

## A Case Restriction on Control: Implications for Movement

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### ABSTRACT

The proper analysis of control has been an active topic of research. Recent proposals by Hornstein (1999, 2001) and Boeckx and Hornstein (2004) advocate treating control as involving raising into theta-positions, eliminating the need for a special control module. This paper introduces a restriction which distinguishes control environments from raising environments: the covert subject in a control construction in Hindi-Urdu cannot have dative case while the covert subject in a raising construction may. This Case Restriction is shown to hold in a wide variety of unrelated languages, but is not universal. In particular, languages with both forward and backward control systematically lack the Case Restriction. Various theories of control are examined with respect to how well they can represent the Case Restriction. The paper concludes that there is no non-stipulatory way to represent the Case Restriction in Hindi-Urdu if control and raising are treated alike.

### 1 Introduction

Many if not most languages have control constructions, biclausal combinations with an obligatorily null embedded subject. The null subject is identified by coindexation with a matrix subject or object. Hindi/Urdu, a verb-final language, has a number of instances of this configuration and coindexing, which are discussed in this paper and contrasted with other non-finite complement and adverbial constructions. Control constructions in this language are subject to a constraint, illustrated by the ungrammatical control sentence in (1a):

- (1) a. \* māĩ [PRO aisaa paisaa mil-naa nahĩ caah-tii hũũ  
 I[Nom] such money[Nom] get-Inf not want-Impf.F am  
 ‘I don’t want [PRO/\*me to get such money].’  
 b. mujhee aisaa paisaa mil ga-yaa  
 I[Dat] such money get go.Pf.M.Sg  
 ‘I got such money.’

The embedded subject corresponds to a dative subject in the single clause in (1b). The dative case is selected by the predicate *mil-naa* ‘get’, which assigns a goal theta role. It is like many other predicates with non-volitional experiencer subjects.

Recent proposals by Hornstein (1999, 2001) and Boeckx and Hornstein (2004) eliminate from syntactic theory a special set of principles which license null PRO subjects and define their antecedents. The anaphoric relations in the control, raising and binding constructions of the earlier Chomskyan theory (1981, 1986) are derived by a general application of A-movement compatible with a more recent set of constraints on possible theories of syntax (Chomsky 1995, 2001). Raising to Subject,

Raising to Object, Subject Control and Object Control sentences are all derived by movement of an embedded subject to a matrix position, then to higher functional projections.

In this paper, I consider how this account would explain raising and control constructions in Hindi/Urdu, a language which, unlike English, requires lexical, theta related case on the subject of certain predicates. These are predicates of psychological and physical states, and deontic necessity. There is a systematical pattern of ungrammaticality in Hindi/Urdu, which arises when (i) the embedded subject must have lexical case, and (ii) when no overt subject is possible, that is, in obligatory control constructions. Raising predicates show no constraint on embedded subject case. This difference suggests that control constructions are different from raising construction.

### 1.1 Non-finite complements: control and raising

Predicates in Hindi/Urdu select non-finite complements, which are marked with infinitive or participle inflection. Some select an infinitive with an overt subject marked as genitive, the default case for infinitive subjects (1).

- (2) [un=kaa samay=par na aa-naa] ajiib=see baat hai  
 3Pl=Gen time=on not come-Inf strange=of matter be.Pres.3Sg  
 ‘[Their not coming on time] is strange.’

Others include subject and object control complements, which do not allow overt embedded subjects (3)-(4):

- (3) Subject control  
 māī [PRO/\*meeraa/\*apnaa wahāā jaa-naa nahī caah-tii hū  
 I[Nom] \*I[Gen]/\*self [Gen] there go-Inf not want-Inf.F am  
 ‘I don’t want [PRO/\*my/\*myself to go there].’
- (4) Object control  
 ham<sub>i</sub>=nee un=koo<sub>j</sub> [PRO<sub>\*i/j</sub>/ \*hamaree/ \*un-kee wahāā  
 we=Erg 3.Pl=Dat We[Gen].Obl 3.Pl.Obl there  
 jaa-nee=kee liye majbuur nahī ki-yaa  
 go-Inf.Obl=Gen for forced not do-Pf.M.Sg  
 ‘We did not force them<sub>i</sub> [PRO<sub>i</sub>/\*for us/\*for them to go there].’

There are also non-finite complements which exemplify raising to subject and object position, marked as infinitives in Raising to Subject sentences (5) and Raising to Object sentences (6).

