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Why Things May Move: Evidence from (Circumstantial) Control

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Abstract

In the Minimalist Program, movement is considered to be driven by feature checking. An element moves in order to check a feature of its own or a feature on the target (Lasnik 1995). This paper presents evidence from Adjunct Control in two South Asian languages, Telugu and Sinhala, to show that movement may also be triggered by the feature requirements of the head of the maximal projection that dominates the moving element. The analysis, if correct, may be a solution to a major problem faced by the Movement Theory of Control: what triggers the movement of the subordinate subject in a control structure?

1 Introduction

It is a fact about language that in a linguistic expression an element may be pronounced in one position and interpreted in another. For example, *what* in *What did you eat?* is pronounced sentence-initially but interpreted as the complement of *eat*. This observation has led to the widespread belief that syntactic objects move and that movement is part of natural language. In the Government-and-Binding version of Principles and Parameters, movement was formulated as a free operation; a syntactic object may move at will, leaving a trace behind, as long as movement does not induce any violation.

In Minimalism (Chomsky 1995 and subsequent work), movement is understood as a dual operation of copy plus merge. In other words, when an element moves, it does not evacuate a site; rather, it copies out of the original site and merges in the target site, leaving behind a copy that is available for interpretation at LF but that is usually deleted at PF.

In addition, movement no longer takes place for free. When an element moves, it does so for one purpose: feature checking. According to Chomsky (1995, 201), movement is a self-serving, last resort operation; it takes place "only if the morphological properties of [the moving element] itself are not otherwise satisfied." This self-serving characteristic of movement came to be understood as follows: an element moves only if it *eventually* checks a feature of its own. Further, "the self-serving property of Last Resort cannot be overridden even to ensure convergence." Lasnik (1995) disagrees with Chomsky on empirical grounds. He shows that an element may move to check a feature of its own or a feature on the target. He labels this type of movement as Enlightened Self Interest.

Movement is employed in several syntactic derivations, such as raising structures and wh-constructions. Over the last decade, it has been argued that movement is also employed in the derivation of control structures.

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Control is an interpretational dependency between two arguments in a given structure. Commonly, one argument is pronounced, determining the referential properties of an unpronounced argument. For example, the reference for the unpronounced argument in the subordinate clause in (1) may only coincide with the reference of the pronounced argument Sue in the matrix clause.

(1) [$_{\text{Matrix}}$ Sue$_{\text{i}}$ managed [$_{\text{Subordinate}}$____$_{\text{i}/*\text{k}}$ to impress Tom]]

One theory of control that emerged in the wake of the Minimalist Program (Chomsky 1995) is the Movement Theory of Control (Hornstein 1999, 2003). According to this theory, the two coreferential arguments in a control structure are related through movement, and sentence (1) derivationally looks like (2). *Sue* undergoes first merge in the subordinate clause before it moves to the matrix clause. At LF, both copies are available for interpretation. Decisions concerning the pronunciation of copies are made at PF. In (2), the higher copy is pronounced, while the lower copy is deleted.

(2) [$_{\text{Matrix}}$ Sue managed [$_{\text{Subordinate}}$ ~~Sue~~ to impress Tom]]

The major premises of the movement approach are delineated in (3a–d) (Hornstein 2003, page 22, ex. (40)). Most relevant for the purpose of this paper are the premises in (3c–d) which employ Lasnik's formulation of movement as Enlightened Self Interest.

(3) 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 the movement of α to β takes place in order to check a feature on α or on β (Lasnik 1995).

To illustrate, observe (4), which is an expanded version of (2) above. *Sue* starts out in Spec,vP of the subordinate clause where it checks the theta-role feature of the subordinate predicate. Subsequently, it moves to Spec,IP to check the EPP feature. This is followed by movement to Spec,vP of the matrix clause where it satisfies the thematic requirements of the matrix predicate. Finally, *Sue* moves to matrix Spec,IP where it checks its case feature, and the structure converges. At PF, all but the highest copy of Sue are deleted. Note that every instance of movement in (4) is triggered by feature checking.

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

This paper presents evidence from Adjunct Control in Telugu, a Dravidian language, to show that movement is not always triggered by the feature characteristics of the moving element or the target. As an alternative, the paper suggests that the subordinate subject moves in order to license the merge of the subordinate clause with the matrix clause. Stated differently, the movement of α to β may be triggered by the feature requirements of the head of the maximal projection that dominates α.

The article is organized as follows. Section 2 presents the facts about Adjunct Control in Telugu and offers a possible derivation. Section 3 raises the question of movement and shows that Enlightened Self Interest fails to explain why the subordinate subject in Telugu Adjunct Control undergoes movement. Section 4 delineates some theoretical assumptions that are important for the discussion in the following sections. Section 5 shows that the movement of the subject in Telugu Adjunct Control is driven by the feature characteristics of the head of the adjunct. Section 6 extends the analysis to Sinhala, an Indo-Aryan language. Section 7 concludes the paper.

2 Adjunct Control in Telugu

In the following subsections, I present the relevant Telugu Adjunct Control structures (section 2.1) and put forth a possible analysis of these structures as involving movement (section 2.2). The presentation is rather brief; it offers the background necessary for the discussion of the central topic of the paper in the following sections. For more details about the derivation of Adjunct Control in Telugu, see Haddad (2009b; 2010).

2.1 The Data

Telugu is a subject (and object) pro-drop, head-final language in which *pro* and overt subjects are interchangeable (Kissock 1995).[1] Two types of subjects are licensed in Telugu: (i) structural case marked subjects and (ii) inherent case marked subjects. The former are nominative, (5). The latter are licensed by psych or experiential predicates and they are mainly dative, (6).[2]

(5) **Structural Case**

a. kumaar niiḷḷu kaacin-ḍu
Kumar.NOM water boiled-3.M.S
'Kumar boiled the water.'

b. sarita bhoojanamu tinna-di
Sarita.NOM dinner ate.3.N.S
'Sarita ate dinner.'

(6) **Inherent Case**

a. kumaar=ki bhaarya=miida koopam waccin-di
Kumar=DAT wife=on anger.NOM ame-3.N.S.
'Kumar got angry with his wife.'

b. sarita=ki daggu=u jalubu=u waccina-yi
Sarita=DAT cough.NOM=and cold.NOM=and came-3.N.P
'Sarita caught a cold and a cough.'

c. kumaar=ki picci paṭṭin-di
Kumar=DAT craziness.NOM caught-3.N.S.
'Kumar became/went crazy.'

Like other South Asian languages, Telugu has a special type of non-finite subordinate clause known as an adverbial or conjunctive participle (CNP) clause. CNP clauses function as adjuncts, expressing an action that is anterior to or simultaneous with that of the matrix clause. They do not take a complementizer, which is why they are normally considered IPs rather than CPs (Jayaseelan 2004). The verb in CNP clauses shows no inflection for tense or agreement.

The language has two types of CNP clauses: perfective and durative. The verb of a perfective CNP clause takes the form in (7), while the verb of a durative CNP clause takes the form in (8) (see Krishnamurti and Gwynn 1985, chap. 18). For the purpose of this paper, I gloss both as CNP verbs.

(7) **Perfective: Verb stem + *-i***

a. kumaar_i [$\_\_\__{i/*k}$ jwaram wacc-i] haaspaṭal weḷḷaa-ḍu
Kumar.NOM [___[DAT] fever.NOM come-CNP] hospital went-3.M.S.
'Having had a fever, Kumar went to hospital.'

b. naa baas_i [$\_\_\__{i/*k}$ manciga anipinc-i] implayis=ki banus iccaa-ḍu
my boss.NOM [___[DAT] good feel-CNP] employees=DAT bonus gave-3.M.S.
'Having felt good, my boss gave the employees a bonus.'

c. sarita=ki_i [$\_\_\__{i/*k}$ aa maaṭa win-i] koopam waccin-di
Sarita=DAT [___[NOM] that matter hear-CNP] anger.NOM came-3.N.S.
'Having heard the news, Sarita got angry.'

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[1] Abbreviations: 3 '3rd person', ACC 'accusative', CNP 'conjunctive participle', DAT 'dative', INF 'infinitive', F 'feminine', G 'genitive', M 'masculine', N 'neuter', NOM 'nominative', S 'singular', P 'plural'. Transliteration: dotted consonants (ṭ, ḍ, ḷ, ṇ) are retroflex, /c/ is a voiceless palatal plosive, double consonants indicate gemination, and double vowels are long vowels.

