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Copy Control in Telugu[1]

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The main purpose of this paper is to document a phenomenon of copy adjunct control in Telugu, a Dravidian language, and to provide a derivation of the relevant structures within the framework of the Minimalist Program. Copy adjunct control is a relation of co-identity between the subject in the matrix clause and the subject in an adjunct of the same structure. Both subjects are pronounced. I analyze Copy Control structures as instances of multiple copy spell-out derived via movement, whereby movement is understood as copy-plus-merge. Decisions concerning the pronunciation of copies are prepared for in the syntax, but they are made on the phonological side of the computation.

1. Introduction

Control is a relation of coreferentiality between two arguments in a given structure. Until recently, the assumption in the literature has been that this relation is between an overt controller in a higher (matrix) clause and a silent controllee in a lower (subordinate) clause, as (1)–(2) illustrate. The controllee is symbolized by Δ.

(1) [$_{\text{MATRIX}}$ Tom$_i$ hopes [$_{\text{SUBORDINATE COMPLEMENT}}$ Δ_i to win]]
(2) [[$_{\text{MATRIX}}$ Tom$_i$ won] [$_{\text{SUBORDINATE ADJUNCT}}$ without Δ_i knowing it]]

These patterns are not the only ones attested, however. Other languages demonstrate that the higher argument is not always the one – or the only one – that is pronounced. Recent research has shown that there are three types of control (Polinsky & Potsdam 2006: 171–173):

- Forward Control: The argument in the matrix clause is pronounced, determining the identity of an unpronounced argument in the subordinate clause.

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- BACKWARD CONTROL: The argument in the matrix clause is unpronounced; its identity is determined by an overt argument in the subordinate clause.
- COPY CONTROL: The matrix and subordinate arguments are coreferential and are both pronounced.

Forward Control is the most researched; its history goes back to the 1960s (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 & Potsdam 2002), Malagasy (Polinsky & Potsdam 2003), and Korean (Monahan 2003). Copy Control is the least studied phenomenon. It has been explored in Tongan (Chung 1978) and San Lucas Quiaviní Zapotec (Lee 2003, Boeckx et al. 2007) (see Polinsky & Potsdam 2006 for a survey).

Telugu, a Dravidian language of the Indian subcontinent, has non-finite adjuncts known as adverbial or conjunctive participle (CNP) clauses. The language allows adjunct control into CNP clauses. It licenses all three types of control, as (3a–c) illustrate.[2]

(3) (a) Forward Control
[**Kumaar**$_i$ [Δ_i aakali wees-i] saandwic tinnaa-Du]
Kumar.NOM hunger.NOM fall-CNP sandwich ate-3.M.S
'Having got hungry, Kumar ate a sandwich.'

(b) Backward Control
[Δ_i [**Kumaar-ki**$_i$ aakali wees-i] saandwic tinnaa-Du]
Kumar-DAT hunger.NOM fall-CNP sandwich ate-3.M.S
'Having got hungry, Kumar ate a sandwich.'

(c) Copy Control
[[**Kumaar-ki**$_i$ aakali wees-i] **atanu**$_i$/**aa pichooDu**$_i$/**Kumaar**
Kumar-DAT hunger.NOM fall-CNP he/that idiot/Kumar.NOM
saandwic tinnaa-Du]
sandwich ate-3.M.S
'Kumar got hungry, and he/the idiot/Kumar ate a sandwich.'

The main purpose of this paper is to document the phenomenon of Copy Control in Telugu and to analyze it within the framework of the Minimalist Program (Chomsky 1995, 2000, 2004).[3] The paper is organized as follows. Section 2 provides a summary of the morphosyntax of Telugu. Section 3

[2] Abbreviations: 1 = 1st person, 2 = 2nd person, 3 = 3rd person, ACC = accusative, CNP = conjunctive participle, CONC = concessive, COND = conditional, DAT = dative, DUR = durative, ERG = ergative, IMPER = imperfective, INF = infinitive, M = masculine, N = neuter, NEG = negative, NOM = nominative, P = plural, PART = participle, S = singular.

[3] It is worth mentioning that exceptions to Adjunct Control do exist. Telugu, as well as other South Asian languages, allows structures that involve CNP clauses and disjoint subjects. These, however, seem to be limited to natural/weather conditions and disasters (e.g. (i) and (ii) below). Further, such structures have always been treated in the literature as a distinct group and have received separate, mainly semantic, analyses (e.g. Linholm 1971, Klaiman

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offers an overview of adjunct control in Telugu, focusing on Forward and Backward Control. Section 4 presents the facts about Copy Control. Section 5 analyzes the phenomenon, focusing on the derivational history of Copy Control structures. Section 6 identifies a problem in the analysis and provides a solution. Section 7 is a conclusion.

2. Linguistic overview

Telugu is a subject *pro*-drop, head-final, SOV language (Krishnamurti 1997, 2003). That is, (4a, b) are grammatical. Nevertheless, Telugu differs from other *pro*-drop languages, such as Spanish and Italian, in that the pronoun does not have to be dropped. As observed by Kissock (1995: 34), 'overt pronominal subjects seem to be present with about the same frequency as *pro* and do not appear to mark any added emphasis or focus'.

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

Although the canonical word order is SOV, OSV is also possible. In fact, apart from the position of the verb which is fixed, any constituent can be sentence-initial in a topic position, as the sentences in (5) demonstrate.

(5) (a) Kumaar Sarita-ki ninna aa pustakam iccaa-Du
Kumar.NOM Sarita-DAT yesterday that book gave-3.M.S
'Kumar gave Sarita that book yesterday.'
(b) Sarita-ki Kumaar ninna aa pustakam iccaa-Du
(c) ninna Kumaar Sarita-ki aa pustakam iccaa-Du
(d) aa pustakam Kumaar Sarita-ki ninna iccaa-Du

1981, Pandharipande 1997, Subbarao & Arora 2005). Davison (1981: 122 fn. 5) even considers them 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'. I analyze such structures elsewhere (Haddad 2007: chapter 6) as involving two unaccusative predicates that comprise null expletives in a control dependency, and I suggest that they also are instances of Adjunct Control. In this paper, I limit my discussion to the more prevalent instances of Adjunct Control exemplified in (3).

(i) [[warSam paD-i] ceTlu/mokkalu perigaa-yi]
rain.NOM fall-PART.CNP trees/plants.NOM grew-3.N.P
'The rain fell, and the trees/plants grew.'
(ii) [[baambu peel-i] caala mandi canipooyaa-ru]
bomb.NOM explode-PART.CNP many people.NOM died-3.M.P
'A bomb exploded, and people died.'

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

2.1 *Case*

Telugu is a nominative-accusative language. The subject may be structurally case-marked nominative, in which case the verb agrees with it (e.g. (6a, b)). However, if the predicate is an experiential predicate (i.e. a predicate that expresses a physical or emotional state, such as hunger or anger, or possession), the subject is inherently case-marked dative (e.g. (6c)).

(6) (a) Kumaar naaTyam ceesaa-Du
Kumar.NOM dance did-3.M.S
'Kumar danced.'
(b) caalaa mandi naaTyam ceesaa-ru
many people.NOM dance did-3.M.P
'Many people danced.'
(c) Kumaar-ki koopam waccin-di
Kumar-DAT anger.NOM came-3.N.S
'Kumar got angry.'

Evidence that the dative NP in (6c) is the subject comes from the fact that it may function as an antecedent to an anaphor or as the unpronounced argument of the subordinate clause in a control construction. In (7a), *Kumaar* functions as the antecedent to the anaphor *tana-ku tana-miida* 'himself'. In (7b), the dative NP is the unpronounced controllee (presented as Δ), which can only be the subject.

(7) (a) Kumaar-ki tana-ku tana-miida koopam waccin-di
Kumar-DAT him-DAT him-upon anger.NOM came-3.N.S
'Kumar got angry with himself.'
(b) [Kumaar$_i$ [Δ$_i$ koopam raawaTam] iShTapaDa-Du][4]
Kumar.NOM Δ.DAT anger.NOM coming doesn't.like-3.M.S
'Kumar does not like to get angry.'

Unlike nominative NPs, however, dative NPs do not trigger agreement on the verb. In (7a) above, the verb agrees with the (neuter) nominative NP *koopam* 'anger (nom)' rather than with the (masculine) dative NP *Kumaar-ki* 'Kumar (dat)'. For further illustration, the sentences in (8) also have dative subjects. The verb in (8a) agrees with the singular NP *paniwaaDu* 'servant (nom)', whereas in (8b) it agrees with the plural NP *paniwaaLLu* 'servants (nom)'.

[4] *RaawaTam* 'coming' (in (7b)) is the gerundive form of *wacc-* 'come'.

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(8) (a) atani-ki paniwaaDu unnaa-Du
he-DAT servant.NOM is-3.M.S
'He has a servant.'
(b) atani-ki paniwaaLLu unnaa-ru
he-DAT servants.NOM are-3.M.P
'He has servants.'

The following subsections highlight the characteristics of clauses in Telugu.

2.2 *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 (only with 3rd person), and number. For example, the verb *ammu* 'to sell' takes one of the forms in (9a–c) if used in a declarative finite clause with a 3rd person feminine subject; compare to (9d–f), in which the verb agrees with a 3rd person masculine subject. The variation in suffix forms is morphophonological (Krishnamurti 1997: 216–221).[5]

(9) (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'

2.3 *Non-finite clauses in Telugu*

Telugu has two types of non-finite subordinate clauses that function as adjuncts. I will refer to the first type as infinitive (INF) clauses; the second type is known as adverbial or conjunctive participle (CNP) clauses (Linholm 1975

[5] Two points are in order. First, the neuter suffix on the verbs in (9) and throughout the text is used as an agreement marker with both neuter and feminine subjects. Second, negative past verbs are compounds made up of the verb stem + *lee* 'negative past form of verb *to be*' (e.g. (i)).

(i) ammu-lee-du
sell-was.not-3.N.S
'She didn't sell.'

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and Klaiman 1981). The latter is central to the domain of investigation of this paper.

