A Dual Approach To Control: Evidence From Assamese

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Abstract

The major focus of this paper is on whether the relationship between the matrix clause argument that control the reference of the null argument in an embedded non finite clause involves a rule of movement or a construal relationship well defined without involving movement. This paper, on the basis of the facts in Assamese, argues that we need both the Movement theory as well as Control theory in order to deal with the syntax and semantics of the subject of infinitival constructions. However, both of these operations (movement and non-movement control) apply in separate grammatical domains which can be identified by various grammatical properties of these domains.

Keywords Control. Movement. PRO. Exhaustive Control. Partial Control and Tense.

1 Introduction

The module of the grammar which interprets the null subject of an embedded non finite clause is known as the Control Theory. The Matrix subject is the *controller* and the embedded null subject is the *controllee*. There are two theories regarding the null subject: The first one is the PRO Theory of Control which holds that the null subject is a base generated PRO which is anaphoric in nature and the other is the Movement Theory of Control (MTC) which holds that the null subject is an instance of dislocation; the matrix subject originates in the embedded subject position and later moves to the matrix position, with a mechanism of copy-delete-move. This paper, on the basis of the facts in Assamese, argues that we need both the Movement theory as well as Control theory in order to deal with the syntax and semantics of the subject of infinitival constructions.

Drawing evidence from Assamese control constructions, both adjunct control as well as complement control, we argue that the category of control phenomena really collapses into two distinct categories, one is PRO-control and the other is movement-derived control. Both are structurally different constructions, and the difference is due to the meaning of the predicates that participate in these constructions. Specially, the acceptability of inherent case in the embedded genitive subject constructions in Assamese suggests that PRO control is also a logically possible option in the grammar.

Consider the following examples where the symbol *"Δ"* atheoretically stands for the null subject:

(1)   aideu$_i$-e   am-to   [Δ$_i$ kin-i] [Δ$_i$ dʰu-i] [Δ$_i$ kat-i]   kʰa-l-e
        Aideu-A.nom mango-cl   buy-cpm   wash-cpm   cut-cpm eat-pst-3p
        'Having bought, washed and cut/sliced, Aideu ate the mango.'
        or
        'After buying, washing and cutting, Aideu ate the mango.'

(2)   [Δ$_i$ bʰok   lɒg-a-t]   kuhi$_i$-e   kand-ibɔ   dʰɒr-il-e
        gen Hunger feel-NF-loc Kuhi-A.nom weep-inf   start-pst-3
        'Having felt hungry, Kuhi started to weep.'

The examples in (1) and (2) are instances of what is called adjunct control where the null subject in the lower clause, represented by *"Δ",* is referentially dependent on the matrix subject, as shown by the indexation. The reference of the null subject is controlled by the reference of the matrix subject; the lower subject is the *controllee* and the upper subject is the *controller*.As the examples show, the empty subject in (1) shares absolute identity with the matrix subject in terms of case feature, while in (2) it does not.

Again consider the following examples where we have an embedded clause as complement to the matrix verb:

(3)   *kuhi-e*   *kɒle ze*   *nimi-e*   *[Δ*   *(*lɒge bʰage) kʰa-bɔlɒi] sesta kɒr-il-e*
        Kuhi-A.nom said comp nimi-A.nom nom   together   eat-inf   try   do-pst-3p
        'Kuhi said that Nimi tried to have lunch (*together).'

(4)   *kuhi-e*   *kɒle ze*   *nimi-e*   *[Δ*   *(lɒge bʰage) kʰa-bɔlɒi] icha   kɒr-il-e*
        Kuhi-A.nom said comp nimi-A.nom nom   together   eat-inf   wish   do-pst-3p
        'Kuhi said that Nimi wished to have lunch together.'

As observed for the adjunct clauses in (1) and (2), the empty subjects in the complement clauses also display duality in identity, albeit with reference to φ-features; the empty subject in (3) shares absolute identity with the matrix subject in

terms of φ-feature, while in (4) it does not. Now, if we assume any one of the aforesaid theories of control to account for these two sets of data, it is compatible with only one of both of these sets, no doubt whichever it is for that matter.

Let us consider the MTC as defended by O'Neil (1995), Hornstein (1999, 2001, 2003) Polinsky and Potsdam (2006) and others. According to these authors, movement out of control is legitimate and so they propose to analyze control as movement from one argument position to another. The two arguments in a control structure are interpreted as *coreferential for the mere reason that they are copies of the same token*. An argument starts out in the subordinate clause of a given structure. It copies out of the subordinate clause and merges in the matrix clause. The result is *non-distinct* copies of the same argument in both clauses. Being non-distinct, the two copies are co-referential and they form a copy chain, and in that chain one copy gets deleted.

