaa-di
[Δ movie watch-INF-while] Sarita.NOM popcorn ate-3.N.S
'While Sarita was watching a movie, Sarita ate popcorn.'

Once an overt pronoun is used, it can refer either to Sarita (granted it is 3rd person singular feminine) or to another character mentioned earlier in discourse, as the sentences in (11) indicate.

(11) Telugu
a. [$\text{aame}_{i/k}$ Koopamu wacc-ina-anduku]
[she.NOM anger come-INF-because]

Sarita_i akkadi-nunci wellipoyinaa-di
Sarita.NOM there-from left-3.N.S
'Because she got angry, Sarita left.'

b. [$\text{aame}_{i/k}$ sinima cuus-tunna-appuDu] Sarita_i popkorn tinnaa-di
[she.NOM movie watch-INF-while] Sarita.NOM popcorn ate-3.N.S
'While she was watching a movie, Sarita ate popcorn.'

[2] Sengupta (1999: 302-303) makes the same observation about Bengali.

I take the structures in (10) as instances of optional control.[3] Sentence (10a) starts with the numeration in (12a). By the time the INF clause and matrix vP are formed in (12b), no argument is left in the numeration to check the theta-role feature of matrix vP, as (12c) shows. This is why *Sarita* undergoes sideward movement in (12d). The derivation converges as (12e).

(12) a. {Sarita$_1$, koopamu$_1$, wacc$_1$, -ina$_1$, aanduku$_1$, akkadi$_1$, nunci$_1$, wellipoy$_1$, Tense$_1$, Agr$_1$}

b. i. [$_{INF}$ [$_{NP}$ Sarita-ki] koopamu wacc-ina-anduku]
[$_{INF}$ [$_{NP}$ Sarita-DAT] anger come-INF-because]

ii. [$_{Matrix\ vP}$ akkadi-nunci wellipoyinaa-di]
[$_{Matrix\ vP}$ there-from left-3.N.S]

---

[3] The distinction between required and optional control as used here is different from the distinction between Obligatory vs. Non-Obligatory Control made by Hornstein (1999, 2001, 2003) or Landau (2000, 2004). A required control interpretation arises when the movement of the subordinate subject has to happen all the time. In other words, if movement fails to happen, the derivation does not converge. This is the case of the Telugu and Assamese CNP subject which has to move due to a certain restriction to be specified in Section 5.5. Optional control, on the other hand, is the case of INF clauses whose subject moves to the matrix clause only if the numeration is exhausted and there is no other way to satisfy the thematic requirement of the matrix predicate. If the numeration is not exhausted, no control interpretation is required. Rodrigues (2004) analyzes a similar case of optional control in Brazilian Portuguese and Finnish.
The distinction between Obligatory and Non-Obligatory Control is different. According to Hornstein, Obligatory Control is the result of movement. Non-Obligatory Control, on the other hand obtains when the subordinate clause is a non-finite CP that is also an island out of which movement is disallowed. In this case, the subordinate subject is *pro* and no movement is involved (Hornstein 2001: 56-59). For example, *treating herself to an ice-cream* in (i) is a subject gerund out of which movement is not allowed. This is why the subject is *pro*.
(i) Tom said that [*pro* treating herself to an ice-cream pleased Mary]

Landau offers a different analysis. He holds that Obligatory Control is the result of an anaphoric PRO that is c-commanded by a matrix functional layer (i.e., the matrix v^0 or I^0) and can thus enter an Agree relation with these layers; for example, PRO in (ii) is c-commanded by the functional layers in the matrix clause. Non-obligatory Control (NOC) constructions are sentences in which PRO is logophoric. In other words, the identity of PRO is determined, not by an antecedent, but rather by "discourse factors such as focus, perspective and center of consciousness or communication" (Landau 2000: 119). If the non-finite clause is extraposed to a position where it is not visible to the functional layers in the matrix clause, PRO gains the status of logophors. PRO in (iii) has this status.
(ii) Tom likes [PRO to treat himself to an ice-cream every now and then].

(iii) Sue likes ice-cream; Tom knows that, and he likes to see her happy.
[PRO treating herself to an ice-cream every now and then] pleases Tom.

I will not address the distinctions (Obligatory vs. Non-Obligatory) made by Hornstein and Landau in my study mainly because they do not seem to apply to the Telugu and Assamese data. For example, within Hornstein's system it is not clear why the subject of INF clauses would be an unpronounced *pro* when a control interpretation is available, while it is a lexical subject when no such interpretation is required. Concerning Landau, his system predicts that when the CNP clause is realized sentence-initially, the CNP subject will be logophoric, contrary to facts. An Obligatory Control interpretation is required all the time.

c. {Sarita$_0$, koopamu$_0$, wacc$_0$, -ina$_0$, aanduku$_0$, akkadi$_1$, nunci$_0$, wellipoy$_0$, Tense$_1$, Agr$_1$}

d. [$_{NP}$ Sarita]

e. [$_{Matrix\ vP}$ [$_{NP}$ Sarita] akkadi-nunci wellipoyinaa-di]

Examples (9-11) suggest that α may move to β for the satisfaction of β, but this movement only takes place when the numeration is exhausted and there is no other token that may satisfy the formal requirements of β. Structures that involve a CNP clause, on the other hand, are grammatical only if they receive an Obligatory Control interpretation. If control is movement, this means that movement in structures with CNP clauses has to take place all the time and not only when the numeration is exhausted. This kind of movement is responsible for the Obligatory Control interpretation that structures with CNP clauses strictly require.

All in all, Enlightened Self Interest is not able to explain why the sideward movement of the CNP subject is mandatory. The following section tries to find an explanation somewhere else.

5.3 Event and Control

Another proposal is offered by Dubinsky and Hamano (2006) who examine control into a certain type of adjuncts in Japanese. These adjuncts involve a locative *ni*, as exemplified in (13a-b) ((4a-b) in original). The controller is the matrix subject, and the controllee is the unpronounced possessor of the *ni*-marked NP in the adjunct.

(13) Japanese

a.

Mari-wa	[tue-o	yoko	ni]	tatiagatta
Mari-TOP	[cane-ACC	side	at]	stood.up

‘Mari stood up, with the cane at [her] side.’

b.

Mari-wa	[tue-o	yoko	ni	si-te]	tatiagatta
Mari-TOP	[cane-ACC	side	at	do.TE]	stood.up

‘Mari stood up, with the cane at [her] side.’
OR ‘Mari stood up, having laid the cane flat [i.e. on its side].’

Sentence (13a) is an instance of Obligatory Control. The identity of the possessor of the *ni*-marked NP must be determined by the matrix subject. Sentence (13b), which involves the light verb *si* ‘do’ and the gerundive marker *–te*, does not have this requirement, as the English translation shows. Dubinsky and Hamano consider (13a) as an instance of movement, as illustrated in (14a). The adjunct is an aspectual phrase (AspP). The possessor *Mari* of the *ni*-marked NP *yoko* ‘side’ moves out of AspP to the subject position in the matrix clause. At PF, the lower copy is deleted. Sentence (13b), on the other hand, does not involve movement. As (14b) shows, the adjunct is a vP/TP, and the possessor of *yoko* ‘side’ is *pro* which might or might not refer to the matrix subject. The presentation in (14) is based on (14) in original.

(14) Japanese

a. Mari-wa [$_{\text{AspP}}$ tue-o [Mari$^{\text{poss}}$ yoko] ni] tatiagatta
Mari-TOP [$_{\text{AspP}}$ cane-ACC [Mari$^{\text{poss}}$ side] at] stood.up
‘Mari stood up, with the cane at [her] side.’

b. Mari-wa [$_{\text{TP}}$ [$_{\text{vP}}$ [$_{\text{AspP}}$ tue-o [pro$^{\text{poss}}$ yoko] ni] si] te] tatiagatta
Mari-TOP [$_{\text{TP}}$ [$_{\text{vP}}$ [$_{\text{AspP}}$ cane-ACC [pro$^{\text{poss}}$ side] at] do]TE] stood.up
‘Mari stood up, with the cane at [her] side.’ OR
‘Mari stood up, having laid the cane flat [i.e. on its side].’

Another difference between (13a) and (13b) is that the former depicts one event while the latter depicts two events. In (13a), the cane is on Mari’s side as she stands up. Sentence (13b), however, refers to a sequence of events: the cane is put on its side first, and then Mari stands up. Based on this observation, Dubinsky and Hamano conclude that the adjunct in (13a) is part of the event of the matrix clause, while (13b) comprises two independent events which allow different temporal expressions. They attribute this difference to the presence of *si–te* in (13b).[4]

[4] Notice that in both (13a) and (13b) the tense of the adjunct is dependent on the tense of the matrix clause. Both have to be in the past if the matrix temporal information is past. Dubinsky and Hamano (2006) and Dubinsky (2007) use this observation to argue, contra Landau (2000, 2004), that Event rather than Tense is responsible for the Exhaustive Control-Partial Control distinction. According to them, only Exhaustive Control structures involve movement which is possible due to the lack of an Event Phrase in the subordinate clause. Partial Control structures comprise a subordinate clause that has an independent Event Phrase. As Dubinsky and Hamano put it, checking multiple theta-roles is possible within the same Event frame but not across Events.

Based on the event-splitting quality of *–te,* Dubinsky and Hamano maintain that an adjunct with *–te* projects an Event Phrase which assigns an event index EN on an agreeing NP. Conversely, an adjunct without *–te* does not project an Event Phrase and, consequently, the possessor NP is not assigned an event index. They further hold that an NP may check more than one theta-role as long as it has not been assigned an event index. Conversely, "an NP with index EN cannot further check theta-roles in a derivation." This leads to the conclusion that the possessor in (13a), which has not been marked with EN yet, is allowed to move out of the adjunct to check the theta-role feature of the matrix vP, while the possessor in (13b) freezes for theta-role related movement due to the EN that it has received from *–te*.

Dubinsky and Hamano's argument seems to work for Japanese but not for Telugu and Assamese. The reason is that CNP clauses in the two South Asian languages denote their own events, as illustrated in (15-16). Each of (15a-b) and (16a-b) contains a CNP clause with a temporal expression that is distinct from that of the matrix clause. This is an explicit indication that the CNP clause depicts its own event. Sentences (15d) and (16d) do not include any temporal expressions. Semantically, however, they only mean that the particular couple kissed and then left. They do not mean that the couple left (while) kissing.

(15) Telugu

a.

Sarita	[enimidinTiki	bhojanamu	tayaru	ceesikun-i]
Sarita.NOM	[at 8:00	dinner	prepare	do for self-CNP]

tommidinTiki	tinnaa-di
at 9:00	ate-3.N.S

'Sarita prepared dinner for herself at 8:00, and she ate at 9:00.'

b.

[Naa boss-ki	pooyina-waaram	koopamu	wacc-i]
My boss	last-week	anger	come-CNP]

atanu	muuDu	roojulu	waraku	tina-leedu
he	three	days	until	eat-didn't

'My boss got angry last week, and he didn't eat for three days.'

c. [Kumar unnu Sarita muddu peTTukon-i]
[Kumar.NOM and Sarita.NOM kiss put for each other-CNP]

waallu-iddaru	wellipooyaa-ru
they-both	left-3.M.P

'Kumar and Sarita kissed each other and left.'
NOT: 'Kumar and Sarita left (while) kissing each other.'

(16) Assamese

a.

[January-t	loteri	jik-i]
[January-in	lottery	win-CNP]

Ram-e	March-ot	notun	ghor	kinil-e
Ram-NOM	March-in	new	house	bought-3

'Ram won the lottery in January and bought a new house in March.'

b.

[jua	bosor	kukur-tu	heru-i]
[past	year	dog-Cl	lose-CNP]

boss-tu-r	dui	xoptah-r	karone	dukh	lagil
boss-Cl-GEN	two	weeks-GEN	for	sad	felt

'The boss lost his dog last year and he was sad for two weeks.'

c.

[suma kha-i]		Ram aru Prajakta	gusi	gol
[Kiss eat-CNP]		Ram and Prajakta	away	went

'Having kissed each other, Ram and Prajakta left.'
NOT: 'Ran and Prajakta left (while) kissing each other.'

In Dubinsky and Hamano's system, a structure with a subordinate clause that projects its own Event Phrase does not involve movement for the purpose of control. The possessor of the *ni*-marked NP is a *pro* whose identity may be determined by the matrix subject, though it does not have to be (e.g., (13b)). The reason is that an argument that is assigned an Event Index (EN) is not allowed to move into a new theta role position. The examples in (15) and (16) suggest that CNP clauses in Telugu and Assamese do project an Event Phrase. Still, they all enforce an Obligatory/Exhaustive Control interpretation and, most probably, movement. Therefore, the event structure of Telugu and Assamese control constructions is not responsible for the sideward movement of the CNP subject. The following section examines yet another possibility.

5.4 CP vs. IP and Control

The difference in Control behavior between CNP clauses and INF clauses seems to be related to the size of the adjunct. The main difference is that INF clauses may involve an overt complementizer (17a, 17b), while CNP clauses categorically disallow an overt complementizer (17b, 18b).

(17) Telugu

a.

Kumar	[~~Kumar-ki~~	aakali	wees-ina-anduku]
Kumar.NOM	[~~Kumar-DAT~~	hunger	fall-INF-because]
bhojanamu	tayaru	ceesikunaa-Du	
dinner	prepare	did for self-3.M.S	

'Having felt hungry, Kumar prepared a dinner for himself.'

b.

Kumar [~~Kumar-ki~~	aakali	wees-i-(*anduku)]	
Kumar.NOM	[~~Kumar-DAT~~	hunger	fall-CNP-(because)]
bhojanamu	tayaru	ceesikunaa-Du	
dinner	prepare	did for self-3.M.S	

'Having felt hungry, Kumar prepared a dinner for himself.'

(18) Assamese

a.

[~~Ram-Or~~	phurti	lag-a-r	karone]
[~~Ram-GEN~~	exhilaration	do-INF-GEN	because]
Ram-e	pagolor	nisena	nasil-e
Ram-NOM	crazy person	like	danced-3

'Having felt very happy, Ram danced like a crazy person.'

b.

[~~Ram-Or~~	phurti	lag-i	(*karone)]
[~~Ram-GEN~~	exhilaration	do-CNP	(because)]
Ram-e	pagolor	nisena	nasil-e
Ram-NOM	crazy person	like	danced-3

'Having felt very happy, Ram danced like a crazy person.'

Therefore, it is fair to assume that INF clauses are CPs. By the same token, it is not unreasonable to consider CNP clauses as IPs, as they are conventionally assumed to be (Jayaseelan 2004). This observation suggests that the size of the adjunct has a say in the obtainment of control: an IP adjunct enforces control, while a CP adjunct does not.

This intuition is captured by San Martin (2004) who provides evidence from several languages (e.g., Romanian and Serbo-Croatian) to show that the subordinate clause in Exhaustive Control, just like in raising, is an IP. The sentences in (19-20) are examples from Romanian. Sentences (19a-c) are raising structures (San Martin 2004: 93 (53-55), from Roussou 2001). They show that raising is only possible when the subordinate clause is an IP (19a). If the subordinate clause has an overt complementizers (i.e., if it is a CP), the subject has to remain downstairs (19b), because raising results in ungrammaticality (19c). The same applies to control. Sentence (20) is an instance of Exhaustive Control, in which case the subordinate clause may not be realized with an overt complementizer (San Martin 2004: 94 (54), from Alboiu and Motapanyane 2000).

(19) Romanian

a.	Toți	băietii	sau	nimerit		[să	fie	bolnavi]
	All	boys the	REFL	have happened		[SUBJ	be	sick]
	‘All the boys happened to be sick.’							
b.	Sa	nimerit	[ca	toți	băietii	să	fie	bolnavi]
	It	has happened	[COMP	all	boys the	SUBJ	be	sick]
	‘It has happened that all the boys are sick.’							
c.	*Toți	băietii	sau	nimerit	[că	să	fie	bolnavi]
	*All	boys the	REFL	have happened	[COMP	SUBJ	be	sick]
	‘All the boys happened to be sick.’							

(20) Romanian

Mioarai	a început	[(*ca)	să	sei	pregătească	de plecare]
Mioara	has started	[(COMP)	SUBJ	REFL	prepare-3sg	of departure]
‘Miora has started to prepare the departure.’						

San Martin excludes Partial Control from her analysis.[5] What Partial Control structures have in common is that they allow an overt complementizer, in which case control does not apply. Sentence (19a) is an example of Partial Control from English. Sentence (19b) shows that

[5] The appendix at the end of the dissertation explains the distinction between Exhaustive and Partial Control.

an overt complementizer in the subordinate clause is possible, and no control requirement is enforced.

(21) a. Tom wants [to meet at 7:00].

b. Tom wants [for Sue to win.]

San Martin's observation seems to apply to the control structures analyzed in this chapter. A CNP clause may never occur with an overt complementizer, as (22) shows.

(22) a. Telugu
[~~Kumar unnu Sarita~~ okari-ki okaru kathalu ceppukum-tuu-(*appudu)]
[~~Kumar and Sarita.NOM~~ one-to one stories tell-CNP-(while)]

Kumar unnu Sarita nawwukunnaa-Du
Kumar.NOM and Sarita.NOM laughed-3.M.P
'While telling stories to each other, Kumar and Sarita laughed.'

b. Assamese
[~~Ram aru Prajakta-e~~ Suma kha-i-(*pasot)]
[~~Ram and Prajakta-NOM~~ Kiss eat-CNP-(after)]

Ram aru Prajakta-Ø gusi gol
Ram and Prajakta-ABS away went
'Having kissed each other, Ram and Prajakta left.'

In addition, sentences with CNP clauses are Exhaustive Control structures, as exemplified in (23a) and (24a). When an INF clause is used, Partial Control is allowed, as (23b) and (24b) show. Note that in (23b) and (24b), the matrix subject has to be coreferential with (a part of) the subject of the CNP clause. Complete obviation is not allowed. This is why, no matter how much context is provided, (23c) and (24c) are infelicitous under the designated reading.

(23) Telugu
a. *[~~Kumar unnu Sarita~~ okari-ki okaru kathalu ceppukum-tuu]
[~~Kumar and Sarita.NOM~~ one-to one stories tell-CNP]

Kumar nawwukunnaa-Du
Kumar.NOM laughed-3.M.S
'While telling stories to each other, Kumar laughed.'

b. [okari-ki okaru kathalu ceppukum-tunna-appudu] Kumar nawwukunnaa-Du
[one-to one stories tell-INF-while] Kumar.NOM laughed-3.M.S
'While telling stories to each other, Kumar laughed.'

c. *[okari-ki okaru kathalu ceppukum-tunna-appudu]
[one-to one stories tell-INF-while]

Rao nawwukunnaa-Du
Rao.NOM laughed-3.M.S
'While Kumar and Sarita were telling stories to each other, Rao laughed.'

(24) Assamese
a. *[~~Ram aru Prajakta-e~~ Suma kha-i] Ram-Ø gusi gol
[~~Ram and Prajakta-NOM~~ Kiss eat-CNP] Ram-ABS away went
'Having kissed each other, Ram left.'

b. [suma khaw-a-r pasot] Ram-Ø gusi gol
[Kiss eat-INF-GEN after] Ram-ABS away went
'Having kissed each other, Ram left.'

c. *[suma khaw-a-r pasot] Proxad-Ø gusi gol
[Kiss eat-INF-GEN after] Proxad-ABS away went
'After Ram and Prajakta kissed each other, Proxad left.'

Let us assume with San Martin that Exhaustive Control structures include IP-subordinate clauses while Partial Control structures contain CP-subordinate clauses. The sentences in (22) through (24) seem to suggest that CNP clauses are IPs, as I continue to assume, while INF clauses are CPs. This assumption is based on two facts: First, CNP clauses never take an overt complementizer, while INF clauses do. [6] Second, CNP clauses enforce Exhaustive Control (Appendix), while INF clauses do not. The question is: What can CP do that IP cannot? And how does CP interfere with control? At least two answers are available in the literature. These will be discussed in the following subsections.

[6] We can also assume with Rizzi (1997) that what is originally referred to as CP is actually divided into at least two parts: (i) one facing the outside and is referred to as ForceP, and (ii) one facing the inside and is called FinP. Complementizers are realized in ForceP, while information about finiteness resides in FinP. Knowing that CNP clauses are non-finite, we can be quite certain that they project as high as FinP. Since they do not allow an overt complementizer, however, it is reasonable to assume that they do not project as high as ForceP.

5.4.1 IP as Defective for [Person]

San Martin's (2004) approach to control is a version of the PRO theory of control. She argues that control structures only license PRO and that PRO and lexical subjects are in complementary distribution. She also maintains that the size of the complement clause is decisive in the licensing process:

(25) "In complement clauses, lexical subjects arise in CPs, whereas PRO is licensed in bare TPs" (San Martin 2004: 169 (85)).[7]

According to San Martin, IP complements have an incomplete I^0 with [+Tense] feature but no [Person] feature. I^0 [+Tense, -Person] is able to check Case on the embedded subject (evidence for Case comes from elements such as floating quantifiers in Icelandic (Sigurðsson 1991)), but it is not able to license a lexical/overt subject. An indicative CP, however, licenses a lexical subject because C^0 endows I^0 with a [Person] feature. Consequently, a CP complement has a complete I^0 [+Tense, +Person] which can check the [Person] feature of its subject, allowing it to be overt. The lexical subject of a CP complement does not have to be coreferential with the matrix subject. Thus, an Obligatory Control interpretation is not required.

This analysis becomes suspect when examined in the the light of the Telugu and Assamese data. Chapter 3 shows that Telugu and Assamese Adjunct Control structures qualify as instances of Obligatory Control – or, more specifically, Exhaustive Control (Appendix). In San Martin's system, this is only possible if the CNP clause is an IP. At the same time, Telugu and Assamese Adjunct Control structures may be realized as instances of Copy Control. In other words, what is considered a PRO in San Martin's analysis may be realized as a lexical subject in Telugu and Assamese. This should be possible only if the CNP clause is a CP. This contradiction leads to one of the following conclusions. The first conclusion is that CNP clauses are CPs, which is why

[7] Landau (2006: 167; fn. 9) provides a brief argument against this view.

they may license a lexical subject. In this case, it remains to be explained why the lexical subject has to be obligatorily coreferential with the matrix subject. Another possibility is that CNP clauses are IPs, which is why a control interpretation is required. In this case, we need to explain how a defective I^0 [-Person] can license a lexical subject.

Any attempt at explaining either conclusion has to resort to a stipulation and will not capture the generalization that is originally captured in San Martin's work. No such attempt will be made here. The following section gives the issue of size another chance and examines the difference between CPs and IPs from a slightly different perspective.