[2] The unmarked DPs of dative subject constructions are marked NOM in order to emphasize that they, rather than the dative subjects, trigger agreement on the verb. Some DPs, mainly inanimate ones, that occupy the object position of a transitive verb are also unmarked but these do not trigger agreement on the verb.

(8) **Durative: Verb stem + *-tuu***

a. kumaar$_i$ [___$_{i/*k}$ bhoojanamu cees-tuu] aarun=ki fon ceesaa-ḍu
Kumar.NOM [___[NOM] dinner take-CNP] Arun=DAT phone did-3.M.S.
'While Kumar was having dinner, he called Arun.'

b. kumaar$_i$ [___$_{i/*k}$ sarita=too naaṭyam cees-tuu] aame=ki katha ceppaa-ḍu
Kumar.NOM [___[NOM] Sarita=with dance do-CNP] her=DAT story told-3.M.S.
'While dancing with Sarita, Kumar told her a story.'

As the indices show, structures with CNP clauses do not allow disjoint subjects and are, thus, Adjunct Control structures. In other words, Adjunct Control in Telugu qualifies as obligatory subject control in the sense that the CNP subject has to take the matrix subject as an antecedent. Even with enough context, the CNP subject cannot be coreferential with any other NP in the sentence (e.g., the possessor of the matrix subject), and it cannot be coreferential with an NP selected from surrounding discourse (see Williams 1980, Hornstein 1999, Jackendoff and Culicover 2003, Polinsky and Potsdam 2004, among others). To illustrate, in (9) the CNP subject takes as an antecedent the matrix subject's possessor *atani* 'his' or the dative NP *atani=ki* 'him=DAT'. In (10), the antecedent is selected from surrounding discourse (speaker or hearer). Both sentences are ungrammatical under the designated readings.

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

(10) *sarita [___$_{i/k/j}$ jwaram wacc-i] naa-ku$_i$/mii-ku$_k$ mandulu iccin-di
Sarita.NOM [___[DAT] fever.NOM come-CNP] me=DAT/you=DAT medicines gave-3.N.S.
Intended meaning: 'I/You had a fever, and Sarita gave me/you medication.'

The grammatical structures in (7)–(8) above are instances of Forward Control. These are structures in which the matrix subject is pronounced determining the identity of the unpronounced subordinate subject. In addition to Forward Control, Telugu licenses Backward Control. In this case, the subordinate subject is pronounced, determining the identity of the unpronounced matrix subject. The sentences in (11) are examples.[3]

(11) a. ___$_{i/*k}$ [kumaar=ki$_i$ jwaram wacc-i] haaspaṭal weḷḷaa-ḍu
___[NOM] [Kumar=DAT fever.NOM come-CNP] hospital went-3.M.S.
'Having had a fever, Kumar went to hospital.'

b. ___$_{i/*k}$ [naa baas=ki$_i$ manciga anipinc-i] implayis=ki bonus iccaa-ḍu
___[NOM] [my boss=DAT good feel-CNP] employees=DAT bonus gave-3.M.S.
'Having felt good, my boss gave his employees a bonus.'

c. ___$_{i/*k}$ [sarita$_i$ aa maaṭa win-i] koopam waccin-di
___[DAT] [Sarita.NOM that matter hear-CNP] anger.NOM came-3.N.S.
'Having heard the news, Sarita got angry.'

Like their Forward Control counterparts, Backward Control structures are instances of Obligatory Control. As the indices in (11) show, if the CNP subject fails to determine the identity of the matrix subject, the result is ungrammaticality.

[3]The sentences in (11) are the Backward Control counterparts of the Forward Control structures in (7). The Forward Control sentences in (8) may also be realized as instances of Backward Control that look like (ia–b). However, given that the matrix and subordinate subjects bear the same case (nominative), it is not obvious that (ia–b) are different from (8a–b). For evidence that the Backward Control structures (ia–b) are grammatical, see Haddad (2009b).

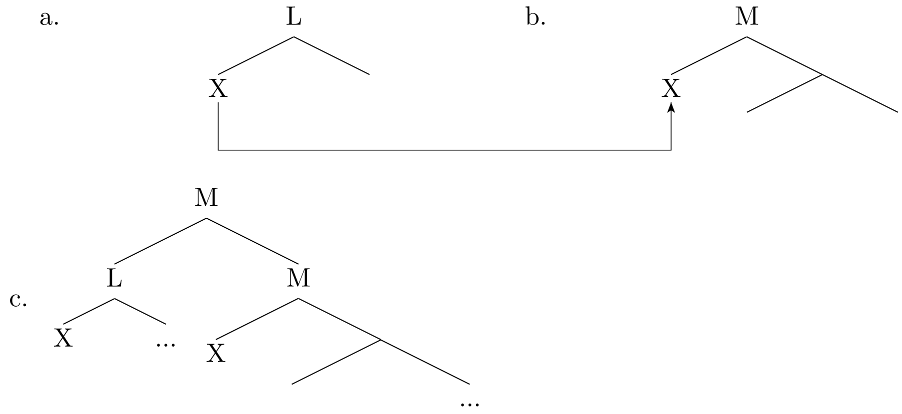
(i) a. ___$_{i/*k}$ [kumaar$_i$ bhoojanamu cees-tuu] aarun=ki fon ceesaa-ḍu
___[NOM] [Kumar.NOM dinner take-CNP] Arun=DAT phone did-3.M.S.
'While Kumar was having dinner, he called Arun.'

b. ___$_{i/*k}$ [kumaar$_i$ sarita=too naaṭyam cees-tuu] aame=ki katha ceppaa-ḍu
___[NOM] [Kumar.NOM Sarita=with dance do-CNP] her=DAT story told-3.M.S.
'While dancing with Sarita, Kumar told her a story.'

2.2 The analysis

Building on work by Hornstein (2003) and Nunes (1995, 2004), I analyze Telugu Adjunct Control as sideward movement. This type of movement is inter-arboreal instead of intra-arboreal; that is, it allows an object to undergo movement between two unconnected structures. For example, L and M in (12a) and (12b) are two independent structures. X undergoes inter-arboreal or sideward movement between L and M before the two phrasal structures merge in (12c).

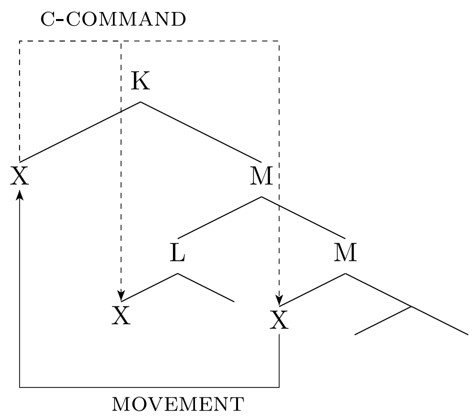
(12)



According to Nunes, (12) is possible because movement is a quadripartite process made up of the independent operations: copy, merge, form chain, and chain reduction. The first two operations already take place in (12a–b); X copies out of L and merges in M.

The third operation, form chain, targets copies and takes place under two conditions: (i) the copies are non-distinct (i.e., copies of the same token) and (ii) they are in a c-command relationship. In (12c) above, the two copies of X are non-distinct; thus, they satisfy the first condition. However, they are not in a c-command relation yet. Let us assume that the structure in (12c) expands as K, (13), and that X moves to a higher position as a daughter of K. From this position, the higher copy of X c-commands the lower copies, forming a chain with each of them.

(13)



The final operation, chain reduction, takes place at PF. According to Nunes, if two non-distinct elements are in a precedence relation, one of them has to be deleted for the purpose of linearization. Stated differently, chain reduction satisfies the Linear Correspondence Axiom in (14) which dictates that an element cannot follow and precede itself, as this induces a violation of irreflexivity. This PF operation is contingent on c-command, as (15) shows. When applied to (13), chain reduction dictates that all but one instance of X be deleted. Normally, the copy that has the least unchecked features survives deletion.