On this view, the sentence in (1) is derived in the following way: *aideu* is generated in vP of the embedded clause, where it receives a θ-role; it first moves to the embedded [Spec, TP]; it then moves further to the matrix [Spec, vP], where it gets another θ-role; and finally it reaches the matrix [Spec, TP].

(5)   *aideu-e$_i$ am-to [~~aideui e$_i$~~ kin-i] [~~aideu e$_i$~~ d^{h}u-i] [~~aideu e$_i$~~ kat-i]   k^{h}a-l-e*

In (5), the matrix subject is generated as the subject of the embedded conjunctive participial clause where it receives a θ-role; it then moves to the subject position of the other participial clause to receive another θ-role. In (1), since we have three participial clauses, it further moves to the subject position of the third participial clause to receive another θ-role; it then moves to the matrix subject position where it gets another θ-role. In the process the lower copies get deleted, as shown by the strikethrough and we have the matrix subject in the PF.

Now, let us consider (2). As we find in the gloss, the null subject in the non finite clause is differently case marked from that of the matrix subject. Now, as the movement theory of control assumes, if the subject is generated in one position which is copied and moved to the pronounced position, the normal expectation would be that it trivially copies the Case feature attached with it. If it is so, how is it possible that the moved subject is pronounced with a different Case feature in the matrix clause? Specifically, at what stage of the derivation it abandons its genitive case feature and surfaces with nominative case? We think, once the *controller* and *controllee* are analyzed as a single linguistic object related by movement, absolute identity is trivially expected.

Again, consider (3)and (4). In (3), the empty subject may be related to the matrix subject by copy-movement since both share absolute identity. However, in (4), the empty subject is marked for plural and so differs from the matrix subject in terms of φ-feature. If, assuming the MTC, we think that the matrix subject originates in the lower subject position and moves to the higher position; our question is, at what stage of the derivation it abandons the plural feature associated with it? Thus, the sentences in (1) and (3) differs from (2) and (4) in respect of the null subject. We assume that this difference is not a superfluous one; it is deeply rooted in the syntax and semantics of these constructions. (1) and (3) differs structurally from (2) and (4) and the difference is due to the meaning of the predicates that participate in these constructions. This paper mainly focuses on the difference of these constructions and advocates a dual approach to control which corresponds to the observed differences.

First, we show in section 2 that the difference is in the predicate type that selects the non-finite complement. In order to explicate the distinction, we assume Landau (1999, 2002, 2004)'s distinction of Partial Control (PC) and Exhaustive Control (EC) as convenient labels and argue that PC is a general property of PRO and EC phenomenon is a property of movement in which the lower NP moves to the higher position. Section 3 shows that the EC/PC distinction is derived with respect to all the seven classes of predicate types in Assamese. This distinction, as we show below, is tied to the (un)availability of tense in the embedded clause. To be precise, cases where there are *two separate tenses*, there are *two separate Subjects* and cases where there is *single tense shared* between the matrix and the embedded clauses, there is *one subject shared* by both the clauses. In the former case, the null subject is a base generated PRO, distinct from but related to the matrix subject while in the later case it is an instance of dislocation. In section 4 we show that this holds in respect of adjunct clauses also. The distinction of EC/PC vs availability of independent embedded tense could be observed in adjunct clauses also. Section 5 explores further correlation between PC and tense and show that owing to its ability to accept separate tense, PC admits finite complementation while EC do not do so. Finally in section 6 we show that EC and raising are similar so far their subject properties are concerned. Section 7 concludes the paper with the view that both PRO-control and Movement derived control are choices available in the grammar.

2. Landau's EC and PC Distinction

As for thedifference of the constructions in (1 - 4), weassume Landau's Exhaustive Control and Partial Control as convenient labels. According to Landau (1999, 2002, 2004), there are two types of obligatory control, - Partial Control (PC), where the reference of the *controllee* is allowed to be a superset of the reference of the *controller*, and Exhaustive Control (EC), where the reference of the *controller* and the *controllee* is identical. Accordingly (1) and (3) are instances of Exhaustive Control and (2) and (4) are instances of Partial Control.

According to Landau, the difference is lexically governed by the control predicate, and turns up in the ability to license collective predicates and modifiers like *together* in the complement clause even when the controller is singular. Consider the following examples in (6-8):

(6)   *The chair gathered at six

(7)   a.*The chair tried to gather at six.
       b.*The chair began to gather at six.
       c.*The chair managed to gather at six.