5.4.2 IP as Defective for [Tense]

According to Chomsky (2000: 124; Chomsky 2004), clauses that project no higher than IP are defective in the sense that they cannot license a Structural Case-marked subject. He holds that I^0 derives tense and agreement from C^0. I^0 without C^0 has defective [Tense] that does not check the Structural Case feature of the subject. Accordingly, the subject undergoes "further movement and agreement."[8] This idea is analyzed at length in Pesetsky and Torrego (2001) who argue that Structural Case is an uninterpretable [Tense] feature on NPs/DPs. In the environment of I^0 with defective or unvalued [Tense], the subject does not check Structural Case.

Assuming that CNP clauses are IPs while INF clauses are CPs, the conclusion is that CNP clauses do not license a Structural Case-marked subject because they have a defective I^0. Consequently, the subject has to move. INF clauses, on the other hand, have a complete I^0. This means that the INF subject checks its Structural Case feature, which is why it does not have to move.

[8] Chomsky's (2000) idea is meant to describe the subordinate clauses in raising contructions. The subordinate clauses of control structures have a non-defective Tense feature that can check Null Case on the verb.

This approach works for Assamese. As Section 5.2 mentions, Assamese CNP clauses do not seem to check Structural Case, which is why Backward Control constructions are degraded. The same does not apply to Assamese INF clauses which do license Structural Case-marked subjects.

The approach does not work for Telugu, however. The fact that Forward and Backward Control structures are perfectly interchangeable and equally acceptable in Telugu indicates that the CNP subject and the matrix subject have an equal status with regards to Case. Otherwise, Chain Reduction would always favor the matrix copy and mark the CNP copy for deletion. Under such circumstances, Forward Control structures would be at least more acceptable than their Backward Control counterparts, which is not true.

To summarize thus far, Sections 5.2 shows that Enlightened Self Interest is less likely to be the reason why the CNP subject moves to the matrix clause. Section 5.3 explores Dubinsky and Hamano's argument that movement into a theta-role position is possible only if the subordinate clause and the matrix clause comprise the same event. This possibility has also been ruled out on empirical grounds: Telugu and Assamese CNP clauses project their own event phrases. Still, movement takes place. Finally, Section 5.4 examines the possibility that the size of the adjunct (CP vs. IP) has an effect on movement. Apparently, it doesn't.

All three sections share one main idea: the movement of α (the CNP subject) to β (matrix v^0) is not triggered by formal requirments – or features (Case, theta-role, Event Index, etc.) – of α or β. Consequently, we are left with two possibilities. α does not move to β. That is, there is no movement at all. Both subjects in Telugu and Assamese Adjunct Control structures are base-generated. Or, α moves to β for reasons beyond α and β. Stated differently, the CNP subject has to move to Spec, vP of the matrix clause to satisfy a requirement neither of its own, nor of v^0.

The former option is certainly plausible. As a matter of fact, it is a restatement of the PRO Theory of Control. Adopting this option, however, means revising some of the major premises of the PRO Theory of Control, a project that is worth a separate study in its own right. The latter option, on the other hand, is an invitation to dig a little deeper in order to see what else other than α and β can make α move to β. The following section proposes that the answer to this puzzle resides in the nature of the adjunct itself, not as a CP or an IP, but more importantly as an appropriate goal for merge.

5.5 Probe-Goal Relationships

Pesetsky and Torrego (2006) maintain that before two syntactic objects (heads and/or phrasal structures) merge, "a 'probe-goal' relation (Chomsky 2000; 2001) must be established between these elements." This probe-goal relation is triggered by an unvalued feature on the probe. It "serves as a 'vehicle' for merge and for the semantic or phonological relations established by merge." They call this requirement the Vehicle Requirement on Merge.

(26) The Vehicle Requirement on Merge
If α and β merge, some feature F of α must probe F on β.

Whereas the requirement is traditionally accepted for instances of movement (or Internal Merge) Pesetsky and Torrego apply it to External Merge. Their conclusion is that "*no* instance of merge is free." Adger (2003: 91), Chomsky (2000: 132-135), and Hornstein (2001: 56) arrive at a similar conclusion.

Pesetsky and Torrego recognize two types of External Merge. External Merge that results in agreement and External Merge that does not result in agreement. They concern themselves with the latter. Both types of merge involve a probe-goal relationship. The former type results in a valuation of features, while the latter doesn't.

Take the noun category N, for example. As (27-28) illustrate, N may take a CP complement with *that* (27a) or a PP complement (28a). It does not take a CP complement without *that* (27b) or a DP complement (28b). Notice that the verb counterpart V may take a complement without *that* (27c) or a DP complement (28c).

(27) a. the belief that Tom has gone bankrupt
b. *the belief Tom has gone bankrupt
c. I believe (that) Tom has gone bankrupt.

(28) a. the company's appointment of Tom
b. *the company's appointment Tom
c. The company appointed Tom.

Based on their earlier work (Pesetsky and Torrego 2001), the authors attribute the facts in (27-28) to the feature characteristics of the complementizer *that* and the preposition P. They hold that *that* and P are bearers of a [Tense] feature. Evidence for this feature comes from the behavior of the two elements. The argument goes as follows. Both *that* and P show the X-trace effect exemplified in (29-30) (in original (12), from Perlmutter 1971). Sentences (29a-b) involve a wh-element that undergoes first merge in the object position of a subordinate clause; (29a) does not include *that*, while (29b) does. Both sentences are grammatical. Sentences (29c-d), on the other hand, involve a wh-element that moves out of the subject position of a subordinate clause. Sentence (29c) does not include *that*; the sentence is grammatical. Sentence (29d) includes *that*; the sentence is ungrammatical

(29) a. What do you think [Mary read ~~what~~]?
b. What do you think [that Mary read ~~what~~]?
c. Who do you think [~~who~~ read the book]?
d. *Who do you think [that ~~who~~ read the book]?

Prepositions behave in the same way, as (30) illustrates (in original (13), from Kayne 1979). Sentences (30a-b) below involve a wh-element that moves out of a subordinate clause not headed by a preposition. In (30a), the wh-element starts out in the object position, while in (30b) it starts out in the subject position. Both sentences are acceptable. When a preposition is involved, wh-movement out of the object position is acceptable (e.g., (30c)), while wh-movement out of the subject position results in a degraded question (e.g., (30d)).

(30) a. How much headway did he anticipate [Mary making ~~how much~~ on the issue]?
b. How much headway did he anticipate [~~how much~~ being made on the issue]?
c. How much headway did he talk [about Mary making ~~how much~~ on the issue]?
d. ??How much headway did he talk [about ~~how much~~ being made on the issue]?

The X-trace effect demonstrated in (29d) and (30d) corresponds to the behavior of dummy *do*. In questions where the subject undergoes A'-movement in the form of a wh-element, dummy *do* cannot move to C^0. For example, (31a) is ungrammatical because *do* move to C^0. Compare to (31b) in which no such movement is involved and to (31c) in which the wh-element is an object NP. This behavior of *do* in (31a) patterns with the behavior of *that* in (29d) and P in (30d). All three elements are banned in C^0 when the subject undergoes A'-movement. Pesetsky and Torrego consider the movement of *do* as an instance of T-to-C movement, with *do* bearing a [Tense] feature. They further hold that since *that* and P behave in the same way, they must bear the same feature: [Tense].

(31) a. *Who did buy a new car?
b. Who bought a new car?
c. What did Tom buy?

Back to the puzzle of nouns in English. N may take as a complement a CP with *that* or a PP, but not a CP without *that* or a DP. Recall that the Vehicle Requirement on Merge as stated in (26) enforces a probe-goal relationship prior to the implementation of the operation merge. According to Pesetsky and Torrego, what is traditionally considered an uninterpretable Case feature on N is actually an uninterpretable tense feature [*u*Tense]. When N enters a probe-goal relation with the four possibilites in (32) below, only (a) and (b) fulfill the Vehicle Requirement on Merge. The reason is that they are appropriate goals for the probe N since they bear an interpretable [Tense] feature. Options (c) and (d), on the other hand, are not appropriate goals. They do not bear an interpretable [Tense] feature and, thus, they cannot value [*u*Tense] on N.

(32) a. CP with *that* [Tense]
b. PP [Tense]
c. CP without *that*
d. DP

N [*u*Tense]

Interestingly, this approach provides a solution to a long-standing problem of English infinitival relatives. It is a fact about English that N can take an infinitival relative that is introduced by a pied-piped wh-PP (e.g., (33a-b)), but it cannot take an infinitival relative that is introduced by a bare DP (*who, which*) (e.g., (34a-b)). According to Pesetsky and Torrego, the Vehicle Requirement on Merge provides an answer to this puzzle. DPs are not an appropriate goal for N. N has [*u*Tense] feature that finds its match on the head of PPs but not DPs. This is why (33a-b) are acceptable, but (34a-b) aren’t.

(33) a. a person [with whom to speak at the conference]
b. a topic [on which to work]

(34) a. *a person [who to invite to the conference]
b. *a book [which to read]

Notice that if N merges with CP or PP, no agreement takes place. Normally, if an element X with an uninterpretable feature [*u*F] merges with another element Y that bears an interpretable feature [F], the expectation is that the unvalued feature [*u*F] on X will be valued, a step that is usually manifested by agreement. Yet, this does not happen in (33a-b). Pesetsky and Torrego (2006: 24) solve this puzzle with a speculation at this point. They maintain that although the probe-goal relation of the type discussed above is initiated for the purpose of the valuation of a feature on the probe, no valuation/agreement takes place because those instances of merge involve "semantic operations typical of lexical categories: operations such as θ-marking and modification." Their idea can be summarized as follows. Probe-goal relations have to be established before any operation of merge. If merge takes place at a lexical layer (e.g., in the thematic domain vP), no agreement takes place. If merge takes place at a functional layer (e.g., in the phi domain IP), agreement takes place.

Another instance of merge that does not involve valuation of features or agreement is adjunction. The cases discussed by Pestesky and Torrego (2006), however, only handle the merge of complements. Since the main topic of this dissertation is Adjunct Control into CNP clauses, the following section upgrades the Vehicle Requirement on Merge so that it accommodates adjunction.

5.5.1 The Vehicle Requirement on Merge Revisited

Unlike complements, adjuncts do not have to meet the selectional requirements of the head they merge with (Chomsky 2004: 117). This means that adjuncts do not enter a probe-goal relation with the head of the structure they adjoin to, and accordingly they do not value features on probes. Still, adjunction is a type of merge, which means that the Vehicle Requirement on Merge must be a requirement on adjunction as well.

Complements and adjuncts undergo different types of merge. One difference is that complements are selected by the head of the structure they adjoin to, while adjuncts are not Chomsky (2004: 117). A probe-goal relation is subject to the selectional requirements of the probe. In this sense, Pesetsky and Torrego's (2006) Vehicle Requirement on Merge, as repeated in (35) below, is limited to Set Merge only. This is why I suggest restating it as (36).

(35) The Vehicle Requirement on Merge
"If α and β merge, some feature F of α must probe F on β."

(36) The Vehicle Requirement on Set Merge
For every α and β, α is a probe and β is a goal, if α and β undergo Set Merge, some feature F of α must probe F on β.

What about adjuncts? Although they are not selected, they undergo merge all the same. Accordingly, they must obey some requirement on merge which I name the Vehicle Requirement on Pair Merge:

(37) The Vehicle Requirement on Pair Merge
a. For every β, β is an adjunct, if β undergoes Pair Merge with α, β must qualify as a potential goal for some head γ.

b. A (potential) goal is a syntactic object with some feature F. A non-goal is a syntactic object with no features.

According to (37), an adjunct β may undergo Pair Merge with α if there is evidence that β qualifies as a goal by virtue of having some feature F that matches F on a certain probe γ. Evidence that β is a potential goal comes from actual instances of Set Merge with γ. To illustrate, consider β to be a PP, α a vP, and γ an N. In English, a PP may function as an adjunct and undergo Pair Merge with a vP (e.g., (38a)). According to (37), it qualifies for such an instance of Pair Merge because it is a potential goal for a probe N, as (38b) shows. An instance of Set Merge between N and PP means that PP is a goal with some feature F that matches F on N.

(38) a. I [$_{vP}$ [$_{vP}$ heard the news] [$_{PP}$ in that restaurant]].
b. [$_{DP}$ my [$_{NP}$ interest [$_{PP}$ in that restaurant]]]

What if β is not a potential goal? That is, what if β does not have any feature that makes it a target for a probe γ? Can it still undergo merge? I suggest that it can undergo merge only if at the end of the derivation it is predicated of a constituent in the syntactic object it merges with. Section 5.5.2 shows that this is possibly the case of Telugu and Assamese CNP clauses. As a non-goal, a CNP clause has to be predicated of an element in the matrix clause in order to undergo merge. First, however, it is important to note that this speculation is not entirely new, although its implementation probably is. It is reminiscent of Predication Theory as proposed by Rothstein (2001) and much earlier work.[9] A brief overview of this theory is important in order to formalize the speculation and clarify the details of its implementation.

According to Predication theory, every predicate has to have a subject. Predicate and subject are defined as (39) and (40) respectively. As the definitions indicate, predication is a syntactic relation between an open constituent — or a predicate — and its subject for the purpose of forming a maximal constituent or a proposition. It is a purely structural condition, independent of the thematic requirements of the predicate (Rothstein 2001: 47, 59-60).

(39) A predicate is an open constituent/a non-proposition. It has to be predicated of — or syntactically saturated by — a subject in order to become a maximal constituent/a proposition. A predicate may take one of the following forms:

a. A maximal projection (e.g., a VP): When syntactically saturated, this kind of predicate is externally predicated of a subject. That is, the predicate and its subject form a proposition whose properties are not dictated by the head of the predicate (e.g., $[_{vP}$ Subject $[_{VP}$ predicate]]); or

b. I': This is the only predicate that is a non-maximal projection. When syntactically saturated, I' is internally predicated of a subject. In other words, I' and its subject "form a maximal constituent whose properties are dictated by the I" (e.g., $[_{IP}$ Subject $[_{I'}$ I^0]]). (Rothstein 2001: 19, 47-49, 118-120)

(40) A subject is a non-predicate. It is a structural construct that may take one of the following forms:

a. An argument; for example, an agent functioning as a subject of a transitive predicate, or an experiencer functioning as a subject of a psych predicate

b. A non-argument; for example, an expletive functioning as a subject of an unaccusative or a raising predicate. (Rothstein 2001: 18-20, 60-65)

Despite the obligatoriness of the subject, Rothstein (2001: 121) does recognize the fact that "there are IPs in which subjects do not occur IP-internally." For example, the subordinate IP in (41a) comprises a predicate I' but no subject. According to Rothstein, the subject position is

[9] Other approaches are proposed by Williams (1980) and Clark (1990) among others. I adopt Rothstein's approach because it is more syntactic in nature.

non-obligatory only if the subordinate IP is indirectly predicated of an element in the matrix clause through co-indexation, as the indices in (41b) illustrate. This observation may be formulated as (42). Within Predication Theory, (42) accounts for Obligatory Control.[10] The fact that the subordinate predicate in (41b) is predicated of the subject in the matrix clause explains why the identity of the 'winner' has to be determined by *Tom*. On this view, if a lexical DP fills the subject position (e.g., 41c), the subordinate predicate becomes a proposition and no longer needs to be predicated of an element in the matrix clause. Consequently no control interpretation will be required.

(41) a. Tom wants [$_{IP}$ [$_{I'}$ to win]]
b. Tom$_i$ wants [$_{IP}$ [$_{I'}$ to win]$_i$]$_i$
c. Tom wants [for [$_{IP}$ Sue [$_{I'}$ to win]]

(42) A predicate may remain an open constituent if it is indirectly predicated of an element in a higher clause.

Evidence from Backward and Copy Control presents a challenge to (42). The Backward and Copy Control structures in (43) and (44) show that that the empty subject position in the subordinate clause may in fact be filled with a lexical subject. I take this as a sufficient reason to reject (42) and the idea that indirect predication in control structures follows from the fact that the subordinate predicate is necessarily syntactically unsaturated.

(43) Telugu
~~Kumar~~ [Kumar-ki jwaram wacc-i] hospital weLLaa-Du
~~Kumar.NOM~~ [Kumar-DAT fever come-CNP] hospital went-3.M.S
'Having had a fever, Kumar went to hospital.'

(44) Assamese
[Ram-Or khong uth-i] Ram-e mor ghorto bhangil-e
[Ram-NOM anger raise-CNP] Ram-NOM my house destroyed-3
'Having got angry, Ram destroyed my house.'

[10] This conclusion is known as the predicational approach to control. Despite the different formulations of Predication Theory (Rothstein 2001, Williams 1980, Clark 1990, among others), something along the lines of (42) is common to all.

At the same time, the intuition behind (42) holds. The subordinate clause — although a proposition that has its own subject — is in a way predicated of the subject in the matrix clause. I adopt this intuition and place it within the framework of the Movement Theory of Control. I suggest that the dual property of the subordinate clause (the property of being a proposition and at the same time be predicated of a subject in the matrix clause) follows from the fact the subordinate subject and the matrix subject are non-distinct copies of the same token brought about by movement.

Back to the main question of this chapter: Why does movement take place? Sections 5.2 through 5.4 showed that the movement of the subordinate subject cannot be triggered by a formal requirement of the moving element or of the target. Here the Vehicle Requirement on Merge comes into the picture. Unlike Rothstein who holds that the subordinate clause is allowed to remain an open constituent (i.e., it is allowed to not have its own subject) if it is indirectly predicated of an element in the matrix clause, I suggest that the subordinate subject copies out of the subordinate clause and merges in the matrix clause in order to allow the subordinate clause to be predicated of an element in the matrix clause. Movement that takes place to this end happens if the subordinate clause is a non-goal. That is, if the subordinate clause does not qualify for an instance of merge. In this sense, the movement of the subject licenses the merge of the non-goal, as (45) illustrates. Based on this, I suggest that there should be a Vehicle Requirement on the Merge of Non-Goals as formulated in (46).

(45) [[Subject] Predicate [$_{\text{NON-GOAL}}$ [Subject] Predicate]]

(46) The Vehicle Requirement on the Merge of Non-Goals
If β is a non-goal, it undergoes merge with α if β is predicated of an element in α. [11]

[11] Rothstein (2001: 122-123) distinguishes between two types of subordinate predicates: primary and secondary. One example of primary predicates is subordinate ECM small clauses. These are considered primary predicates

Let us examine how (46) applies to Telugu and Assamese adjunct Control. Take the Telugu example in (47). Assume that the CNP clause is a non-goal IP (I postpone the proof till the next section). To make up for this deficiency, it has to be predicated of an element in the matrix clause. That is, it has to function as a predicate/an open constituent I' of the type presented in (39b). Nevertheless, the CNP clause *Kumar-ki jwaram wacc-i* 'Kumar having had a fever' is already a proposition (or a maximal constituent IP) by virtue of being predicated of its own subject 'Kumar'. How can it be predicated of an element in the matrix predicate? The deletion of the CNP subject is not an option for at least two reasons. First, this kind of deletion is theoretically a violation of the principle of recoverability "which requires that no information be lost" in the derivation (Chomsky and Lasnik 1995: 44). Further, Backward and Copy Control structures are empirical evidence that the CNP subject is physically there.

(47) Telugu

[Kumar-ki	jwaram	wacc-i]	Kumar	hospital	weLLaa-Du
[Kumar-DAT	fever	come-CNP]	Kumar.NOM	hospital	went-3.M.S

'Having had a fever, Kumar went to hospital.'

Fortunately, there is a way for the CNP clause to be predicated of an element in the matrix clause without having to go through a mysterious operation of subject deletion. The key word is

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because they are predicated of a subject that is theta-marked by a head inside their boundaries. For example, the predicate *sweet* in the ECM small clause complement in (i) is predicated of the subject *the coffee* that is theta-marked by a head contained in the small clause. On the other hand, subordinate IPs of the type exemplified in (41), repeated here as (ii), are secondary predicates. These IPs are predicated of an element that is theta-marked by a head outside their boundaries. For example, subordinate I' in (ii) is predicated of *Tom* which is theta-marked by matrix v^0.

(i) Tom considered [$_{SC}$ the coffee sweet]

(ii) Tom$_i$ tried [$_{IP}$ [$_{I'}$ to win]$_i$]$_i$

I do not draw such a distinction here. I believe that if the subordinate clause is a non-goal, the movement of its subject to the matrix clause allows it to be predicated of an element in the matrix clause and thus licenses its merge. In other words, the requirement in (46) applies regardless of whether the subordinate clause is a complement of a control verb, an ECM complement, or an adjunct. Also, it applies regardless of whether the moving subject is a theta-marked argument at all, as the discussion on Expletive Control in the following chapter suggests. I leave it for future research to determine whether the requirement should be more restrictive.

movement. The CNP subject ‘Kumar’ copies out of the CNP clause and merges in the matrix clause. The two copies are non-distinct. This means that the CNP predicate is predicated of its own subject which at the same time is an NP of the matrix predicate. In this way, the movement of the subject licenses the CNP clause for an instance of merge. This implementation may be informally dubbed as the movement approach to indirect predication as proposed in (42). The movement of the subject is triggered by the non-goal characteristic of the clause that hosts it. If ‘Kumar’ does not move, the non-goal CNP clause does not qualify for a legal instance of merge because it violates the Vehicle Requirement on the Merge of Non-Goals in (46). This explains why (48) is unacceptable.

(48) Telugu

*[Kumar-ki	jwaram	wacc-i]
[Kumar-DAT	fever	come-CNP]

Sarita	(atani-ki)	mandulu	iccin-di
Sarita.NOM	(him-DAT)	medicines	gave-3.N.S

‘Kumar having had a fever, Sarita gave him medicine.’

Sentence (48) becomes grammatical if an INF clause is involved, as (49) shows. Let us assume that Telugu and Assamese INF clauses are goals. This means that an INF clause can undergo Pair Merge with the matrix clause without further ado. In other words, the movement of the subject is not necessary. It does not have to move for its own purposes, and it does not have to move in order to license the merge of the INF clause; the INF clause is already a goal. One reason remains. It moves to check a feature on the target. As Section 5.2 shows, this seems to happen only when the numeration is exhausted and the thematic requirement of the matrix predicate have not been satisfied yet. In (49), *Sarita* satisfies the thematic requirement of the matrix predicate. The CNP subject does not have to move, so it doesn’t.

(49) Telugu

[Kumar-ki	jwaram	wacc-ina-anduku]	
[Kumar-DAT	fever	come-INF-because]	
Sarita	(atani-ki)	mandulu	iccin-di
Sarita.NOM	(him-DAT)	medicines	gave-3.N.S

'Because Kumar had a fever, Sarita gave him medicine.'

If the above analysis is correct, the different parts of the Vehicle Requirement on Merge in (36), (37), and (46) may be combined into (50):

(50) The Vehicle Requirement on Set and Pair Merge

a. β undergoes Set Merge with a probe α if β is a goal and a feature F on β matches a feature F on α.

b. β undergoes Pair Merge with α if β is a potential goal for some probe γ.

c. If β is a non-goal, it undergoes Set/Pair Merge with α if β is predicated of an element in α

d. A (potential) goal is a syntactic object with some feature F. A non-goal is a syntactic object with no features.