(14) **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)

(15) **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))

Following Hornstein and Nunes, I suggest that sentence (16) has the derivation in (17). In (17a), the CNP clause and the matrix clause form independently, and 'Kumar' copies out of the CNP clause. In (17b), 'Kumar' merges in the matrix clause. Subsequently, the CNP clause adjoins to matrix vP, as shown in (17c). In (17d), the matrix subject 'Kumar' moves from Spec,vP to Spec, IP to check the EPP feature. As the dotted arrows 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. The pronunciation of all the non-distinct copies of 'Kumar' at PF induces a violation of irreflexivity and the Linear Correspondence Axiom in (14). The reason is that 'Kumar' ends up preceding and following itself. This is why chain reduction applies in Step (17e). This is when the lower copy in each chain is deleted in order for the structure to be linearized.[4]

(16) kumaar [~~kumaar=ki~~ jwaram wacc-i] haaspaṭal weḻḻaa-ḍu
Kumar.NOM [~~Kumar=[DAT]~~ fever.NOM come-CNP] hospital went-3.M.S.
'Having had a fever, Kumar went to the hospital.'

(17) a. i. [$_{\text{CNPP}}$ [$_{\text{NP}}$ kumaar=ki] jwaram wacc-i] =COPY⇒ [$_{\text{NP}}$ kumaar]
[$_{\text{CNPP}}$ [$_{\text{NP}}$ Kumar=DAT] fever.NOM come-CNP]

ii. [$_{\text{Matrix vP}}$ haaspaṭal weḻḻaa-ḍu]
[$_{\text{Matrix vP}}$ hospital went-3.M.S.]

b. [$_{\text{Matrix vP}}$[$_{\text{NP}}$ kumaar] haaspaṭal weḻḻaa-ḍu]

c. [$_{\text{Matrix IP}}$[$_{\text{vP}}$[$_{\text{CNP}}$[$_{\text{NP}}$ kumaar=ki] jwaram wacc-i] [$_{\text{vP}}$ [$_{\text{NP}}$ kumaar] haaspaṭal weḻḻaa-ḍu]]]

d. [$_{\text{CP}}$[$_{\text{Matrix IP}}$[$_{\text{NP}}$**kumaar**][$_{\text{vp}}$[$_{\text{CNPP}}$[$_{\text{NP}}$ **kumaar=ki**] jwaram wacc-i][$_{\text{vp}}$[$_{\text{NP}}$**kumaar**] haaspaṭal weḻḻaa-ḍu]]]]

e. [$_{\text{CP}}$[$_{\text{Matrix IP}}$[$_{\text{NP}}$**kumaar**][$_{\text{vP}}$[$_{\text{CNPP}}$[$_{\text{NP}}$**~~kumaar=ki~~**] jwaram wacc-i][$_{\text{vP}}$[$_{\text{NP}}$**~~kumaar~~**] haaspaṭal weḻḻaa-ḍu]]]]

The outcome of (17e) above can be slightly different. As (18) illustrates, the higher copy in the chain {[$_{\text{NP}}$ kumaar]$^{\text{Matrix IP}}$, [$_{\text{NP}}$ kumaar=ki]$^{\text{CNPP}}$} may be deleted, the outcome of which is Backward Control. This suggests that the derivations of Forward and Backward Control are identical. The difference between the two is a matter of externalization contingent on the selection made by the PF operation chain reduction.

(18) [$_{\text{CP}}$[$_{\text{MatrixIP}}$[$_{\text{NP}}$**~~kumaar~~**][$_{\text{vP}}$[$_{\text{CNPP}}$[$_{\text{NP}}$**kumaar=ki**] jwaram wacc-i][$_{\text{vP}}$[$_{\text{NP}}$**~~kumaar~~**] haaspaṭal weḻḻaa-ḍu]]]]

[4]An anonymous *JSAL* reviewer commented that the two copies in (16)–(18) are not exactly identical since they are realized with different Case values. Following Bejar and Massam (1999), I assume that multiple case checking is possible and that case feature checking occurs sequentially. When an element moves into a new case position, the old case is stranded and the new case is realized.

For more details about the derivation in (17) and (18) and related issues, see Haddad (2009b). For similar derivations in other languages, see Potsdam (2009) and Haddad and Potsdam (2010).

The following section now moves to address the central question of the paper: Why does the subject in Telugu Adjunct Control move?

3 Enlightened Self Interest as Trigger for Movement

The fact that Telugu licenses Backward Control structures like (18) above goes contrary to the common expectation that the higher/matrix copy should be pronounced and the lower/subordinate copy should 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 targets the copy with more unchecked features (i.e., the lower copy) and the higher copy escapes deletion.

Let us have a closer look at (17d) above. As the dotted arrows indicate, at least two chains of the subject *Kumaar* are formed. The first chain is $\{[_{\text{NP}}$ kumaar$]^{\text{MatrixIP}}$, $[_{\text{NP}}$ kumaar$]^{\text{Matrix vP}}\}$. 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 $\{[_{\text{NP}}$ kumaar$]^{\text{Matrix IP}}$, $[_{\text{NP}}$ kumaar$]^{\text{CNPP}}\}$. 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.

If this analysis is correct, an important question follows: If the CNP subject does not have a feature to check, why does it move? This question is important because, as I mentioned in the introduction, movement in the Minimalist Program is not free. It normally takes place for the purpose of feature checking. Given that in Telugu the CNP subject checks case prior to movement, it is hard to imagine why movement takes place at all. The following subsections examine the two possible solutions offered by Lasnik's Enlightened Self Interest and show that the solutions do not work for the Telugu control structures under examination.

3.1 α Moves to β for the Satisfaction of Formal Requirements of α

One way around the problem at hand is to adopt the standard assumption that the structural licensing of a subject NP (i.e., checking structural case) takes place only if a tensed T that is saturated by C is available. Otherwise, the subject remains active, which is why it moves to the matrix clause where it checks its structural case feature (Chomsky 2001). In this sense, the movement of α to β is for the satisfaction of formal requirements of α.

This approach is not without problems, however. If the CNP subject in Telugu Adjunct Control does not check its structural case feature (in this case, nominative case would be default case), it should be the easier target for deletion when chain reduction applies. This means that Forward Control should at least be considered superior to Backward Control, which is not true.

3.2 α Moves to β for the Satisfaction of Formal Requirements 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 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 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 in which 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 (19) for example. The derivation starts with the numeration in (19a) which consists of the two potential arguments, *Kumaar* and *Sarita*. The indices in the numeration indicate the number of copies of each token. The CNP clause and matrix vP form independently in (19b), reducing the indices of most of the items in the numeration to zero, as (19c) shows. Note, 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 (19d) shows. This makes the sideward movement of *Kumaar* unnecessary. Accordingly, a structure like (19e) should be possible, contrary to fact. The bottom line is that the CNP subject has to move and that sideward movement does not only happen when the numeration is exhausted. (For a detailed discussion of more approaches that do not work, see Haddad 2007, 204–215).

(19) a. {kumaar$_1$, sarita$_1$, koopam$_1$, wacc$_1$, -i$_1$, akkadi$_1$, nunci$_1$, weḷḷipoy$_1$, Tense$_1$, Agr$_1$}

b. i. [$_{CNP}$ [$_{NP}$ kumaar=ki] koopam wacc-i]
[$_{CNP}$ [$_{NP}$ Kumar=DAT] anger.NOM come-CNP]

ii. [$_{Matrix\ vP}$ akkadi=nunci weḷḷipoyinaa-di]
[$_{Matrix\ vP}$ there=from left-3.N.S.]

c. {kumaar$_0$, sarita$_1$, koopam$_0$, wacc$_0$, -i$_0$, akkadi$_0$, nunci$_0$, weḷḷipoy$_0$, Tense$_1$, Agr$_1$}

d. [$_{Matrix\ vP}$ [$_{NP}$ sarita] akkadi=nunci weḷḷipoyinaa-di]

e. *[kumaar=ki koopam wacc-i] sarita akkadi=nunci weḷḷipoyinaa-di
[Kumar=DAT anger.NOM 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 (19), although not viable for structures involving a CNP clause, is possible if the structure involves a different type of adjunct. Telugu has another type of non-finite adjuncts. Let us call them 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 (20); compare to sentence (19e) above.