Raising to subject:

- (5) a. raam=nee kitaab parh-ii  
 Ram=Erg book.F.[Nom] read-Pf.F  
 ‘Ram read a book.’  
 b. raam(=\*nee/\*kee) kitaab parh-nee lag-aa  
 Ram.M.Sg.[Nom](=\*Erg/\*Gen.Obl) book.F.Sg.[Nom] read-Inf.Obl begin-Pf.M.Sg  
 ‘Ram began to read a book.’
- (6) Raising to object <sup>1</sup>  
 ham=nee raam=koo [~~raam~~ kitaab parh-tee hu-ee] deekh-aa  
 1.Pl=Erg Ram=Dat Ram book.F.[Nom] read-Inf.Obl be-Pf.Obl. see-Pf  
 ‘We saw Ram [~~Ram~~ reading a book].’

In perfective main clauses, the ergative case is required on a transitive subject (5a). In the perfective complement version of (5a), the subject of the infinitive form of ‘read’ must not be ergative (5b), but instead is nominative. In the non-finite perfective complement in (6), the embedded subject is dative, not ergative.

<sup>1</sup>There is an alternative analysis of (5) as Exceptional Case marking (Chomsky 1981). The matrix verb directly assigns dative case to the embedded subject without movement. For the purposes of this paper, I will assume raising to matrix object position, as I know of no data from Hindi/Urdu which decisively distinguishes these two analyses.

In this paper, I explore the differences in Hindi/Urdu between control constructions and raising constructions, which are distinct in derivation in the PRO analysis (1a), but essentially the same in the Raising analysis (1b). The crucial distinction involves complements in which the predicate requires dative or other lexical case on the subject, as in (7). Control and Raising constructions differ in whether their complements allow embedded predicates of this type. Control complements disallow controlled dative subjects (8a), while raising complements allow them, with overt dative case (8b,c)

- (7) tum=koo bahut paisaa mil-aa/ mil-eegaa  
 you=Dat much money.M.Sg.[Nom] receive-Pf/ receiveFut.3p.M.Sg  
 ‘You got/will get a lot of money.’
- (8) a. \* māī [PRO/ \*mujhee aisaa paisaa mil-naa nahī caah-tii hūū  
 I[Nom] I.Dat such money[Nom] get-Inf not want-Impf.F am  
 ‘I don’t want [PRO/\*me to get such money].’
- b. baccōō=nee duusree baceee=koo [~~duusree baceee=Dat~~  
 child.M.Pl=Erg other child=Dat  
 keek mil-tee hu-ee] deekh-aa  
 cake get-Impf be-Pf see-Pf  
 ‘The children saw another child [~~another child~~ getting cake].’
- c. baacee=koo [~~baacee=koo~~ keek mil-nee] lag-aa  
 child.M.Obl=Dat cake get-Inf.Obl begin-Pf.M.Sg  
 ‘The child began [~~the child~~ to get cake].’

This paper explores the difference between Raising and Control complements, especially obligatory control, as well as the language-internal and cross-linguistic properties of the restriction on embedded dative subjects. The restriction has some interesting implications for the analysis of obligatory control.

Languages like English and Hindi/Urdu have only forward control (3)-(4), with an embedded null subject. These language may have, or not have, the dative restriction (8a). A minority of languages allows both forward control and backward control, in which the embedded subject has overt case, including dative or ergative case (Polinsky and Potsdam 2002). This alternation favors the movement analysis, as a single chain of two copies is created, one of which is pronounced; it may be the matrix or embedded subject. An example of the alternation in Mizo, a Tibeto-Burman language, is given in (9):

- (9) a. Forward control (Mizo)  
 zova-n [~~zova~~ tSutleng-ah \*a tʃut ] a-duh  
 Zova-Erg Zova[Nom] bench-on 3Sg sit.Nonfin 3Sg-want  
 ‘Zova wants [~~Zova~~ to sit on the bench].’ (Subbarao 2004, 2)
- b. Backward control (Mizo)  
~~zova-n~~ [zova tSutleng-ah a tSu ] (\*a)-Duh  
 Zova-Erg Zova[Nom] bench-on 3Sg sit.Fin 3Sg-want  
 ‘~~Zova~~ wants [Zova to sit on the bench].’ (Subbarao 2004, 2)

In this paper, I will focus primarily on examples of forward control, referring briefly to languages which have backward control, in which overt case is possible on the embedded subject.

The case restriction found in Hindi/Urdu, though not universal, is found in a number of languages of various linguistic affiliations, which all have the property of having forward controlled arguments with lexical case. At least one language appears to have control without raising, which is not predicted if movement/raising is the basis for control. In sections below I contrast sentences in this language which show or do not show the dative restriction, arguing that the ones which do have the restriction are forward control sentences, while those which do not are examples of Raising. A broad range of analyses of both control and raising as movement does not explain this difference, even though

otherwise there are similarities which can be captured by changing assumptions about theta roles and the motivation for movement.