2.3.1 *Infinitive clauses*

INF clauses in Telugu contain verbs that are unmarked for tense or agreement. The subjects of INF clauses appear with the same case-marking they would take in finite clauses. The verb may take one of the forms in (10)–(14). As the examples illustrate, the first three forms (10)–(12) are participial adjectives that need an overt complementizer in order to function in subordinate clauses. The forms in (13)–(14), on the other hand, do not take an overt complementizer. Nevertheless, since their behavior with regard to control shows the same patterning as the forms in (10)–(12), I group all five forms together. Most crucially, the subject of an INF clause does not have to be coreferential with the subject of the matrix clause.

(10) Past Participle: Verb stem + *-ina*
  (a) cepp-ina maaTa
  speak-PART.INF word
  'the spoken word'
  (b) cees-ina-tarwaata
  do-PART.INF-after
  'after having done'
  (c) [[Kumaar bhoojanamu tayaaru cees-ina-taruwaata]
  Kumar.NOM dinner prepare do-PART.INF-after
  Sarita tinna-di]
  Sarita.NOM ate-3.N.S]
  'After Kumar prepared dinner, Sarita ate.'

(11) Imperfective: Verb stem + *-ee*[6]
  (a) wacc-ee eeDu
  come-IMPER.INF year
  'the coming year'
  (b) cees-ee-mundu
  do-IMPER.INF-before
  'before doing'
  (c) [[Kumaar pani-ki weLL-ee-mundu] Sarita-ki
  Kumar.NOM work-DAT go-IMPER.INF-before Sarita-DAT
  fon ceesaa-Du]
  phone did-3.M.S]
  'Before going to work, Kumar called Sarita.'

[6] Krishnamurti (2003: 233) labels this form a future-habitual.

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(12) Durative: Verb stem + *-tunna/-Tunna*
  (a) was-tunna-waaDu
  come-DUR.INF-man
  'the coming man'
  (b) cees-tunna-appuDu
  do-DUR.INF-while
  'while doing'
  (c) [[Kumaar sinimaa cuus-tunna-appuDu] Sarita
  Kumar.NOM movie watch-DUR.INF-while Sarita.NOM
  paapkaarn tinna-di]
  popcorn ate-3.N.S
  'While Kumar was watching a movie, Sarita ate popcorn.'

(13) Conditional: Verb stem + *-tee*
  (a) amm-itee
  sell-COND.INF
  'if one sells/if one sold'
  (b) [[Kumaar kaafii kalip-itee] Sarita taagutun-di]
  Kumar.NOM coffee mix-COND.INF Sarita.NOM will.drink-3.N.S
  'If Kumar makes coffee, Sarita will drink it.'

(14) Concessive: Verb stem + *inaa*
  (a) amm-inaa
  sell-CONC.INF
  'although one sells/although one sold'
  (b) [[Kumaar manci kaafii kalip-inaa] Sarita
  Kumar.NOM good coffee make-CONC.INF Sarita.NOM
  taagalee-du]
  didn't.drink-3.N.S
  'Although Kumar made good coffee, Sarita didn't drink.'

2.3.2 *Conjunctive participle clauses*

CNP clauses are a defining characteristic of South Asian languages. In Telugu, as in most South Asian languages, CNP clauses are non-finite clauses with no (overt) complementizer, which is why they are normally considered IPs rather than CPs (Jayaseelan 2004). They express an action that is anterior to or simultaneous with that of the finite clause. As in INF clauses, the subject in CNP clauses is case-marked, and the verb shows no inflection for tense or agreement. A CNP verb may take the form in (15) or the form in (16) (Krishnamurti & Gwynn 1985: chapter18).

(15) Participial: Verb stem + *-i*
  (a) wacc-i
  come-PART.CNP
  'having come'

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(b) [Kumaar [jwaram wacc-i] haaspaTal weLLaa-Du]
Kumar.NOM fever.NOM come-PART.CNP hospital went-3.M.S
'Having had a fever, Kumar went to the hospital.'

(16) Durative: Verb stem + *-tuu*/*-Tuu*
(a) cees-tuu
do-DUR.CNP
'while doing'
(b) [Kumaar [Sarita-too naaTyam cees-tuu] aame-ki
Kumar.NOM Sarita-with dance do-DUR.CNP her-DAT
katha ceppaa-Du]
story told-3.M.S
'While dancing with Sarita, Kumar told her a story.'

One relevant feature of CNP clauses is that their subject has to be coreferential with the matrix subject. That is, a sentence with a CNP clause is a control construction. The following section spells out the details.

3. Adjunct control: an overview

Adjunct control into CNP clauses is a prevalent characteristic of the Indian subcontinent (see Masica 2005). It is usually referred to as the Common-Subject Requirement (Linholm 1975 on Tamil), the Same Subject Condition (Klaiman 1981 on Bengali), or the Identical Subject Constraint (Subbarao & Arora 2005 on Dakhini, Hindi-Urdu, and Telugu). In the rest of this section, I run standard tests to show that Telugu structures with CNP clauses are instances of Obligatory Control. Section 3.1 focuses on Forward Control. For the purposes of completeness, section 3.2 examines Backward Control.

3.1 *Forward Control*

The sentences in (17) are instances of Forward Control in which the matrix subject is pronounced, determining the identity of the unpronounced subject in the adjunct clause.[7]

(17) (a) [**Kumaar**$_i$ [Δ_i koopam wacc-i] naa
Kumar.NOM Δ.DAT anger get-PART.CNP my
illu kuulcaa-Du]
house destroyed-3.M.S
'Having got angry, Kumar destroyed my house.'

[7] Note that this definition of Forward Control strictly means control from the matrix clause to the adjunct. That is, the definition applies even if the CNP clause precedes the matrix clause (e.g. (19a) below), in which case the subordinate controllee linearly precedes the matrix controller.

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(b) [**Kumaar**$_i$ [Δ_i laybrarii-ki weLL-i]
Kumar.NOM Δ.NOM library-DAT go-PART.CNP
pustakam cadiwaa-Du]
book read-3.M.S
'Having gone to the library, Kumar read a book.'

In (17a), the case-marking of the pronounced subject shows that it is licensed by the matrix predicate and that the structure is an instance of Forward Control. In (17b), on the other hand, the matrix and CNP subjects would be case-marked the same. This means that the structure can be an instance of Forward Control, but it may also be analyzed as an instance of Backward Control. In the latter case, the CNP subject is overt and the matrix subject is implied, as illustrated in (18). Both types of control result in the same word order.

(18) [Δ_i [**Kumaar**$_i$ laybrarii-ki weLL-i] pustakam cadiwaa-Du]
Δ.NOM Kumar.NOM library-DAT go-PART.CNP book read-3.M.S
'Having gone to the library, Kumar read a book.'

In order to make sure that (17b) may be analyzed as an instance of Forward Control, I repeat it as (19a), only this time with the CNP clause realized sentence-initially. Given that the locus of the verb in Telugu is strictly clause-final, (19a) can only be analyzed as a Forward Control construction in which the pronounced subject is licensed by the matrix predicate; it may not be analyzed as a Backward Control construction (e.g. (19b)). Similarly, the grammatical sentence (17a) above may not be realized with a postverbal CNP subject (e.g. (20a)); compare to (20b), which has the same word order as (20a), but where the subject is now licensed by the matrix predicate.

(19) (a) [[Δ_i laybrarii-ki weLL-i] **Kumaar**$_i$ pustakam
Δ.NOM library-DAT go-PART.CNP Kumar.NOM book
cadiwaa-Du]
read-3.M.S
'Having gone to the library, Kumar read a book.'

(b) *[[laybrarii-ki weLL-i **Kumaar**$_i$] Δ_i pustakam
library-DAT go-PART.CNP Kumar.NOM Δ.NOM book
cadiwaa-Du]
read-3.M.S
'Having gone to the library, Kumar read a book.'

(20) (a) *[[koopam wacc-i **Kumaar-ki**$_i$] Δ_i naa
anger.NOM get-PART.CNP Kumar-DAT Δ.NOM my
illu kuulcaa-Du]
house destroyed-3.M.S
'Having got angry, Kumar destroyed my house.'

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(b) [[Δ_i koopam wacc-i] **Kumaar**$_i$ naa illu
Δ.DAT anger.NOM get-PART.CNP Kumar.NOM my house
kuulcaa-Du]
destroyed-3.M.S
'Having got angry, Kumar destroyed my house.'

Adjunct control in Telugu qualifies as Obligatory Control in the sense that the CNP subject has to take the matrix subject as an antecedent. The CNP subject cannot be coreferential with any other NP in the sentence (e.g. the possessor of the matrix subject or a non-local NP); it cannot take a split antecedent (e.g. the matrix subject plus another NP in the sentence); and it cannot be coreferential with an NP selected from surrounding discourse (see Williams 1980, Hornstein 1999, Jackendoff & Culicover 2003, and Polinsky & Potsdam 2004, among others).

To illustrate, in (21a) the CNP subject takes the matrix subject as an antecedent; the sentence is grammatical. In (21b), the antecedent is the possessor of the matrix subject *atani* 'his' or the dative NP *atani-ki* 'him (dat)'; the sentence is ungrammatical under the designated reading. Similarly, sentences (22a, b) illustrate that the CNP subject may only take the matrix subject as an antecedent, and that a reading with a split antecedent is not available. Note that in (22a) one of the antecedents is a non-local NP, while in (22b) both antecedents are local. Still, both sentences are ungrammatical on the split-antecedent reading.

(21) (a) [**Kumaar**$_i$ [Δ_i aakali wees-i] saandwic tinnaa-Du]
Kumar.NOM Δ.DAT hunger.NOM fall-PART.CNP sandwich ate. 3.M.S
'Having got hungry, Kumar ate a sandwich.'

(b) *[[**atani**$_i$ amma]$_k$ [Δ_i aakali wees-i] **atani-ki**
his mother Δ.DAT hunger.NOM fall-PART.CNP him-DAT
annam peTTin-di]
food put-3.N.S
Intended meaning: 'He got hungry, and his mother gave him food.'

(22) (a) [[**Kumaar**$_i$ [Δ_{i+k} sinimaa cuus-tuu] paapkaarn
Kumar.NOM Δ.NOM movie watch-DUR.CNP popcorn
tinnaa-Du aNi] **Sarita**$_k$ ceppin-di]
ate-3.M.S so/that Sarita.NOM said-3.N.S
'Sarita said that Kumar ate popcorn while HE was watching a movie.'
*'Sarita said that Kumar ate popcorn while THEY were watching a movie.'