(20) a. [kumaar sinimaa cuus-tunna=appuDu] sarita paapkaarn tinna-di
[Kumar.NOM movie watch-INF=while] Sarita.NOM popcorn ate-3.N.S.
'While Kumar was watching a movie, Sarita ate popcorn.'

b. [kumaar=ki koopam wacc-ina=anduku] sarita akkadi=nunci weḷḷipoyinaa-di
[Kumar=DAT anger.NOM come-INF=because] 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, control applies. In other words, the unpronounced subject in (21a–b) can only be *Sarita*. No matter how much context is provided, a reading with disjoint subjects is infelicitous.[5]

(21) a. [___$_{i/*k}$ koopam wacc-ina=anduku] sarita$_i$ akkadi=nunci weḻḻipoyinaa-di
anger.NOM come-INF=because] Sarita.NOM there=from left-3.N.S.
'Because Sarita got angry, she left.'

b. [___$_{i/*k}$ sinimaa cuus-tunna=appuḍu] sarita$_i$ paapkaarn tinna-di
[___[NOM] 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 may not refer to Sarita, as the sentences in (22) indicate.

(22) a. [aame$_{*i/k}$ koopam wacc-ina=anduku] sarita$_i$ akkadi=nunci weḻḻipoyinaa-di
[she.NOM anger.NOM come-inf=because] Sarita.NOM there=from left-3.N.S.
'Because she got angry, Sarita left.'

b. [aame$_{*i/k}$ sinimaa cuus-tunna=appuḍu] sarita$_i$ paapkaarn tinna-di
[she.NOM movie watch-INF=while] SaritaNOM popcorn ate-3.N.S.
'While she was watching a movie, Sarita ate popcorn.'

I take the structures in (21) as instances of Circumstantial Control in the sense that the movement of the subordinate subject – and thus the control relation – does not have to happen all the time; it depends on the circumstances, namely, the exhaustion or otherwise of the numeration.[6] To elaborate, sentence (21a) starts with the numeration in (23a). By the time the INF clause and matrix vP are formed in (23b), no argument is left in the numeration to check the theta-role feature of matrix vP, as (23c) shows. This is why *Sarita* undergoes sideward movement; it copies out of the CNP clause, (23d), and merges with the matrix clause, (23e).

(23) a. {sarita$_1$, koopam$_1$, wacc$_1$, -ina$_1$, anduku$_1$, akkadi$_1$, nunci$_1$, weḻḻipoy$_1$, Tense$_1$, Agr$_1$}

b. i. [INF [NP sarita=ki] koopam wacc-ina=anduku]
[INF [NP Sarita=DAT] anger.NOM come-INF=because]

[5]Sengupta (2000) and Davison (2008) make the same observation about Bengali and Hindi respectively, as (i)–(ii) illustrate. To elaborate, there seems to be a division of labor between null and lexical subjects of INF clauses in Bengali and Hindi. A null subordinate subject has to be coreferential with the matrix subject, (ia, iia). A pronounced subordinate subject, on the other hand, may not be coreferential with the matrix subject (iia, iib).

(i) **Bengali**

a. nɔYon$_i$ [___$_{i,*k}$ gaybe bole] eʃeche
Nayan [___ will sing COMP] has come
'Nayan has come to sing.'

b. nɔYon$_i$ [ʃe$_{*i,j}$ gaybe bole] eʃeche
Nayan [3.S.NOM will sing COMP] has come
'Nayani has come because he$_{*i,j}$ will sing.' (from Sengupta 2000, 302-303; (93-94))

(ii) **Hindi**

a. [___$_{i,*k}$ is baat=koo sun-tee=hii] pitaa=koo$_i$ beeṭee=par$_j$ taras aa-yaa
[___ this matter=DAT hear-IMPF.OBL=only] father=DAT son=on pity came-P.F.
'As soon as father$_{i,*k}$ heard this matter, he$_i$ felt pity for his son$_j$.'

b. [us=kee$_{*i,j}$ is baat=koo sun-tee=hii] pitaa=koo$_i$ beeṭee=par$_j$ taras aa-yaa
[3.SG=GEN this matter=DAT hear-IMPF.OBL=only] father=DAT son=on pity came-P.F.
'Father$_i$ felt pity for his son$_j$ as soon as the son$_j$ heard this matter.' (from Davison 2008, 33; (12b))

[6]In Haddad (2007), I refer to this type of control as optional control (see also Davison 2008, 33). I use the term circumstantial control here because I think it is more descriptive. While 'option' implies that movement may or may not take place, 'circumstantial' puts emphasis on the idea that for movement to happen a condition must be satisfied. This condition is the exhaustion of the numeration.

ii. [$_{\text{Matrix vP}}$ akkadi=nunci weḷḷipoyinaa-di]
[$_{\text{Matrix vP}}$ there=from left-3.N.S.]

c. {sarita$_0$, koopam$_0$, wacc$_0$, -ina$_0$, anduku$_0$, akkadi$_1$, nunci$_0$, weḷḷipoy$_0$, Tense$_1$, Agr$_1$}
d. [$_{\text{NP}}$ sarita]
e. [$_{\text{Matrix vP}}$ [$_{\text{NP}}$ sarita] akkadi=nunci weḷḷipoyinaa-di]

Examples (20)–(22) 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. The result is Circumstantial Control.[7]

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 is not circumstantial. That is, it has to take place irrespective of whether the numeration is exhausted or not. This kind of movement is responsible for the control interpretation that structures with CNP clauses strictly require.

As an alternative, I suggest that the CNP subject moves to the matrix clause, not to check a feature of its own or a feature on the target, but to license the merge of the CNP clause.

4 Theoretical Assumptions

Two types of control proposed in the literature are Propositional Control and Predicational Control. Propositional Control is commonly used with reference to control into complements. The approach assumes that the subordinate clause is a closed proposition. That is, it has its own subject that is coreferential with the subject of the matrix clause. The different versions of the PRO Theory of Control (Chomsky 1995, Landau 2000, 2004, Martin 1996; among others) assume that the subject position is filled with PRO, (24a). The Movement Theory of Control as proposed by Hornstein (1999) and Boeckx and Hornstein (2003, 2004) argues that the subject position is filled with a deleted copy that is identical to the copy of the subject in the matrix clause, (24b).

(24) a. Tom$_i$ managed [PRO$_{i/*k}$ to win the race].
b. Tom managed [~~Tom~~ to win the race].

Predicational Control, on the other hand, is usually used in connection with control into adjuncts. The argument is that the subordinate clause in an Adjunct Control structure is an unsaturated predicate (with an open subject position) that may be predicated of the subject in the matrix clause through co-indexation between the adjunct clause and the matrix subject (Williams 1992; Landau 2000, 176–178; Landau 2007, 304). In this sense, sentence (25a) looks like (25b) rather than (25c).

(25) a. Tom escaped after kissing Mary.
b. Tom$_i$ escaped [after $\emptyset$ kissing Mary]$_i$.
c. Tom$_i$ escaped [after PRO$_{i/*k}$ /~~Tom~~ kissing Mary]$_i$.

The CNP clause in Telugu Adjunct Control structures is propositional. That is, it is a predicate with a closed/filled subject position. This idea is uncontroversial since the CNP subject may actually be pronounced in Backward Control structures. In this section, I suggest that despite the propositional quality of the CNP clause, the head of the adjunct clause bears a predicative/non-propositional [PRED] feature, which is usually characteristic of structures with an open/unfilled subject position. This predicative feature makes it necessary that the CNP clause undergo merge as a predicate rather than a proposition. That is, although the CNP clause is similar to the adjunct in (25c), it behaves like the adjunct in (25b), which is only possible if the CNP subject undergoes movement. Section 4.2 spells out the details. First, however, I lay out some theoretical assumptions related to the merge

[7] A *JSAL* reviewer asked whether the unpronounced subject in (21) could be *pro*, especially that Telugu is a pro-drop language. I rule out *pro* simply because *pro* may have an independent reference (e.g., it may refer to someone mentioned earlier in discourse), in which case no control relation is enforced. In (21a–b), however, there is an interpretational dependency between the unpronounced subjects of the subordinate clauses and the subjects in the matrix clauses.

of adjuncts and to predication in section 4.1. In section 5, I provide evidence from Sinhala, another South Asian language, to show that if the head of the CNP clause is propositional (i.e., if the CNP clause may merge as a proposition), no movement of the subject — and thus no control interpretation — is necessary.