(8)   a. The chair wanted to gather at six.
       b. The chair preferred to gather at six.
       c. The chair agreed to gather at six.

In (6), for example, we see that *gather* is incompatible with a semantically singular subject. When *gather* is embedded under a control predicate, however, some control predicates like *try, begin, manage* etc. preserve this incompatibility, as in (7), whereas other control predicates like *want, prefer, agree* etc. do not, as seen in (8). In a context in which we understand *the chair* to be part of a committee, for example, (8a) can be understood to mean that *The chair wanted for himself and the rest of the committee to gather at six*. No amount of context, however, will allow (7a) to be acceptable with such a reading. Landau terms the *want*-like control predicates that admit this subset relation as Partial Control predicates, while those like *try* that require absolute identity as Exhaustive Control predicates.

According to Landau, whether a control construction admits PC or EC is recoverable from the semantic class of the control predicate, since the difference is lexically governed by the control predicate. Examining different types of infinitival complements across various languages, Landau reaches the following two types:

(9)   Predicates selecting EC-complements:
       (i) implicative (dare, manage, forget, force, make sure, bother, remember, get, see fit,
           condescend, avoid, forget, fail, refrain, decline, neglect, force, compel, etc.)
       (ii) aspectual (begin, stop, continue, finish, resume, start etc.)
       (iii) modal (able, capable, need, must, have, may, can, should, etc.)
(10) Predicates selecting PC-complements:
       (i) desiderative (want, prefer, yearn, arrange, hope, afraid, refuse, agree, plan, aspire, offer,
           decide, mean, intend, resolve, strive, demand, promise, choose, eager, ready, etc.)
       (ii) interrogative (wonder, ask, find out, interrogate, inquire, contemplate, deliberate, guess, grasp, understand,
       know, unclear, etc.)
       (iii) factive (glad, sad, regret, like, dislike, hate, loath, surprised, shocked, sorry.)
       (iv) propositional (believe, imagine, say, declare, think, suppose, claim, assert, affirm,
           deny.)

<div align="center">Landau (2004:835)</div>

The semantic classes of control predicates identified by Landau are exemplified in (9)–(10). According to Landau, implicative, aspectual and modal control predicates disallow PC and are hence classified as EC, whereas desiderative, interrogative, factive, and propositional control predicates all admit PC. Landau reinforces this generalization with cross linguistic support from German, Italian, Spanish, and French. However, as Landau notes, the membership of particular verbs in these classes is sensitive to subtle semantic factors as well as cross linguistic idiosyncrasies. In English, for example, most factive verbs take finite or gerundive complements; factive infinitives are not that common, in contrast to Romance. English also lacks propositional infinitives (other than ECM complements), which are common in other Germanic languages. According to Landau (1999, 2002), the common feature that unites the different clause types in (9) and (10) is *tense*. The division of semantic classes of predicates into EC and PC is keyed to tense. In particular; PC complements are tensed whereas EC complements are untensed. For Landau, a complement clause is *tensed* if its temporal coordinate need not coincide with that of the matrix clause. The definition is semantic and independent of morphological tense. The test for the [±T] value of a clause consists in the (im)possibility of introducing conflicting temporal modifiers in the matrix and the embedded clauses, as illustrated below.
The relationship between these verb classes and tense is exemplified in (11) and (12):

(11) EC
       a.*Yesterday, Mary remembered to call us last week.   implicative-[-T]
       b.*Yesterday, John began to solve the problem tomorrow.   aspectual-[-T]
       c.*Yesterday, John had to solve the problem tomorrow.   modal-[-T]

(12) PC
       a. Yesterday, Mary remembered calling us last week.   factive- [+T]

b. Yesterday, John claimed to have solved the problem tomorrow.   propositional- [+T]
c. Yesterday, John agreed to join us tomorrow.   desiderative- [+T]
d. Yesterday, John wondered how to solve the problem tomorrow.   interrogative- [+T]

(Landau 1999: 49-50,71)

Landau's distinction between the EC and PC on the basis of tense could be observed in Assamese also. For example, if we induce a tense mismatch in, say (4) and (5), we find that (4) being an EC, does not admits to a temporal interpretation of the embedded clause that is different from the matrix tense while (5) does so. Consider the following instances where a tense mismatch between the matrix and the embedded clause is generated to diagnose the tense in the embedded clause. In these examples, (13) = (4) and (14) = (5), where the matrix super-ordinate clause is removed):

(13) *kali   nimi-e   [kali   lɒilɒge bʰage   kʰa-bɒlɒi] sesta kɒr-il-e
        Yesterday nimi-A.nom tomorrow together   eat-inf   try   do-pst-3p
'   *Yesterday, Nimi tried to have lunch together tomorrow.'