The following section examines the requirement in (50) against the Telugu and Assamese data. It confirms the assumptions made above, namely, that Telugu and Assamese CNP clauses are non-goals, while their INF counterparts are goals. Section 5.6 extends the analysis to English.

5.5.2 Telugu and Assamese Adjunct Control and the Vehicle Requirement on Set and Pair Merge

Observe the following sentences one more time. The structures in (51-52) include an INF clause each. Consequently, a control interpretation is not required. The structures in (53-54) are the equivalent of (51-52), except that the subordinate clause is a CNP adjunct. In this case, a control interpretation is required.

(51) Telugu

a.

[Kumar	sinima	cuus-tunna-appuDu]	Sarita	popkorn	tinnaa-di
[Kumar.NOM	movie	watch-INF-while]	Sarita.NOM	popcorn	ate-3.N.S

'While Kumar was watching a movie, Sarita ate popcorn.'

b. [Kumar pani-ki weLL-ina-tarwaata] Sarita kaafi taagin-du
[Kumar.NOM work-to go-INF-after] Sarita.NOM coffee drink-3.N.S
'After Kumar went to work, Sarita had a cup of coffee.'

(52) Assamese
a. [Ram-Or bhal lag-a-r karone] Proxad-e nasil-e
[Ram-GEN good feel-INF-GEN-because] Proxad-NOM danced-3
'Because Ram felt good, Proxad danced!'

b. [Ram-Or khong uth-a-r korone] Proxad-Ø gusi gol
[Ram-NOM anger raise-INF-GEN-because] Proxad-ABS went away
'Because Ram got angry, Proxad left.'

(53) Telugu
a. [Kumar sinima cuus-tuu] atanu/*Rao popkorn tinnaa-Du
[Kumar.NOM movie watch-CNP] he/*Rao.NOM popcorn ate-3.M.S
'While watching a movie, Kumar ate popcorn.'

b. [Kumar pani-ki weLL-i] atanu/*Rao kaafi taagaa-Du
[Kumar.NOM work-to go-CNP] he/*Rao.NOM coffee drink-3.M.S
'Kumar went to work and had a cup of coffee.'

(54) Assamese
a. [Ram-Or bhal lag-i] xi/*Proxad-e nasil-e
[Ram-GEN good feel-CNP] he/*Proxad-NOM danced-3
'Having felt good, Ram danced.'

b. [Ram-Or khong uth-i] xi/*Proxad-Ø gusi gol
[Ram-NOM anger raise-CNP] he/*Proxad-ABS went away
'Having got angry, Ram left.'

If control is movement, this means that the CNP subject has to move to the matrix clause, which is why control is required. No such restriction applies to the INF subject. This is why control is optional (fn. 3). As Section 5.2 shows, the INF subject arguably undergoes movement only if there is no argument left in the numeration to satisfy the thematic requirement of matrix predicate. As Sections 5.2 through 5.4 showed, the difference between CNP and INF clauses does not reside in the the formal requirements (e.g., Case or Person) of the subordinate subject, for both the CNP and the INF subject seem to check all their features. The difference is not due to the formal requirements of the target either, since the thematic needs of matrix v^0 do not vary.

Further, both types of clauses can express their own events; therefore, the difference does not reside in the event-dependency on the matrix clause. The difference seems to be due to the goal characteristics of the clauses themselves. The INF clause is a goal, while the CNP clause isn't.

According to the Vehicle Requirement on Set and Pair Merge, a clause that is also a goal may undergo Set Merge, without involving movement. The reason is that it has some feature F that matches F on a probe, and this is all that is needed for merge to take place. A clause that is a non-goal, on the other hand, cannot undergo Set Merge without involving movement. The reason is that it has to be predicated of an element in the syntactic object it merges with. For this to happen, it has to share its subject with that syntactic object.

Let us examine whether INF and CNP clauses may undergo Set Merge without having to share their subject. Consider the Telugu sentences in (55). Each sentence has a NP complement. Knowing that a NP qualifies as a potential goal (it is a syntactic object with phi-features), a syntactic object that can replace the complement in (55a-b) must itself be a goal. The sentences in (56) show that INF clauses can be complements in the same position. Thus, it is fair to assume that they are goals. Notice that the INF clauses used in (56a-b) as complements are the same INF clauses used in (51a-b) as adjuncts. In both cases, no movement or control are involved.[12]

(55) Telugu

	a.	[$_{\text{NP}}$ samayaM]	anTee	[$_{\text{NP}}$ dhanam-e]
		[$_{\text{NP}}$ time]	mean	[$_{\text{NP}}$ wealth-EMPH]
		'Time is nothing but money.'		

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[12] Note that *anTee* in (53) is a filler. The sentences are also acceptable without it, especially that Telugu allows equational sentences like (i) and (ii). Nevertheless, the native speakers prefer the sentences in (55-56) with *anTee*, which is close in meaning to the French *ca veut dire* 'it wants to say'.

(i)	Sarita	cakkani	pilla
	Sarita.NOM	pretty	girl
	'Sarita is a pretty girl.'		

(ii)	naa-ku	ays-kriim	(anTee)	iShTam
	me-to	ice-cream	(means)	liking
	'I like ice-cream.'			

b. [$_{NP}$ aalaysam] anTee [$_{NP}$ naʃTam-e]
[$_{NP}$ delay] mean [$_{NP}$ loss-EMPH]
‘Delay is nothing but a waste.’

(56) Telugu

a. popkorn tina-Daaniki sari-ayina samayam anTee
popcorn eating- for proper-happening time mean

[cinimaa cuus-tunna-appuD-e]
[movie watch-INF-while-EMPH]
‘The best time to eat popcorn is while watching a movie.

b. Sarita kaafi taaga-Daaniki sari-ayina samayam anTee
Sarita.NOM coffee drinking-for proper-happening time mean

[Kumar pani-ki weLL-ina-tarwaat-e]
[Kumar.NOM work-to go-INF- after-EMPH]
‘The best time for Sarita to have coffee is after Kumar goes to work.’

The same observation applies to Assamese INF clauses. The structure in (57a) includes two NPs, one in the subject position (*Ram-Or jibon-tu* ‘Ram’s life’) and one in a complement position (*kam aru poisa* ‘work and money’). The subject NP can be replaced by an INF clause, as sentences (57b-c) illustrate. The INF clause employed in (57b) functions as an adjunct in (52a) above. Assuming that only goals can fill the locus of a subject, we can deduce that Assamese INF clauses are goals.

(57) Assamese

a. [$_{NP}$ Ram-Or jibon-tu] [$_{NP}$ kam aru poisa] hoi gois-e
[$_{NP}$ Ram-GEN life-CL] [$_{NP}$ work and money] be go-3
‘Ram’s life is work and money.’

b. [Ram-Or bhal lag-a-r karon-tu]
[Ram-GEN good feel-INF-GEN because-CL]

tar ghoniyak hoi goise
his wife be go-3
‘The reason Ram is feeling good is his wife.’

c. [Ram-Or dur-goti ho-a-r karon-tu]
[Ram-GEN bad-phase be-INF-GEN because-CL]

tar	jua	khela	hoi	gois-e
his	gambling	playing	be	go-3

'The reason Ram is not doing well is his gambling.'

Concerning CNP clauses, the prediction is that they do not qualify as goals, which is why the movement of the subject is obligatory. This prediction is also borne out. The sentences in (58) and (59) are the equivalent of (56a-b) and (57b-c) above, except that the INF clauses are replaced by CNP clauses. The result is ungrammaticality.

(58) Telugu

a.

*popkorn	tina-Daaniki	sari-ayina	samayam	anTee
popcorn	eating- for	proper-happening	time	means

[cinimaa	cuus-tuu(-e)]
[movie	watch-CNP(-EMPH)]

'The best time to eat popcorn is while watching a movie.'

b.

*kaafi	taaga-Daaniki	sari-ayina	samayam	anTee
coffee	drinking-for	proper-happening	time	mean

[pani-ki	weLL-i(-e)]
[work-to	go-CNP(-EMPH)]

'The best time to have coffee is before going to work.'

(59) Assamese

a.

*[Ram-Or	bhal	lag-i (-tu)]	tar ghoniyak	hoi	goise
[Ram-GEN	good	feel-CNP(-CL)]	his wife	be	go-3

'The reason Ram is feeling good is his wife.'

b.

*[Ram-Or	dur-goti	ho-i(-tu)]
[Ram-GEN	bad-phase	be-CNP(-CL)]

tar	jua	khela	hoi	gois-e
his	gambling	playing	be	go-3

'The reason Ram is not doing well is his gambling.'

The sentences in (58-59) suggest that CNP clauses in Telugu and Assamese are non-goals. One can argue that they qualify as goals in different structures. According to Masica (2005: 127), CNP verbs are "non-usable in adjectival or nominal functions." To my knowledge, the only other structures that a Telugu and Assamese CNP-type clause/verb can participate in are serial verb constructions as exemplified in (60-61). These constructions are different from the Adjunct Control structures examined in this dissertation in that the CNP-type verb and the finite verb behave like a mono-clausal predicate, expressing a single event (Aikhenvald 2003: 1-4). The two are similar, however, in that the CNP-part of a serial verb construction and the CNP clause in an Adjunct Control structure can never be realized with a (pronounced or implied) subject that is not coreferential with the subject of the matrix clause. In other words, they both are non-goals, and both have to be syntactically saturated by the matrix subject. In this sense, they satisfy the Vehicle Requirement on Set and Pair Merge by obeying restriction (50c): If β is a non-goal, it undergoes Set/Pair Merge with α if β is predicated of an element in α.[13]

(60) Telugu

Kumar	nawwu-tuu	maaTLaaDataa-Du
Kumar.NOM	smile-CNP	talked-3.M.S

‘Kumar talked smiling.’

(61) Assamese

Ram-e	ghortu	sa-i	thakil-e
Ram-NOM	house	watch-CNP	kept-3

‘Ram gazed at the house.’

In this section, I built on work by Pesetsky and Torrego (2006) and Rothstein (2001) to suggest that the CNP subject moves in order to compensate for a defect in the adjunct that hosts it. A CNP clause in Telugu and Assamese is defective in the sense that it does not qualify as a goal. To make up for this defect, the subject moves to the matrix clause. As a result, the same NP that predicates the CNP clause also belongs to the matrix clause. In this way, the CNP clause becomes syntactically saturated by an element in the matrix clause, thus satisfying (50c).

[13] See Post 2006 for an analysis of serial verbs in Assamese, Steever 1988 for a discussion on serial verbs in Dravidian languages, and Joseph and Zwicky 1990 and Aikhenvald and Dixon 2003 for two collections of articles on serial verb constructions.

The immediate advantage of this approach is that it divorces control from any features or needs of the subordinate subject (or of the target). This explains why the CNP subject is free to be pronounced (at least in Telugu) when the phonological component allows it. On a larger scale, it explains why we do not see (Adjunct) Control structures with the controllee/subordinate argument as an object. In principle, if sideward movement allows the subject to copy out of one clause and merge into another, it should allow the object to do the same.[14] The reason why this does not happen should be clear by now. The non-goal adjunct has to be predicated of an element in the matrix clause in order to qualify for merge. To do this, the CNP clause has to share the NP that syntactically saturates it. This NP is the subject; it cannot be the object.

Two points are in order. First, note that the Vehicle Requirement on Set and Pair Merge does not exclude the possibility of movement that takes place primarily for the purpose of feature checking. For example, the movement of the subordinate subject in Adjunct Control structures that involve INF clauses takes place when the numeration is exhausted in order to check the theta-role feature on matrix v^0. This kind of movement is triggered by Enlightened Self Interest rather than the Vehicle Requirement on Set and Pair Merge.

In addition, the formulation in (50c) does not explicitly state what exactly happens when a non-goal (e.g., a CNP clause) is predicated of a constituent in the syntactic object it merges with (e.g., the matrix clause). In other words, how does predicating the CNP clause of an element in the matrix clause prepare the CNP clause for an instance of merge?

[14] Here it might be argued that movement happens through an escape hatch at the edge of the Command Unit, and that the subject is closer to the escape hatch than the object. While this might be true, it is not clear that all sideward movement in Nunes's system takes place through an escape hatch. Let us assume for a moment that no escape hatch is needed. Given that distance is quite blurry in instances of sideward movement, the choice of a subordinate subject over a subordinate object as a co-referential argument in Adjunct Control must be restricted by factors other than distance.

Within Predication Theory, the CNP clause would be considered as an open constituent indirectly predicated of an element in the matrix clause through co-indexation. Within the movement approach adopted here, the CNP clause is a proposition rather than an open constituent. Still, it is indirectly predicated of an element in the matrix clause. The paradox of this statement is resolved by movement. A propositional CNP clause can be indirectly predicated of an element in the matrix clause only if the subject that saturates it moves to the matrix clause. Rather informally, I speculate that through movement the non-goal CNP clause acquires a dual status. It is a proposition as far as interpretation is concerned. At the same time, it is an open constituent as far as merge is concerned. Assuming that CNP clauses are IPs, the CNP clause will be an IP for the purpose of interpretation, but it will be viewed as I' for the purpose of merge. We know that I' of the CNP clause is a goal because it may undergo merge with a subject NP. Admittedly, this is not the most attractive solution, but it does answer one crucial question: What does indirect predication do to the CNP clause so that it becomes legitimate for an instance of merge?

Another question is: Does the Vehicle Requirement on Set and Pair Merge apply to control in languages other than Telugu and Assamese? A comprehensive answer is too ambitious at this point, but an attempt of an answer is viable.

5.6 Adjunct Control in English and the Vehicle Requirement on Set and Pair Merge

The Vehicle Requirement on Set and Pair Merge in (50), repeated here as (62), may provide an explanation to the dilemma of Adjunct Control in English.

(62) The Vehicle Requirement on Set and Pair Merge

a. β undergoes Set Merge with a probe α if β is a goal and a feature F on β matches a feature F on α.

b. β undergoes Pair Merge with α if β is a potential goal for some probe γ.

c. If β is a non-goal, it undergoes Set/Pair Merge with α if β is predicated of an element in α.

d. A (potential) goal is a syntactic object with some feature F. A non-goal is a syntactic object with no features.

Landau (2000: 176) describes Adjunct Control as "an extremely complicated topic." He adds,

> Control into adjuncts is not simple [Obligatory Control], contrary to what is frequently claimed (Mohanan 1983, Borer 1989, Clark 1990, Hornstein 1999). Implicit agents *do* control into these adjuncts and for clause-initial adjuncts, a grammatical controller is not even obligatory. Moreover, it is also not generally the case that when a controller is syntactically present, it must be the subject. … The choice of controller … is sensitive to logophoricity, an observation originally made by Williams (1992). Once logophoricity is separated from subjecthood, one can easily get non-subject controllers with adjuncts. (178)

To illustrate Landau's idea, within Predication Theory as proposed by Williams (1980, 1992), Adjunct Control is divided into two categories: Logophoric and Predicative. These are exemplified in (63) and (64) respectively (Williams 1992: 300-307; (10) and (29a-b)). In (63a-b), the antecedent of the unpronounced subject (PRO) in the adjunct is the "logophoric center" of the whole sentence; that is, "a thinker, perceiver, or some such, whose thoughts or feelings are reported by the sentence." Sentence (63a) shows that even without an implicit argument, the sentence is acceptable "so long as the 'point of view' of the sentence is clear (Williams 1992: 300). Sentence (64), on the other hand, involves an adjunct that is c-commanded by the antecedent. To Williams, such sentences do not involve PRO at all, but rather theta-role assignment. The adjunct "has a theta-role it needs to assign, and it assigns it to *John*" (Williams 1992: 297).

(63) a. Having traveled all day, the hotel was a vision indeed.
b. John's fears always go out of control, when listening to Larouche.

(64) John loses control of his fears when listening to Larouche.

The adjuncts in all three sentences (63a-b, 64) are CPs; (although the adjunct in (63a) does not have an overt complementizer, it certainly can take one; e.g., *after having travelled all day*). CPs, at least in English, are goals. This means that a CP-adjunct does not have to be predicated of an element in the matrix clause in order to undergo merge. Therefore, movement for the purpose of merge is not obligatory (although it might take place for other reasons, such as satisfying the thematic requirement of the matrix predicate). In this case, it may be argued that the adjuncts in (63a-b) involve *pro* similar to the *pro* licensed in pro-drop languages. This *pro* is [+Topic Oriented], referring to a non-commanding antecedent, an NP that is mentioned or implied earlier in discourse (Kawasaki 1993: Chapter 5).[15]

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[15] Kawasaki, building on Borer 1989, holds that English control structures in general (these also include control into complements) involve *pro* as a subordinate subject. *Pro* is licensed by non-finite T^0 inside a CP complement. Its content is identified by a functional head Agr. If C^0 is empty, Agr raises to CP and inherits the phi-features of an antecedent. These phi-features are later copied to *pro*.

Concering control into adjuncts like sentence (i), anaphoric Agr raises to C^0 leaving a trace behind. It inherits the phi-features of *John* and copies them to *pro*. (Kawasaki tacitly considers the adjunct a PP with a CP complement.)

(i) [$_{CP}$ [$_{IP}$ John$_i$ felt old [after [$_{CP}$ Agr$_i$ [$_{IP}$ *pro*$_i$ t$_i$ seeing himself$_i$ in the mirror]]]]]

In sentences like (ii-iii), on the other hand, Agr cannot be co-indexed with a c-commanding antecedent. This is why it is [+Topic Oriented] rather than [+Anaphoric].

(ii) Suddenly the pirates$_i$ showed up from behind the rocks. [After [$_{CP}$ Agr$_i$ [$_{IP}$ *pro*$_i$ robbing the passengers]]], the ship was sunk.

(iii) [After [$_{CP}$ Agr$_i$ [$_{IP}$ *pro* pitching the tents]]], darkness fell quickly
(adopted from Kawasaki 1993: 172-174 (23a) and (24))

Of course, it remains to be determined why the logophoric or topic-oriented interpretation is missing in (iv). For this reason, I consider structures like those in (i-iv) and (63-64) to involve movement which takes place only when the numeration is exhausted and the thematic requirements of the matrix predicate have not been satisfied yet.

(iv) Telugu

a. [Δ$_{i/*k}$ Koopamu wacc-ina-anduku]
[Δ anger come-INF-because]

Sarita$_i$ akkadi-nunci wellipoyinaa-di
Sarita.NOM there-from left-3.N.S
'Because Sarita got angry, she left.'

b. [Δ$_{i/*k}$ sinima cuus-tunna-appuDu] Sarita$_i$ popkorn tinnaa-di
[Δ movie watch-INF-while] Sarita.NOM popcorn ate-3.N.S
'While Sarita was watching a movie, Sarita ate popcorn.'

The discussion does not mean to offer a solution to Adjunct Control in English. It only means to show that the Vehicle Requirement on Set and Pair Merge may be able to explain why English Adjunct Control does not display the consistency that Adjunct Control into CNP clauses in Telugu and Assamese does.

Assuming that CNP clauses are IPs, the discussion thus far seems to point out that CPs are goals, but IPs aren't. Assuming that CPs are phases while IPs are not, it is tempting to redefine 'goal' in (62) in terms of phases (and heads). While this is a reasonable assumption, I remain agnostic about it, especially that evidence from clausal gerunds (Pires 2005) shows that a syntactic object might not be a phase (or a head) but still be a goal.

Consider the clausal gerund in (65a). Pires (2005: 44-47) convincingly argues that clausal gerunds are not CPs. For example, they do not allow an overt complementizer (65b). Compare to (65c) where a *to*-infinitive is used and an overt complementizer is allowed. In addition, clausal gerunds do not allow indirect questions with short wh-movement (66b). Compare to (66c) where a *to*-infinitive is involved and a short wh-movement is allowed. Accordingly, Pires deduces that clausal gerunds are IPs.

(65) a. Tom prefers [going to work by bus].
b. *Tom prefers [for Sue going to work by bus].
c. Tom prefers [for Sue to go to work by bus].

(66) a. Tom forgot [calling Sue].
b. *Tom forgot [who calling].
c. Tom forgot [who to call].

Despite being IPs, clausal gerunds qualify as goals. Pires (2005: 35) observes that clausal gerunds only appear in Case positions. For example, they occupy the subject position in passive constructions (67a). Also, they can be complements in PPs (67b).

(67) a. [Going to work by bus] was preferred by Tom.
b. Tom is keen on [calling Sue].

Since clausal gerunds are goals, the Vehicle Requirement on Set and Pair Merge predicts that they do not have to share their subject in order to undergo merge. That is, movement for the purpose of merge is not required. Therefore, if Englightened Self Interest does come into play, we should expect structures that consist of a clausal gerund to allow disjoint subjects. This prediction is correct, as (68a-b) show (Pires 2005: 35-36 (14a, 15b))

(68) a. [Frank reading this book] was preferred.
b. Mary talked about [John moving out].

It might be that the deverbal/nominal quality of the verb is what qualifies clausal gerunds as goals. Accordingly, whether an IP may be inherently a goal or not remains an open question.

5.7 Conclusion

This chapter set off with one purpose, to find out why the CNP subject in Telugu and Assamese Adjunct Control structures moves to the matrix clause. After examining a number of possibilities from the literature, I came to the conclusion that the CNP subject moves in order to make up for a defect in the CNP clause. Telugu and Assamese CNP clauses are non-goals.[16] Goals are bearer of features that license their merge. Non-goals do not have such features. In order to undergo merge, they have to be predicated of an element in the syntactic object that they merge with. This idea is formalized as the Vehicle Requirement on Set and Pair Merge in (72).

(69) The Vehicle Requirement on Set and Pair Merge

a. β undergoes Set Merge with a probe α if β is a goal and a feature F on β matches a feature F on α.

b. β undergoes Pair Merge with α if β is a potential goal for some probe γ.

c. If β is a non-goal, it undergoes Set/Pair Merge with α if β is predicated of an element in α.

d. A (potential) goal is a syntactic object with some feature F. A non-goal is a syntactic object with no features.

[16] Note that the movement of the CNP subject in Assamese may be triggered by Structural Case as well.

As non-goals, Telugu and Assamese CNP clauses have to satisfy the requirement in (72c). Within Predication Theory, the requirement is satisfied through co-indexation. If control is movement, as the evidence from Backward and Copy Control seems to indicate, we can conclude that a non-goal is licensed for merge through the movement of its subject to the matrix clause.[17]

Further, the Vehicle Requirement on Set and Pair Merge seems to explain why Adjunct Control in English is not as consistent as Adjunct Control in Telugu and Assamese. The reason is that English adjuncts are CP-goals. Thus, their merge with the matrix clause does not have to involve movement. In Telugu and Assamese, CNP clauses are non-goals. They need to be syntactically saturated by an element in the matrix predicate in order to be licensed for an instance of merge. When the CNP subject becomes an NP of the matrix clause, it also becomes the licenser. No such licenser is needed for the merge of English adjunct CPs.