4.1 The Merge of Adjuncts

In Minimalism, merge is defined as an instance of a probe-goal relation between two syntactic objects determined by the features on the heads of the probe and the goal; that is, if α and β merge, some feature F of α must probe F on β (Chomsky 2000, 132–135; Hornstein 2001, 56; Adger 2003, 91; Pesetsky and Torrego 2006).

Whereas the above definition is true of the merge of complements, it does not automatically apply to the merge of adjuncts. Unlike complements, adjuncts do not have to meet the selection 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. Following Webelhuth (1992, 86), I assume that when properties of a syntactic object cannot be determined by selection, its behavior may be dictated by the properties of its own head. Similarly, Chomsky (2006, 6) holds that in order for a phrasal structure to undergo merge, its head must have a feature indicating that it can merge. Applying this assumption to the adjuncts under investigation, we may conclude that the merge of a CNP clause with the matrix clause depends solely on the characteristics of the head of the former. In Section 5, I present evidence to show that CNP clauses, although semantically propositional, syntactically they are dominated by a predicative head with a [PRED] feature.

4.2 Predication

For the purpose of this paper, I adopt the structural theory of predication as proposed by Rothstein (2001). According to this theory, predication relations may be determined on purely syntactic grounds without reference to semantics. Stated differently, although mapping between semantic and syntactic predicates is possible, "syntactic predication relation can be defined without reference to semantic or thematic concepts" (Rothstein 2001, 60–61). For example, a pleonastic element may appear in the subject position of a predicate constituent only to satisfy a syntactic condition, namely, the Predicate Licensing Condition in (26).

(26) **Predicate Licensing Condition**
Every syntactic predicate must be syntactically saturated ... by being linked to a nonpredicate constituent, its subject. (Rothstein 2001, 47)

According to Rothstein, the Predicate Licensing Condition may be satisfied in two ways: (i) directly or (ii) indirectly. It is satisfied directly if a non-predicate constituent fills the subject position of a predicate, and together they form a closed maximal constituent. In other words, they form a proposition, or a constituent with a filled subject position. It may be satisfied indirectly if the subordinate predicate is linked to (or predicated of) a non-predicate constituent in a higher clause.

In addition, there are two types of predicates: inherent (27a) and derived (27b) (Rothstein 2001, 58–60, (55)). Examples of inherent predicates are APs and VPs. An example of derived predicates is a predicative CP. A CP is inherently non-predicative — that is, propositional — unless an operator is inserted in Spec,CP, binding a syntactic variable inside CP, in which case it becomes predicative. For example, *for you to read* in (28) is a derived predicate.

(27) a. Inherent predicates are maximal projections of lexical heads.
b. Derived predicates are derived from maximal projections of functional heads by syntactic operations.

(28) I bought a book [$_{CP}$ OP$_i$ [$_{C'}$ for [$_{IP}$ you to read t$_i$]]].

Most crucially, Rothstein (2001, 58–60) holds that predicates (inherent or derived) cannot function as arguments, as (29), explicitly states (see also Stowell 1991). For example, sentences (30a–b) are ungrammatical because a derived predicate occupies an argument position.

(29) Predicates are not assigned theta-roles since theta roles are assigned to syntactically closed maximal projections.

(30) a. *I persuaded John $[_{CP}$ OP$_i$ $[_{C'}$ [for John to meet t$_i$]]].
b. *$[_{CP}$ OP$_i$ $[_{C'}$ [For John to meet t$_i$]]] would seem unlikely.

In the following section, I present evidence to show that CNP clauses are syntactically predicative.

5 CNP Clauses as Predicative

Evidence that Telugu CNP clauses behave like open predicate constituents comes from two sources. First, CNP clauses in Telugu may never take an overt complementizer, which indicates that they do not project higher than IP (see Jayaseelan 2004). In other words, they are not CPs, which according to Rothstein qualify as inherently non-predicative constituents.

Further, Telugu CNP clauses may never merge as arguments (see Masica 1976, 127). Observe the sentences in (31). I take it that the NPs (or, more appropriately, DPs) in (31a–b) are arguments. The prediction is that none of these positions may be filled with a CNP clause. This prediction is borne out, as the sentences in (32) illustrate.

(31) a. $[_{NP}$ samayaṃ] anṭee $[_{NP}$ dhanam=e]
$[_{NP}$ time] mean $[_{NP}$ wealth=EMPH]
'Time is nothing but money.'

b. $[_{NP}$ aalaysam] anṭee $[_{NP}$ naʃṭam=e]
$[_{NP}$ delay] mean $[_{NP}$ loss=EMPH]
'Delay is nothing but a waste.'

(32) a. *paapkaarn tinna-ḍaaniki sari-ayina samayaṃ anṭee [sinimaa cuus-tuu(=e)]
popcorn eating=for proper=happening time means [movie watch-CNP(=EMPH)]
'The best time to eat popcorn is while watching a movie.'

b. *kaafii taaga=ḍaaniki sari=ayina samayaṃ anṭee [pani=ki weḷḷ-i(=e)]
coffee drinking=for proper=happening time means [work=DAT go-CNP(=EMPH)]
'The best time to have coffee is before going to work.'

If the CNP clauses in (32) are substituted by INF CP adjuncts, the result is the grammatical structures in (33).

(33) a. paapkaarn tinna-ḍaaniki sari-ayina samayaṃ anṭee [sinimaa cuus-tunna=appuḍ=e]
popcorn eating=for proper=happening time means [movie watch-INF=while=EMPH]
'The best time to eat popcorn is while watching a movie.'

b. sarita kaafii taaga=ḍaaniki sari=ayina samayaṃ anṭee
Sarita.NOM coffee drinking=for proper=happening time means
[kumaar pani=ki weḷḷ-ina=tarwaat=e]
[Kumar.NOM work=DAT go-INF=after=EMPH]
'The best time for Sarita to have coffee is after Kumar goes to work.'

Let us assume that the above observations suffice to conclude that Telugu CNP clauses may not merge as closed predicate constituents. The question is: in what capacity do they merge when they adjoin to the matrix clauses of Adjunct Control structures? In section 4.1, I suggested that the merge of an adjunct depends on the feature specification of the head. Assuming that CNP clauses do not qualify as closed predicate constituents, this means that they undergo merge as open predicates. Stated differently, the head of the CNP clause bears a [PRED] feature that dictates how the adjunct may undergo merge.

However, evidence from Backward Control structures like (34) shows that the subject position of CNP clauses is filled clause-internally, which means that CNP clauses cannot be inherent predicates.

(34) ~~kumaar~~$_{i/*k}$ [kumaar=ki$_i$ jwaram wacc-i] haaspaṭal weḷḷaa-ḍu
~~Kumar~~.NOM [Kumar=DAT fever.NOM come-CNP] hospital went-3.M.S.
'Having had a fever, Kumar went to hospital.'

Further, only lexical projections, such as VPs or APs, qualify as inherent predicates (see (27a)). CNP clauses are IPs, which are not lexical projections. Therefore, we are left with one possibility: To undergo merge as open predicates in accordance with the feature specification [PRED] of their heads, CNP clauses must qualify as derived predicates. According to Rothstein, this is possible only if a syntactic operation converts them to open predicates (see (27b)). I suggest that the operation in this case is movement. The CNP subject moves to the matrix predicate, allowing the CNP clause to merge as an open predicate that is indirectly predicated of an element in the matrix clause.

If this approach is on the right track, at least four questions arise. First, how can a phrasal structure be a saturated predicate, while its head bears a [PRED] feature? The contradiction is due to the fact that a [PRED] feature indicates that a phrasal structure is an open predicate that needs to be saturated.