### 1.2 Obligatory control contexts in Hindi/Urdu

The main criterion for obligatory control is whether an overt subject is possible in the embedded clause, whether coreferent or disjoint from the matrix subject or object.

Subject control:

- (10) a. madhuu=nee [PRO baahar jaa-nee]=see inkaar ki-yaa  
 Madhu=Erg outside go-Inf=from refusal.M.Sg do-Pf.M.Sg  
 ‘Madhu refused [PRO to go outside].’ (Subbarao 1984, 36)
- b. \*madhuu=nee [apnaa/ us=kaa baahar jaa-nee]=see inkaar ki-yaa  
 Madhu=Erg self[Gen] /3Sg=Gen outside go-Inf=from refusal do-Pf.M.Sg  
 ‘Madhu<sub>i</sub> refused/denied [self’s<sub>i</sub>/her<sub>j</sub> going outside].’ (Cf. Subbarao 1984)
- c. madhuu=nee (is baat=see) inkaar ki-yaa [ki woo baahar ga-ii]  
 Madhu=Erg this matter=from refusal.M.sg do-pf.M.sg that 3Sg outside go-Pf.F.  
 ‘Madhu denied [that she went outside].’
- d. ham [PRO/ \*apnee patang uṛaa-nee=kii kooshish kar rahee hāi  
 We self.Gen kite[Nom] fly-Inf=Gen.F attempt.F.[Nom] do Prog.M.Pl are  
 ‘We are trying [PRO to fly a kite/\*our flying a kite].’ (Subbarao 1984, 62)
- e. lalita [PRO/ \*rajnii=kee paṛh-nee=kii] sooc rahii hai  
 Lalita Rajnii=Gen.Obl read-Inf=Gen think Prog.F.Sg is  
 ‘Lalita is thinking of [PRO/\*Rajnii reading].’ (Subbarao 1984, 62)

Matrix objects may control the null subject of a non-finite clause (11a), compared with the finite complement in (11b).

Object control:

- (11) a. māã<sub>i</sub>=nee raam<sub>j</sub>=koo [PRO<sub>j</sub>/<sub>\*i</sub> apnee<sub>j</sub>/<sub>j</sub>=koo gumnaam patr  
 Mother=Erg Ram=Dat self.Gen]=Dat anonymous letter[Nom]  
 likh-nee]=kee liyee manaa ki-yaa  
 write-Inf=Gen for forbidden do-Pf.M.Sg  
 ‘Mother<sub>i</sub> forbade Ram<sub>j</sub> [PRO<sub>j</sub>/<sub>\*i</sub> to write self<sub>j</sub>/<sub>j</sub> anonymous letters.]’ (Davison 2000, 425)
- b. māã<sub>i</sub>=nee raam<sub>j</sub>=koo manaa ki-yaa [ki woo<sub>j</sub> apnee<sub>i</sub>/<sub>j</sub>=koo  
 Mother=Erg Ram=Dat forbidden do-Pf.M.Sg that 3Sg self=Dat  
 gumnaam patr likh-ee  
 anonymous letters[Nom] write-Cont.3.Sg  
 ‘Mother<sub>i</sub> forbade Ram [that he should write self<sub>i</sub>/<sub>j</sub> anonymous letters].’

Obligatory control in Hindi/Urdu is also found in adjunct clauses marked by *-kar*, the ‘conjunctive participle’ suffix on the verb. The null subject is controlled only by the matrix subject (6). An overt subject is generally not possible, with the exception of a small number of ‘unaccusative’ verbs<sup>2</sup>

- (12) a. Control into *-kar* adjuncts  
 [PRO<sub>i</sub>/<sub>\*j</sub> / \*woo is baat=koo sun-kar] pitaa<sub>i</sub>=koo apnee;  
 3Sg.[Nom] this matter=Dat hear-Prt father=Dat self’.Gen

<sup>2</sup>(i) [diwaar gir-kar] patthar gir ga-yee  
 wall fall-Prt stone.M.Pl fall go.Pf.M.Pl  
 ‘The wall having fallen, stones fell down.’ (R. Pandharipande, p.c.). See discussion in Haddad 2007, Chapter 6.