I close with an afterthought: Does the Vehicle Requirement on Set and Pair Merge resolve the current controversy in control theory? A 'yes' would imply that the goal vs. non-goal characteristics of subordinate clauses is all that there is to control theory. And assuming that control is movement, a 'yes' would also imply that movement only takes place out of non-goals, which is not true. At the same time, a 'no', although a probable answer, is too hasty. Therefore, I will leave this as an open question, hoping that the proposal I have made here has solved at least a part of the puzzle.

[17] It would be interesting to test this requirement against the Japanese data in Dubinsky and Hamano 2006. Nevertheless, testing Japanese *–ni* and *–te* adjuncts to determine whether they are goals or non-goals is no trivial task. These particles are all over the place and have multiple functions. For example, *-te* may be used as postposition or an imperative marker. I do not feel that I have enough knowledge about the particles to make an informed observation.

CHAPTER 6
EXCEPTIONS TO ADJUNCT CONTROL AS NON-EXCEPTIONS

6.1 Introduction

Chapters 3 and 4 presented an analysis of Telugu and Assamese Adjunct Control structures in which Obligatory Control obtains all the time. Exceptions do exist, however. These are structures that pattern the same as Adjunct Control structures (i.e., they involve a matrix clause and a CNP clause), yet they allow disjoint subjects. Sentences (1a-b) and (2a-b) are examples. The main purpose of this chapter is to show that these structures may be analyzed as instances of Obligatory Control and that they do not present a challenge to the analysis of Adjunct Control offered in the previous chapters.

(1) Telugu

a.

[bombu	pel-i]	caala	mandi	canipoyaa-ru
[bomb.NOM	explode-CNP]	many	people.NOM	died-3.M.P

'A bomb exploded, and people died.'

b.

[warʃam	paD-i]	cetlu/mokkalu	periga-yi
[rain.NOM	fall-CNP]	trees/plants.NOM	grew-3.N.P

'The rain fell and the trees/plants grew.'

(2) Assamese

a.

[e-ta	ghor-ot	zui-Ø	lag-i]	bohut	manuh-Ø	moril
[one-CL	house-LOC	fire-ABS	happen-CNP]	many	people-ABS	died.

'A house burnt and many people died.'

b.

[dhumuha-Ø	ah-i]	bohut	gos-Ø	bhangil
[storm-ABS	come-CNP]	many	trees-ABS	broke

'A storm came and many trees got broken.'

Before proceeding, it is important to note that the phenomenon is not unique to Telugu and Assamese. As the following examples show, similar structures are allowed in Marathi (Pandharipande (1997: 446 (1277)), Tamil (Linholn 1975: 81 (3.38)), Hindi (Davison 1981: 122 fn. 5 (i)), and Bengali (Klaiman (1981: 114 (4.57e)), among other (South Asian) languages.

(3) Marathi

[paauus	paD-uun]	dhaanya	pikl-a
[rain	fall-CNP]	crops	grew-3.N.S

‘The rain having fallen, the crop grew.’

(4) Tamil

[maze	penj-u]	aatu-le	taNNi	ooduccu
[rain	fall-CNP]	river-LOC	water	ran

‘It rained and water flowed in the river.’

(5) Hindi

[Diwaar	gir-kar]	patthar	gir	gaee
[wall	fall-CNP]	stones	fell	went

‘The wall having fallen, stones fell.’

(6) Bengali

[ceaar	bheNge giy-e]	Modhu	pore gaelo
[chair	break down-CNP]	Modhu	fell down

‘The chair broke and Modhu fell off.’

Davison (1981: 122 fn. 5) considers these structures mysterious. According to her, “it is hard to see exactly what factors must be present for the like subject condition [or control] to not be met.” Pandharipande, Linholn, and Klaiman, on the other hand, attribute them purely to semantic factors without any reference to syntax. Pandharipande (1997: 445-446) briefly indicates that such structures are allowed when there is a cause-effect relationship between the CNP clause and the matrix clause. In this case, “the agents of the matrix and the participial [CNP] clauses can be different.” Similarly, but with more details, Linholn (1975) attributes the occurrence in part to a cause-effect relation between the matrix and the subordinate clauses, and he adds another factor which he calls “natural relevance.” According to natural relevance, it is not enough to have a cause-effect relation between the CNP and the matrix clauses; the relations must also follow naturally. For example, the CNP and the matrix clauses in (7) exhibit a cause-effect relation, but the sentence is ungrammatical because the relation lacks natural relevance (Linholn 1975: 80 (3.37)). Compare to (6) where the relation between rain and the flowing of the river is a cause-effect relation that is naturally relevant (Linholn 1975: 75-83).

(7) Tamil

*[maze	penj-u]	kaDe-le	ellaam	koDe	vittu	pooccu
[rain	fall-CNP]	shop-LOC	all	umbrella	sell	went

'It rained and umbrellas got sold out at all the shops.'

Linholn's analysis becomes problematic when examined in the light of (8) and (9). Examples (8a) and (9a) are a repetition of (1a) and (2a) respectively. The sentences indicate that some disaster happened leading to the death of a lot of people. The cause-effect relation between the two incidents is 'naturally relevant' (although the idea that bomb explosions are 'natural' is suspect) and, as expected, both sentences are grammatical. If this analysis is correct — or sufficient — one would expect (8b) and (9b) to be grammatical as well. They also indicate that some disaster happened leading to a sad outcome. The only difference is that (8b) and (9b) mention the agent behind the disaster, which is apparently why the sentences are ungrammatical.

(8) Telugu

a.

[bombu	pel-i]	caala	mandi	canipoyaa-ru
[bomb.NOM	explode-CNP]	many	people.NOM	died-3.M.P

'A bomb exploded, and people died.'

b.

*[Kumar	bombu-ni	pelc-i]	caala mandi	canipoya-ru
[Kumar.NOM	bomb-ACC	explode-CNP]	many people.NOM	died-3.M.P

'Kumar exploded a bomb, and people died.'

(9) Assamese

a.

[e-ta	ghor-ot	zui-Ø	lag-i]	bohut	manuh-Ø	moril
[one-CL	house-LOC	fire-ABS	happen-CNP]	many	people-ABS	died.

'A house burnt and many people died.'

b.

*[Ram-e	ghor-to-t	zui	laga-i]
[Ram -NOM	house-CL-LOC	fire	cause to happen-CNP]

bohut	manuh-Ø	moril
many	people-ABS	died

'Ram burnt the house; many people died.'

Klaiman's (1981) analysis is a possible solution to the problem in (8) and (9). She holds that structures like (8a) and (9a) are allowed only when both the CNP and the matrix clauses express a non-volitional activity. If one of the clauses expresses a volitional activity, disjoint subjects result in ungrammaticality. This is exactly the case of (8b) and (9b). In both structures, the CNP clause expresses a volition activity, which is why the sentences are unacceptable. The same is true if the matrix clause expresses a volitional activity, as (10-11) illustrate.

(10) Telugu

*[bombu	pel-i]	ambulens	waccin-di
[bomb.NOM	explode-CNP]	ambulance.NOM	came-3.N.S

'A bomb exploded, and an ambulance came.'

(11) Assamese

*[e-ta	ghorot	zui	lag-i]
[one-CL	house-LOC	fire	happen-CNP]

bohut	manuh-e	police-aloi	phone	koril-e
many	people.NOM	police-DAT	phone	did-3

'A house burnt and many people called the police.'

Klaiman's analysis is purely semantic. She explicity rules out syntax and the possibility that "any existing theoretical model can handle the facts" (1981: 126). Nevertheless, her analysis may be translated in syntactic terms without undermining the semantic nature of the account. The following sections set out to do this and to show that what appears to be an exception to Adjunct Control is not an exception. Section 6.2 reformulates Klaiman's volitional non-volitional distinction as accusative/unaccusative. Section 6.3 suggests that the structures in (1-2) above are instances of Expletive Control that are possible only when the CNP and the matrix predicates are both unaccusative. This idea becomes problematic when examined in the light of English which does not allow similar patterns of Expletive Control. Section 6.4 proposes an explanation and shows that the difference with regards to Expletive Control between English and the two South Asian languages under examination follows from the Vehicle Requirement on

Set and Pair Merge as proposed in the previous chapter. The conclusion summarizes the main points of this chapter and highlights aspects of Expletive Control that are left unexamined.

6.2 Non-Volitional as Unaccusative

A closer look at the sentences in the previous section shows that what Klaiman describes as non-volitional activities correspond in the syntax to unaccusative structures. Each of the grammatical sentences in (1-6) contains two unaccusative predicates, one in the CNP clause and one in the matrix clause. By comparison, the ungrammatical structures (8b), (9b), and (10-11) contain at least one clause that is not unaccusative.[1]

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[1] By ‘not unaccusative’ I mean, not only transitive and unergative, but also experiential predicates. For example, the sentences in (i) and (ii) are ungrammatical because each contains one experiential predicate. Note that (ia) is ruled out for an independent reason; Telugu does not allow a matrix dative subject in Adjunct Control structures. I include (ib-c) in which the matrix experiential predicate licenses a nominative subject. The sentence is still ungrammatical.

(i) Telugu

a.

*[bombu	pel-i]	kumar-ki	koopam	waccin-di
[bomb.NOM	explode-CNP]	Kumar-DAT	anger	came-3.N.S

‘A bomb exploded, and people died.’

b.

*[Kumar-ki	jwaram	wacc-i]	Sarita	baada	paDin-di
[Kumar-DAT	fever	come-CNP]	Sarita.NOM	sad	felt-3.N.S

Kumar had fever; Sarita was sad.

c.

*[ammaayi	putt-i]	andaru	santooʃincaa-ru
[girl.NOM	born-CNP]	family.NOM	became happy-3.M.P

A girl was born; the family was happy.

(ii) Assamese

a.

*[e-ta	ghor-ot	zui-Ø	lag-i]	Ram-Or	khong	uthil
[one-CL	house-LOC	fire-ABS	happen-CNP]	Ram-GEN	anger	raised

‘A house burnt and Ram got angry.’

b.

*[Ram-Or	khong	uth-i]	bohut	manuh-Ø	moril
[Ram-GEN	anger	raise-CNP]	many	people-ABS	died.

‘Ram got angry and many people died.’ OR ‘Ram’s anger resulted in the death of many people.’

This is an important point because Klaiman’s (1981) definition of non-volitional predicates seems to include experiential predicates. She presents the two examples (iii-iv) which include one experiential predicate in the matrix clause and two disjoint subjects (Klaiman 1981: 113, (4.55a-b)). As far as I know, none of the grammatical examples in her study include a CNP experiential predicate and two disjoint subjects.

(iii) Bengali

a.

[Taeks	bere giy-e]	aneke-r	kasTo	hoyece
[tax	increase-CNP]	many-GEN	difficulty	became

‘Taxes increased and many people had difficulties.’

The standard assumption is that unaccusative structures license themes that are base-generated low in the structure. Themes, along with goals and patients, are considered the lowest of all arguments. They are generated below causers, which in turn are generated below experiencers (Landau 2001: 120 and works within). This implies that the non-volitional subjects in (1-6) are themes that are generated low in the structure, probably as complements of V^0.

It is desirable to have independent evidence that the unaccusative predicates under investigation comprise themes that are realized low in the structure, probably in the locus of their first merge. Evidence comes from structures that contain an unaccusative predicate and a locative expression. Although Telugu and Assamese are SOV languages, with the subject canonically accupying a sentence initial position (e.g., (12a) and (13a)), if an unaccusative predicate is involved, the locative expression is realized sentence-initially (e.g., (12b-c) and (13b-c)). These examples are not unexpected, given that the locus of locative expressions is higher than the locus of themes (Grimshaw 1990: 24). This said, it is important to note that, owing to the free word order in Telugu and Assamese, unaccusative structures with a sentence-initial theme followed by a locative expression are also acceptable (e.g., (12d-e) and (13d-e)).

(12) Telugu

a. Kumar maa-uuri-loo bombu-ni pelcaa-Du
Kumar.NOM my-town-LOC bomb-ACC exploded-3.M.S
'Kumar exploded a bomb in my town.

b. maa-uuri-loo caala mandi canipoya-ru
my-town-LOC many people died-3.M.P
'In my town many people died.'

---

b. [brisTi por-e] caaside-r laabh holo
[rain fall-CNP] farmers-GEN profit became
'It rained and the farmers profited.'

The analysis offered in this chapter accounts for the Telugu and Assamese data. Concerning the Bengali examples in (iii), I do not have an explanation.

c.

pollalu-loo	cetlu/mokkalu	periga-yi
field-LOC	trees/plants.NOM	grew-3.N.P

‘In the field the trees/plants grew.’

d.

caala mandi	maa-uuri-loo	canipoya-ru
many people	my-town-LOC	died-3.M.P

‘Many people, in my town, died.’

c.

cetlu/mokkalu	pollalu-loo	periga-yi
trees/plants.NOM	field-LOC	grew-3.N.P

‘The trees/plants, in the field, grew.’

(13) Assamese

a.

Ram-e	ghorto-t	zui	lagal-e
Ram-NOM	house-LOC	fire	caused to happen-3

‘Ram burnt the house.’

b.

prithibi-t	xanti-Ø	ahil
world-LOC	peace-ABS	came

‘Peace came to the world.’

c.

Guwahati-t	bohut	gos-Ø	bhangil
Guwahati-LOC	many	trees-ABS	broke

‘In Guwahati many trees broke.’

d.

xanti-Ø	prithibi-t	ahil
peace-ABS	world-LOC	came

‘Peace came to the world.’

e.

bohut	gos-Ø	Guwahati-t	bhangil
many	trees-ABS	Guwahati-LOC	broke

‘In Guwahati many trees broke.’

This observation extends to the structures in (1) and (2) above, repeated here with locative expressions.

(14) Telugu

a.

[maa-uuri-loo	bombu	pel-i]	caala mandi	canipoya-ru
[my-town-LOC	bomb	explode-CNP]	many people	died-3.M.P

‘A bomb exploded in my town; people died.’

b.

[pollalu-loo	warʃam	pad-i]	cetlu/mokkalu	periga-yi
[fields-LOC	rain.NOM	fall-CNP]	trees/plants.NOM	grew-3.N.P

‘Rain came to the fields; the trees/plants grew.’

(15) Assamese

a.

[e-ta	ghor-ot	zui-Ø	lag-i]	bohut	manuh-Ø	moril
[one-CL	house-LOC	fire-ABS	happen-CNP]	many	people-ABS	died.

'A house burnt and many people died.'

b.

[Florida-t	dhumuha	ah-i]	bohut	gos	bhangil
[Florida-LOC	storm	come-CNP]	many	trees	broke

'A storm hit Florida and many trees got broken.'

The following section shows how accusativity is relevant to control or the lack of it.

6.3 Unaccusative Predicates and Expletive Control

I consider structures that involve unaccusative predicates in the CNP and the matrix clauses as having null expletives as subjects. In other words, the sentences in (1-2) have the structure in (16-17), with the subject positions in each sentence being occupied with pro_{EXP}.

(16) Telugu

a.

[pro_{EXP}	bombu	pel-i]
[pro_{EXP}	bomb.NOM	explode-CNP]

pro_{EXP}	caala	mandi	canipoyaa-ru
pro_{EXP}	many	people.NOM	died-3.M.P

'A bomb exploded, and people died.'

b.

[pro_{EXP}	warʃam	paD-i]	pro_{EXP}	cetlu/mokkalu	periga-yi
[pro_{EXP}	rain.NOM	fall-CNP]	pro_{EXP}	trees/plants.NOM	grew-3.N.P

'The rain fell and the trees/plants grew.'

(17) Assamese

a.

[pro_{EXP}	e-ta	ghor-ot	zui-Ø	lag-i]
[pro_{EXP}	one-CL	house-LOC	fire-ABS	happen-CNP]

pro_{EXP}	bohut	manuh-Ø	moril
pro_{EXP}	many	people-ABS	died.

'A house burnt and many people died.'

b.

[pro_{EXP}	dhumuha-Ø	ah-i]	pro_{EXP}	bohut	gos-Ø	bhangil
[pro_{EXP}	storm-ABS	come-CNP]	pro_{EXP}	many	trees-ABS	broke

'A storm came and many trees got broken.'

The structures in (16-17) are based on the assumption that the theme maintains its position low in the clause, allowing an expletive to fill the subject position. The expletive is null because neither Telugu nor Assamese has overt expletives, which is expected in pro-drop languages in general. This idea is confirmed by Subbarao and Murthy (1999: 217) who maintain that Telugu has “no pleonastic or expletive expressions such as *it* or *there*.” Similarly, Rao (2002: 37-39) holds that “expletives in Telugu are obligatorily null” (e.g., (18a-d)). The sentences “become ungrammatical if the null expletive is lexicalized” (e.g., (19a-d)) (Sentences (18a-c) and (19a-c) are from Rao 2002: 37-38 (17-18)).[2]

(18) Telugu

a.

pro$_{EXP}$	iiroozu	callagaa	un-di.
pro$_{EXP}$	today	cold	is-3NS

‘It is cold today.’

b.

pro$_{EXP}$	occe nela	veDigaa	unTun-di.
pro$_{EXP}$	coming month	hot	will be-3NS

‘It will be hot next month.’

c.

pro$_{EXP}$	akkaDa	ciikaTigaa	unDin-di.
pro$_{EXP}$	there	dark	was-3NS

‘It was dark there.’

d.

kolkata-loo	oka illu	ammak-aaniki	un-di
Calcutta-LOC	one house	sale-for	is-3.N.S

‘There is a house for sale in Calcutta.

[2] This chapter does not try to prove that null expletives are a reality. It simply assumes that they exist. For a convincing argument that null expletives are a psychological reality, see Oshita (2004 and works within). Another piece of evidence comes from languages in which null expletives may be phonologically realized as clitics. In Standard Arabic, for example, null expletives trigger agreement on the verb, which is normally the default 3.M.S, as (i) shows. Notice that a pre-verbal subject does not trigger full-agreement on *kaan-a waaDiH-an* ‘was clear’, as it would normally do with other non-raising verbs/expression. Now observe (iii) in which the null expletive takes on a phonological form. This is possible only when the null expletive is in the vicinity of an element that may host a clitic (e.g., ʔanna).

(i)

pro$_{EXP}$	kaan-a	waaDiH-an	ʔanna	l-awlaad-a	fariH-uun
pro$_{EXP}$	was-3.M.S	clear-ACC	that	the-children-ACC	happy-NOM.3.M.P

It was clear that the children were happy.

(ii)

l-awlaad-u	pro$_{EXP}$ kaan-a	waaDiH-an	ʔanna-hum	fariH-uun
the-children-NOm	pro$_{EXP}$ was-3.M.S	clear-ACC	that-3.M.P	happy-NOM.3.M.P

It was clear that the children were happy.

(iii)

qult-u	ʔanna-hu	kaan-a	waaDiH-an	ʔanna	l-awlaad-a	fariH-uun
said-1.S	that-3.M.S	was-3.M.S	clear-ACC	that	the-children-ACC	happy-NOM.3.M.P

It was clear that the children were happy.

(19) Telugu

a.

*adi	iiroozu	callagaa	un-di.	
It.NOM	today	cold	is-3NS	

‘It is cold today.’

b.

*adi	occe nela	veDigaa	unTun-di.	
It.NOM	coming month	hot	will be-3NS	

‘It will be hot next month.’

c.

*adi	akkaDa	ciikaTigaa	unDin-di.
It.NOM	there	dark	was-3NS

‘It was dark there.’

d.

*adi	kolkata-loo	oka illu	ammak-aaniki	un-di
it.NOM	Calcutta-LOC	one house	sale-for	is-3.N.S

‘There is a house for sale in Calcutta.

Expletives are obligatorily null in Assamese, as sentences (20a-d) suggest (Jason 2004, sentences (23), (89), (110), and (175)). If an overt pronominal is used as an expletive, the sentences become ungrammatical (e.g., (21a-d)).

(20) Assamese

a.

pro$_{EXP}$	ghoriyal	hati	xap	aru	goru	as-e
pro$_{EXP}$	crocodile	elephant	snake	and	cow	are-3

‘There are crocodiles, elephants, snakes, and cows’

b.

pro$_{EXP}$	xei	dex-at	bhekuli	dzura	eta	as-e
pro$_{EXP}$	that	country-LOC	frog	pair	one	was-3

‘There was a pair of frogs in that country.’

c.

pro$_{EXP}$ Sita	nam-Or	e-dzoni	dukhi	mohila	asil-e	
pro$_{EXP}$ Sita	name-GEN	one-CLS.F	sad	woman	was-3	

‘There was a sad woman named Sita.’

d.

pro$_{EXP}$	gos-at	moumakhi-r	bah	asil-e
pro$_{EXP}$	tree-LOC	honeybee-GEN	nest	was-3

‘There was a beehive in the tree.’

(21) Assamese

a.

*xi/tai	ghoriyal	hati	xap	aru	goru	as-e
s/he.NOM	crocodile	elephant	snake	and	cow	are-3

‘There are crocodiles, elephants, snakes, and cows’

b. *xi/tai xei dex-at bhekuli dzura eta as-e
s/he.NOM that country-LOC frog pair one was-3
'There was a pair of frogs in that country.'

c. *xi/tai Sita nam-Or e-dzoni dukhi mohila asil-e
s/he.NOM Sita name-GEN one-CLS.F sad woman was-3
'There was a sad woman named Sita.'

d. *xi/tai gos-at moumakhi-r bah asil-e
s/he.NOM tree-LOC honeybee-GEN nest was-3
'There was a beehive in the tree.'

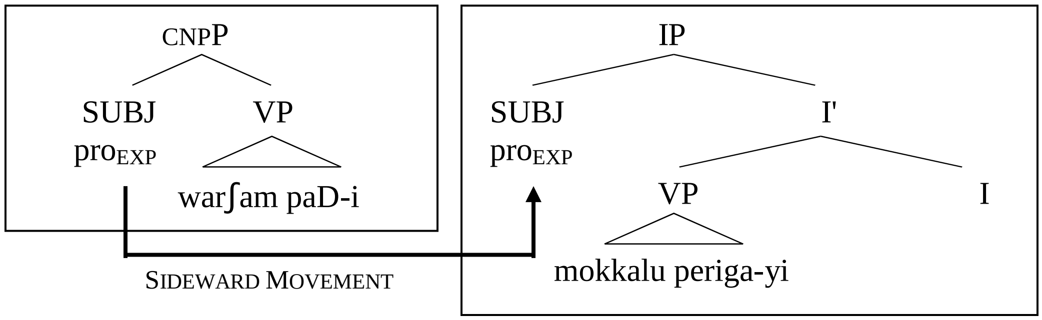
In addition, I consider the apparent exceptions in (16-17) above as instances of Expletive Control with the subordinate and the matrix null expletives as copies of the same token. In other words, I consider the structures to have a derivational history that is similar to the more common instances of Adjunct Control analyzed in the previous chapters, except for one major difference: whereas the two non-distinct subjects in the more common Adjunct Control structures are copies of the same argument, the non-distinct subjects in Expletive Control structures are copies of the same expletive. For example, structures (22a) and (23a) have the derivational history presented in (22b) and (23b) respectively. In both structures, the CNP clause and the matrix clause form independently. Notice that the thematic domain in both clauses is an unaccusative VP. The subject of the CNP clause, pro_{EXP}, undergoes sideward movement. It copies out of the CNP clause and merges in Spec,IP of the matrix clause. Following, the CNP clause adjoins to the matrix clause at VP (or CP) and the structures converge as (22c) and (23c).[3]

(22) Telugu

a. [warʃam paD-i] mokkalu periga-yi
[rain.NOM fall-CNP] plants.NOM grew-3.N.P
'The rain fell and the trees/plants grew.'