(b) [**Kumaar**$_i$ [Δ_{i+k} sinimaa cuus-tuu] **Sarita-ki**$_k$
Kumar.NOM Δ.NOM movie watch-DUR.CNP Sarita-DAT
paapkaarn peTTaa-Du]
popcorn put-3.M.S
'Kumar gave Sarita popcorn while HE was watching a movie.'
*'Kumar gave Sarita popcorn while THEY were watching a movie.'

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Sentence (23a) is similar to (21a) in that the reference of the CNP subject is determined by the reference of the matrix subject; the sentence is acceptable. In (23b), however, the antecedent is selected from surrounding discourse (speaker, hearer, or a person mentioned earlier in discourse). The sentence is ungrammatical under the designated reading.

(23) (a) [**Kumaar**$_i$ [Δ_i jwaram wacc-i] mandulu
Kumar.NOM Δ.DAT fever.NOM come-PART.CNP medicines
waaDaa-Du]
used-3.M.S
'Having had a fever, Kumaar took medication.'

(b) *[Sarita [$\Delta_{i/k/j}$ jwaram wacc-i]
Sarita.NOM Δ.DAT fever.NOM come-PART.CNP
(**naa-ku**$_i$/**mii-ku**$_k$/**atani-ki**$_j$)[8] mandulu iccin-di]
me-DAT/you-DAT/him-DAT medicines gave-3.N.S
Intended meaning: 'I/You/He (mentioned earlier in discourse) had a fever, and Sarita gave me/you/him medication.'

In addition, Telugu adjunct control can be classified as EXHAUSTIVE CONTROL, in that the identities of the CNP and matrix subjects must fully coincide. Stated differently, Telugu does not allow PARTIAL CONTROL into CNP clauses. Partial Control obtains when the reference of the unpronounced subject does not necessarily fully coincide with the reference of the overt subject (Landau 2004: 833). To illustrate from English, in (24a) the unpronounced subject (symbolized by Δ) refers to *the manager* plus a particular group with whom the manager prefers to work. Compare to (24b), in which Δ can only refer to *the manager*; it cannot include other individuals. Sentence (24a) is an example of Partial Control, and sentence (24b) of Exhaustive Control.

(24) (a) The manager prefers [Δ to work on the project together].
(b) The manager forgot [Δ to work on the project (*together)].

Now observe sentence (25). The matrix subject *Kumaar* functions as an antecedent to the unpronounced CNP subject. The sentence is considered grammatical under the reading that Kumar watched a movie and ate a sandwich. However, it is judged as unacceptable under the reading that Kumar and a designated person or group watched a movie, and Kumar ate a sandwich.

[8] Note that the object in Telugu may be null (Kissock 1995: 34). For an analysis of null objects in Telugu, see Rao (2002).

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(25) [**Kumaar**$_i$ [$\Delta_{i/*i+k(\text{person or group})}$ sinimaa cuus-tuu]
Kumar.NOM Δ.NOM movie watch-DUR.CNP
saandwic tinnaa-Du]
sandwich ate-3.M.S

The above discussion shows that Forward Control into CNP clauses qualifies as Obligatory Control. The following section shows that Backward Control is similar in this respect.

3.2 *Backward Control*

In Backward Control, the subordinate subject is pronounced, determining the identity of the unpronounced subject in the matrix clause. The sentences in (26) are examples.

(26) (a) [Δ_i [**Kumaar-ki**$_i$ Sarita-miida koopam wacc-i]
Δ.NOM Kumar-DAT Sarita-on anger.NOM come-PART.CNP
akkadi-nunci weLLipoyinaa-Du]
there-from left-3.M.S
'Having got angry at Sarita, Kumar left.'

(b) [Δ_i [**Kumaar**$_i$ laybrarii-ki weLL-i] pustakam
Δ.NOM Kumar.NOM library-DAT go-PART.CNP book
cadiwaa-Du]
read-3.M.S
'Having gone to the library, Kumar read a book.'

Sentence (26a) is clearly a Backward Control construction, as the case-marking of the pronounced subject indicates. Sentence (26b), on the other hand, could also be analyzed as an instance of Forward Control (e.g. (27)).

(27) [**Kumaar**$_i$ [Δ_i laybrarii-ki weLL-i] pustakam cadiwaa-Du]
Kumar.NOM Δ.NOM library-DAT go-PART.CNP book read-3.M.S
'Having gone to the library, Kumar read a book.'

Evidence that (26b) may also qualify as an example of Backward Control comes from scrambling. To elaborate, sentence (28a) is an example of Backward Control. It is minimally different from (26a) in that *Sarita-miida* 'on Sarita' is scrambled to a clause-initial position, past the CNP subject. The sentence is acceptable. Compare to the Forward Control equivalent in (28b). Sentence (28b) is ungrammatical because it involves scrambling beyond the boundaries of the adjunct/CNP clause.

(28) (a) [Δ_i [Sarita-miida **Kumaar-ki**$_i$ koopam wacc-i]
Δ.NOM Sarita-on Kumar-DAT anger.NOM come-PART.CNP
akkadi-nunci weLLipoyinaa-Du]
there-from left-3.M.S
'Having got angry at Sarita, Kumar left.'

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(b) *[Sarita-miida **Kumaar**$_i$ [Δ_i koopam wacc-i]
Sarita-on Kumar.NOM Δ.DAT anger.NOM come-PART.CNP
akkadi-nunci weLLipoyinaa-Du]
there-from left-3.M.S
'Having got angry at Sarita, Kumar left.'

Now consider the grammatical structure in (29). Based on the discussion of (28), we can conclude that (29a) can be acceptable only if it is taken as (29b), where the scrambling of *laybrarii-ki* 'to the library' takes place within the boundaries of the CNP clause. Sentence (29c) is similar to (28b) in that it involves scrambling outside the boundaries of the CNP clause. Thus, it should be considered ungrammatical. This indicates that (29a) qualifies as an example of Backward Control. By the same token, (26b) above can qualify as an instance of Backward Control.

(29) (a) laybrarii-ki Kumaar weLL-i pustakam cadiwaa-Du
library-DAT Kumar.NOM go-PART.CNP book read-3.M.S
'Having gone to the library, Kumar read a book.'

(b) [Δ_i [laybrarii-ki **Kumaar**$_i$ weLL-i] pustakam
Δ.NOM library-DAT Kumar.NOM go-PART.CNP book
cadiwaa-Du]
read-3.M.S
'Having gone to the library, Kumar read a book.'

(c) *[laybrarii-ki **Kumaar**$_i$ [Δ_i weLL-i] pustakam
library-DAT Kumar.NOM Δ.NOM go-PART.CNP book
cadiwaa-Du]
read-3.M.S
'Having gone to the library, Kumar read a book.'

Like their Forward Control counterparts, Backward Control structures are instances of Obligatory Control. If the CNP subject fails to fully determine the identity of the matrix subject, the result is ungrammaticality. Observe the sentences in (30). The two subjects in each sentence are interpreted as coreferential; both sentences are grammatical. Compare to the sentences in (31). In (31a), the CNP subject fails to determine the identity of the matrix subject. Rather, the reference of the matrix subject coincides with the reference of the non-local NP 'Sarita'; the sentence is unacceptable. In (31b, c), the CNP subject takes the matrix subject plus another NP as a split antecedent. In (31b), the other NP is non-local, while in (31c) it is local. In both sentences, the reference for the CNP subject does not fully coincide with the reference of the matrix subject; as a result, the sentences are unacceptable. In (31d, e), the unpronounced matrix subject is coreferential with an NP selected from surrounding discourse. This means that no interpretation dependency could be established between the CNP and the matrix subject. The result is ungrammaticality.

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(30) (a) [Δ_i [**Kumaar-ki**$_i$ aakali wees-i] saandwic tinnaa-Du]
Δ.NOM Kumar-DAT hunger.NOM fall-PART.CNP sandwich ate. 3.M.S
'Having got hungry, Kumar ate a sandwich.'

(b) [Δ_i [**Kumaar-ki**$_i$ jwaram wacc-i] mandulu
Δ.NOM Kumar-DAT fever.NOM come-PART.CNP medicines
waaDaa-Du]
used-3.M.S
'Having had a fever, Kumar took medication.'

(31) (a) *[[Δ_i [**Kumaar**$_k$ sinimaa cuus-tuu] paapkaarn
Δ.NOM Kumar.NOM movie watch-DUR.CNP popcorn
tinna-di aNi] **Sarita**$_i$ ceppin-di]
ate-3.N.S so/that] Sarita.NOM said-3.N.S
Intended meaning: 'Sarita said that while Kumar was watching a movie, she ate popcorn.'

(b) *[[Δ_i [**Kumaar**$_i$ **unnu Sarita**$_k$ sinimaa cuus-tuu]
Δ.NOM Kumar.NOM and Sarita.NOM movie watch-DUR.CNP
paapkaarn tinnaa-Du aNi] **Sarita**$_k$ ceppin-di]
popcorn ate-3.M.S so/that Sarita.NOM said-3.N.S
Intended meaning: 'Sarita said that while Kumar and Sarita were watching a movie, Kumar ate popcorn.'

(c) *[Δ_i [**Kumaar**$_i$ **unnu Sarita**$_k$ sinimaa cuus-tuu]
Δ.NOM Kumar.NOM and Saita.NOM movie watch-DUR.CNP
Sarita-ki$_k$ paapkaarn peTTaa-Du]
Sarita-DAT popcorn put-3.M.S
Intended meaning: 'Kumar gave Sarita popcorn while Kumar and Sarita were watching a movie.'

(d) *Δ_k [**Kumaar-ki**$_i$ aakali wees-i] atani-ki
Δ.NOM Kumar-DAT hunger.NOM fall-PART.CNP him-DAT
annam peTTaa-nu/peTTaa-wu/peTTin-di
food put-1.S/put-2.S/put-3.N.S
Intended meaning: 'Kumar got hungry, and I/you/she [e.g. his mother] gave him food.'