(14) Kali   nimi-e   [kalilɒi   lɒge bʰage kʰa-bɒlɒi] icha kɒr-il-e
        Yesterday nimi-A.nom tomorrow together   eat-inf   wish do-pst-3p
        'Yesterday, Nimi wished to have lunch together tomorrow.'

As seen in (14), desiderative *icha kɒr* 'wish' tolerates the tense mismatch between the matrix clause and the embedded clause. However, in (13), the implicative *sesta kɒr* 'try' does not tolerate such tense mismatch. Thus the contrast between (13) and (14) shows that desideratives in Assamese belong to PC class while implicatives belong to EC predicates. Since semantic notions are presumably universal, we expect that in Assamese also the EC/PC distinction is derived with respect to all the seven classes of predicate types, namely, the implicative, aspectual, and modals are EC while, the factive, desiderative, propositional and interrogatives in Assamese are PC. In XYZ (2013), we show it with select data from Assamese. In the reminder of the paper we quickly show this citing representative example from each of these classes.

3 EC/PC distinction and Assamese Complement Control

As we said, in Assamese also the EC/PC distinction is derived with respect to all the seven classes of predicate types. This distinction, as we show below, is tied to the availability of tense in the embedded clause.

3.1 Interrogative Predicates (PC)
Interrogatives in Assamese can take a non finite clause as its complement. *prɒsnɒ kɒr* 'question', *ħudʰ* 'ask' etc. are interrogative predicates in Assamese. Consider the following examples:
(15) a. pakʰi-e   [silɒng-ɒlɒi kenekɒi zuw-a hɒ-bɔ (buli)] ħudʰ-il-e
        Pakhi-A.nom shilling-loc how   go-NF be-inf comp ask-pst-3p
        'Pakhi asked how to go to Shillong.'
    b. pakʰi-e   [kalilɒi   silong-ɒlɒi kenekɒi zuw-a hɒ-bɔ (buli)] azi   ħudʰ-il-e
        Pakhi-A.nom tomorrow shilling-loc how   go-NF be-inf comp today ask-pst-3p
        'Today Pakhi asked how to go to Shillong tomorrow.'
As the above example shows, interrogative predicates can take an infinitive clause as complement. As (15b) show, interrogatives like *ħudʰ* 'ask' tolerate the tense mismatch between the matrix clause and the embedded clause. Thus, (15) shows that interrogatives in Assamese belong to PC class of predicates.

3.2 Propositional Predicates (PC)
Next we move to propositional predicates in Assamese. Propositional verbs are those verbs that take a complement clause, where the speaker *expresses* some proposition in that clause. For example, *believe, imagine, say, declare*, etc. are 'propositional predicates' (also known as 'propositions'). Consider the following examples:
(16) a. rakʰi-e   [silɒng-ɒlɒi zow-a buli] kɒ-l-e/   dabi kɒr-il-e
        Rakhi-A.nom shilling-loc go-NF comp say-pst-3p/ claim do-pst-3p
        'Rakhi said/ claimed to have gone to Shillong.'
    b. rakʰi-e   [kali   silong-ɒlɒi zow-a buli] azi   kɒ-l-e/   dabi kɒr-il-e
        Rakhi-A.nom yesterday shilling-loc go-NF comp today say-pst-3p/ claim did-3p
        'Today Rakhi said/ claimed to have gone to Shillong yesterday.'
As seen in (16), propositional verbs like *dabi kɒr* 'claim' and *kɒ* 'say' etc. select a *-a* participial form for the embedded verb. Propositional verbs thus appear with an (perfective) aspectualparticipial form rather than with infinitives. This is not surprising because in English also, propositional predicates appear with an aspectual participial form as seen in the

English translation of the sentences. Like the factive compliments, a propositional complement also involves a *realis* tense preceding the matrix tense. As the (b) sentences show, propositions like *dabi kɒr* 'claim' and *kɒ* 'say' etc. tolerate the tense mismatch between the matrix clause and the embedded clause. Thus, (16) shows that propositions in Assamese belong to PC class of predicates.