The answer to this question depends crucially on the main premise of the structural theory of predication as delineated in section 4.2: "Syntactic predication relation can be defined without reference to semantic or thematic concepts" (Rothstein 2001, 60). In the present analysis, this means that semantically the CNP clause can be a saturated predicate, yet syntactically it projects a predicative head with the feature [PRED]; it does not project a non-predicative head, namely, a CP. This idea is reminiscent of the role of D in DP. A bare NP is crucially predicative; the projection of D^0 renders it non-predicative (Higginbotham 1987, Rothstein 2001). Szabolcsi (1994) makes a more explicit comparison between C^0 and D^0, holding that they both "enable a 'proposition' to act as an argument." If the observation that arguments are necessarily non-predicative is correct, then C^0 and D^0 are similar in that they both are non-predicative heads. CNP clauses do not project as high as CP. In other words, they lack the non-predicative head C^0.

The second question is: why do we not adopt the approach in Rothstein (2001) and assume that a null operator is inserted at the edge of the CNP clause, binding a variable inside the clause? In this case, no movement would be involved. This approach is problematic on two grounds. First, if the assumption that CNP clauses are not CPs is correct, this means that there is no site available for the merge of the null operator. Second, the CNP clause of Backward Control structures may contain an overt non-variable lexical item that cannot be bound by an operator.

In addition, it is worth mentioning that not all derived predicates involve an operator that binds a variable. Another type of derived predicates is sentential predicates; these are "maximal projections that constitute a fully saturated argument structure," yet they can "function as predicates, without the presence of an operator" (Heycock 1994, 263). In other words, sentential predicates do not involve operator-gap dependency. For example, the Hebrew example (35) (from Heycock and Doron 2003, (58b)) contains the sentential predicate *Sotim oto ba-boker* 'one drinks it in the morning' and the subject *kafe tov* 'good coffee'. According to Heycock and Doron (2003, 95), the subject is base-generated — that is, no movement is involved — and it is "interpreted by virtue of abstraction over a position within the clause, which is occupied syntactically by a pronoun," in this case *oto* 'it.'

(35) kafe tov Sotim oto ba=boker
coffee good drink.3MP it in.the=morning
'Good coffee, one drinks it in the morning.' Hebrew

Based on the above, one can consider CNP clauses as sentential predicates à la Heycock and Doron (2003). Unlike Heycock and Doron's sentential predicates, however, CNP clauses are non-finite and, most crucially, they involve movement. See Iatridou, Anagnostopoulou, and Izvorski (2001) who also suggest that movement may make a category predicative.[8]

The third question is related to the derivation as presented in section 2.2. If the subject moves to license the merge of the CNP clause, the question is: what type of movement is this? Obviously this type of movement is not self-serving since the moving element does not check a feature of its own. Closer observation shows that this type of movement is not different from the movement that takes place to check a feature on the target. In both cases, an element moves in order to serve a purpose other than its own, resulting in the convergence of the structure. This means that one can still label this type of movement as Enlightened Self Interest. If this is correct, then Enlightened Self Interest should read as follows:[9]

(36) **Enlightened Self Interest**
The movement of α to β takes place in order to
a. check a feature on α,
b. check a feature on β, or
c. license the merge of the constituent that dominates α.

The fourth question is: at what point does the CNP clause realize that it is not going to project a non-predicative CP and thus urge its subject to move? This usually happens when the numeration is exhausted. If movement happens before the numeration is exhausted, then the undesired operation Look Ahead must be involved, in which case the CNP clause is expected to foresee the problem and take action.

Fortunately, the implementation of Look Ahead becomes unnecessary if we assume that the computational system works with subarrays of the numeration rather than with the whole numeration at once (Chomsky 2000). In this sense, the CNP and matrix clauses in sentence (37) would be assembled based on two separate subarrays, as (38a–b) illustrate. The CNP and matrix clause form independently based on these subarrays, (38c). When the CNP subarray is exhausted, the CNP clause realizes that its head is predicative and that there are no more items at its disposal to change the situation. This is when the subject copies out of the CNP clause and merges in the matrix clause, (38d). Upon merging with the matrix predicate, the subject licenses the merge of the CNP clause as a predicate, (38e). Subsequently, the matrix clause projects as IP, and the matrix copy of the subject moves to Spec,IP, (38f). The matrix copy c-commands the two other copies, forming a chain with each of them. At PF, chain reduction applies, and one copy survives deletion. If the copy in matrix Spec,IP is spared, the outcome is Forward Control. Alternatively, the copy in the CNP clause may be pronounced, and the result is Backward Control.

(37) [kumaar=ki koopam wacc-i] akkadi=nunci weḷḷipoyinaa-di
[Kumar=DAT anger.NOM come-CNP] there=from left-3.N.S.
'Having got angry, Kumar left.'

(38) a. CNP Subarray: {kumaar_1, koopam_1, wacc_1, -i_1}

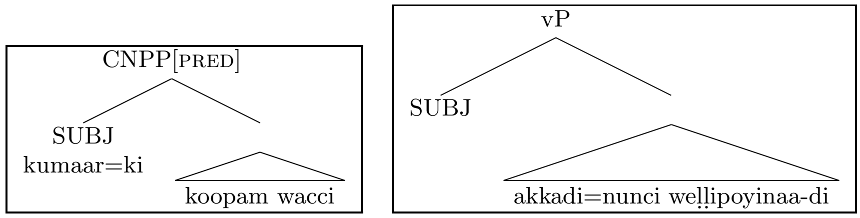
b. Matrix Subarray: {akkadi_1, nunci_1, weḷḷipoy$_1$, Tense_1, Agr_1}

[8] I thank a *JSAL* reviewer for bringing this source to my attention.

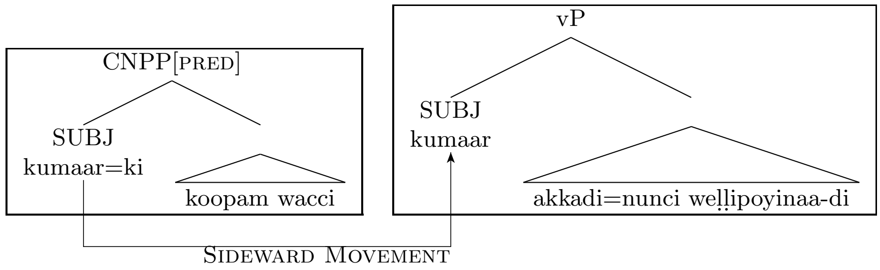
[9] The derivation of the Adjunct Control structures under examination suggests that movement may take place to satisfy more than one requirement. For example, the CNP subject may move to satisfy the thematic requirement of the matrix predicate and to license the merge of the CNP clause. This is not always the case, however. In Haddad (2009a), I show that Telugu licenses Expletive Control into CNP clauses, (i). In this case, the CNP expletive cannot satisfy the thematic requirement of the matrix clause. The expletive moves to the matrix clause for one reason, namely, to license the merge of the CNP clause.

(i) [***pro***$^{\text{EXP}}$ tufaanu wacc-i] ***pro***$^{\text{EXP}}$ naa=illu kuulin-di
[flood come-CNP] my=house.Nom collapsed-3.N.S.
'The flood came, and my house collapsed.'

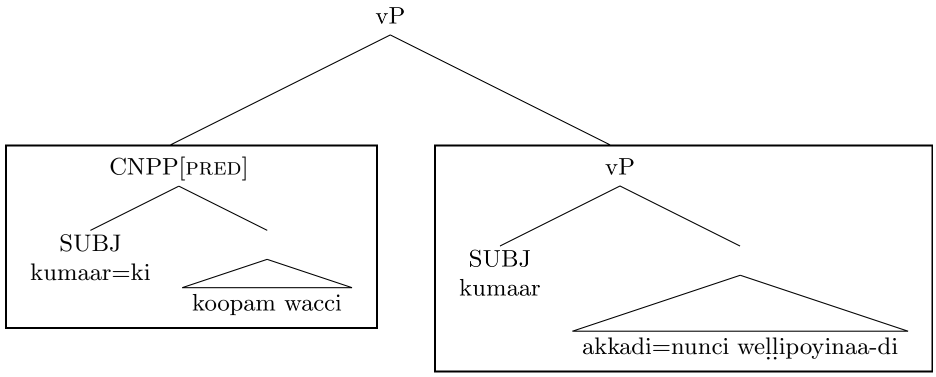
c.