(e) *[Δ_i [**Kumaar-ki**$_k$ jwaram wacc-i] (atani-ki$_k$)
Δ.NOM Kumar-DAT fever.NOM come-PART.CNP him-DAT
mandulu iccaa-nu/iccaa-wu/iccin-di]
medicines gave-1.S/gave-2.S/gave-3.N.S
Intended meaning: 'Kumar had a fever, and I/you/she [mentioned earlier in discourse] gave him medication.'

Based on the above discussion, we can conclude that Backward Control into CNP clauses in Telugu is Obligatory Control.

A point is in order before we proceed. Given that Telugu is a *pro*-drop language (see section 2), one might try to argue that in each of the grammatical instances of Forward and Backward Control presented in this

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section the unpronounced subject is a base-generated *pro*. As mentioned in section 2, although Telugu is referred to in the literature as a *pro*-drop language, *pro* and lexicalized NPs are actually in free variation. This means that if the unpronounced subject in Forward and Backward Control were truly a base-generated *pro*, one would expect the sentences to be grammatical with lexicalized NPs. This is not the case, however, as sentences (32a, b) show. Note that these sentences are ungrammatical regardless of how the matrix subject or the CNP subject is realized – whether as an overt pronoun or as an r-expression. The sentences would be grammatical if either the matrix subject or the CNP subject were unpronounced.

(32) (a) ***[Kumaar/atanu** **[Kumaar-ki/atani-ki** aakali wees-i]
Kumar/he.NOM Kumar/he-DAT hunger.NOM fall-PART.CNP
Saandwic tinnaa-Du]
Sandwich ate. 3.M.S
'Having got hungry, Kumar ate a sandwich.'

(b) ***[Kumaar/atanu** **[Kumaar-ki/atani-ki** jwaram wacc-i]
Kumar/he.NOM Kumar/he-DAT fever.NOM come-PART.CNP
mandulu waaDaa-Du]
medicines used-3.M.S
'Having had a fever, Kumar took medication.'

Nevertheless, under the right conditions, adjunct control structures in Telugu may be realized with two pronounced subjects, which brings us to the central topic of this paper: Copy Control. Section 4 presents the empirical picture. In section 5, I provide an analysis using the movement theory of control. I suggest that decisions concerning the pronunciation/deletion of copies in the different types of adjunct control (Forward, Backward, Copy) are prepared for in the syntax, but are actually made at PF.

4. Copy Control: the facts

Several other languages of South Asia show evidence of the cross-linguistically rare phenomenon of Copy Control. Copy Control constructions involve a matrix subject and a CNP subject that are not only obligatorily coreferential, but also both pronounced. I personally have tested the availability of Copy Control in several Indo-Aryan languages (e.g. Bengali and Marathi), and I have analyzed it at length in Assamese (see Haddad 2007). Further, Arora & Subbarao (2004: 40) mention in passing that the phenomenon exists in Dakkhini and Karnataka Konkani, although they do not label it as Copy Control.

Telugu is similar to these languages in that it also licenses Copy Control into CNP clauses. Sentences (33)–(36) are examples. The CNP and matrix subjects may be case-marked differently (e.g. (33)–(34)) or the same (e.g. (35)–(36)).

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(33) [[**Kumaar-ki**$_i$ aakali wees-i] **atanu**$_i$/**Kumaar**
Kumar.DAT hunger.NOM fall-PART.CNP he/Kumar.NOM
bhoojanamu tinnaa-Du]
dinner ate-3.m.s
'Kumar got hungry, and he/Kumar ate dinner.'

(34) [[**Sarita**$_i$ aa maaTa win-i] **aame-ki**$_i$/**Sarita-ki**
Sarita.NOM that matter hear-PART.CNP she/Sarita-DAT
koopam waccin-di]
anger.NOM came-3.N.S
'Sarita heard the news, and she/Sarita got angry.'

(35) [[**Kumaar**$_i$ illu pooy-i] **atanu**$_i$/**Kumaar**
Kumar.NOM house lose-PART.CNP he/Kumar.NOM
picci-waaDu ayyaa-Du]
a.crazy.man became-3.M.S
'Kumar lost his house, and he/Kumar went crazy.'

(36) [[**Kumaar**$_i$ sinimaa cuus-tuu] **atanu**$_i$/**Kumaar**
Kumar.NOM movie watch-DUR.CNP he/Kumar.NOM
paapkaarn tinnaa-Du]
popcorn ate-3.M.S
'While Kumar was watching a movie, he/Kumar ate popcorn.'

It is important to note that sentences (33)–(36) were judged by my Telugu consultants as redundant, but not unacceptable. According to them, pronouncing only 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, sentence (37) makes use of an epithet in the matrix clause. Sentence (38) is longer compared to (33)–(36) above. Neither sentence is judged as redundant.

(37) [[**Kumaar-ki**$_i$ koopam wacc-i] **aa** pichooDu$_i$
Kumar-DAT anger.NOM come-PART.CNP that idiot.NOM
akkadi-nunci weLLipoyinaa-Du]
there-from left-3.M.S
'Kumar got angry, and the idiot left.'

(38) [[**Kumaar-ki** pooyina-waaram jwaram wacc-i]
Kumar-DAT last-week fever.NOM come-PART.CNP
atanu/**Kumaar** muuDu roojulu mandulu waaDaa-Du]
he/Kumar.NOM three days medicines used-3.M.S
'Kumar had a fever last week, and he/Kumar was on medication for three days.'

The following subsection highlights the conditions under which Copy Control obtains. Section 4.2 shows that Copy Control structures qualify as instances of Obligatory Control.

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4.1 *Copy Control: conditions and restrictions*

A closer look at the grammatical Copy Control structures presented above shows that the CNP clause is always realized sentence-initially, and that the CNP subject is never a pronominal. In fact, Copy Control obtains only if these two conditions are met:

- Condition 1: The CNP clause is sentence-initial.
- Condition 2: The CNP subject is 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 (39a). A *JL* reviewer commented that the restriction might be on adjacent subjects, which is why longer sentences (e.g. (38) above) are judged as less redundant. Sentence (39b) shows that even if material intervenes between the two subjects, a Copy Control structure with a sentence-internal CNP clause is still unacceptable.

(39) (a) *[**atanu/Kumaar** [**atanu-ki/Kumaar-ki** aakali wees-i]
he/Kumar.NOM he/Kumar-DAT hunger.NOM fall-PART.CNP
bhoojanamu tinnaa-Du]
dinner ate-3.M.S]
'Having got hungry, Kumar ate dinner.'

(b) *[**atanu/Kumaar** [enimidiki Sarita-too **atanu/Kumaar**
he/Kumar.NOM at 8:00 Sarita-with he/Kumar.NOM
naTyamu cees-tuu] aami-ki kata ceppaa-Du]
dance do-DUR.CNP her-DAT story told-3.M.S
'While dancing with Sarita at 8:00, Kumar told her a story.'

The second condition states that the CNP subject has to be an r-expression. By r-expression, I mean any NP that is not pronominal. The data introduced thus far involve proper nouns. This is not a requirement, however, as (40) illustrates.

(40) [[**naa baas-ki** pooyina-waaram jwaram wacc-i]
my boss-DAT last-week fever.NOM come-PART.CNP
atanu/naa baas muuDu roojulu mandulu waaDaa-Du]
he/my boss.NOM three days medicines used
'My boss had a fever last week, and he/my boss was on medication for three days.'

If a pronominal is used as the CNP subject, a Copy Control construction becomes ungrammatical (e.g. (41)). Note that the CNP subject has to be an r-expression – that is, it cannot be a pronoun – even if the matrix subject is a pronoun. I consider this as a language-specific restriction. Other South Asian languages (e.g. Dakkhini) allow Copy Control structures in which both subjects are pronouns (see section 6.3 below).

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(41) *[[**atani-ki** aakali wees-i] **atanu/Kumaar**
he-DAT hunger.NOM fall-PART.CNP he/Kumar.NOM
bhoojanamu tinnaa-Du]
dinner ate-3.M.S
'He got hungry, and Kumar ate dinner.'

Before proceeding to the following section, a word about the two coreferential subjects in Copy Control is appropriate. It can be observed that the matrix subject in a Copy Control structure 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. For example, the CNP subject in (42) is a conjunct. In this case, only a pronoun or an epithet may be used as a subject in the matrix clause. I do not analyze this restriction here, but simply present the facts for descriptive completeness.

(42) [[**Kumaar unnu Sarita** sinimaa cuus-tuu]
Kumar.NOM and Sarita.NOM movie watch-DUR.CNP
waLLu/aa pichooLLu/*Kumaar unnu Sarita paapkaarn tinnaa-ru]
they/those idiots/*Kumar.NOM and Sarita.NOM popcorn ate-3.M.P
'While Kumar and Sarita were watching a movie, they/the idiots ate popcorn.'

4.2 *Copy Control as Obligatory Control*

Like their Forward and Backward Control counterparts, Copy Control constructions are instances of Obligatory Control. The referential properties of the subordinate CNP subject and those of the matrix subject have to fully coincide. A referential dependency between the CNP subject and any other NP in the sentence results in ungrammaticality. To illustrate, in (43) the CNP subject refers to the possessor of the matrix subject, and the sentence is ungrammatical. Similarly, (44) and (45) are unacceptable because the CNP subject refers to a split antecedent. In addition, the reference of the CNP subject may not be determined by surrounding discourse, including speaker/hearer (e.g. (46)).

(43) *[[**Kumaar-ki** aakali wees-i] [**atani** amma] atani-ki
Kumar-DAT hunger.NOM fall-PART.CNP his mother him-DAT
annam peTTin-di]
food put-3.N.S
Intended meaning: 'Kumar having got hungry, his mother gave him food.'

(44) *[[[**Sarita unnu Kumaar** sinimaa cuus-tuu]
Sarita.NOM and Kumar.NOM movie watch-DUR.CNP
Kumaar paapkaarn tinna-Du aNi] **Sarita** ceppin-di]
Kumar.NOM popcorn ate-3.M.S so/that Sarita.NOM said-3.N.S
Intended meaning: 'Sarita said that Kumar ate popcorn while they were watching a movie.'