3.3 Factive Predicates (PC)

Factive verbs are those verbs that take a complement clause, and where the speaker presupposes the truth of the proposition expressed in the complement clause. According to Landau's classification, verbs like *hate, regret, dislike, shocked* etc are factive verbs (or factives) that select non finite complements. Let us take the verb *kʰed kɒr* 'regret' in Assamese:

(17) a. pahi-e   [PRO [ħɒmɒħja-to ħɒmadʰan kɒr-i] kʰed   kɒr-il-e
       Pahi-A.nom   problem-cl solution   do-NF regret do-pst-3p
       'Pahi regretted having solved the problem.'

   b. azi   pahi-e   [ħɒmɒħja-to zuwa ħɒpᵗah-ɒt ħɒmadʰan kɒr-i] kʰed   kar-il-e
       Today, Pahi-A.nom   problem-cl last   week-loc   solution   do-NF regret do-pst-3p
       'Today, Pahi regretted having solved the problem last week.'

   c. pahi-eᵢ [PROᵢ₊ ħɒmɒħja-to ekelɒge   ħɒmadʰan kɒr-i] kʰed   kɒr-il-e
       Pahi-A.nom   problem-cl together   solution   do-NF regret do-pst-3p
       'Pahi regretted having solved the problem together.'

As seen in (17), the factive predicates take a non finite clause as complement, which is marked by the non finite marker *-i*, which gives an aspectual meaning to the embedded proposition. This is not surprising because in English also, embedded factive propositions are marked not by infinitives but by participial forms of the verb (cf. example (12a)). Note that in both the Assamese and English examples, the factive complements typically involve a *realis* tense preceding the matrix tense. Now, as (15b) shows, factives like *kʰed kɒr* 'to regret' tolerate the tense mismatch between the matrix clause and the embedded clause. Again as (15c) shows, the embedded subject (PRO) is compatible with the collective predicate *ekelɒge* 'together'. This proves that PRO here is semantically plural and so distinct from but related to the matrix subject; therefore, as the indexation shows, it need not be *exhausted* by the reference of the *controller*.

3.4 Implicative Predicate (EC)

Now let us see the EC predicates in Assamese. According to Landau's classification *bjɒbɒstʰa kɒr* 'to manage' is an implicative predicate in Assamese. The following discussion shows that implicatives in Assamese are EC predicates which share absolute identity between the matrix and the embedded null subject. Consider the following examples:

(18) *a. kuhi-e   [ħɒmɒħja-to ħɒmadʰan kɒr-a-r]   bjɒbɒstʰa   kɒr-il-e
       Kuhi-A.nom   problem-cl solution   do-NF-gen management do-pst-3p
       'Kuhi managed (i.e., was successful) to have solved the problem.'

   b. *azi   kuhi-e   [kalilɒi   ħɒmɒħja-to ħɒmadʰan kɒr-a-r] bjɒbɒstʰa   kɒr-il-e
       Today Kuhi-A.nom   tomorrow problem-cl solution   do-NF-gen management do-pst-3p
       '*Today, Kuhi managed (i.e., was successful) to have solve the problem tomorrow.'

(18a) indicates that there is agreement in time between the main clause and the complement concerned; the matrix verb is in the past tense and so the action expressed in the complement clause is also a past action. Notice that in (18b), when a tense mismatch is provided between the matrix clause and the embedded clause, the sentence is ungrammatical. This proves that in (18), there is no separate tense; the matrix clause and the embedded clause both share the same tense.

Now, let us see the Case property of the matrix and the embedded subjects in (18). The matrix subject is in nominative case, since transitive verbs in Assamese finite clauses take a subject in nominative Case. However, the case of a null element is not as directly recoverable as the case property of a pronounced DP. We have to infer it indirectly from the environment of the null element. It is well known that predicate types can determine the case of their subject (see for example Jayaseelan (1983). It, then, follows that the case property of a null subject is also recoverable from the nature of the predicate (verb or adjective). The way experiencer predicates determine the Case of their subjects, other predicates can also determine the Case of their subjects. In the embedded clauses in (18) we have a transitive verb as the predicate. Since transitive verbs in Assamese finite clauses take a subject in nominative Case, we can safely hypothesize that the embedded verbs also select the same Case for the subject of the embedded clause. This means that implicatives share the same case between the matrix DP and the embedded null DP. Thus, implicatives in Assamese are EC predicates in which there is absolute relationship between the matrix subject and the null embedded subject in terms of case. However, what about the φ-feature of these predicates? Given the exhaustive nature of the relationship in terms of case and tense features between the matrix DP and the embedded null DP, our expectation would be that they share the same φ-feature between them. Consider the following examples where the correlation of φ-feature contrasts with the (im)possibility of partial control:

(19) a. *nimi-e   [lɒge bʰage kʰow-a-r] bjɒbɒstʰa   kɒr-il-e
         Nimi-A.nom   together   eat-NF-gen management do-pst-3p
         '*Nimi managed to have lunch together.'
     b. ɦihɒt-e   [(lɒge bʰage) kʰow-a-r] bjɒbɒstʰa   kɒr-il-e
         They-A.nom   together   eat-NF-gen management do-pst-3p
         'They managed to have lunch (together).'