CNPP[pred]
SUBJ
kumaar=ki
koopam wacci
vP
SUBJ
akkadi=nunci weḷḷipoyinaa-di

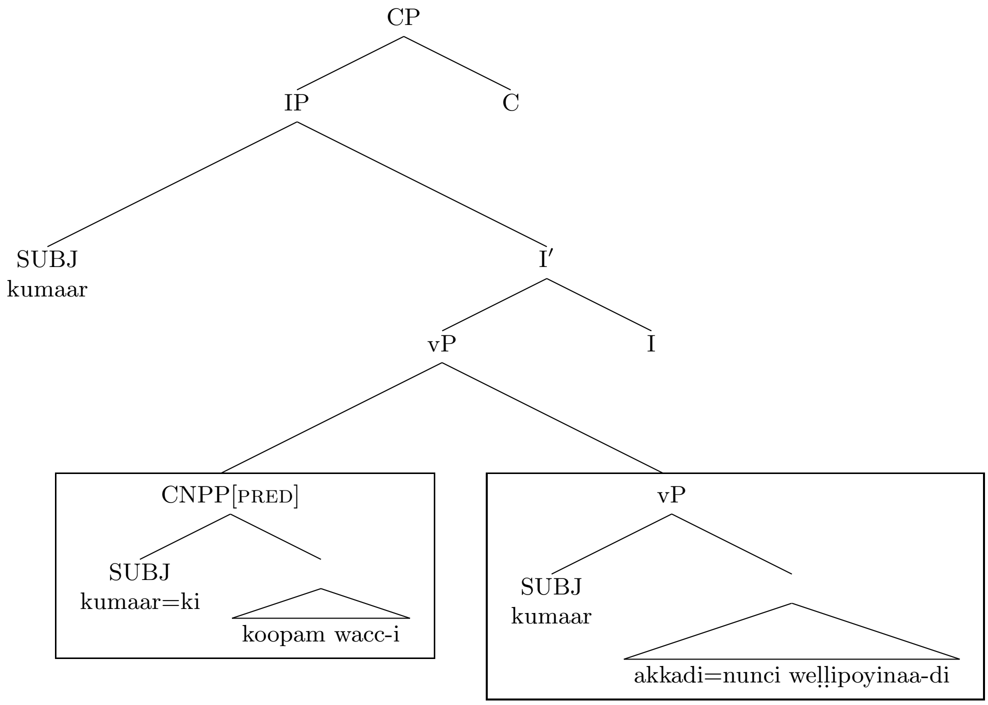
d.


CNPP[pred]
SUBJ
kumaar=ki
koopam wacci
vP
SUBJ
kumaar
akkadi=nunci weḷḷipoyinaa-di
Sideward Movement

e.


vP
CNPP[pred]
SUBJ
kumaar=ki
koopam wacci
vP
SUBJ
kumaar
akkadi=nunci weḷḷipoyinaa-di

f.


CP
IP
C
SUBJ
kumaar
I′
vP
I
CNPP[pred]
SUBJ
kumaar=ki
koopam wacc-i
vP
SUBJ
kumaar
akkadi=nunci weḷḷipoyinaa-di

Adjunct Control into CNP clauses is a feature that Telugu shares with all South Asian languages. I suggest that this type of control is derived by movement, and that movement takes place in order to license the merge of a predicative CNP clause. If this is correct, a non-trivial prediction follows: If CNP clauses in a given language of South Asia behave as non-predicative constituents, movement becomes unnecessary and control interpretation becomes optional at best. Fortunately, such a language exists. The details are in the following section.

6 Sinhala CNP Clauses as Non-Predicative

Like Telugu, Sinhala licenses Adjunct Control into CNP clauses; sentence (39) is an example (Gair et al. 1998, 275, (9a)). Note that the CNP subject, which is obligatorily silent, has to be coreferential with the matrix subject.

(39) mamə$_i$ [___$_{i/*k}$ gedərə gihil-la] kææmə kææwa
[___ home go-CNP] food ate
'I went home and ate.' Or 'Having gone home, I ate.' Sinhala

However, Sinhala CNP clauses have other functions that Gair (2003) describes as "unusual" and "unique" among South Asian languages. They can function as independent, matrix predicates, as sentences (40)–(41) illustrate.[10]

(40) mahattea gihil-la
gentleman go-CNP
'The gentleman has gone.' Sinhala
(from Gair 1970,153, in Taylor 2006, 151, (4))

(41) mamə Renu-wə dækka habei dæn æyə gihil-la
I Renu-ACC saw but now 3F.S. go-CNP
'I saw Renu but now she has gone.' Sinhala
(from Taylor 2006, 151, (5))

In addition, CNP clauses in Sinhala may be realized in an argument position, (42). Note that in this case the CNP clause takes an overt complementizer.

(42) [horek tamange kææmə horəkam kərə-la kiyəla] ohu dææka
[robber self.GEN food theft do-CNP COMP] he saw
'He saw that a robber had stolen his food.' Sinhala
(from Taylor 2006, 159, (24b))

Assuming that independent clauses are CPs and that an overt complementizer is evidence of a CP layer, we may conclude that the CNP clauses in (40) through (42) project as high as CP.[11] This is further supported by the fact that independent clauses and arguments are non-predicative, which is an inherent characteristic of CPs. This means that the CNP subject in Sinhala Adjunct Control structure does not have to move in order to license the merge of the CNP clause. The head of the CNP clause is non-predicative and it may merge with the matrix clause as a closed predicate. Therefore, unless there is another reason for the subject to move, control into Sinhala CNP clauses should be optional. This prediction is correct, as (43)–(44) show (from Gair et al. 1998, 275–277, (9b) and (14a)). Compare (43) with (39) above.

(43) mamæ [kalyaani gedərə gihil-la] kææmə kææwa
I [Kalyani home go-CNP] food ate
'Kalyani went home and I ate.' Or 'Kalyani having gone home, I ate.' Sinhala

[10]Gair et. al (1998) analyze *-la* in (40)–(41) as homonymous with the CNP marker in (39). However, Taylor (2006) provides an elegant polysemy analysis of the Sinhala *-la*, capturing the aspectual perfective meaning that characterizes its different uses.

[11]The fact that the CNP clauses in (40)–(41) are independent clauses with non-finite verbs may sound bizarre. However, see Nikolaeva (2007) and works within for evidence that finiteness and main clause status are not necessarily linked and that independent clauses may be non-finite.

(44) [amma gemәṭә gihil-la] mamә seerәmә gedәrә wæḍә kәrannә oonә
[mother village-DAT go-CNP] I all house work do necessary
'With Mother gone to the village, I have to do all the housework.' Sinhala

Control into CNP clauses in Sinhala obtains only when the CNP subject is unpronounced (e.g., (39) above). This means that Adjunct Control in Sinhala is Circumstantial Control as defined in section 3.2. In other words, the CNP subject moves only if the numeration is exhausted and the subject position of the matrix clause is still vacant. The movement of the CNP subject takes place in order to satisfy the thematic requirement of the matrix predicate.

7 Conclusion

One of the main arguments used against the Movement Theory of Control is related to the trigger for movement, or why movement takes place. Given that subordinate subjects of control structures in several languages (e.g., Icelandic) check case in the subordinate clause, it is hard to argue that movement takes place for the purpose of the structural licensing of the subject (see Sigurðsson 2008, Bobaljik and Landau 2009). At the same time, the assumption that the subject moves in order to satisfy the thematic requirement of the matrix predicate is contentious. In this paper, I show that this kind of movement results in Circumstantial Control.

In the case of Telugu Adjunct Control into CNP clauses, however, I argue that the subject moves in order to license the merge of the subordinate constituent that dominates it. The head of the CNP clause in Telugu bears a [PRED] feature. This feature only allows the adjunct to merge as a predicate that will eventually be saturated by an element in the matrix clause. The movement of the CNP subject to the matrix clause satisfies this requirement. In contrast, CNP clauses in Sinhala do not bear a [PRED] feature. That is, they may merge as propositions. The result is that the movement of the CNP subject, and thus control, is optional.

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References

Adger, David. 2003. *Core syntax: A Minimalist approach*. Oxford: Oxford University Press.

Bejar, Susana and Diane Massam. 1999. Multiple case checking. *Syntax* 2:65–79.

Bobaljik, Jonathan and Idan Landau. 2009. Icelandic control is not A-Movement: The case from case. *Linguistic Inquiry* 40(1):113–132.