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(45) *[[**Sarita unnu Kumaar** sinimaa cuus-tuu]
Sarita.NOM and Kumar.NOM movie watch-DUR.CNP]
Kumaar Sarita-ki paapkaarn peTTaa-Du]
Kumar.NOM Sarita-DAT popcorn put-3.M.S
Intended meaning: 'Kumar gave Sarita popcorn while they were watching a movie.'

(46) *[[**naa-ku/mii-ku/Kumaar-ki** jwaram wacc-i]
I/you/Kumar-DAT fever.NOM come-PART.CNP
aame/Sarita (naa-ku/mii-ku atani-ki) mandulu iccin-di]
she/Sarita.NOM I/you/him-DAT medicines gave-3.N.S
Intended meaning: 'I/You/Kumar had a fever, and she/Sarita gave me/you/him medication.'

In the following section, I present a syntactic analysis of Telugu adjunct control. Following Nunes (1995, 2004) and Hornstein (1999, 2003), I analyze adjunct control as derived via sideward movement. I highlight the conditions that drive and constrain each type of control, focusing especially on Copy Control. Section 6 brings to light a theory-internal problem in the derivation. Contrary to the facts, the theory predicts that the derivation presented in section 5 will not converge. Section 6 proceeds to show that the problem can be solved by adopting Uriagereka's (1999) MULTIPLE SPELL-OUT.

5. COPY CONTROL: THE ANALYSIS

Two competing theories of control within the framework of Chomskyan generative grammar are the PRO Theory and the Movement Theory. The different versions of the PRO Theory (Chomsky 1981, 1995, Martin 1996, Landau 2000, 2004, and San Martin 2004, among others) claim that control structures always involve an unpronounced subject PRO that is in complementary distribution with lexicalized subjects. In other words, PRO can never be realized as an overt subject. A theory of control that is built on this assumption is compatible with Telugu Forward and Backward Control. But it is incompatible with the Telugu Copy Control data presented in section 4. In these structures, the two subjects are obligatorily coreferential and, most importantly, both are pronounced. Such examples violate the essence of the PRO Theory, namely, that PRO and lexicalized DPs in Obligatory Control are in complementary distribution. This is why I adopt a version of the Movement Theory of Control as proposed by Hornstein (1999, 2003).

The movement approach holds that control is derived via movement. Movement is understood as copy-plus-merge (Chomsky 1995). This approach is built on the assumptions in (47) (Hornstein 2003: 22 ex. (40)). For the purposes of this study, I accept these statements without further discussion, and I add the assumptions in (48) (based on Bejar & Massam 1999 and Merchant 2006, among others).

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(47) (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 either a feature of its own or a feature of the target (Lasnik 1995).

(48) (a) A-Movement out of one case position into another case position is possible.
(b) Multiple case checking is possible.

5.1 *Adjunct control as movement*

The Copy Control structures under examination involve control into adjuncts. It is well-known that adjuncts are islands to movement. An exception to this observation is parasitic gap constructions which, according to Nunes (1995, 2004), are derived via sideward movement out of an adjunct. Sideward movement is an operation that allows movement between two unconnected syntactic objects.

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 undergoes copy-plus-merge 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, 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. Form Chain is an independent operation, the essence of which is captured in (49). Note that (49) is a simplified version of Nunes's (2004: 91) original formulation.

(49) Form Chain: Two constituents X and Y form a chain iff
(a) X and Y are non-distinct copies of the same token; that is, they are identical copies related through movement.
(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, α in (50) may copy out of the syntactic object L and merge in the unconnected syntactic object M, as (55a) illustrates. Subsequently, L and M undergo merge in (55b). 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.

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(50) (a)



(b) [M [L α …] [M α […]]]

While 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 Axiom in (51), which dictates that an element cannot both 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. Asymmetry and irreflexivity are defined in (52)–(53), respectively (Nunes 2004: 24). To satisfy the Linear Correspondence Axiom, Chain Reduction applies at PF. This PF operation reads as (54) (Nunes 2004: 27 ex. (44)).

(51) Linear Correspondence Axiom (LCA)
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)

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

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

(54) 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.

Hornstein (1999, 2003) follows Nunes and considers adjunct control structures as instances of sideward movement. I adopt the same approach in order to account for adjunct control in Telugu. To illustrate, observe the Forward Control structure (55). Following Hornstein and Nunes, I propose that (55) has the derivation in (56). In (56a), the CNP clause (CNPP) and the matrix clause form independently, and *Kumaar* copies out of the CNP clause. In (56b), *Kumaar* 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.[9] Subsequently,

[9] Following Nunes (2001: 327–329), I assume that movement always proceeds from the CNP clause to the matrix clause – or 'from a subordinated to a subordinating domain' (Nunes 2002: 329).

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the CNP clause adjoins to matrix vP, as shown in (56c). Upon adjunction, the CNP clause becomes an island. In (56d), the matrix subject *Kumaar* moves from Spec,vP to Spec,IP to check the EPP feature. As the dotted arrows in (56e) show, the copy of *Kumaar* 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. The pronunciation of all the non-distinct copies of *Kumaar* at PF would induce a violation of the irreflexivity condition in (53). The reason is that *Kumaar* ends up preceding and following itself. This is why the PF operation Chain Reduction applies in (56f). This is when the lower copy in each chain is deleted in order for the structure to be linearized in accordance with the Linear Correspondence Axiom in (51).

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

(56) (a) (i) [$_{CNP}$ [$_{NP}$ **Kumaar-ki**] jwaram wacc-i] COPY [$_{NP}$ **Kumaar**]
Kumar-DAT fever.NOM come-PART.CNP[10]

(ii) [$_{Matrix\ vP}$ haaspaTal weLLaa-Du]
hospital went-3.M.S

(b) [$_{Matrix\ vP}$ [$_{NP}$ **Kumaar**] haaspaTal weLLaa-Du]

(c) [$_{Matrix\ IP}$ [$_{vP}$ [$_{CNP}$ [$_{NP}$ **Kumaar-ki**] jwaram wacc-i] [$_{vP}$ [$_{NP}$ **Kumaar**] haaspaTal weLLaa-Du]]]

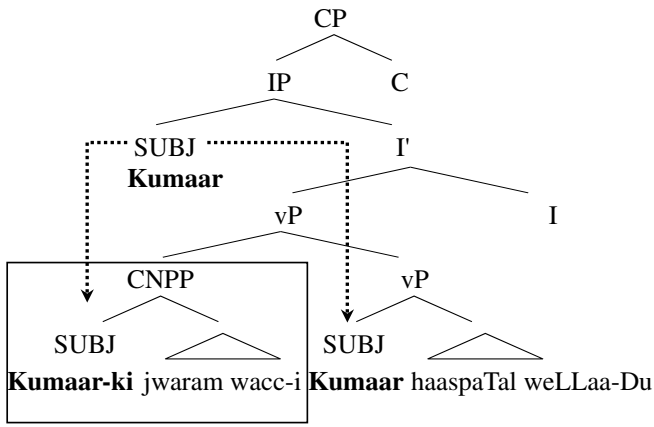
(d) [$_{Matrix\ IP}$ [$_{NP}$ **Kumaar**] [$_{vP}$ [$_{CNP}$ [$_{NP}$ **Kumaar-ki**] jwaram wacc-i] [$_{vP}$ [$_{NP}$ **Kumaar**] haaspaTal weLLaa-Du]]]

[10] Here and below, a simplified structure of the CNP clause is used. Knowing that a CNP clause may include negation and other adverbs, we can assume that it projects higher than vP, probably as high as IP. This means that a CNP clause will itself comprise two copies of the subordinate subject (e.g. (i)), one of which is deleted at PF.

(i) [$_{CNP}$ [$_{NP}$ Kumar-ki] [$_{vP}$ [$_{NP}$ Kumar-ki] jwaram wacc-i]]
Kumar-DAT Kumar-DAT fever.NOM come-PART.CNP

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(e)



(f) At PF:
[Matrix IP [NP **Kumaar**] [vP [CNP [~~NP **Kumaar-ki**~~] jwaram wacc-i]
[vP [~~NP **Kumaar**~~] haaspaTal weLLaa-Du]]]

The outcome of (56f) can be slightly different. As (56f′) below shows, in the chain {[NP Kumaar]$^{\text{Matrix IP}}$, [NP Kumaar-ki]$^{\text{CNP}}$}, the higher copy may get deleted; the outcome will be Backward Control.

(56f′) At PF:
[Matrix IP [~~NP **Kumaar**~~] [vP [CNP [NP **Kumaar-ki**] jwaram wacc-i]
[vP [~~NP **Kumaar**~~] haaspaTal weLLaa-Du]]]

Note that this free variation between Forward and Backward Control is not unique to Telugu. For example, it is also attested in Malagasy Object Control, (e.g. (57a, b); Potsdam 2006: 1 exx. (1a, b)).

(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.'

To summarize, according to Nunes (2004), 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. Subsequently, the two copies of α form a chain in accordance with Form Chain as formulated in (49) above. At PF, the structure is linearized in order to satisfy the Linear Correspondence Axiom in (51). The main idea behind (51) is that at PF a syntactic object cannot follow and precede itself at the same time. This is when Chain Reduction, as stated in (54), applies. As a result only one of the copies of α is phonologically realized.

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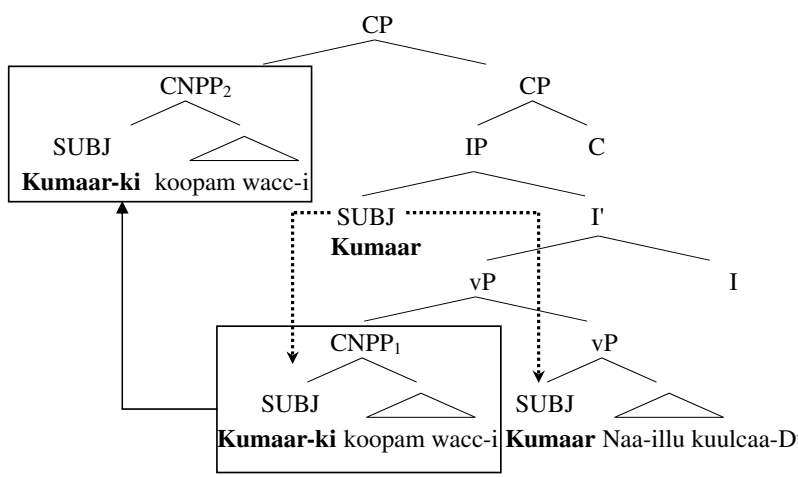
Before proceeding to Copy Control, recall from section 3.1 that adjunct control structures may be realized with a sentence-initial CNP clause and one pronounced subject (e.g. (58a)). Since Telugu is a *pro*-drop language, it might be assumed that the subject in the sentence-initial CNP clause is a silent pronoun *pro*, in which case (58a) would be analyzed as an instance of Copy Control. This conclusion is not viable, however. As I mention in section 4.1, the CNP subject in Copy Control structures has to be an r-expression; it cannot be a pronominal (e.g. (58b)). Therefore, *pro* is ruled out.