Here, (19a) is bad because implicative *bjɒbɒstʰa kɒr* with the singular subject *Nimi* is not compatible with the plural predicate while (19b) is grammatical with the plural Matrix subject. Contrast (19a-b) with non implicative *bjɒbɒstʰa kɒr* in (20) where we have a *-ibɔ* clause. Notice that in (20), the implicative *bjɒbɒstʰa kɒr* accepts independent tense of the embedded clause and there is no such ungrammaticality even when φ-feature of the matrix subject contrasts with that of the null subject which is specified for a plural.

(20)   *Azi   nimi-e   [kalilɒi   lɒge bʰage kʰa-bɔlɒi] bjɒbɒstʰa   kɒr-il-e*
        Today Nimi-A.nom tomorrow together   eat-inf   management do-pst-3p
        'Today Nimi made arrangements to have lunch tomorrow.'

Thus, the analysis of implicatives in (18) and (19) suggest that since, unlike the one in (20), implicatives in Assamese are EC predicates which share absolute identity between the matrix and the embedded null subject in terms of case and fie features and both the clauses share one case.

3.5 The Modals (EC)
lag, *par*, etc., are modals in Assamese which give the meaning of ability, willingness, permission, assertion and potentiality etc. As seen in (21), these modals select infinitive complements.

(21) a. nimi-e   [PRO kam-to   kɒr-ibɔ]   par-e
         Nimi-A.nom   nom work-cl do-inf   modal-3p
         'Nimi can do the work.'
     b. kuhi-e   [PRO gan-to   ga-bɔ]   lag-e
         Kuhi-A.nom   nom song-cl sing-inf modal-3p (Assertion)
         'Kuhi may sing the song.'

As seen in (21), the modals are in non-past tense with a habitual meaning, and the infinitives seem to give a future interpretation compared to that of the matrix time. This may, at the first sight, assert the idea that the matrix verb and the embedded verb both give different time readings and consequently falsify the very idea that modals are cross linguistically EC predicates, and that such predicates admit to a temporal interpretation of the embedded clause that is identical to the matrix tense. However, compare the following examples in (22) where a tense mismatch between the matrix and the embedded clause is generated to diagnose the *tense operator* in the embedded clause. Notice that the sentences are ungrammatical:

(22) a. *azi,   nimi-e   [kalilɒi   kam-to kɒr-ibɔ]   par-e
         Today, Nimi-A.nom tomorrow work-cl do-inf   modal-3p
         '*Today, Nimi can do the work tomorrow.'
     b. *azi,   kuhi-e   [kalilɒi   gan-to   ga-bɔ]   lag-e
         Today, Kuhi-A.nom tomorrow song-cl   sing-inf modal-3p
         '*Today, Kuhi may sing the song tomorrow.'

In (22), both the sentences are ungrammatical because of the tense mismatch between the matrix and the embedded clause. Thus, the above examples reaffirm Landau's generalization that EC complements are all 'untensed' in that they inherit the tense of the matrix verb and so disallow tense mismatches.

4. Duality in Embedded Adjunct Clauses

The distinction of EC/PC vs availability of independent embedded tense could be observed in adjunct clauses also. Consider the following where (1) = (23) and (2) = (24), where a tense mismatch is provided to diagnose independent tense in the embedded clause:

(23)   *aideu-e   kali   am-to   kin-i   azi   dʰu-i   kalilɒi   kat-i   kʰa-l-e*
        Aideu-A.nom yesterday mango-cl buy-cpm today wash-cpm tomorrow cut-cpm eat-pst-3p
        '*After buying the mango yesterday, washing it today and cutting it tomorrow, Aideu ate the mango.'