Boeckx, Cedric and Norbert Hornstein. 2003. Reply to "control is not movement". *Linguistic Inquiry* 34(2):269–280.

Boeckx, Cedric and Norbert Hornstein. 2004. Movement under control. *Linguistic Inquiry* 35(3):431–452.

Bošković, Željko. 1994. D-structure, θ-criterion, and movement into θ-positions. *Linguistic Analysis* 24:247–286.

Bošković, Željko and Daiko Takahashi. 1998. Scrambling and last resort. *Linguistic Inquiry* 29(3):347–366.

Chomsky, Noam. 1995. *The Minimalist Program*. Cambridge, MA: The MIT Press.

Chomsky, Noam. 2000. Minimalist inquiries: the framework. In R. Martin, D. Michaels, and J. Uriagereka, eds., *Step by Step*, pages 89–155. Cambridge: MA: The MIT Press.

Chomsky, Noam. 2001. Derivation by phase. In M. Kenstowicz, ed., *Ken Hale: A Life in Language*, pages 1–52. Cambridge, MA: The MIT Press.

Chomsky, Noam. 2004. Beyond explanatory adequacy. In A. Belletti, ed., *Structure and Beyond: The cartography of syntactic structures*, vol. 3, pages 104–131. Oxford: Oxford University Press.

Chomsky, Noam. 2006. On phases. Unpublished Ms, MIT.

Davison, Alice. 2008. A case restriction on control: implications for movement. *Journal of South Asian Linguistics* 1:29–54.

Gair, James W. 1970. *Colloquial Sinhalese Clause Structure*. The Hague: Mouton.

Gair, James W. 2003. Sinhala. In G. Cardona and D. Jain, eds., *The Indo-Aryan Languages*, pages 766–817. London: Routledge.

Gair, James W., Barbara Lust, Lelwala Sumangala, and Milan Rodrigo. 1998. Acquisition of null subjects and control in some Sinhala adverbial clauses. In B. Lust, ed., *Studies in South Asian linguistics: Sinhala and other South Asian languages*, pages 271–285. Oxford: Oxford University Press.

Haddad, Youssef A. 2007. *Adjunct Control in Telugu and Assamese*. Ph.D. thesis, University of Florida, Gainesville.

Haddad, Youssef A. 2009a. Adjunct control in Telugu: Exceptions as non-exceptions. *Journal of South Asian Linguistics* 2:35–51.

Haddad, Youssef A. 2009b. Copy control in Telugu. *Journal of Linguistics* 45:69–109.

Haddad, Youssef A. 2010. A non-stranding approach to resumption: Evidence from South Asia. *The Linguistic Review* 27:107–129.

Haddad, Youssef A. and Eric Potsdam. 2010. Linearizing the control relation: A typology. In T. Biberauer and I. Roberts, eds., *Principles of Linearization*. Mouton de Gruyter. To Appear.

Heycock, Caroline. 1994. *Layers of Predication: The Non-Lexical Syntax of Clauses*. New York: Garland.

Heycock, Caroline and Edith Doron. 2003. Categorical subjects. *Gengo Kenkyu* 123:95–135.

Higginbotham, James. 1987. Indefiniteness and predication. In E. J. Reuland and A. ter Meulen, eds., *The Representation of (In)definiteness*, pages 43–70. Cambridge, MA: The MIT Press.

Hornstein, Norbert. 1999. Movement and control. *Linguistic Inquiry* 30(1):69–96.

Hornstein, Norbert. 2001. *Move! A Minimalist Theory of Construal: Generative Syntax*. Oxford: Blackwell.

Hornstein, Norbert. 2003. On control. In R. Hendrick, ed., *Minimalist Syntax*, pages 6–81. Oxford: Blackwell.

Iatridou, Sabine, Elena Anagnostopoulou, and Roumyana Izvorski. 2001. Observations about the form and meaning of the perfect. In M. Kenstowicz, ed., *Ken Hale: A Life in Language*, pages 189–238. Cambridge, MA: The MIT Press.

Jackendoff, Ray and Peter Culicover. 2003. The semantic basis of control in English. *Language* 79:517–556.

Jayaseelan, K.A. 2004. The serial verb construction in Malayalam. In V. Dayal and A. Mahajan, eds., *Clause Structure in South Asian Languages*, pages 67–91. Dordrecht: Kluwer Academic Publishers.

Kayne, Richard. 1994. *The Antisymmetry of Syntax*. Cambridge, MA: The MIT Press.

Kissock, Madelyn Jean. 1995. *Reflexive-middle Constructions and Verb Raising in Telugu*. Ph.D. thesis, Harvard University.

Krishnamurti, Bhadriraju and John Peter Lucius Gwynn. 1985. *A Grammar of Modern Telugu*. Delhi: Oxford University Press.

Landau, Idan. 2000. *Elements of Control*. Dordrecht: Kluwer Academic Publishers.

Landau, Idan. 2004. The scale of finiteness and the calculus of control. *Natural Language and Linguistic Theory* 22:811–877.

Landau, Idan. 2007. Movement-resistant aspects of control. In W. D. Davies and S. Dubinsky, eds., *New Horizons in the Analysis of Control and Raising*, pages 293–325. Dordrecht: Springer Verlag.

Lasnik, Howard. 1995. Last Resort and Attract F. In *Proceedings of the Sixth Annual Meeting of the Formal Linguistics Society of Mid-America*, pages 62–81.

Martin, Roger. 1996. *A Minimalist Theory of PRO and Control*. Ph.D. thesis, University of Connecticut.

Masica, Colin P. 1976. *Defining a Linguistic Area*. Chicago, IL: University of Chicago Press. Reprinted 2005 by Chronicle Books, New Delhi.

Nikolaeva, Irene (ed.). 2007. *Finiteness*. Oxford: Oxford University Press.

Nunes, Jairo. 1995. *The Copy Theory of Movement and Linearization of Chains in the Minimalist Program*. Ph.D. thesis, University of Maryland, College Park.

Nunes, Jairo. 2004. *Linearization of Chains and Sideward Movement*. Cambridge, MA: The MIT Press.

Pesetsky, David and Esther Torrego. 2006. Probes, goals, and syntactic categories. In *The 7th annual Tokyo Conference on Psycholinguistics*. Keio University, Japan.

Polinsky, Maria and Eric Potsdam. 2004. Malagasy control and its theoretical implications. In M. Ettinger, N. Fleisher, and M. Park-Doob, eds., *Proceedings of the 30th Annual Meeting of the Berkeley Linguistics Society (BLS)*, vol. 30, pages 365–376.

Potsdam, Eric. 2009. Malagasy backward object control. *Language* 85(4):754–784.

Rothstein, Susan. 2001. *Predicates and their subjects*. Dordrecht: Kluwer Academic Publishers.

Sengupta, Gautam. 2000. Lexical anaphors and pronouns in Bangla. In B. Lust, K. Wali, J. W. Gair, and K. Subbarao, eds., *Lexical anaphors and pronouns in selected South Asian languages*, pages 277–332. Berlin: Mouton de Gruyter.

Sigurðsson, Halldor Á. 2008. The case of PRO. *Natural Language and Linguistic Theory* 26:403–450.

Stowell, Tim. 1991. Small clause restructuring. In R. Frieden, ed., *Principles and Parameters in Comparative Grammar*, pages 182–218. Cambridge, MA: The MIT Press.

Szabolcsi, Anna. 1994. The noun phrase. In F. Kiefer and K. Kiss, eds., *The Syntactic Structure of Hungarian. Syntax and Semantics 27*, pages 179–275. New York, NY: Academic Press.

Taylor, Chris. 2006. Perfect, sequence, recapitulation: common construal and the Sinhala conjunctive participle. In R. Englebretson and C. Genetti, eds., *Santa Barbara Papers in Linguistics*, vol. 17, pages 150–162.

Webelhuth, Gert. 1992. *Principles and Parameters of Syntactic Saturation*. Oxford: Oxford University Press.

Williams, Edwin. 1980. Predication. *Linguistic Inquiry* 15:203–238.

Williams, Edwin. 1992. Adjunct control. In R. K. Larson, S. Iatridou, U. Lahiri, and J. Higginbotham, eds., *Control and Grammar*, pages 297–322. Dordrecht: Kluwer Academic Publishers.