(58) (a) [[Δ_i koopam wacc-i] **Kumaar**$_i$ naa illu
Δ.DAT anger get-PART.CNP Kumar.NOM my house
kuulcaa-Du]
destroyed-3.M.S]
'Having got angry, Kumar destroyed my house.'

(b) *[[atani-ki$_i$ koopam wacc-i] **Kumaar**$_i$ naa
he-DAT anger get-PART.CNP Kumar.NOM my
illu kuulcaa-Du]
house destroyed-3.M.S
'Having got angry, Kumar destroyed my house.'

I suggest that the CNP clause in (58a) is base-generated at vP of the matrix clause before it moves to the sentence-initial position where it is pronounced. In other words, (58a) has the structure in (59). 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 ($CNPP_1$). 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, $CNPP_2$ and $CNPP_1$, also form a chain. At PF, the lower copy is deleted.

(59)



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Now the question is: how does the subject in $CNPP_2$ get deleted? The answer resides in the particular type of movement that the CNP clause undergoes. The movement of the CNP clause in (59) is commonly referred to as remnant movement. This involves movement of a constituent out of which extraction has taken place (Müller 2000). In the case of (59), this means that the CNP clause moves to matrix CP after the CNP subject has already moved to the matrix clause.

In order to account for a similar case of remnant movement and deletion of copies, Nunes (2004: 50–55) adopts a more elaborate definition of chains 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 {[Kumaar], [Kumaar-ki]} in (59) above. It is made of the copy of the subject in Spec,IP of the matrix clause and the copy of the subject in the CNP clause ($CNPP_1$). Nunes holds that the two copies must be identified, not only in terms of their content as *Kumaar*, but also in terms of their local structural configuration. That is, the chain {[Kumaar], [Kumaar-ki]} must be presented as (60a) 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 *Kumaar-ki* that has the structural configuration ([Kumaar-ki], [$_{CNP'}$ koopam wacc-i]). Two such copies exist in (59), one in $CNPP_1$ and one in $CNPP_2$. 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 ([Kumaar-ki], [$_{CNP'}$ koopam wacc-i]) in $CNPP_1$ and $CNPP_2$. Given that $CNPP_1$ and $CNPP_2$ also form a chain, one of them has to be deleted. In this case, $CNPP_1$ undergoes deletion, as (60b) shows. Note that the instance of *Kumaar* in the lower CNP clause in (60b) has double strikethrough, one for being deleted itself, and one because the whole CNP clause is deleted.

(60) (a) {([Kumaar], [$_{I'}$ …])}, ([Kumaar-ki], [$_{CNP'}$ koopam wacc-i])}

(b) [[~~**Kumaar-ki**~~ koopam wacc-i] **Kumaar**
~~Kumar-DAT~~ anger get-PART.CNP] Kumar.NOM
[~~**Kumaar**-ki koopam wacc-i~~] naa illu kuulcaa-Du]
~~Kumar-DAT anger get-PART.CNP~~ my house destroyed-3.M.S
'Having got angry, Kumar destroyed my house.'

Note that the outcome can be slightly different. At PF, Chain Reduction may instruct the phonological component to delete the occurrence of *Kumaar* that has the structural configuration ([Kumaar], [$_{I'}$ …]). In this case, it is the copy of *Kumaar* in the matrix clause that undergoes deletion, and the result is Backward Control, as (61) illustrates.

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(61) [[**Kumaar-ki** koopam wacc-i] ~~**Kumaar**~~
[[Kumar-DAT anger get-PART.CNP] Kumar.NOM
~~**[Kumaar-ki koopam wacc-i]**~~ naa illu kuulcaa-Du]
~~Kumar-DAT anger get-PART.CNP~~ my house destroyed-3.M.S
'Having got angry, Kumar destroyed my house.'

In the following section, I adopt Nunes's system to account for Copy Control in Telugu.

5.2 *Copy Control: the derivational history*

The derivation of Forward/Backward Control presented in the previous section applies, with minor adjustments, to Copy Control. The Copy Control structure in (62) has the derivational history outlined in (63).

(62) [[**Kumaar** sinimaa cuus-tuu] **Kumaar**
Kumar.NOM movie watch-DUR.CNP Kumar.NOM
paapkaarn tinnaa-Du]
popcorn ate-3.M.S
'While watching a movie, Kumar ate popocorn.'

In (63a), the CNP clause (i) and the matrix clause (ii) form independently, and the CNP subject copies out of the CNP clause. In (63b), *Kumaar* merges with the matrix vP. In (63c), the matrix subject moves from Spec,vP to Spec,IP to check the EPP feature. The CNP clause then merges with the matrix clause at CP, as (63d) demonstrates. As the dotted arrow shows, the two matrix copies of *Kumaar* {[$_{NP}$ Kumaar]$^{Matrix\ IP}$, [$_{NP}$ Kumaar]$^{Matrix\ vP}$} enter into a c-command relationship and form a chain. The CNP copy of 'Kumaar', on the other hand, does not enter into a c-command relation with either of the matrix copies. At PF, Chain Reduction applies for the purpose of Linearization. As (63e) illustrates, two copies of *Kumaar*, namely [$_{NP}$ Kumaar]^{CNP} and [$_{NP}$ Kumaar]$^{Matrix\ IP}$, survive deletion, resulting in Copy Control.[11]

[11] We know from section 4 that the matrix subject in Copy Control may be realized as an identical copy of the CNP subject, but it may also be realized as a pronoun or an epithet. This is a little bizarre, however. If both subjects are copies of the same token, as the movement approach argues, the expectation is that they should be identical under all circumstances. How is it possible for one of the copies to be 'different'? At first blush, this important question seems to be limited to Copy Control. Closer examination shows that the question goes beyond Copy Control and touches on the topic of resumption in general. Due to space limitations, I do not address this issue here (see Haddad 2007: 182–194 for a detailed analysis). A brief explanation is in order, however. Aoun, Choueiri & Hornstein (2001) and Boeckx (2003) suggest that most instances of resumption are derived by movement. Aoun et al. hold that a resumptive element (pronoun or epithet) starts out as an appositive adjoined to a DP. Later in the derivation, the DP moves, and the resumptive element is left behind, or stranded. I consider Copy Control as an instance of resumption derived by movement à la Aoun et al. and Boeckx (see also Polinsky & Potsdam 2006). Unlike these authors, however, I argue that this kind of resumption does not involve stranding. Rather, the pronoun/epithet moves along with the DP to which it is adjoined. At

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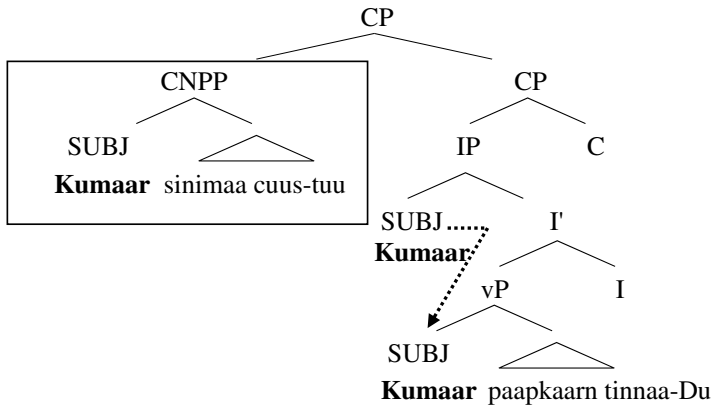
(63) (a) (i) [CNP [NP **Kumaar**] sinimaa cuus-tuu] COPY [NP **Kumaar**]
[CNP [NP Kumar.NOM] movie watch-DUR CNP]

(ii) [Matrix vP paapkaarn tinnaa-Du]
[Matrix vP popcorn ate-3.M.S]

(b) [Matrix vP [NP **Kumaar**] paapkaarn tinnaa-Du]

(c) [CP [Matrix IP [NP **Kumaar**] [Matrix vP [NP **Kumaar**] paapkaarn tinnaa-Du]]]

(d)



(e) [CP [CNP [NP **Kumaar**] sinimaa cuus-tuu] [CP [Matrix IP [NP **Kumaar**] [Matrix vP ~~[NP **Kumaar**]~~ paapkaarn tinnaa-Du]]]]

The main difference between (63) and the derivational history of Forward/Backward Control structures is the merging site of the CNP clause. In Forward/Backward Control, the CNP clause merges clause-internally at vP. In Copy Control, however, the CNP clause merges clause-initially at CP, as (63d) shows. Evidence that this is the case comes from the fact that a bound-variable interpretation is not available in Copy Control constructions. Because the CNP clause undergoes first merge (i.e. merge as a result of base-generation and not as a result of movement) at CP of the matrix clause, the CNP and matrix subjects do not enter into a c-command relation at any point in the derivation. As a result, a bound-variable relation between the two subjects is not possible.

To illustrate, the quantifier *prati* 'every' in Telugu allows two types of readings: (i) a bound-variable interpretation (e.g. (64a)) and (ii) a group interpretation (e.g. (64b)). In the latter case, the pronoun takes as its antecedent 'the group that satisfies the quantified expression' (Chao & Sells

PF, the realization of copies (r-expression vs. pronoun/epithet) is determined by language-specific constraints (e.g. lack of cataphoricity in Telugu).

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1983: 50f.). Note that irrespective of the interpretation (bound-variable vs. group), *prati baas* 'every boss' triggers singular agreement on the verb.