The sentence in (23) is ungrammatical because the time adjuncts in the conjunctive clauses refer to some separate time from that of the matrix verb. Thus, we can say that conjunctive participial clauses in Assamese do not have a separate tense value independent from that of the matrix tense. This is because, like the ECs, in conjunctive participial constructions like (1), the matrix verb does not allow an independent tense of the embedded verb. However, in (24) we do not find this restriction:

(24)   *[kalir-pɒra   PRO_i bʰok   lɒg-i   tʰɒk-a-t] kuhi_i-e   azi   kand-ibɔ   dʰɒr-il-e*
        Yesterday-from gen   hunger   feel- NF be-NF-loc Kuhi-A.nom today weep-inf start-pst-3
'Having beenfeeling hungry from yesterday, Kuhi started weeping today.'
Thus, the above discussion shows that the difference between CP constructions and ES constructions is consistent with the difference between the EC and PC predicated. In a CP construction, like in EC environment, embedded tense is identical with that of the matrix tense and so is the subjects, while in ES constructions, like PC environment, the embedded tense is different from that of the matrix tense, which coincides with the difference in the subjects, either in Case property or in φ-feature. These differences, as we presume, are inherent to the semantic types of the predicating verbs which point towards separate syntactic representations of their subjects. To be precise, cases where there are *two separate tenses*, there are *two separate Subjects* and cases where there is *single tense shared* between the matrix and the embedded clauses, there is *one subject shared* by both the clauses. In the former case, the null subject is a base generated PRO, distinct from but related to the matrix subject while in the later case it is an instance of dislocation; the matrix subject originates in the embedded subject position and later moves to the matrix position.

5. Additional Correlations

5.1 Finite Complementation
The correlation between two tenses and two subjects vs single tense and one shared subject could be shown in an interesting way. According to Landau, whether a control construction admits PC or EC is recoverable from the semantic class of the control predicate, since the difference is lexically governed by the control predicate. If this is so, it follows that the semantic class of the predicate type actually determine whether the complement will have independent tense specification or not, irrespective of whether the complement is finite or non finite. This follows quite trivially from the fact that PC predicates tend to admit finite complements and EC predicates do not. Grano (2012), in fact, quite interestingly establishes the fact that the EC/PC split has close connection with the distribution of finite complementation (at least) in English. Grano observed that PC predicates admit finite complements while EC predicated do not. Observing a representative sampling of PC and EC predicates[1] listed in Landau (2002:38), Grano (2012) presents the following data in (25)-(26):

(25)   PC
        a. John was shocked [that he got an A].   factive.
        b. John claimed [that he got an A].   propositional.
        c. John wondered [how he would get an A].   interrogative
        d. John wished [that he would get an A].   desiderative
(26) EC
        a. *John had [that he would get an A].   modal
        b. *John managed [that he got an A].   implicative
        c. *John started [that he got an A].   aspectual

                                                              (Grano 2012: 30-31)

Grano's observation is valid for Assamese also. As seen in (2-4) PC *icha kɒr* 'wish' and EC *sesta kɒr* 'try' contrast in their behaviour: *icha kɒr* 'wish' tolerates tense mismatch between the matrix clause and the embedded clause, while *sesta kɒr* 'try' does not tolerate such tense mismatch. Now consider (27) where the PC *icha kɒr* 'wish' admits a finite complement while EC *sesta kɒr* 'try' does not do so:

(27) a. *nimi-e   itcha kɒr-il-e [ze   teõ   kalilɒi   lɒge bʰage   kʰa-b-ɒ]*
        Nimi-A.nom wish do-pst-3p comp she tomorrow   together   eat-fut-3p
        'Nimi wished that she will have lunch together tomorrow.'
     b. **nimi-e   sesta kɒr-il-e [ze   teõ   kalilɒi   lɒge bʰage   kʰa-b-ɒ]*
        Nimi-A.nom try   do-pst-3p comp she tomorrow   together   eat-fut-3p
        '*Nimi tried that she will have lunch together tomorrow.'

Thus, the contrast between (a) and (b) sentences in (27) shows that PC predicates admit finite complements while EC predicates do not admit finite complements.

Thus in PC environments and in ES constructions we have PRO-control while in EC environment as well as in CP constructions, we have movement-derived control. Advocating a dual approach to control, van Urk (2010) argues that there is convincing evidence for the existence of both PRO-control and movement control. It is often said that partial control is possible in NOC, but not in raising. van (2010; 9) says, "From the availability of partial control readings, and

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[1] Grano, also, reports some apparent exceptions to this generalization, found among the implicative verbs; however, these are not genuine exceptions because the variants that admit finite complements are not implicative but rather factive.

the fact that these are possible in NOC, but not in raising, it follows logically that some instances of OC have a distinct subject in the lower position". Grano (2012) argues that both the PRO approach and the movement approach to control are correct when restricted to their respective domain of applicability. Following Landau (2002)'s distinction between Partial and Exhaustive control, Grano (2012) shows that 'partial control' is a general property of PRO but 'exhaustive control' phenomenon is a property of movement in which the lower NP moves to the higher position.