[3] In (22b, 23b) and in the rest of this chapter, I used the terms SUBJ and subject position for any NP/DP (argument or expletive) whose function is to syntactically saturate the predicate in the sense of Rothstein 2001.

b.



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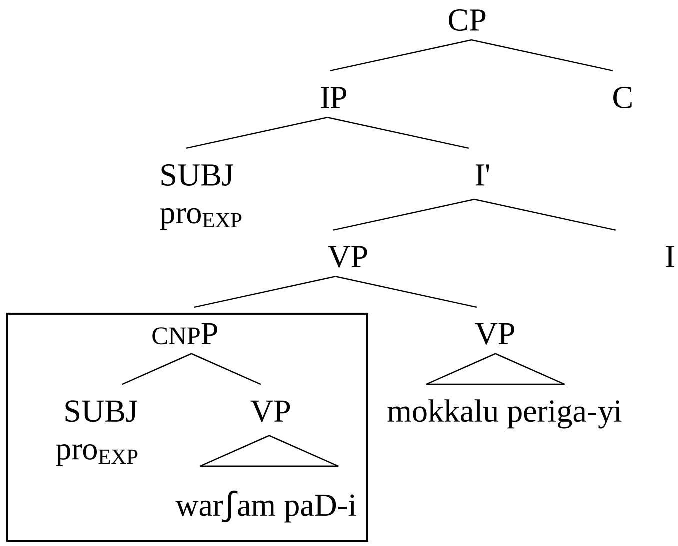


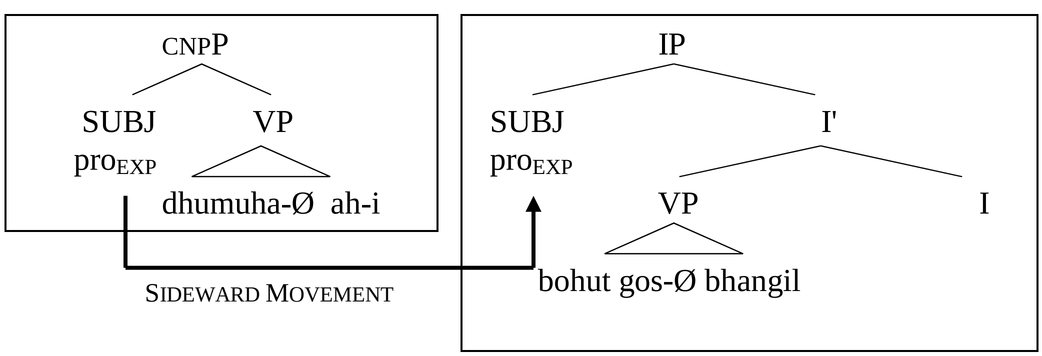
(23) Assamese

a.

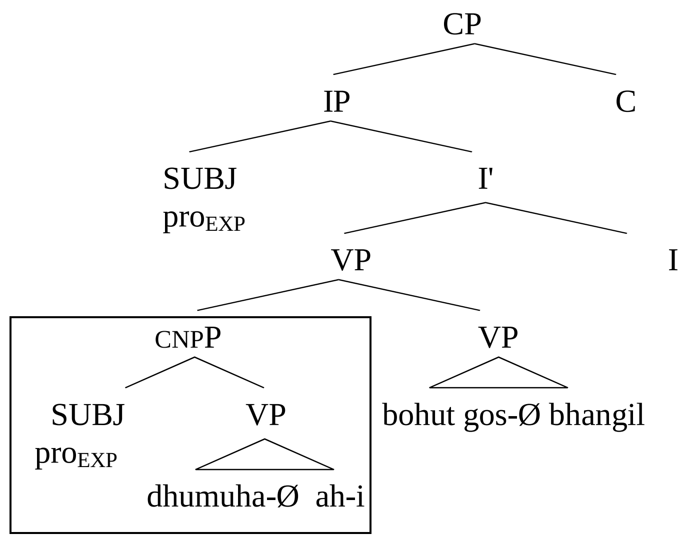
[dhumuha-Ø	ah-i]	bohut	gos-Ø	bhangil
[storm-ABS	come-CNP]	many	trees-ABS	broke

‘A storm came and many trees got broken.’

b.



c.



The sideward movement of the CNP subject to the matrix clause is made obligatory by the Vehicle Requirement on Set and Pair Merge in (24), a repetition of (50) in Chapter 5. We saw in Chapter 5 that the CNP clause is not a goal. According to (24c), it can merge with the matrix clause only if the CNP predicate is syntactically saturated by an element in the matrix predicate. Nevertheless, the CNP predicate is already syntactically saturated in accordance with the definitions of predicate and subject in (25-26). Assuming that the CNP clause is an IP, I' as a predicate is internally predicated of the non-argument subject pro_{EXP}. This is why, as a non-goal, the CNP clause may satisfy the Vehicle Requirement on Set and Pair Merge only if it shares its subject with the matrix clause. In this way, the same element that saturates the CNP clause will be an element in the matrix clause. Note that this requirement is independent of the thematic content — or lack of content — of the CNP subject. Whatever saturates the CNP predicate moves in order to license the merge of the CNP clause with the matrix clause.

(24) The Vehicle Requirement on Set and Pair Merge

a. β undergoes Set Merge with a probe α if β is a goal and a feature F on β matches a feature F on α.

b. β undergoes Pair Merge with α if β is a potential goal for some probe γ.

c. If β is a non-goal, it undergoes Set/Pair Merge with α if β is predicated of an element in α

d. A (potential) goal is a syntactic object with some feature F. A non-goal is a syntactic object with no features.

(25) A predicate is an open constituent/a non-proposition. It has to be predicated of – or syntactically saturated by – a subject in order to become a maximal constituent/a proposition. A predicate may take one of the following forms:

a. A maximal projection (e.g., a VP): When syntactically saturated, this kind of predicate is externally predicated of a subject. That is, the predicate and its subject form a proposition whose properties are not dictated by the head of the predicate (e.g., [$_{vP}$ Subject [$_{VP}$ predicate]]; or

b. I': This is the only predicate that is a non-maximal projection. When syntactically saturated, I' is internally predicated of a subject. In other words, I' and its subject "form a maximal constituent whose properties are dictated by the I" (e.g., [$_{IP}$ Subject [$_{I'}$ I^0]]). (Rothstein 2001: 19, 47-49, 118-120)

(26) A subject is a non-predicate. It is a structural construct that may take one of the following forms:

a. An argument; for example, an agent functioning as a subject of a transitive predicate, or an experiencer functioning as a subject of a psych predicate

b. A non-argument; for example, an expletive functioning as a subject of an unaccusative or a raising predicate. (Rothstein 2001: 18-20, 60-65)

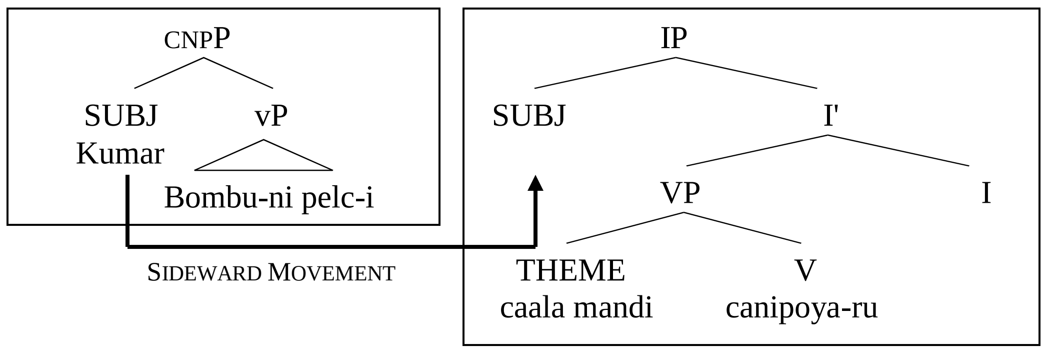
If the CNP predicate or the matrix predicate is not unaccusative, the result is ungrammaticality, as the examples in (8-11) above illustrate. Here is why. Observe the Telugu example in (27a). The CNP predicate is transitive, with *Kumar* as an external argument/subject. In order to satisfy (24c), the CNP clause must have its subject move to the matrix predicate. As (27b) shows, by the time *Kumar* undergoes sideward movement, the only available position is Spec,IP. This is not an appropriate landing site for the argument *Kumar* for reasons to be specified in the following section. The movement of the CNP subject is not optional, however. It has to take place in order to license the merge of the CNP clause. In this case, sideward movement fails to take place. Consequently, the structure does not converge. Note that the structure would converge if the CNP subject merges in the theme position in the matrix clause, as (27c) shows. The result is (27d).

(27) Telugu

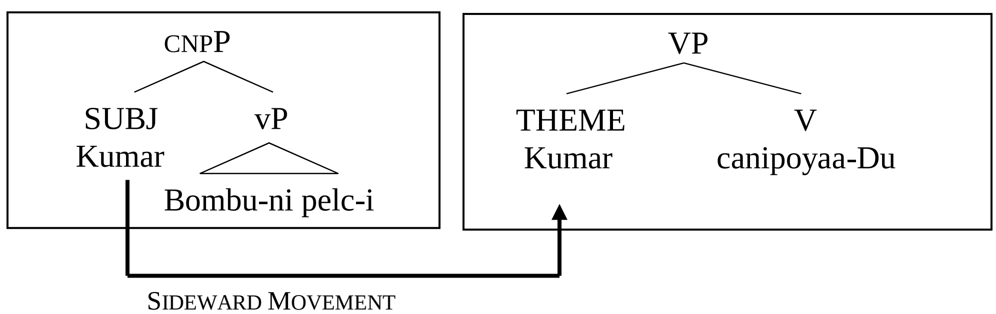
a. *[Kumar bombu-ni pelc-i]
[Kumar.NOM bomb-ACC explode-CNP]

caala mandi canipoya-ru
many people.NOM died-3.M.P
'Kumar exploded a bomb, and many people died.'

b.



c.



d. [Kumar bombu-ni pelc-i]
[Kumar.NOM bomb-ACC explode-CNP]

atanu/ aa pichooDu/Kumar canipoyaa-Du
he.NOM/ that idiot.NOM/Kumar.NOM died-3.M.S
'Kumar exploded a bomb, and Kumar died.'

Conversely, if the matrix predicate is transitive (or unergative) while the CNP predicate is unaccusative, as exemplified in (28a), the null expletive pro$_{EXP}$ in the CNP clause undergoes sideward movement to Spec,IP of the matrix clause, as (28b) illustrates. Yet, the derivation crashes. It suffices to say — or stipulate — that neither Assamese nor Telugu allows transitive expletive constructions of the type attested in Icelandic. In this sense, the argument in Spec,vP of the matrix clause has the ‘right of way’ to Spec,IP. This is why the sideward movement of the CNP expletive does not lead to a convergent derivation.

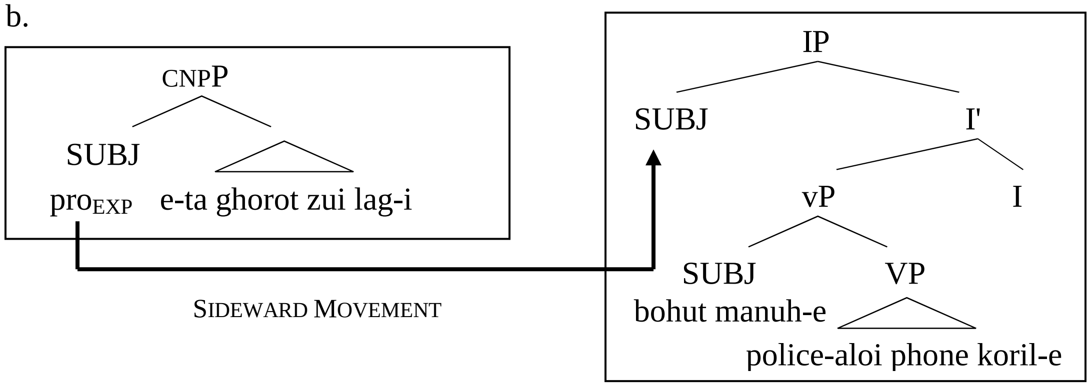
(28) Assamese

a.

*[pro_{EXP}	e-ta	ghorot	zui	lag-i]	
[pro_{EXP}	one-CL	house-LOC	fire	happen-CNP]	
bohut	manuh-e	police-aloi	phone	koril-e	
many	people.NOM	police-DAT	phone	did-3	

‘A house burnt and many people called the police.’

b.

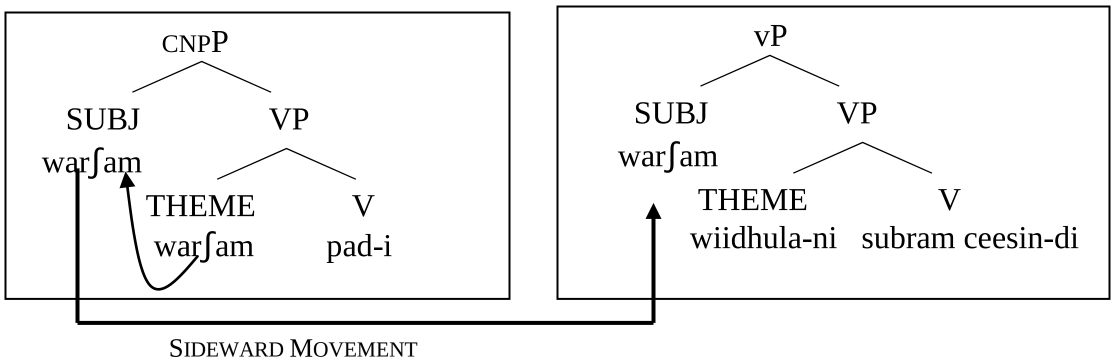


It is worth noting that the theme of an unaccusative CNP predicate may raise to the subject position and syntactically saturate the CNP predicate. Accordingly, in the event of a transitive or unergative matrix predicate, the theme of the CNP clause may itself move to the matrix clause (unless, of course, the theme and the matrix predicate are semantically incompatible). In this way, the derivation is salvaged, resulting in an Adjunct Control structure similar to the ones analyzed in Chapters 3 and 4. Sentence (29a) is an example. As (29b) shows, *warʃam* ‘the rain’ starts out in the theme position of the CNP clause, after which it moves to the subject position intra-clausally. Following, it undergoes sideward movement to Spec,vP of the matrix clause, thus licensing the merge of the CNP clause in accordance with part (c) of the Vehicle Requirement on Set and Pair Merge in (24).

(29) Telugu

a. [warʃam pad-i] adi wiidhula-ni subram ceesin-di
[Rain fall-CNP] it streets-ACC clean did-3.N.S
'It rained, and the rain washed/cleaned the streets.'

b.



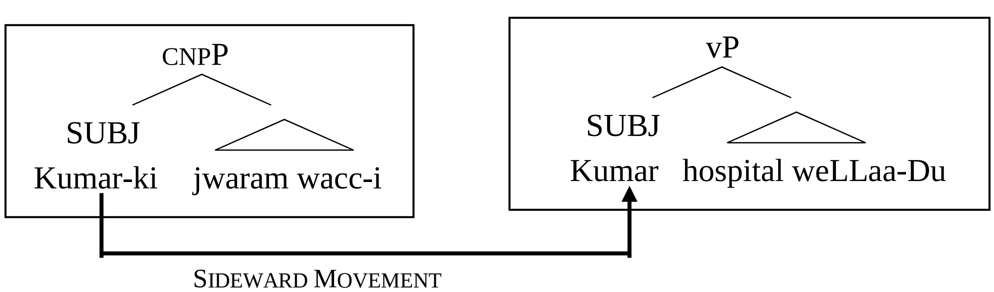
The derivational history of the Expletive Control structures in (22) and (23) differs from that of the control structures analyzed in Chapters 2 and 3 in two more ways. These are related to the landing site of pro_{EXP} and to the late merge of the CNP clause. Sections 6.3.1 and 6.3.2 lay out the details.

6.3.1 Adjunct Control and the Target of Sideward Movement

Consider the Forward Control structure in (30). As (30b) shows, when the CNP subject undergoes sideward movement, it copies out of the CNP clause and merges in matrix Spec,vP. Compare to (22b) and (23b) where the CNP subject merges in Spec,IP of the matrix clause.

(30) Telugu
Kumar [~~Kumar-ki~~ jwaram wacc-i] hospital weLLaa-Du
Kumar.NOM [~~Kumar-DAT~~ fever come-CNP] hospital went-3.M.S
'Having had a fever, Kumar went to hospital.

b.



This difference between (30) and (22-23) should not be a problem if the restriction on the landing site of sideward moving elements formulated in (31), a repetition of (45) in Chapter 4, is correct. In (22) and (23), the CNP subject, pro_{EXP}, undergoes first merge in a phi position. According to (31), when pro_{EXP} undergoes sideward movement, it should land in the same position, which it does. Compare to (30) in which the CNP subject undergoes first merge in a thematic position. When it undergoes sideward movement, its landing site is a thematic position.

(31) If an element α targets a position X when it undergoes first merge, α targets X when it undergoes sideward movement.
A position X can be a thematic position, a phi position, or a discourse position.

The restriction is built on the following assumption. When an element moves intra-clausally, it has to copy out of its position and merge in a higher c-commanding landing site that is a root (i.e., a landing site that is c-commanded by no other node). This is in accordance with the Extension Condition which holds that "merge applies at the root only" for the purpose of extending the structure (Chomsky 1995: 248). When an element undergoes sideward movement, however, it obeys the extension condition without having to merge in a c-commanding position. As a matter of fact, it cannot merge in a c-commanding position (Hornstein and Kiguchi 2001: 11). Rather, the sideward moving element makes itself available in the computational workspace in the same way that an element in the numeration is available in the computational workspace. I assume that it undergoes merge in the same way an element selected from the numeration undergoes merge. That is, they both target the same locus.

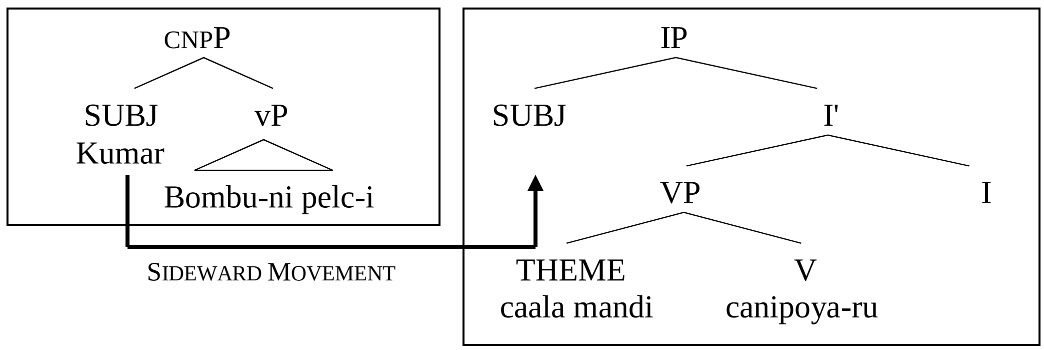
The principle in (31) also explains why sentence (27a) above, repeated as (32), is not a possible structure. As an argument, the subordinate subject *Kumar* undergoes first merge in a thematic position. According to (31), it must also target a thematic position when it undergoes sideward movement. This explains why matrix Spec,IP is not an appropriate landing site.

(32) Telugu

a. *[Kumar bombu-ni pelc-i]
[Kumar.NOM bomb-ACC explode-CNP]

caala mandi canipoya-ru
many people.NOM died-3.M.P
'Kumar exploded a bomb, and many people died.'

b.



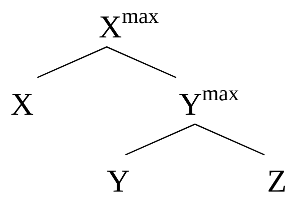
Note that Case and theta-role cannot account for the ungrammaticality of (32a). As I explained in Chapter 4, by the time the subordinate subject undergoes sideward movement, it has already taken on Case and a theta-role. Therefore, it has a need for neither. At the same time, under the view that multiple Case checking and multiple theta-roles are possible, either Spec,vP or Spec,IP of the matrix clause must be an appropriate landing site for the sideward moving subject. Yet, only the former leads to a convergent structure. The restriction in (31) is able to explain why this is so.

The following section deals with the issue of late merge that is brought on by Expletive Control.

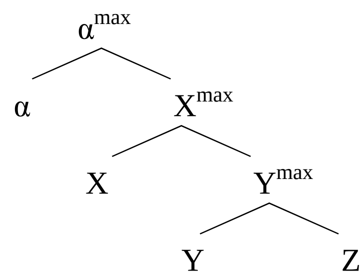
6.3.2 Expletive Control and Late Merge

In addition to Set vs. Pair Merge, merge can be further divided into cyclic merge and late merge. Cyclic merge obeys the Extension Condition in that it applies at the root of the structure, extending it and forming a new category. For example, consider the structure M in (33). If there is an object α that needs to undergo cyclic merge with M, merge can only apply to X^{max} because this the only category that is not c-commanded by any other category. After Merge applies, the structure is extended, yielding a new syntactic object L, such that L = {α, {α, M}, as (34) shows.

(33) M =

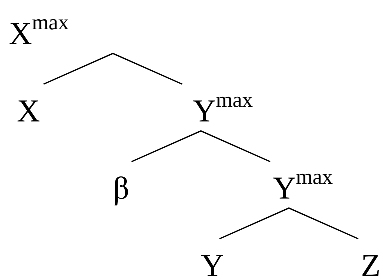


(34) L =



What if an element β undergoes merge with Y^{max} in (33), resulting in the structure in (35)? Since Y^{max} is not a root (i.e., it is c-commanded by another category X), such an instance of merge is considered as counter-cyclic merge, also known as late merge.