(64) (a) Bound-variable reading
prati baas atani implayis-ki bonus iccaa-Du
every boss.NOM his employees-DAT bonus gave-3.M.S
'Every boss gave his employees a bonus.'

(b) Group reading
prati baas waaLLa implayis-ki bonus iccaa-Du
every boss.NOM their employees-DAT bonus gave-3.M.S
'All bosses gave their employees a bonus.'

When Copy Control with a quantificational phrase is involved, the bound-variable reading is unavailable, as (65a) shows. The only available interpretation is the group reading, whereby the quantificational expression is considered as a specified group of individuals, as illustrated in (65b). This indicates that the matrix subject is not bound, which is expected due to the lack of c-command. Further, we know from section 4.1 that the CNP subject may not be a pronominal. In other words, it is not possible to have a pronominal CNP subject resuming a quantificational subject in the matrix clause (e.g. (65c)). If the CNP clause underwent first merge at vP before moving to CP, restructuring would be possible, and a bound-variable relation of this sort would be available.

(65) (a) *[[$_{CNP}$ prati baas-ki pooyina-waaram manciga anipinc-i]
every boss-DAT last-week good feel-PART.CNP
atanu/aa pichooDu implayis-ki bonus iccaa-Du]
he.NOM/the idiot.NOM employees-DAT bonus gave-3.M.S
'Every boss felt good last week, and he/the idiot gave his employees a bonus.'

(b) [[$_{CNP}$ prati baas-ki pooyina-waaram manciga anipinc-i]
every boss-DAT last-week good feel-PART.CNP
waaLLu-andaru/aa pichooLLu implayis-ki bonus iccaa-ru]
they all.NOM/the idiots.NOM employees-DAT bonus gave-3.M.P
'All the bosses felt good last week, and they/the idiots gave their employees a bonus.'

(c) *[[$_{CNP}$ atanu/aa pichooDu pooyina-waaram manciga
he.NOM/the idiot.NOM last-week good
anipinc-i] prati baas-ki implayis-ki bonus iccaa-Du]
feel-PART.CNP every boss-DAT employees-DAT bonus gave-3.M.S
'Every boss felt good last week, and he/the idiot gave his employees a bonus.'

One question that comes to mind is the following: how can a control interpretation be established without c-command? In other words, how does the matrix subject determine the identity of the CNP subject – or vice

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versa – if the two do not enter into a c-command relationship? The simple answer, and probably the only one, is movement. The two copies are coreferential because they are copies of the same token derived via movement.

6. Problem

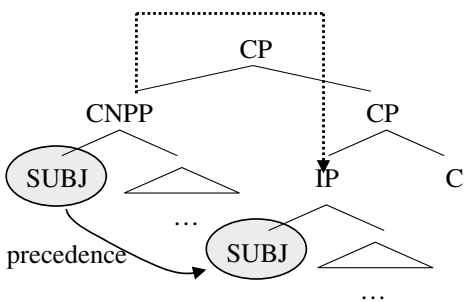
The analysis presented in the previous section is not without problems. One problem is related to linearization. The Linear Correspondence Axiom as formulated in (51), repeated here as (66), predicts that the derivations in (63) above must not converge. The reason resides in the definition of precedence. As (66) indicates, a terminal x precedes a terminal y if the non-terminal X that dominates x c-commands the non-terminal Y that dominates y.

(66) 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 (66) to the derivation in (63), we realize that at the end of the derivation the non-terminal CNP clause asymmetrically c-commands the IP that dominates the matrix subject, as (67) illustrates. Therefore, the CNP subject precedes 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 irreflexivity condition and the Linear Correspondence Axiom. Therefore, one of the copies must be deleted in order for the structure to converge. Neither copy may be deleted, however, because Chain Reduction only targets chains, and the two copies do not form a chain.

(67)



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

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linear order in accordance with the Linear Correspondence Axiom. To avoid such 'unwanted applications of sideward movement', Nunes (2004: 51f., 159) holds that Form Chain, although an independent operation, is mandatory. If Form Chain does not apply, the derivation crashes.

The derivation in (63) does converge, however. Two copies escape Chain Reduction and are actually pronounced. Fortunately, there is a way to account for derivations like (63) without compromising the essence of Kayne's Linear Correspondence Axiom and without tampering with Nunes's theory of movement.

Copy Control may be grouped with other instances of multiple copy spell-out in which more than one copy of the same token is phonologically realized. One analysis of the phenomenon that has received considerable attention in the literature was proposed by Nunes (2001, 2004). Section 6.1 presents a summary of Nunes's analysis. Section 6.2 suggests that if Multiple Spell-Out (Uriagereka 1999) is added to Nunes's system, such that a structure is transferred to the phonological component multiple times throughout the derivation rather than once at the end of the derivation, Copy Control can receive an analysis similar to the analysis offered for the other instances of multiple copy spell-out.

6.1 *Multiple copy spell-out*

Multiple copy spell-out is attested in several languages. For example, the Kru language Vata allows multiple copies of a verb chain to be pronounced, (e.g. (68); Koopman 1984: 38).

(68) Vata
Li à **li**-da zué saká.
eat 1.P eat-PAST yesterday rice
'We did eat rice yesterday.'

The multiple copies realized in (68) 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 non-distinct copies of the same token (i.e. two copies of the same syntactic object related through movement) 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 may be 'morphologically reanalyzed as a single terminal element' or a single 'phonological word'. In the theory of Distributed Morphology (Halle & Marantz 1993), this process is called fusion. The Linear Correspondence Axiom cannot see into fused links and, consequently, the lower copy escapes deletion (see Kandybowicz 2006 for a slightly different approach).

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To illustrate, building on Koopman's analysis, Nunes (2004: 46–48) discusses the example in (68) and holds that the higher copy of the verb *li* 'eat' moves to a focus position preceding IP. The verb and the head of the focus projection are fused into a single terminal and are reanalyzed as a new phonological word. In this way, the Linear Correspondence 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 only in minimal fashion for the purpose of linearization and convergence, as (69) explicitly states.

(69) 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 ex. (31)) [my emphasis]

It is tempting to try to analyze Copy Control in Telugu along the same lines. In other words, it is tempting to assume that one of the copies in a Copy Control structure undergoes fusion with a null head of some sort. As a result, the copy becomes part of a new phonological word. Because linearization cannot see into words, the two identical copies are not detected as non-distinct, and they both escape deletion. Such an analysis faces a major problem, however. It predicts that the two copies can escape deletion irrespective of the merging site of the CNP clause. This prediction is not borne out. In sections 3 and 5.1, we saw that when the CNP clause merges at vP of the matrix clause, one of the copies has to be deleted, resulting in either Forward or Backward Control.

Still, an analysis similar to Nunes's is viable. The following section suggests that one of the copies in a Copy Control structure escapes linearization by becoming part of a giant phonological word, a spelled-out domain. The keyword is Multiple Spell-Out (Uriagereka 1999).

6.2 *Multiple Spell-Out and Copy Control*

6.2.1 *Multiple Spell-Out*

According to Chomsky (2000, 2001, 2004), when a structure is transferred to the phonological component, it is spelled out phase by phase, whereby a phase is a vP or a CP. This idea is formulated as the Phase Impenetrability Condition, as stated in (70).

(70) 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)

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

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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 for this approach comes from Franks & Bošković (2001) and Fox & Pesetsky (2005), among several others. Franks & Bošković present evidence from Bulgarian clitic-ordering to argue in favor of Multiple Spell-Out by phase. Fox & Pesetsky build a theory of cyclic linearization and order preservation 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.[12]

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 in the derivation.[13] According to Uriagereka (1999: 256), every time a domain is spelled-out, it is converted into a non-phrasal structure or a giant lexical compound that is interpretable, yet inaccessible to further syntactic operations.

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[12] Fox and Pesetsky's cyclic linearization and order preservation indicate 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 structures under investigation. The details are orthogonal to the argument in the rest of this section, however, which is why I do not present them here. What is important for the purposes of this paper 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 Pesetsky's approach are in order, however. First, the authors argue that move is actually re-merge rather than copy-plus-merge (Fox and Pesetsky 2005: 41). However, evidence from Copy Control, as well as other instances of multiple copy spell-out, shows that an analysis as copy-plus-merge is superior to Re-merge. Second, 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 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 argue. If these two points 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.

[13] According to Uriagereka (1999), spell-out applies to specific syntactic objects which he calls Command Units. A Command Unit is a syntactic object that is derived through a 'continuous application of Merge' – that is, through the 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 in a Command Unit. For example, merging [x [y]] and [a[b]] results in [[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 may be 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 purposes of my analysis, it is important that the edge of a spelled-out domain should remain active. Uriagereka, on the other hand, seems to imply that the whole Command Unit is syntactically inactive once spelled-out.

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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 operations.

In the following, I examine the effects of Multiple Spell-Out on the analysis of Copy Control.

6.2.2 *Copy Control revisited*

Let us have another look at the derivation of the Telugu example in (62) above, repeated here as (71), in the light of Multiple Spell-Out.

(71) [[**Kumaar** sinimaa cuus-tuu] **Kumaar** paapkaarn
Kumar.NOM movie watch-DUR.CNP Kumar.NOM popcorn
tinnaa-Du]
ate-AGR
'While Kumar was watching a movie, Kumar ate popcorn.'

The steps of the derivation are delineated in (72). The CNP clause and the matrix clause form independently in (72a), and the CNP subject copies out of the CNP clause. In (72b), *Kumaar* merges in matrix vP. The matrix subject then moves from Spec,vP to Spec,IP to check the EPP feature, as sketched in (72c). In (72d), matrix CP has been spelled out and linearized. Chain Reduction applies and marks the lower copy of *Kumaar* 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. Although matrix CP is spelled-out, its edge is still accessible to further computation. This allows the CNP clause to merge with the matrix clause at CP. The whole structure is spelled-out and linearized again. It converges as (72e).