This implies that the instances of Exhaustive Control involve a rule of movement that is implicated in the derivation of movement constructions such as raising and passive. This would be a reductionist view, a desirable outcome, suggesting similarity between control and raising. In the next section to follow, we shall present arguments to show that it is indeed the case, at least between EC and raising, with respect to subject.

5.2 PC and Subject Orientation

Control is defined as dependency between two argument positions in which the referential properties of the overt *controller* determine the referential properties of the silent (null) *controllee* (Bresnan 1972, 1982 and many others). Raising, on the other hand, is defined as the cross-clausal dependency between two argument positions in which the higher argument plays no role in the predication of its clause. This is why the higher argument can alternate with an expletive subject. Consider the following example:

(28) a. There seems to be a tiger in the jungle.
        b. There is a tiger in the jungle.

A raising predicate allows for expletive subjects because a raising predicate (*seems*, *likely* etc.) does not impose any requirements of its own on the subject. It does not enter into a semantic relationship with its subject because it does not assign a θ-role to its external argument. In this respect, EC predicates, but not PC predicates, seem to share an interesting correlation with the raising predicates as observed by Grano (2012). Grano (2012) observes that some EC predicates do not entail anything about their surface subjects while all the PC predicates do so. Based on this observation Grano entertains that EC predicates are in fact raising predicates and hence they necessarily do not entail anything about their surface subject. Grano (2012), observing the correlation among the similarity between subject properties of a raising predicate and an EC predicate on the one hand and the difference between a raising predicate and a PC predicate on the other hand, suggests that EC predicates are like raising predicates so far its subject property is concerned. Grano derives it with the following set of data:

(29) EC
        a. *It managed to rain.   implicative.
        b. It began to rain.   aspectual   .
        c. It had to rain.   modal.
        d. *It tried to rain.try.
(30) PC
        a. *It hated to rain.   factive.
        b. *It claimed to have rained.   propositional.
        c. *It hoped to rain.   desiderative.
        d. *It wondered how to rain.   interrogative.

(Grano 2012: 40-41)

As the data in (29) show, some EC verbs do not entail something about their subject and so similar with 'raising' predicates in the traditional sense whereas others unambiguously do so and thus resemble 'control' in the traditional sense. As (29b-c) indicate, among EC predicates, some aspectual verbs and some of the modals are compatible with an expletive subject, suggesting that they are at par with the raising predicates whereas other EC predicate like the implicatives in (29a) is not compatible with an expletive subject. (Grano also includes *try* (29d) in the discussion because it patterns like an EC verb with respect to the relevant tests but resists classification within Landau's three categories). As we see in (30), on the other hand, PC verbs uniformly resist an expletive subject, suggesting a structural difference from raising predicates. According to Grano, PC predicates are lexical verbs that select for their own subject. Hence, like most other lexical verbs, they entail something about their subject. EC predicates, on the other hand, are raising predicates. Hence, they need not entail anything about their surface subject. Indeed, on the traditional view, they necessarily do not entail anything about their surface subject.

6. EC on a par with Raising

Grano's contention is not implausible. The traditional analysis of aspectual verbs and modal verbs, dating back to Perlmutter (1970), is that they are ambiguous between raising and control predicates. Grano's generalization may not

have a direct bearing on Assamese date because Assamese do not have an expletive *it/ there*-type construction[2] such as the ones cited in (29) and (30). However, in recent years, a number of scholars have entertained the idea that control (at least a sub-set of control) and raising are similar so far their subject properties are concerned. For example, Bhatt (1998), Wurmbrand (1999, 2001), and Fakuda (2007) show that modal and aspectual verbs are cross linguistically raising predicates. Significantly, Landau (2000) observes that some OC verbs do behave like raising verbs. In such cases, the lower position cannot denote a superset of the higher position. Landau calls it Exhaustive Control where both the lower position and the higher position display case-sharing. Given this, we assume that Landaus PCs are instances of PRO-control and ECs are instances of movement derived control, on a par with raising predicates.

7. Conclusion

Thus, drawing evidence from Assamese data, this paper show that both PRO-control and Movement derived control are choices available in the grammar. In cases where the null subject does not share absolute identity PRO-control holds and in cases where the null subject and the matrix subject share absolute identity, stipulation of a PRO may be redundant from a learnability point of view. This duality is present in the grammar which accounts both adjunct and complement control.

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2 In fact, South Asian Languages are characterized by the absence of expletive expressions; no SAL has an expletive *it/there*-type constructions found in English or French (Subbarao 2012:31).