(35) M =

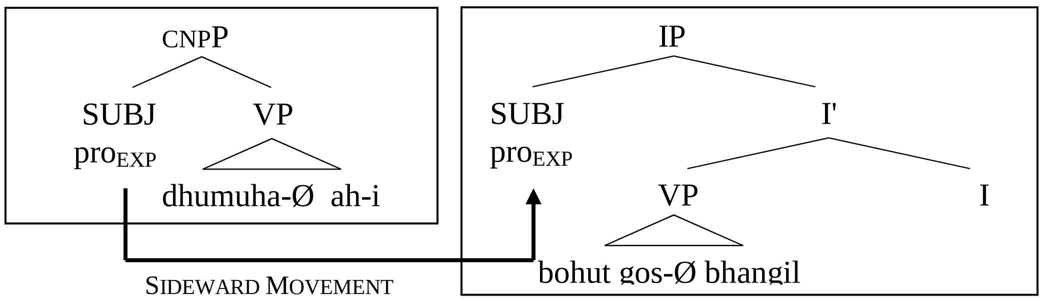


The Adjunct Control structures examined in the previous chapters only involve cyclic merge in the sense that all merge, including the merge of the CNP clause with the matrix clause, applies to the root. Expletive Control, on the other hand, may involve late merge. Consider (23), repeated below as (36). By the time the CNP subject undergoes sideward movement in (36b), the matrix clause has already projected as high as IP. Following, the CNP clause either adjoins to the matrix clause at VP (36c) or waits till matrix C^0 projects and merge at CP (36d). The latter scenario is not a problem since no late merge is involved. In (36c), however, VP is no longer a root because it is dominated by IP. That is, the CNP clause undergoes late merge.

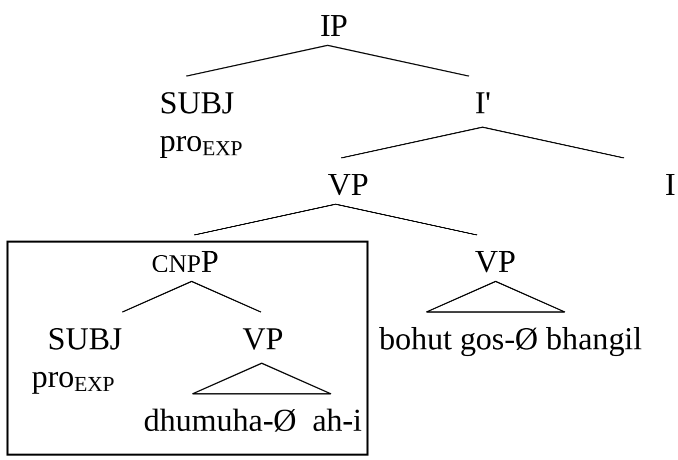
(36) Assamese

a. [dhumuha-Ø ah-i] bohut gos-Ø bhangil
[storm-ABS come-CNP] many trees-ABS broke
'A storm came and many trees got broken.'

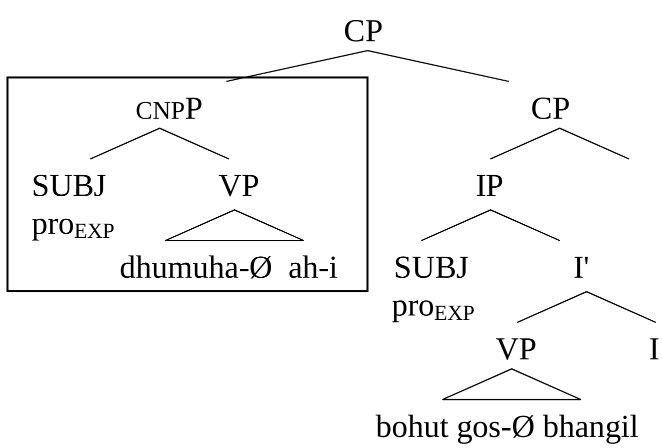
b.



c.



d.



An easy way out of this dilemma is to assume that the CNP clause in Expletive Control structures can only undergo merge at CP of the matrix clause in order to avoid late merge, and that (36d) is the only possible derivation. In this respect, Expletive Control structures will be similar to Copy Control structures. Nevertheless, considering that nothing crucial hinges on this assumption, and given that late merge will be needed for the discussion of English Expletive Control in the following section, I will continue to assume that (36c) is a possible derivation.

Late merge is unpopular in Nunes's (2004) system, however. He bans it from the theory and argues that all merge, including the merge of adjuncts, is cyclic. The theoretical gain behind Nunes's approach is obvious. Everything being equal, a grammar with cyclic merge is better than a grammar with cyclic and late merge. On the empirical side, cancelling late merge from the grammar helps avoid unwanted occurrences of sideward movement like (37) below, which is an adjunct island violation (Nunes 2004: 116-118).

(37) *Which man did you call your brother before meeting?

In order to see how the violation is induced, let us assume that late merge is allowed. The derivational history of (37) will be (38). The adjunct clause and matrix vP form independently in (38a). Matrix vP extends into IP in (38b) and then CP in (38c). At this point, the WH feature in matrix CP causes the wh-phrase [which man] to undergo sideward movement. It copies (38d), and merges at Spec,CP (38e). Finally, the adjunct undergoes late merge at matrix vP, and the structure converges, contrary to fact.

(38) a. i. [$_{PP}$ before [$_{CP}$ PRO meeting [which man]]][4]
ii. [$_{vP}$ you call your brother]

b. [$_{IP}$ you [$_{vP}$ you call your brother]]

c. [$_{CP}$ did [$_{IP}$ you [$_{vP}$ you call your brother]]]

[4] Nunes labels the adjunct in (33a) as a PP and the unpronounced subject as PRO.

d. [which man]

e. $[_{CP}$ [which man] did $[_{IP}$ you $[_{vP}$ you call your brother]]]

f. $[_{CP}$ [which man] did $[_{IP}$ you $[_{vP}$ $[_{vP}$ ~~you~~ call your brother]
$[_{PP}$ before $[_{CP}$ PRO meeting [which man]]]]]]]

In order to avoid such derivations, Nunes (2004: 119-121) maintains that all merge should be cyclic. In other words, if the adjunct in (38a-i) is supposed to merge at matrix vP, it should do that right after step (38a-ii). Consequently, the derivation proceeds as in (39). The adjunct and matrix vP form independently (39a), and undergo merge (39b). Matrix vP extends into IP (39c), and then CP (39d). The wh-feature of matrix CP triggers the movement of [which man] into Spec,CP. Nevertheless, the adjunct containing [which man] has already become an island upon merge. Movement out of an island is disallowed. Consequently, the wh-feature of matrix CP does not get checked, and the structure crashes. Unlike late merge, cyclic merge does not overgenerate ungrammatical structures.

(39) a. i. $[_{PP}$ before $[_{CP}$ PRO meeting [which man]]]
ii. $[_{vP}$ you call your brother]

b. $[_{vP}$ $[_{vP}$ you call your brother] $[_{PP}$ before $[_{CP}$ PRO meeting [which man]]]]]

c. $[_{IP}$ you $[_{vP}$ $[_{vP}$ you call your brother] $[_{PP}$ before $[_{CP}$ PRO meeting [which man]]]]]]

d. $[_{CP}$ did $[_{IP}$ you $[_{vP}$ $[_{vP}$ you call your brother]
$[_{PP}$ before $[_{CP}$ PRO meeting [which man]]]]]]]

Let us assume for a moment that late merge is a necessity. This assumption may have a chance of survival if it can be supported with empirical evidence independent from Expletive Control and parasitic gap constructions, and if the problem in (37-38) can be solved without resorting to cyclic merge. Section 6.3.2.1 presents evidence from the literature that late merge is needed on independent grounds. Section 6.3.2.2 proposes a solution for (37-38) that does not require the banning of late merge.

6.3.2.1 Late merge: empirical evidence

Several researchers have argued that late merge of adjuncts is possible (e.g., Lebeaux 1988, 1991; Fox and Nissenbaum 1999). Stepanov 2001, building on work by Lebeaux (1988, 1991) and Chomsky (1995, 2000) among others, holds that adjuncts can only undergo late merge. He proposes an algorithm of phrase structure building that forces late merge of adjuncts. He modifies Chomsky's (2000: 136) idea that "operations do not tamper with the basic relations involving the label that projects" to formulate (40-41) (Stepanov 2001: 102-104 (16, 22)):

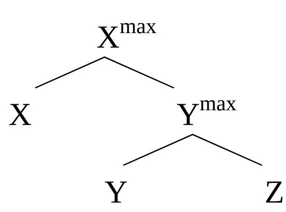
(40) Least Tampering
Given a choice of operations applying to a syntactic object labeled α, select one that does not change @ (α).

@ (X): a set of c-command relations in a syntactic object labeled X.

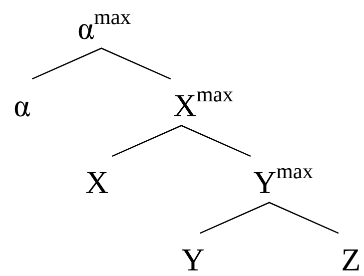
(41) Merge at the root when possible, where a root is a category that is c-commanded by no other category.

Here is what (40) tries to say. Consider the structures in (42-44). If merge needs to apply to the syntactic object M in (42), and there are two options, Set Merge of α (which yields the structure in (43)) or Pair Merge of β (which yields the structure in (44)), Least Tamper dictates that Set Merge should win. The reason is that the Set Merge of α does not change the c-command relations in M. As (43) shows, X still c-commands Y and Z. Whereas the Pair Merge of β changes the c-command relations in M. The structure in (44) indicates that X now c-commands Y, Z, and β.

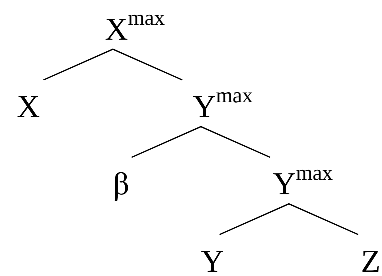
(42) M =



(43) L =

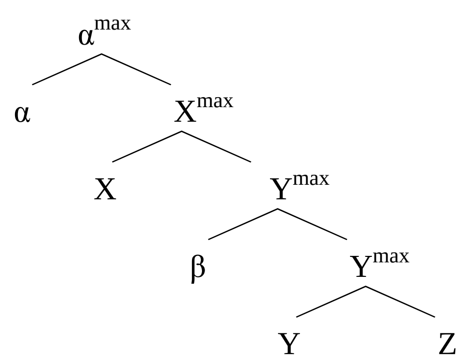


(44) M =



Adjunction is not totally banned. As (41) indicates, if merge at the root, or Set Merge, is not possible, Pair Merge applies. In other words, whereas the Pair Merge of β cannot take place before the Set Merge of α, it can certainly take place after, yielding the syntactic object L in (45).

(45) L =



Stepanov uses this algorithm to account for constructions that involve raising across an experiencer (e.g., (46)). Sentence (46a) can only mean that Tom enjoys shopping, which indicates that the subject of the embedded clause is itself *Tom* and that it has raised across the experiencer *to Sue* to land in Spec,IP of the matrix clause, as (46b) shows. The sentence cannot mean that Sue enjoys shopping. Although the experiencer position is a closer c-commander to the subject of the embedded clause, raising into this position is impossible, as the ungrammaticality of (46c) illustrates.

(46) a. Tom seems to Sue to enjoy shopping.

b. Tom seems to Sue [$_{IP}$ ~~Tom~~ to enjoy shopping].

c. *Tom seems to Sue [$_{IP}$ ~~Sue~~ to enjoy shopping].

Stepanov accounts for these facts by considering the experiencer *to Sue* as an adjunct. On his account, in order for (46) to converge with the intended meaning, (47a) has to form before the adjunct is inserted in (47b).

(47) a. Tom seems [$_{IP}$ ~~Tom~~ to enjoy shopping].

b. Tom seems [to Sue] [$_{IP}$ ~~Tom~~ to enjoy shopping]

Henderson (2007) independently arrives at the same conclusion that adjuncts can only merge “acyclically.” He argues that late merge of nominal adjuncts is not optional but compulsory, to the exclusion of verbal adjuncts of the type exemplified in (37-38) above. According to Henderson, a possible reason why nominal adjuncts and verbal adjuncts behave differently is “the site of adjunction in each case”;

> Verbal adjuncts must be adjoined to a position in the middle of the clause structure (vP); as such, verbal adjunction is an intermediate step in the derivation of a full clause. On the other hand, nominal adjuncts are presumably not adjoined to some lower projection within DP, but are merged to the DP itself. Therefore, nominal adjunction may be the final step in the derivation of a DP. This allows nominal adjuncts to be merged anytime after the construction of a DP, giving them the appearance of late merger. This conclusion is preliminary, however, and I leave further exploration of this division for further work. (Henderson 2007: 218)

Henderson’s preliminary conclusion can be accepted as a last resort. From a Minimalist perspective, however, it is preferable if all adjuncts merge in the same manner. From an empirical perspective, the Telugu and Assamese Expletive Control structures examined in this chapter, as well as the English Expletive Control introduced in Section 6.4, seem to allow adjuncts to undergo late merge. What remains to be done is to show that the unacceptability of (37) above is not due to late merge.

6.3.2.2 Parasitic gaps minus cyclic merge

Observe the structure in (37), repeated here as (48a), one more time. This structure is minimally different from the grammatical parasitic gap construction in (49a). Whereas *which man* in (48a) is the object of *meeting*, in (49a) it is the object of *call* and *meeting.* Comparing (48b) and (49b) shows that *which man* starts out in the thematic position of the adjunct in both sentences. When the wh-element undergoes sideward movement, it has the chance to land in a thematic position in the matrix clause in (49b) but not in (48b).

(48) a. *Which man did you call your brother before meeting?

b. $[_{CP}$ [which man] did $[_{IP}$ you $[_{vP}$ $[_{vP}$ you call your brother]
$[_{PP}$ before $[_{CP}$ PRO meeting [which man]]]]]]]

(49) a. Which man did you call before meeting?

b. $[_{CP}$ [which man] did $[_{IP}$ you $[_{vP}$ $[_{vP}$ you call [which man]]
$[_{PP}$ before $[_{CP}$ PRO meeting [which man]]]]]]]

If the restriction in (31) above, repeated below as (50), is correct, then we are able to account for the ungrammaticality of (48) without resorting to cyclic vs. late merge. The structure in (48) is ungrammatical because the sideward moving wh-element is not able to target the position it normally targets when it undergoes first merge. The reason is that the position is already filled with the NP *your brother*. Notice that the restriction is not violated in the grammatical structure in (49). *Which man* undergoes first merge in the thematic domain of the adjunct. When it undergoes sideward movement, it targets the same domain.

(50) If an element α targets a position X when it undergoes first merge, α targets X when it undergoes sideward movement.
A position X can be a thematic position, a phi position, or a discourse position.

This approach to parasitic gaps is certainly oversimplistic. Any attempt at a thorough examination of parasitic gaps goes beyond the scope of this work (Nunes 2001, 2004, and works within). The main points of section 6.3.2 are the following. First, late merge is needed to account for Expletive Control in Telugu and Assamese. Second, late merge seems to be needed on independent grounds. Last, the structures that are believed to be overgenerated by late merge in Nunes 2004 can be avoided by adopting the restriction in (50).

This chapter has assumed that Expletive Control is a fact about Telugu and Assamese, and that Expletive Control exists. This assumption is problematic when looked at from the perspective of English which does not allow Expletive Control of the type encountered in Telugu and Assamese. The following section spells out the details and tries to show that the difference between Telugu and Assamese on the one hand and English on the other hand follows from the nature of expletives and from the Vehicle Requirement on Set and Pair Merge.

6.4 Expletive Control in English vs. Telugu and Assamese

There are three types of expletives in English. These are weather *it* (51a), extraposition *it* (51ab), and *there* (51c) (Chomsky 1981, Svenonius 2002, among many others).

(51) a. Weather *it*
It always rains in August.

b. Extraposition *it*
It is clear that Tom is going to win.

(c) *there*
There is one secretary in that office.

Of the three types, the first two may participate in Adjunct Control structures similar to (52). In other words, Expletive Control structures of the types exemplified in (53a) (Svenonius 2002: 6 (5a)) and (53b) (Williams 1994: 91 (45)) are possible.

(52) Tom left [without saying goodbye].

(53) a. Weather *it*
It often clears up here [right after snowing heavily].

b. Extraposition *it*
It can seem that someone is guilty [without seeming that they actually committed a crime].

Concerning the third type in (51c), Lasnik (1992) observes that Expletive Adjunct Control structures in which *there* is the expletive are not possible in English (e.g., (54a-b)) unless the expletive is also phonologically realized in the subordinate clause (e.g., (55a-b)). Note that Adjunct Control structures that involve an argument do allow (actually require) a silent subordinate subject (e.g., (56a-b)) (Lasnik 1992: 244 (51-54)).

(54) a. *[Having been a robbery] there was an investigation.
b. *There was a crime [without being a victim].

(55) a. [There having been a robbery] there was an investigation.
b. There was a crime [without there being a victim].

(56) a. [Having witnessed the robbery] John aided the investigation.
b. Harry was a witness [without being a victim].

The Telugu and Assamese Expletive Control structures examined in this chapter seem to involve an expletive that is more similar to *there* than to weather *it* or extraposition *it*. For example, in English *there*-expletive constructions, the verb does not show agreement with the expletive. Rather, the verb agrees with another NP that is associated with the expletive. This NP is standardly referred to as the associate. To illustrate, in (57a) the verb agrees with the singular associate *one secretary*, while in (57b) the verb shows plural agreement with *two secretaries*. Compare to English extraposition *it*-expletive constructions in (57c) in which the verb shows singular agreement with the expletive. This is true even if the extraposed element, which is not an NP but a CP, is plural by virtue of being a conjunct (e.g., (56d)). Radford (2004: 291-307) provides an overview.

(57) a. There is one secretary in this room.
b. There are two secretaries in this room.
c. It is clear that Tom is going to win.
d. It is clear that Tom is going to win and that Sue is going to feel jealous.

Like English *there,* Telugu null expletives, which I assume to exist in unaccusative structures, do not enter an agreement relation with the verb. The verb agrees with an associate NP, as (58a-b) show. In (58a), *warʃam* 'rain' is singular; the verb shows singular agreement. In (58b), *warʃaalu* 'rains' is plural; the verb shows plural agreement. Assamese cannot be tested in this respect because unaccusative verbs do not show agreement with their absolutive argument.[5]

(58) Telugu

a. pro_{EXP} warʃam paDin-di
pro_{EXP} rain.NOM fell-3.N.S
'It rained.' Literally: 'The rain fell.'

b. pro_{EXP} warʃaalu paDaa-yi
pro_{EXP} rain.NOM fell-3.N.P
'It rained.' Literally: 'The rains fell.'

This observation gives rise to three questions delineated below. The first two are most central for our purposes:

- **Question 1**: Why is *there*-Expletive Control banned in English?
- **Question 2**: Are the Telugu and Assamese structures examined in this chapter real instances of Expletive Control?
- **Question 3**: Given that *there*-Expletive Control is banned in English, why is *it*-Expletive Control allowed?

I address these questions in the following sections. Section 6.4.1 presents an analysis of (54-55) within the movement approach to control as proposed by Hornstein (2001). Section 6.4.2 presents an alternative analysis, suggesting that the lack of *there*-Expletive Control in English

[5] I did not have the chance to test whether Telugu and Assamese allow Expletive Control structures that pattern with the English *it*-Expletive Control structures in (52). Even if such structures exist, the problem that this section addresses persists. In other words, it will still be mysterious why Telugu and Assamese would allow Expletive Control structures in which the null expletive pro_{EXP} behaves like English *there,* while English does not allow the same type of structures. This section is meant to address this issue.

does not necessarily mean that this type of control does not exist. Section 6.4.3 briefly outlines the factors that make *it*-Expletive Control possible in English.

6.4.1 The Movement Approach to Expletive Control

Lasnik (1992) analyzes (54-55), repeated as (59-60), within the PRO Theory. He concludes that (59a-b) are ungrammatical with a subordinate PRO because expletives are "unindexed" NPs, while PRO needs to be indexed.[6] Therefore, "there is literally no way for expletive PRO to exist" (Lasnik 1992: 247). Since this study is based on the conviction that control is movement, the discussion in the rest of this section is limited to the movement approach.

(59) a. *[PRO having been a robbery] there was an investigation.
b. *There was a crime [PRO without being a victim].

(60) a. [There having been a robbery] there was an investigation.
b. There was a crime [without there being a victim].

Hornstein recognizes the problem presented in Lasnik 1992 and provides an analysis within the framework of the Movement Theory of Control. He argues that the unacceptability of (59a-b) follows from the generalization in (61), combined with the assumption that all merge — including the merge of adjuncts — is cyclic.

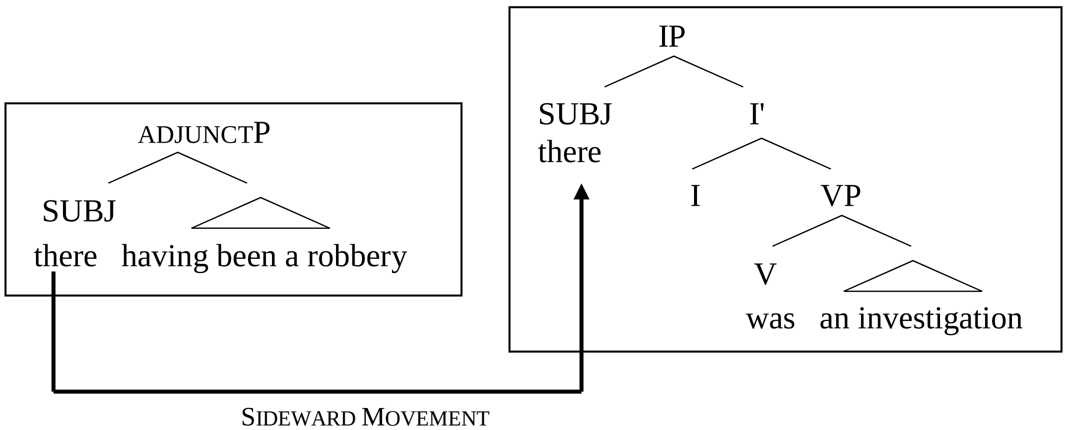
(61) Movement from the adjunct must proceed through a theta position in the matrix.
(Hornstein (2001: 120 (119))

To illustrate, observe the derivation of (59a) as presented in (62) below. The adjunct clause and the matrix clause form independently. Following, the subordinate subject undergoes sideward movement to the matrix clause and the adjunct clause undergoes merge with the matrix

[6] Lasnik distinguishes between three forms of indexation: 'indexed', 'contra-indexed', and 'unindexed'. Based on examples like (i-ii), he assumes that expletives – more particularly, *there* – are unindexed. If *there* is an indexed NP, this means that it binds *a man/men*, resulting in a Condition C violation. If *there* and *a man/men* are contra-indexed, there is no way to account for the agreement on the verb. An unindexed expletive, on the other hand, seems to solve the problem by assuming, following Chomsky (1965), that "non-distinctness is satisfied between two items when one is simply unspecified for a feature that the other has a value for" (Lasnik (1992: 246).
(i) There is a man in the room.
(ii) There are men in the room.