(72) (a) (i) [CNP [NP **Kumaar**] sinimaa cuus-tuu] COPY [NP **Kumaar**]
Kumar.NOM movie watch-PART.CNP

(ii) [Matrix vP paapkaarn tinnaa-Du]
popcorn ate-AGR

(b) [Matrix vP [NP **Kumaar**] paapkaarn tinnaa-Du]

(c) [CP [Matrix IP [NP **Kumaar**] [Matrix vP [NP **Kumaar**] paapkaarn tinnaa-Du]]]

(d) [CP [Matrix IP [NP **Kumaar**] [Matrix vP ~~[NP **Kumaar**]~~ paapkaarn tinnaa-Du]]]

(e) [CP [CNP [NP **Kumaar**] sinimaa cuus-tuu] [CP [Matrix IP [NP **Kumaar**] [Matrix vP ~~[NP **Kumaar**]~~ paapkaarn tinnaa-Du]]]]

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The derivation in (72) does not violate the Linear Correspondence Axiom. Linearization is not able to detect *Kumaar* in the matrix clause and *Kumaar* in the CNP clause as copies of the same token. The reason is that the matrix copy is hidden inside a spelled-out domain (a giant word) 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. Note that this is the case irrespective of whether the CNP and matrix subjects enter into a c-command relationship or not.

An almost identical conclusion is arrived at by Nunes & Uriagereka (2000). They present an analysis of parasitic gaps as involving sideward movement and Multiple Spell-Out. The approach to Multiple Spell-Out adopted here differs from theirs in one major respect. I consider a spelled-out domain to be categorically inaccessible to any syntactic operations. A spelled-out domain in Nunes & Uriagereka's (2000: 24, 32) analysis, by contrast, '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'. To them, an element inside a spelled out domain is still accessible to the operation Form Chain. 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 & Uriagereka adopt this mysterious approach in order to account for (73).

(73) Which paper did John file after reading?
[$_{CP}$[**which paper ^{d}**] did [$_{IP}$John [$_{vP}$[$_{vP}$ file [**which paper ^{c}**]] [$_{PP}$ after [$_{CP}$ [~~**which paper ^{b}**~~] **reading [**~~**which paper ^{a}**~~]]]]]

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. 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}].

Fortunately, there is a way to account for (73) while still considering spelled-out domains inaccessible to Form Chain and Chain Reduction. If the PP-adjunct in (73) is considered a CP, as Grohmann (2003) suggests, then [which paper ^{b}] will occupy the edge of the phase, as (74) illustrates.

(74) [$_{CP}$[which paper ^{d}] did [$_{IP}$John [$_{vP}$[$_{vP}$ file [~~which paper ^{c}~~]] [$_{CP}$ [~~which paper ^{b}~~] after reading [~~which paper ^{a}~~]]]]]

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 the chain {[which paper ^{d}],

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[which paper [b]]} and, consequently, undergoes Chain Reduction for the purpose of linearization.

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 the matrix CP in (72).

As pointed out in section 5.2, the two pronounced copies in Copy Control structures do not form a chain for a reason independent of Multiple Spell-Out and spelled-out domains: they do not enter into a c-command relationship. I mentioned earlier that this scenario counts as a violation in Nunes's Copy-plus-Merge Theory of Movement. It is important to note, however, that Form Chain is obligatory in order to serve one purpose, linearization, and that the non-occurrence of Form Chain is a violation if linearization and the Linear Correspondence Axiom 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 cannot be detected as 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 leaves us with the spell-out timing of CP in (72). 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 into neither category. When CP is spelled-out, no new phase head is introduced, nor is it the end of the derivation (an adjunct still awaits merge). Closer examination shows that the 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 the 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.

6.3 *Summary and predictions*

I mentioned at the beginning of section 6 that there is a way for the theory to account for Copy Control in Telugu without compromising the essence of Kayne's Linear Correspondence Axiom and without tampering with Nunes's theory of movement. The rest of the section was devoted to showing that Copy Control is derivationally only slightly different from other instances of multiple copy spell-out. According to Nunes, occurrences of

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multiple copy spell-out involve two non-distinct copies, one of which has become invisible to linearization 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 related through movement and are thus 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 main 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.

The analysis makes an important prediction. In order for Copy Control to obtain in a language, two conditions must be satisfied:

- Condition 1: The two arguments entering into a control relation must check case, which may be inherent or structural case (or even default case).
- Condition 2: At least one of the two arguments entering into a control relation must become part of a bigger word by PF.

The prediction is not entirely new. Condition 1 is based on the standard assumption that an NP has to check case in order to be visible, or phonologically realized (Chomsky 1981: 49, Vergnaud 1982). Condition 2 is a central assumption in Nunes's system. It is employed in Boeckx et al. (2007) in order to account for Copy Control in San Lucas Quiaviní Zapotec. To elaborate, Boeckx et al. analyze the Copy Control construction in (75) (from Lee 2003: 102 ex. (83)) as movement. The lower subject copies out of the subordinate clause and merges in the matrix clause. By PF, the lower copy adjoins to a covert head, a reflexive s*elf*-affix.[14] The copy and the head form a

[14] Evidence for this affix comes from structures like (i), in which the lower copy of *Gye'eihlly* behaves like a reflexive pronoun. This phenomenon is attested in Chinese, as Boeckx et al. (2007) point out. For example, sentence (i) (from Lee 2003: 84 ex. (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 a'z Gye'eihlly Gye'eihlly
HABITUAL-like Gye'eihlly Gye'eihlly
'Mike likes himself.'

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new word. Since linearization cannot see into words, the copy escapes deletion.

(75) San Lucas Quiaviní Zapotec
R-càà**a**'z Gye'eihlly g-auh (Gye'eihlly) bxaady
HABITUAL-want Gye'eihlly IRREALIS-eat Gye'eihlly grasshopper
'Mike wants to eat grasshopper.'

In this paper, I suggest that Condition 2 may also be satisfied if one of the copies in a control structure hides in a spelled-out domain, a phase that is transferred to the phonological component and transformed into a giant compound à la Uriagereka (1999). In the case of adjunct control, satisfying Condition 2 seems to depend strictly on the first merging site of the adjunct. If the adjunct merges at the matrix CP – that is, after the matrix clause is spelled out and transformed into a giant compound – then the matrix subject gets the chance to hide in a bigger word.[15] If Condition 1 is also satisfied – that is, if the two control-related arguments check case – the result is Copy Control.

Conditions 1 and 2 are able to account for Copy Control in Telugu. They may also be able to generalize over Copy Control in other South Asian languages, such as Dakkhini (e.g. (76)) and Karnataka Konkani (e.g. (77); from Arora & Subbarao 2004: 40 exx. (80)–(81)). (Note that in these languages, the CNP subject may be realized as a pronominal, which makes the restriction that the CNP subject must be an r-expression specific to Telugu.)

(76) Dakkhini
[[**us-ku** bukhaar aa-ke] **uno** mar.gayaa]
he-DAT fever.NOM come-CNP he.NOM died
'Having had a fever, he died.'

(77) Karnataka Konkani
[[**tak-ka** taap yewa-nu] **tO** gellO]
he-DAT fever.NOM come-CNP he died
'Having had a fever, he died.'

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

[15] Given that the CNP clause in Forward/Backward Control may move to a sentence-initial position and merge at the matrix CP, a *JL* reviewer raised the following question: what prevents such CNP clauses from undergoing spell-out before they merge with the root CP? As mentioned in section 2.3.2, I adopt the standard assumption that CNP clauses are IPs. According to Chomsky (2000, 2001), IPs are not phases. To assume that a sentence-internal CNP clause is spelled out is to assume that the matrix CP that dominates it is spelled out, in which case the movement of the CNP clause will no longer be possible simply because a spelled-out domain (or, more accurately, the elements inside a spelled-out domain) cannot participate in further syntactic operations.

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On the other hand, if the adjunct undergoes first merge at vP of the matrix clause, neither the subordinate subject nor the matrix subject has the opportunity to become part of a spelled-out domain by PF. This is why both copies are detected as non-distinct at PF, and thus only one survives deletion. Note that this is true even if both control-related arguments check case. It is also true even if the adjunct subsequently undergoes remnant movement to a sentence-initial position, adjoining to CP of the matrix clause (see section 5.1 above).

If this explanation is on the right track, it may be able explain why not so many languages license Copy Control, including languages that are similar to Telugu. For example, Hindi-Urdu also licenses adjunct control into CNP clauses (e.g. (78a, b), adapted from Kachru 1981). Nevertheless, the language categorically disallows Copy Control (e.g. (78c)). Notice that, based on the movement approach adopted in this paper, (78b) would be an instance of remnant movement.

(78) (a) [**Raaj-ne**$_i$ [Δ_i nahaa-kar] khaanaa khaayaa]
Raj-ERG bathe-CNP meal ate
'Having bathed, Raj ate a meal.'

(b) [[Δ_i nahaa-kar] **Raaj-ne**$_i$ khaanaa khaayaa]
bathe-CNP Raj-ERG meal ate
'Having bathed, Raj ate a meal.'

(c) *[[**Raaj**$_i$ nahaa-kar] **usne** khaanaa khaayaa]
Raj.NOM bathe-CNP he.ERG meal ate
'Raj bathed, and he ate a meal.'

7. Conclusion

This article set out with two purposes: (i) to document the phenomenon of Copy Control in Telugu, and (ii) to provide a possible derivation of Copy Control structures within the Minimalist Program, using the Movement Theory of Control (Hornstein 1999, 2003).

In the analysis, Copy Control is treated as another instance of multiple copy spell-out derived via movement. In order to account for the data, the analysis required a change to Nunes's system. Building on work by Uriagereka (1999), 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, the two subjects escape deletion, resulting in Copy Control.

Copy Control is not unique to Telugu. As mentioned in section 4, it also exists in several other South Asian languages, such as Assamese, Dakkhini,

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and Karnataka Konkani. Assuming that the analysis presented in this paper is on the right track, data from these languages present strong evidence in favor of the movement approach to control. A virtue of this approach is that it is able to successfully analyze the different types of control (Forward, Backward, and Copy Control) by relying on a single mechanism that is uncontroversially already a part of Universal Grammar, namely, movement.

At the same time, the data pose a serious challenge to the PRO approach. The main reason is that the different versions of the PRO theory of control are built on the assumption that PRO and overt subjects are in complementary distribution. Evidence from Telugu, as well as from other languages of South Asia, shows that this is not necessarily the case.

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