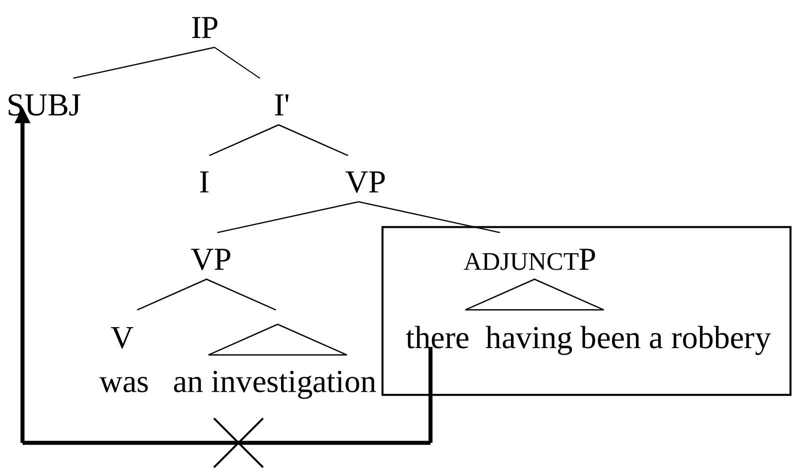
clause, assumingly at VP. According to Hornstein, if the former step takes place first, it blocks the latter. The reason is that the subordinate subject, being an expletive, can only move to Spec,IP of the matrix clause. This means that I^0 will have already projected by the time the adjunct has to merge with the matrix clause. In this case, the adjunct cannot undergo merge at VP of the matrix clause without violating the Extension Condition.

(62)



By the same token, if the adjunct merges cyclically at VP, the expletive subject can no longer move out of the subordinate clause, as (63) shows. This is so because upon merge the subordinate clause becomes an island.

(63)



Two points make Hornstein's analysis different from the one proposed in Sections 6.2 and 6.3. First, the generalization in (61) does not leave room for expletives. By positing the restriction that all sideward movement has to touch down in a thematic position, Hornstein only includes arguments. Expletives are generally considered as non-arguments and thus they do not merge in a thematic position. In this sense, his theory is not able to account for the *it*-Expletive Control structures in (53) above. Compare to (31), repeated below as (64), where no such restriction applies. An element α may be an argument or a non-argument.

(64) If an element α targets a position X when it undergoes first merge, α targets X when it undergoes sideward movement.
A position X may be a thematic position, a phi position, or a discourse position.

In addition, Hornstein assumes that all merge is cyclic. Section 6.3.2.1 presents empirical evidence that late merge is possible.

Let us assume that Telugu and Assamese allow Expletive Control. This assumption requires late merge of adjuncts and sideward movement into a phi position. Interestingly, the lack of *there*-Expletive Control in English is attributed to the impossibility of these two prerequisites. If Expletive Control is a fact about Telugu and Assamese, and if the analysis presented in Sections 6.2 and 6.3 is on the right track, the question is: How can we account for the lack of *there*-Expletive Control in English without banning late merge and sideward movement into a phi position and, more importantly, without banning Expletive Control completely?

Further, given that *it*-Expletive Control exists, and assuming that *it*-Expletive Control structures derivationally require late merge and sideward movement into a phi position, we can infer that the failure of the expletive to move to the matrix clause in English *there*-Expletive Control structures must be attribute to factors other than late merge or to movement into a phi position.

Recall from Chapter 5 that adjuncts in English are CP-goals. According to the Vehicle Requirement on Set and Pair Merge, it is enough for a syntactic object to be a goal in order to undergo Pair Merge. In other words, no movement of the subordinate subject is required in order to qualify the adjunct for merge. This may explain why structures like (65) below are possible. Such sentences do not involve movement at all. The subject of the adjunct is most likely *pro* similar to the *pro* licensed in pro-drop languages, as Borer (1989) and Kawasaki (1993) suggest. Notice that the identity of the unpronounced subject is determined via logophoricity. That is, it refers to "a thinker, perceiver, or some such, whose thoughts or feelings are reported by the sentence" (Williams 1992: 300 (8)).

(65) Having just arrived in town, the new hotel seemed like a good place for a stop.

The Vehicle Requirment on Set and Pair Merge is not the only reason why movement takes place. Movement may take place to check a feature of the moving element or to check a feature of the target. Both follow from one principle: Enlightened Self Interest. Let us check whether either of the two reasons may trigger the movement of the subordinate expletive in the English structure (59a), repeated below as (66a). First of all, the fact that the subordinate expletive has to be pronounced indicates that it has checked its Case feature, if it has one, and that it does not need to move for its own purposes. Note that this is true, not only of (66a) where the matrix subject is itself an expletive, but also for structures with disjoint subjects like (66b-c).

(66) a. There having been a robbery, there was an investigation.

b. You dont get that big without there being some condition, (be it physical or mental.)

c. No business shall be transacted without there being at least two Officers and two ordinary members present.[7]

[7] Sentence (58b) and (58c) are from the following webpages respectively (last retrieved May 2007):
http://training.fitness.com/members-lounge/im-watching-show-tlc-23098.html
http://www.psychology.nottingham.ac.uk/bns/Constitution.htm

Now we need to check whether the expletive may move to check a feature on the target. Such movement is not possible in the case of (66b-c). Take (66b), for example; the adjunct and the matrix clause form independently as (67a-b) indicate. At this point, Spec,vP of the matrix clause needs to be filled with an argument. The subject of the adjunct cannot satisfy this requirement because it is not an argument. Thus, the expletive cannot move. Note that the failure of the subordinate subject to move does not cause the English derivation to crash, as the grammaticality of (66b) indicates. A similar scenario in Telugu or Assamese, however, does not result in a convergent structure. The reason is that, unlike English adjuncts, Telugu and Assamese CNP adjuncts are non-goals whose merge is licensed by the movement of the CNP subject to the matrix clause.

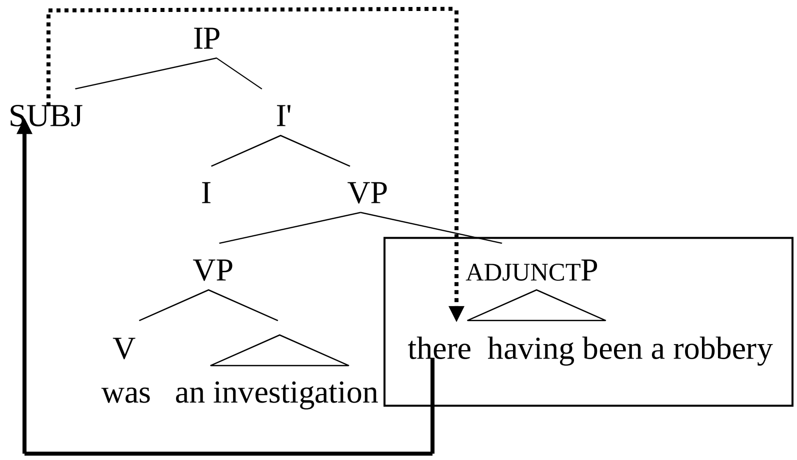
(67) a. [$_{\text{Adjunct}}$ there being some condition]
b. [$_{\text{Matrix vP}}$ get that big]

The movement of the expletive in (66b) is blocked by its inability to satisfy the thematic requirements of the matrix predicate. Sentence (66a) is a different story, however. The adjunct and the matrix clause form independently, as indicated in (68a-b). At this point, Spec,IP of the matrix clause needs to be filled with an expletive. If there is no expletive in the numeration that can do the job, the expletive in the adjunct must be able to satisfy this requirement. If this is true, then we expect the subordinate expletive to undergo sideward movement to Spec,IP of the matrix clause, as the solid arrow in (69) signifies. The two copies of *there* end up in a c-command relationship, symbolized by the dotted arrow. Accordingly, they must form a chain that is subject to Chain Reduction for the purpose of linearization. At PF, one of the copies must be deleted. This does not seem to happen, however.

(68) a. [$_{\text{Adjunct}}$ There having been a robbery]

b. $[_{\text{Matrix IP}}$ $[_{\text{VP}}$ was an investigation]

(69)



Several solutions/stipulations may be proposed to explain why (69) is not a possible derivation. The following section offers one.

6.4.2 Expletives Are Inserted as Needed

In the *Lectures on Government and Binding*, Chomsky (1981: 86) assumes a *there*-insertion rule that "permits *there* to be inserted in any position freely." This rule came to mean that expletive insertion is an operation that comes for free in order to satisfy the EPP (Chomsky and Lasnik 1995: 123; Sabel 2000: 412).

Within the framework of the Minimalist Program (Chomsky 1995 and subsequent work), the rule is banned by the Inclusiveness Condition. According to Chomsky (2004: 107), "optimally, mapping [a numeration to a derivation] will satisfy the Inclusiveness Condition, introducing no new elements but only rearranging those of the position." In other words, it is optimal if the computation has access only to those elements that have already been selected in the numeration.

The word *optimally* seems to suggest that there are cases that allow — or even favor — the insertion of new elements in the process of the derivation that have not been selected in the numeration. One such case is dummy-*do* insertion, as exemplified in (70).

(70) Who did Sue help?

Such off-line insertions seem to be possibly only if they do not violate Full Interpretation which requires that all material be legible at the interfaces. To elaborate, Full Interpretation "precludes introducing material with phonological content at LF or material with semantic content at PF, either of which would cause the derivation to crash" (Franks 2005: 2). Based on this view, Franks adds that "nothing necessarily prohibits the insertion of phonologically silent material in LF or semantically vacuous material in PF." If we consider dummy-*do* as semantically vacuous, then its insertion must not induce a violation of Full Interpretation at PF. The same applies to expletives; they are generally considered semantically vacuous, used to fill the subject position (Sabel 2000: 412, fn. 1). Therefore, expletive insertion at PF should be allowed.

Allowing dummy-*do* insertion, although theoretically undesirable, seems not to create empirical problems. Allowing expletive insertion, however, means failing to explain why both (71a) and (71b) are allowed. As (72) illustrates, if expletive insertion comes for free, it should always win over movement, which is generally considered a more costly operation.

(71) a. There are three men in the room.
b. Three men are in the room.

(72) $[_{IP}$ $\boxed{\textit{there}\text{-insertion}}$ ______ $[_{I'}$ are [three men [in the room]]]

Structures like (71a-b) have led to the assumption that expletives respect the Inclusiveness Condition (i.e., they undergo merge only if they are in the numeration). The difference between

(71a) and (71b) is then attributed to the fact that the two sentences start out with two different numerations. These are (73a) and (73b) respectively. The former contains an expletive, while the latter doesn't.

(73) a. {there$_1$, are$_1$, three$_1$, men$_1$, in$_1$, the$_1$, room$_1$}
b. {are$_1$, three$_1$, men$_1$, in$_1$, the$_1$, room$_1$}

The assumption behind this approach is that (71a) and (71b) carry the same meaning and that the only difference between the two is that (71a) has an extra meaningless element that appears in a subject position. This is not necessarily true, however. As noted by several researchers (Dikken 1995, Felser and Rupp 2001, and Sabel 2000, among many others), lexical NPs in sentences with expletives always have a non-specific reading or narrow scope. Consider the sentences in (74). Whereas (74b) allows either "a specific or non-specific reading of *a man*," (74a) "allows only a non-specific reading." Besides, *many* in (74c) "has wide or narrow scope with respect to *not*," whereas *many* in (74d) "has only narrow scope; that is, it cannot take scope over the negation" (Sabel 2000: 413 (6)).

(74) a. There is a man in the garden
b. A man is in the garden
c. There are not many men in the garden
d. Many men are not in the garden

Williams (1994) uses the scope distinction between (74c) and (74d) to argue that the NP *many men* in (77c) is a predicate saturated by the subject *there*. He holds that if the NP *many men* were a subject, it would undergo Quantifier Raising and have wide scope. The fact that it can only have narrow scope indicates that it is a predicate, and "predicates are not subject to Quantifer Raising" (136).

Although Williams does not really specify whether *there* is inserted off-line or selected in the numeration, his analysis suggests that the difference between (71a) and (71b) resides in the behavior of the NP *three men*. In (71a), the NP remains downstairs. Syntactically it functions as a predicate. Semantically it allows a strictly non-specific reading. In (71b), the NP *three men* moves to Spec,IP. In this way, it functions as a subject, and it allows a specific or non-specific reading. Based on Williams's conclusion, I suggest that the difference between (71a) and (71b) should not be attributed to whether the numeration contains an expletive. Rather, both structures start with the same numeration without an expletive. In (71a), the subject position is filled with an expletive via insertion because *the man* behaves as a predicate. In (71b), *the man* functions as a subject. No expletive insertion takes place. Rothstein 2001: 79 arrives at a similar conclusion.

In addition, expletive *there*, although phonologically present, syntactically plays no role at all. For one thing, it does not have a Case feature (Belletti 1988, Lasnik 1995, Chomsky 1995, 2000, and Hornstein 2007, among others). In addition, the verb behaves as if *there* is not there and agrees with *there*'s associate. This further indicates that the assumption that *there* is inserted rather than selected is not totally unreasonable.[8]

Let us assume that something along these lines is true. How does this reflect on the lack of Expletive Control in English? And why doesn't expletive insertion have the same effect on Expletive Control in Telugu and Assamese?

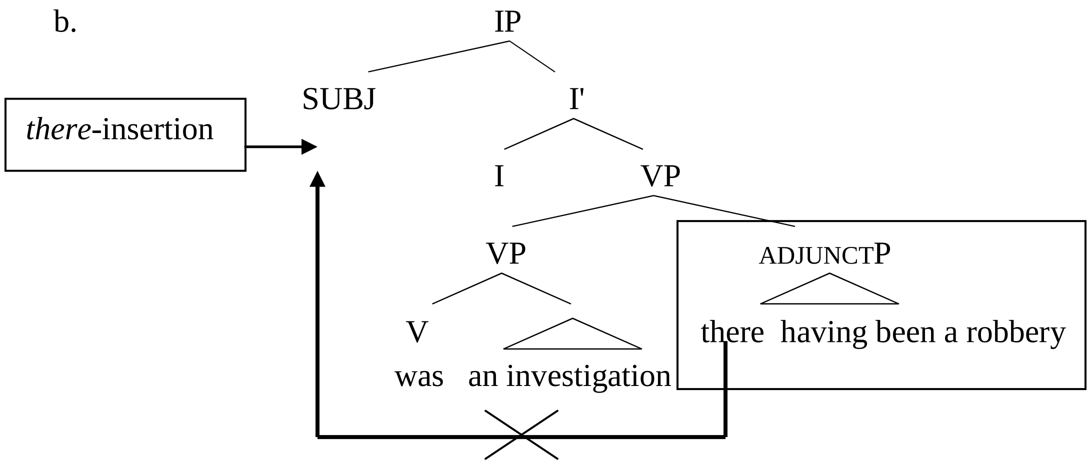
Concerning the first question, if expletive insertion is allowed, this means that expletives are always available for an instance of merge that satisfies the subject requirement of a clause. For example, at some point in the derivation of (66a) above, repeated below as (75a), Spec,IP of the matrix clause needs to be filled with an expletive. As (75b) illustrates, this need may be satisfied by merge, whereby an expletive is inserted as needed, or by sideward movement.

[8] The assumption that *there* is inserted rather than selected, combined with the observation that *there* is not syntactically present in a structure, raises the following question: When does insertion take place? I do not have a definitive answer to this question. However, given that the significance of *there* is in its phonological content, it can be speculated that insertion takes place at PF, probably before the domain in which *there* occurs is converted into a phonological word in the sense of Uriagereka (1999).

Expletive insertion comes for free and, in this sense, it is less costly than movement. Therefore, the expletive in the subordinate clause does not move.

(75) a. There having been a robbery, there was an investigation.

b.



This is not to say that expletives never undergo movement. Observe the raising structure in (76). The derivation of (76) is (77). The numeration in (77a) is selected from the lexicon; no expletive is included. The subordinate clause forms in (77b). Spec,IP is still empty and needs to be filled, a requirement that may be satisfied either by the movement of the NP *a man* or by expletive insertion. The choice depends on semantic requirements concerning specificity and/or scope. Let us assume that in this instance the choice is to have the NP *a man* unspecific, functioning as a predicate. This means that the NP remains in-situ. Accordingly, expletive insertion takes place, as (77c) shows. Following, the matrix clause projects in (77d), at which point Spec,IP of the matrix clause also needs to be filled. The expletive in Spec,IP of the subordinate clause satisfies this requirement, as indicated in (77e). The two copies of *there* form a chain. At PF, the chain undergoes Chain Reduction for the purpose of linearization, and the lower copy is deleted. The result is (77f).

(76) There seems to be a man in the room.

(77) a. {seems$_1$, to$_1$, be$_1$, a$_1$, man$_1$, in$_1$, the$_1$, room$_1$}

b. [$_{IP}$ _______ [$_{I'}$ to [$_{VP}$ be [$_{NP}$ a man] in the room]]]

c. *there*-insertion => $[_{IP}$ there $[_{I'}$ to $[_{VP}$ be $[_{NP}$ a man] in the room]]]

d. $[_{IP}$ ________ $[_{I'}$ $[_{VP}$ seems $[_{IP}$ there $[_{I'}$ to $[_{VP}$ be $[_{NP}$ a man] in the room]]]]]]

e. $[_{CP}$ $[_{IP}$ there $[_{I'}$ $[_{VP}$ seems $[_{IP}$ there $[_{I'}$ to $[_{VP}$ be $[_{NP}$ a man] in the room]]]]]]]

f. $[_{CP}$ $[_{IP}$ there $[_{I'}$ $[_{VP}$ seems $[_{IP}$ ~~there~~ $[_{I'}$ to $[_{VP}$ be $[_{NP}$ a man] in the room]]]]]]]

Obviously, the step in (77e) contradicts the analysis proposed for (75b). The derivation in (75b) arrives at the same crossroads experienced in (77d). That is, Spec,IP of the matrix clause needs to be filled, and two possibilities are available. These are merge via expletive insertion or the movement of the subordinate expletive. In (75b), expletive insertion wins because merge is less costly. In (77), movement seems to prevail, as indicated by the fact that no copy of *there* is phonologically realized in the subordinate clause.

The quick and easy answer is that movement takes place in (77e) because non-finite I^0 does not check the Case feature of *there*. This is a controversial idea considering the standard assumption that *there* does not have a Case feature to check (Belletti 1988, Lasnik 1995, Chomsky 1995, 2000, and Hornstein 2007, among others).

Another possible reason why (75) is saved by expletive insertion while (76) resorts to movement follows from the nature of the subordinate clause and the Vehicle Requirement on Set and Pair Merge. In (75), the subordinate clause is a CP, which is a goal. Movement out of a goal may only be triggered by Englightened Self Interest. In other words, an element in a goal may move to check a feature of its own or a feature of the target. The non-control sentences (66b-c) in Section 6.4.1 suggest that the expletive in English adjuncts does not need to move for its own purposes. This means that any movement should be triggered by a need of the target, which in this case is the EPP feature of matrix I^0. This kind of movement takes place only if pure merge is not available; that is, only if the numeration does not have an element that fulfills the need of the target, or if insertion is not availabe. This section assumes that expletive insertion is available as needed. Therefore, no movement is necessary.

In (76), on the other hand, the subordinate clause is a non-finite *to*-IP. As we saw in Chapter 5, such IPs are non-goals (at least not in English). According to the Vehicle Requirement on Set and Pair Merge, in order for a non-goal to undergo merge, it has to be predicated of an element in the matrix clause. The movement of the expletive in (76) helps fulfill this requirement. The expletive copies out of the subordinate clause and merges in the matrix clause. The two copies are non-distinct. In this way, the expletive that syntactically saturates the subordinate predicate is also the expletive in the matrix clause.

Concerning Telugu and Assamese Expletive Control, in Section 6.3 I suggested that the null expletive in the CNP clause undergoes sideward movement for the same reason the expletive in English raising structures undergoes movement. Both expletives move in order to license the merge of the non-goal subordinate clause that hosts them. If this analysis is correct, it explains why Expletive Control is possible in Telugu and Assamese but not in English.

The question that automatically follows is: How can we be sure that the two pro_{EXP}'s in the Telugu and Assamese constructions under examination are related by movement? In other words, can pro_{EXP} in the CNP clause and pro_{EXP} in the matrix clause be copies of two separate tokens? If this were the case, then we should also be able to find evidence for a structure with only one pro_{EXP} in either the CNP clause or the matrix clause, but not necessarily both. That is, we should be able to find a Telugu or Assamese Expletive Control structure that may be realized as non-control construction similar to the English sentence in (78). As (79-80) — repetition of (10-11) above — show, such structures are not acceptable.

(78) You dont get that big without there being some condition, (be it physical or mental.)

(79) Telugu

*[pro$_{EXP}$	bombu	pel-i]	ambulens	waccin-di
[pro$_{EXP}$	bomb.NOM	explode-CNP]	ambulance.NOM	came-3.N.S

‘A bomb exploded, and an ambulance came.’

(80) Assamese

*[pro$_{EXP}$	e-ta	ghorot	zui	lag-i]
[pro$_{EXP}$	one-CL	house-LOC	fire	happen-CNP]

bohut	manuh-e	police-aloi	phone	koril-e
many	people.NOM	police-DAT	phone	did-3

‘A house burnt and many people called the police.’

The following section briefly explains why it-Expletive Control is possible in English.

6.4.3 *It-* vs. *There*-Expletive Control in English

Unlike *there*-Expletive Control, *it*-Expletive Control is allowed in English as (53a-b), repeated here as (81a-b), illustrate.

(81) a. It often clears up here [right after snowing heavily].

b. It can seem that someone is guilty [without seeming that they actually committed a crime].

One way to account for this difference is to consider the expletive *it* as some kind of argument, an idea that has been argued for in the literature. Chomsky (1981: 323-325) considers weather *it* as a quasi-argument, and so does Svenonius (2002: 6). Further, several researchers have argued that extraposition *it* is referential in the sense that it is co-indexed with the extraposed CP (Bennis 1986, É Kiss 2002); Stroik (1996) even argues that it is base-generated in the specifier of the exptraposed CP. These views indicate that *it*-Expletive Control structures are derivationally similar to other Adjunct Control structures in which the subjects are arguments. This means that, unlike the derivation of *there*-Expletive Control structures, the derivation of *it*-Expletive Control structures proceeds cyclically. In this sense, Hornstein’s (2001) account as delineated in Section 6.4.1 suffices to explain why *there*-Expletive Control is not allowed.

What makes this view suspect is that the same argument can be made for *there*. For example, Bowers (2002) argues that *there* does not originate in Spec,IP. It is base-generated in Spec,VP before it moves to Spec,IP. If this is correct, then the derivation of *there*-Expletive Control structures must also proceed cyclically.

To avoid this dilemma, let us assume that both *it* and *there*, when used as expletives, are semantically vacuous, non-referential element that may not take on a thematic role. Further, let us assume that neither expletive may be base-generated as an argument or in the position of an argument. They both undergo first merge in Spec,IP. If this correct, then the acceptability of *it*-Expletive Control vs. the ungrammaticality of *there*-Expletive Control in English must be attributed to other factors, namely, the inherent differences between *it* and *there*.

One distinctive feature of expletive *it* is that it is not only phonologically but also syntactically present in a structure (Long 1961, in Postal and Pullum 1988: 650). The most obvious syntactic presence is manifested in Case and agreement. Expletive *it* is Case-marked. It can occur as the object of preposition in (82) (Postal and Pullum 1988: 649 (39a)). Further, as (83a-b) illustrate, the verb always agrees with Expletive *it* even if the extraposed CP is a conjunct.

(82) What do you make of it, then, that his mother is so evasive?

(83) a. It is obvious that Tom loves Sue.
b. It is obvious that Tom loves Sue and that Sue loves him back.

Expletive *there*, on the other hand, seems to be only phonologically but not syntactically present. As I mentioned earlier, it does not have a Case feature (Belletti 1988, Lasnik 1995, Chomsky 1995, 2000, and Hornstein 2007, among others). In addition, the verb behaves as if *there* is not there and agrees with *there*'s associate (e.g., (84a-b)).

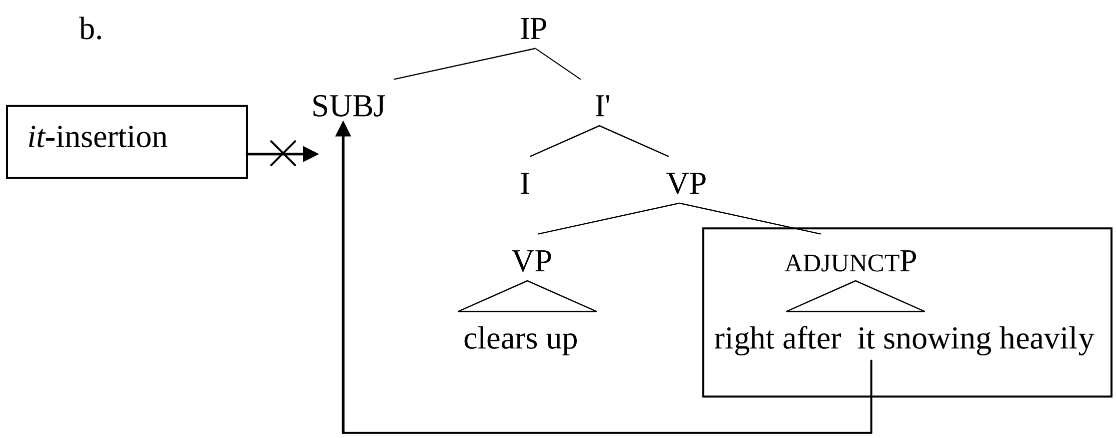
(84) a. There is a man in the room.
b. There are two men in the room.

Based on this comparison, it is reasonable to deduce that expletive *it*, unlike expletive *there*, cannot be inserted. Rather, it has to be selected in the numeration in order to take part in the derivation. This conclusion is in line with Postal and Pullum's (1988) argument that *it*, although an expletive par excellence, behaves like arguments in that it is subcategorized for.

If this idea is on the right track, this means that (81a) above, repeated here as (85a), has the derivation in (85b). The adjunct and matrix clauses form independently. At some point in the derivation, the numeration is exhausted and Spec,IP of the matrix clause still needs to be filled with an expletive. Since *it*-insertion is not an option, the only available expletive is *it* in the adjunct. Accordingly, *it* copies out of the adjunct and merges in matrix Spec,IP. The two copies form a chain. At PF, Chain Reduction applies, and the adjunct copy is deleted.

(85) a. It often clears up here [right after snowing heavily].

b.



6.5 Conclusion

The main purpose of this chapter was to show that structures that are normally referred to in the literature as exceptions to Adjunct Control into CNP clauses are not really exceptions. They are Expletive Control structures that are allowed only if the CNP clause and the matrix clause involve unaccusative predicates. The reason is that unaccusative predicates allow a null expletive to fill the subject position.

The chapter is certainly not an exhaustive account of Telugu and Assamese Expletive Control structures. Several issues remain unaddressed. For example, once unaccusative structures come into the picture, there is always the possibility that locative expressions play the role of the subject, resulting in what is usually referred to as locative inversion (Bresnan and Kanerva 1989, Bresnan 1994).

As a matter of fact, this idea is not far-fetched. Take sentence (86a) for example. It contains a locative expression. According to my consultants, both incidents are assumed to occur in the same location. In other words, the two clauses cannot be simply relating two events that happened in two different locations. To illustrate, sentence (86b) is ungrammatical because the CNP clause and the matrix clause involve two different locative expressions. It might be argued that (86b) is ungrammatical because the two clauses do not express a cause-effect relation. It is important to note that not all structures that involve a CNP clause express a cause-effect relation. Sentence (86c), for instance, does not mean that Kumar and Sarita left *because* they kissed each other; rather, it relates two incidents: kissing and leaving.

(86) Telugu

a.

[Kolkata-loo	bombu	pel-i]
[Calcutta-LOC	bomb.NOM	explode-CNP]

caala	mandi	canipoyaa-ru
many	people.NOM	died-3.M.P

‘A bomb exploded in Calcutta, and people died.’

b.

*[Kolkata-loo	bombu	pel-i]
[Calcutta-LOC	bomb.NOM	explode-CNP]

Hayderabad-loo	caala	mandi	canipoyaa-ru
Hyderabad-LOC	many	people.NOM	died-3.M.P

‘A bomb exploded in Calcutta, and people died in Hyderabad.’

c.	[muddu	peTTu-kon-i]	Kumar unnu Sarita	wellipooyaa-ru
	kiss	put-each other-CNP	Kumar and Sarita.NOM	left-3.M.P

‘Having kissed each other, Kumar and Sarita left.’

Another issue that is involved in Expletive Control constructions is the role of semantics. Although unaccusative CNP and matrix clauses are a prerequisite for Expletive Control to obtain, such structures seem to be limited to disasters and natural phenomena. The reason might be because speakers look at such incidents as whole events rather than a topic and a comment. In other words, a structure like (1a), repeated here as (87), does not depict a bomb or certain individuals and talks about them. Rather, it depicts two events: a bomb explosion and casualties. In this sense, the themes in (87) lack the quality of a topic. If we consider subjects to be topic-like (Rizzi 2005), then it is expected that the themes in (87) do not to raise to a subject position. Consequently, the subject position is filled with an expletive.

(87) Telugu

[bombu	pel-i]	caala	mandi	canipoyaa-ru
[bomb.NOM	explode-CNP]	many	people.NOM	died-3.M.P

‘A bomb exploded, and people died.’

In conclusion, the topic of Expletive Control in Telugu and Assamese, as well as in other languages in the Indian Subcontinent, deserves an extensive study in its own right. This chapter suggests that these structures do not pose a challenge to the analysis of Adjunct Control proposed in chapters 3 through 5. Nonetheless, the structures are themselves a challenge, as this conclusion hopes to have shown.

CHAPTER 7
SUMMARY AND CONCLUSION

7.1 Summary

I set out to explore Adjunct Control in two South Asian languages, Telugu and Assamese, within the Minimalist Program of syntactic theory (Chomsky 1995 and subsequent work). Adjunct Control structures comprise two obligatorily coreferential subjects, one in the matrix clause and one in the adjunct/subordinate clause. Telugu and Assamese have non-finite Conjunctive Participle (CNP) clauses that function as adjuncts. Both languages show evidence of Adjunct Control into CNP clauses.

Three types of Adjunct Control were examined. These are Forward Control, Backward Control, and Copy Control. As (1) illustrates, in Forward Control structures the matrix subject is pronounced while the CNP subject is implied. Conversely, in Backward Control structures the CNP subject is pronounced and the matrix subject is implied. Copy Control contains two pronounced subjects.

(1) Types of Adjunct Control

a.	Forward Control	[$_{\text{Matrix}}$	[$_{\text{Matrix}}$ Subject…]	[$_{\text{CNP}}$ ~~Subject~~…]]
b.	Backward Control	[$_{\text{Matrix}}$	[$_{\text{Matrix}}$ ~~Subject~~…]	[$_{\text{CNP}}$ Subject…]]
c.	Copy Control	[$_{\text{Matrix}}$	[$_{\text{CNP}}$ Subject…]	[$_{\text{Matrix}}$ Subject…]]

In Chapter 2, I presented evidence for the different types of control. As (2-4) demonstrate, Telugu licenses all three types of control delineated in (1), while Assamese licenses only Forward and Copy Control. Backward Control structures in Assamese are judged as degraded or unacceptable.

(2) Forward Control

a. Telugu

Kumar	[~~Kumar-ki~~	aakali	wees-i]	sandwic	tinnaa-Du
Kumar.NOM	[~~Kumar-DAT~~	hunger	fall-CNP]	sandwich	ate-3.M.S

'Having felt hungry, Kumar ate a sandwich.'

b. Assamese

Ram-e	[~~Ram-Or~~	bhok	lag-i]	posa	bhat	khal-e
Ram-NOM	[~~Ram-GEN~~	hunger	feel-CNP]	stale	rice	ate-3

'Ram felt very hungry, and the poor guy ate stale rice.''

(3) Backward Control

a. Telugu

~~Kumar~~	[Kumar-ki	aakali	wees-i]	sandwic	tinnaa-Du
~~Kumar.NOM~~	[Kumar-DAT	hunger	fall-CNP]	sandwich	ate-3.M.S

'Having felt hungry, Kumar ate a sandwich.'

b. Assamese

??~~Ram-e~~	[Ram-Or	bhok	lag-i]	posa	bhat	khal-e
~~Ram-NOM~~	[Ram-GEN	hunger	feel-CNP]	stale	rice	ate-3

'Ram felt very hungry, and the poor guy ate stale rice.''

(4) Copy Control

a. Telugu

[Kumar-ki	aakali	wees-i]
[Kumar-DAT	hunger	fall-CNP]

atanu / aa pichooDu / Kumar	sandwic	tinnaa-Du
he.NOM / that idiot.NOM / Kumar.NOM	sandwich	ate-3.M.S

'Having felt hungry, Kumar ate a sandwich.'

b. Assamese

[Ram-Or	bhok	lag-i]
[Ram-GEN	hunger	feel-CNP]

xi / beseratu-e / Ram-e	posa	bhat	khal-e
he.NOM / the poor guy-NOM / Ram-NOM	stale	rice	ate-3

'Ram felt very hungry, and the poor guy ate stale rice.''

Further, as (1c) and (4a-b) tacitly indicate, Copy Control obtains only if conditions (a) and (b) in (5) below apply. An addition condition (5c) is needed for Assamese.

(5) Conditions on Copy Control

a. The CNP clause must be sentence-initial.
b. The CNP subject must be an R-expression.
c. The CNP subject is licensed by an experiential predicate. (Only in Assamese)

If these conditions are met, three subcategories of Copy Control become available, depending on the nature of the matrix subject. These are listed in (6).

(6) Sub-types of Copy Control

a. [$_{\text{Matrix}}$ [$_{\text{CNP}}$ R-expression…] [$_{\text{Matrix}}$ Pronoun…]]

b. [$_{\text{Matrix}}$ [$_{\text{CNP}}$ R-expression…] [$_{\text{Matrix}}$ Epithet…]]

c. [$_{\text{Matrix}}$ [$_{\text{CNP}}$ R-expression…] [$_{\text{Matrix}}$ R-expression…]]

In Chapters 3 and 4, I proposed an analysis of Adjunct Control as movement (Hornstein 1999). Following Nunes (2004), I argued that the subject starts out in the subordinate clause and undergoes sideward movement to the matrix clause, resulting in non-distinct copies of the same element in both clauses. Decisions regarding the pronunciation of copies take place on the phonological side of the computation for the purpose of linearization.

According to Kayne (1994), a structure is considered linearized only if all c-command and precedence relations are asymmetrical. In other words, if X c-commands or precedes Y, Y necessarily does not c-command or precede X. Nunes (2004), building on Kayne (1994), argues that a structure that comprises multiple non-distinct copies of the same token can be properly linearized only if all but one copy are deleted at PF. Otherwise, the same token will precede and follow itself, which is not allowed. I adopted this approach for the analysis of Forward and Backward Control in Chapter 3, laying out the derivational history of each.

Chapter 4 presented an analysis of Copy Control as an instance of multiple copy spell-out in which more than one copy of the same token is pronounced at PF. According to Nunes, such cases are allowed only if one of the non-distinct copies that are derived by movement undergoes fusion with another head. The copy and the head form a new phonological word. Since linearization cannot see through words, the fused copy becomes invisible and escapes deletion. In the case of Copy Control, I suggested that one of the copies escapes deletion by becoming a part of giant phonological word, a spelled-out domain. This scenario assumes that Multiple Spell-Out is derivationally possible (Uriagereka 1999) and that linearization applies cyclically, phase by phase (Fujii 2005).

Finally, Telugu and Assamese allow structures that are considered exceptions to Adjunct Control. These are structures that pattern the same as Adjunct Control structures, but they comprise disjoint subjects. I presented an analysis of these exceptions, suggesting that they are instances of Expletive Control that have the same derivational history as the other more common instances of Adjunct Control. The main difference is that Expletive Control structures are allowed only if the CNP and matrix clauses contain unaccusative predicates, in which case the subject positions are filled with null expletives.

7.2 Theoretical Implications

Analyzing Telugu and Assamese Adjunct Control as movement gives rise to three theoretical issues. These are related to multiple Case checking, the nature of the pronounced copies in Copy Control structures, and the trigger for movement. The preceding chapters dealt with these issues and suggested solutions. The following sections highlight the main points of each.

7.2.1 Multiple Case Checking

Under the analysis adopted in this study, the CNP subject in an Adjunct Control structure checks Case in the CNP clause before it moves to the matrix clause where it checks Case again. Although empirical evidence from other languages suggests that multiple Case checking is possible (Bejar and Massam 1999, Merchant 2006, among others), one problem persists. Analyzing control as movement means arguing that control and raising are derivationally similar. Unlike control, however, raising does not involve multiple Case checking. To solve this problem, I proposed a principle called Theta-Role Visibility. As the formulation in (7) indicates, an argument is allowed to check one round of Case only if it takes on a theta-role. A moving element in a raising structure takes on one theta-role; this is why it checks one round of Case. A moving element in a control structure takes on two theta-roles; this is why it checks two rounds of Case.

(7) Theta-Role Visibility

a. An argument is visible for one round of Case checking iff it Merges into a Thematic position.

b. A round of Case comprises Inherent Case followed by Structural Case, depending on the availability of an appropriate licenser for each.

The following section deals with the second issue: the nature of the pronounced copies in Copy Control structures.

7.2.2 R-Expressions vs. Pronominals in Copy Control

In Copy Control structures, the CNP subject has to be an R-expression, while the matrix subject may be a pronominal (a pronoun or an epithet) or an R-expression. Concerning the CNP subject, I showed that the restriction is language specific, due to the fact that neither Telugu nor Assamese allows cataphoricity. In other words, given a structure S that has two co-referential NPs, NP1 and NP2, such that NP1 linearly precedes NP2, if one of the NPs has to be an R-expression while the other has to be a pronominal, NP1 will be the R-expression and NP2 the pronominal, but not the other way around.

Regarding the matrix subject, I showed that the different choices are made possible by movement. I followed Aoun, Choueiri, and Hornstein (2001) and Boeckx (2003) and suggested that pronounced pronominals (pronouns and epithets) that are the outcome of movement start out as adjuncts or appositives to another element, say, an R-expression. Unlike the aforementioned authors who argue that these pronominals are stranded after the element they adjoin to has moved, as illustrated in (8), I suggested that they move along with the moving element, as (9) shows. Decisions concerning whether to pronounce the R-expression or the pronominal are made at PF in accordance with the language-specific rules of cataphoricity and economy.

(8) [[$_{\text{SUBJ}}$ R-expression …] [[$_{\text{SUBJ}}$ R-expression [Pronominal]…]

(9) [[$_{\text{SUBJ}}$ R-expression [Pronominal]…] [[$_{\text{SUBJ}}$ R-expression [Pronominal]…]

7.2.3 Why Movement

Minimalistically, any approach that adopts movement as a central derivational mechanism has to explain why syntactic objects move. The more common instances of movement take place to satisfy a formal featural requirement of the moving element or of the target. I showed that the movement of the CNP subject in Telugu — and possibly Assamese — Adjunct Control is less conventional in this respect. I suggested that the CNP subject moves in order to make up for a deficiency in the adjunct. Building on work by Pestesky and Torrego (2006) and on Predication Theory as proposed by Rothstein (2001), I showed that the adjuncts under investigation are defective in that they do not automatically qualify for an instance of merge with the matrix clause. I suggested that the movement of their subjects licenses their merge by allowing them to be predicated of an element in the matrix clause. I call this requirement the Vehicle Requirement on Set and Pair Merge.

(10) The Vehicle Requirement on Set and Pair Merge

a. β undergoes Set Merge with a probe α if β is a goal and a feature F on β matches a feature F on α.

b. β undergoes Pair Merge with α if β is a potential goal for some probe γ.

c. If β is a non-goal, it undergoes Set/Pair Merge with α if β is predicated of an element in α

d. A (potential) goal is a syntactic object with some feature F. A non-goal is a syntactic object with no features.

The power of (10) is that it is able to explain why Forward and Backward Control are in free variation in Telugu. In both types of control, the subordinate subject must move to the matrix clause. Yet, it does so, not to make up for a defect of its own, but rather to make up for a defect of the clause that hosts it. This is why when decisions concerning the pronunciation of copies are made at PF, the subordinate subject has an equal chance of survival as its matrix copy. (see Polinsky and Potsdam 2006: 14 for a similar conclusion.)

7.3 Concluding Remarks

This study hopes to have provided some answers to long-standing problems in control theory. At the same time, it has certainly left several questions unanswered and issues unaddressed. In my opinion, two issues are especially worth researching. First, knowing that Telugu and Asamese license Copy Control, it will be interesting to examine how prevalent Copy Control is in the Indian Subcontinent. This includes other Dravidian and Indo-Aryan languages, as well as Munda and Sino-Tibetan languages.

On a broader scale, if Telugu and Assamese Adjunct Control is movement, does this mean that control is movement cross-linguistically, or is there a room for variation? And if variation exists, is it parametric, or is it due to interaction among a defined set of principles, as Henderson (2006), building on Newmeyer 2004 and Roberts and Holmberg 2005, would argue? It is my conviction that control is movement, but only more research on more languages can provide a more definitive answer.

APPENDIX
ADJUNCT CONTROL AS EXHAUSTIVE CONTROL

It is worth noting that Telugu and Assamese Adjunct Control can be classified, not only as Obligatory Control, but also as Exhaustive Control, whereby the identities of the CNP and matrix subjects fully coincide. Stated differently, Telugu and Assamese do not allow Partial Adjunct Control into CNP clauses. According to Landau (2004: 833), Partial Control is the case when "the reference for PRO need not be exhausted by the reference of the controller." To illustrate from English, in (1a) the unpronounced subject (symbolized by Δ) refers to *the manager* plus a particular group that the manager decided to work with. Compare to (1b) in which PRO can only refer to *the manager*. It cannot include other individuals. Sentence (1a) is an example of Partial Control and sentence (1b) of Exhaustive Control.

(1) a. The manager decided [Δ to work on the project together].
 b. The manager forgot [Δ to work on the project (*together)].

Only Exhaustive Control is allowed in Telugu and Assamese. Take the Telugu sentences in (2), for instance. Even with enough context (e.g., (2a)), only the Exhaustive Control structure (2b) is felicitous. Once presented as an instance of Partial Control as in (2c), acceptability drops dramatically. Notice that (2c) becomes acceptable if an INF clause is used, as exemplified in (2d).

(2) Telugu

a.

Kumar unnu Sarita	okari-ki okaru	kathalu	ceppukunnaa-ru
Kumar and Sarita	one-to one	stories	told-3.M.P

'Kumar and Sarita told stories to each other.'

b.

[~~Kumar unnu Sarita~~	okari-ki okaru	kathalu	ceppukum-Tuu]
[~~Kumar and Sarita.NOM~~	one-to one	stories	tell-CNP]

Kumar unnu Sarita	nawwukunnaa-ru
Kumar and Sarita.NOM	laughed-3.M.P

'While telling stories to each other, Kumar and Sarita laughed.'

c. ??/*[~~Kumar unnu Sarita~~ okari-ki okaru kathalu ceppukum-tuu]
[~~Kumar and Sarita.NOM~~ one-to one stories tell-CNP]

Kumar nawwukunnaa-Du
Kumar.NOM laughed-3.M.S
'While telling stories to each other, Kumar laughed.'

d. [okari-ki okaru kathalu ceppukum-tunna-appudu] Kumar nawwukunnaa-Du
[one-to one stories tell-INF-while] Kumar.NOM laughed-3.M.S
'While telling stories to each other, Kumar laughed.'

Assamese displays the same characteristics. Even with enough context (e.g. (3a)), only the Exhaustive structure (3b) is acceptable. Sentence (3c) is infelicitous because it is an instance of Partial Control. The idea in (3c) may be expressed grammatically if an INF clause is used (3d).

(3) Assamese
a. Ram aru Prajakta-e suma khal-e
Ram and Prajakta-NOM kiss ate
'Ram and Prajakta kissed each other.'

b. [~~Ram aru Prajakta-e~~ Suma kha-i]
[~~Ram and Prajakta-NOM~~ Kiss eat-CNP]

Ram aru Prajakta-Ø gusi gol
Ram and Prajakta-ABS away went
'Having kissed each other, Ram and Prajakta left.'

c. *[~~Ram aru Prajakta-e~~ Suma kha-i] Ram-Ø gusi gol
[~~Ram and Prajakta-NOM~~ Kiss eat-CNP] Ram-ABS away went
'Having kissed each other, Ram left.'

d. [Suma khuw-a-r pasot] Ram-Ø gusi gol
[Kiss eat-INF-GEN After] Ram-ABS away went
'After having kissed each other, Ram left.'

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BIOGRAPHICAL SKETCH

Youssef A. Haddad was born in Beirut, Lebanon on September 12^{th}, 1972. In 1997, he graduated from the Lebanese University, Faculty of Letters and Human Sciences with a Licence D'Enseignement in English Language and Literature. He earned a Diplôme D'études Supérieures in Education from the Lebanese University, Faculty of Education in 2001. He was awarded a Fulbright scholarship to University of Texas at Austin in 2000. He embarked on a Ph.D. degree in linguistics at the University of Florida in August 2004. During his study, he taught for the Department of African and Asian Languages and Literatures from 2004 to 2005. He was a research assistant to Dr. Eric Potsdam from 2005 to 2006. He taught for the Linguistics Program from 2006 to 2007. He received the College of Liberal Arts and Sciences Award for International Student with Outstanding Academic Achievement in 2006. He was also awarded the Russell Dissertation Fellowship in Spring 2007. He will join the Department of Modern Languages and Linguistics at Florida State University upon his graduation in August 2007.