- beeṭee<sub>j</sub>=par taras aa-yaa  
 son=on pity[Nom] come.Pf.M.Sg  
 (i) ‘[PRO having heard this matter], father felt pity for his son.’  
 (ii) \*‘Father felt pity for his son when the son heard this matter.’
- b. Overt subject, optional control into participle adjuncts  
 [pro/us=kee is baat=koo sun-tee=hii] pitaa=koo beeṭee=par taras aa-yaa  
 3.Sg=Gen this matter=dat hear-Impf.Obl=only father=Dat son-on pity come-Pf  
 i. ‘As soon as father<sub>i</sub>/<sub>\*j</sub>/<sub>\*j</sub> heard this matter, he<sub>i</sub> felt pity for his son<sub>j</sub>.’  
 ii. ‘Father<sub>i</sub> felt pity for his son<sub>j</sub> as soon as the son<sub>j</sub> heard this matter.’

The conjunctive participle *-kar* in (12a) differs from the imperfective participle used as an adverbial (6b) because the *-kar* participle requires a null subject. The imperfective participle may have a null or overt subject.

There are other criteria for obligatory control (Williams 1970, Hornstein 1999). The complement of ‘want’ and other control verbs shows only the sloppy identity reading (7a), and only the ‘de se’ reading (7b), characteristics of obligatory control.

- (13) a. raam<sub>i</sub> [PRO<sub>i</sub> hindii siikh-naa caah-taa hai, aur shyaam<sub>j</sub> bhii  
 Ram[Nom] Hindi learn-Inf.M.Sg want-Impf.M.Sg is and Shyam also  
 ‘Ram<sub>i</sub> wants [PRO<sub>j</sub> to learn Hindi and Shyam<sub>j</sub> [wants PRO<sub>j</sub>/<sub>\*i</sub> to learn Hindi] also.’
- b. \*yah biimaar aadmii<sub>i</sub> [PRO<sub>j</sub> maic jiiṭ-naa caah-taa hai  
 this sick man[Nom] match win-Inf.M.Sg want-Impf.M.Sg is  
 ‘This sick man [the ‘amnesiac’]<sub>i</sub> wants [PRO<sub>j</sub> to win the match’]; well formed if the amnesiac  
 believes of himself that he should win the match.

In sum, Hindi/Urdu distinguishes obligatory from optional control contexts. Where there is optional control, a lexical subject is possible, shown in examples like (12b). Otherwise in obligatory control contexts, an overt subject makes the sentence ungrammatical, whether it is disjoint from a *c*-commanding antecedent or coindexed with it. Contexts of obligatory control include complement clauses, with matrix subject or matrix object control, determined by lexical selection properties of the matrix verb.

## 2 The Dative Restriction

In this section, I discuss the case restriction on the subjects of some but not all non-finite complements. Broadly, the restriction holds for the sentence types which reject an overt subject in the embedded clause. This restriction has some further ramifications: it serves as a test to distinguish among non-finite complements. I will propose that it applies only to contexts of obligatory control, not to subject and object raising nor to complements which allow optionally null subjects (represented as *pro*).

This restriction affects subject case. In addition to null-marked or nominative subjects (14a), Hindi/Urdu has subjects marked with case clitics (14b-d). Ergative subjects are required for most transitive verbs (14b), in perfective finite clauses. For many non-volitional predicates, the dative case clitic *-koo* marks the subject in all tense/aspect combinations (Davison 2004), as in (14c,d):

- (14) a. māĩ(\*=nee) unhēē paisaa d-ũṅgi  
 I[Nom]=erg 3.Pl=Dat money.M.Sg.[Nom] give-Fut.1.F.Sg  
 ‘I will give them some money.’
- b. māĩ=nee/ \*0 unhēē paisaa di-yaa  
 I=Erg \*[Nom] 3.Pl=Dat money.M.Sg.[Nom] give-Pf.M.Sg  
 ‘I gave them some money.’
- c. mujhee sirdard hai/ hoo ga-yaa  
 I=Dat headache.M.Sg.[Nom] is/ be go-Pf.M.Sg  
 ‘I have/ have gotten a headache.’

- d. tum=koo bahut paisaa mil-aa/ mil-eegaa  
 you=Dat much money.M.Sg.[Nom] receive-Pf.M.Sg/ receive-Fut.3.M.Sg  
 ‘You got/will get a lot of money.’

The nominative/ergative choice in (8a,b) is subject to the tense/aspect of the main verb, as well as other structural and lexical conditions (Davison 2004). The dative and other lexically selected case clitics on subjects do not vary with verb aspect morphology (14c,d).

Verbs whose subjects would normally have nominative or ergative case on expressed subjects (14a,b) may freely occur in an embedded infinitive clause where the subject must be null. The example in (15) shows that the verb *siikh-naa* ‘learn’ creates an obligatory control context. Anticipating the conclusion about control for which I will argue below, I will represent the null subject as PRO. It is obligatory here, and cannot alternate with an overt subject, whether coindexed or disjoint.

- (15) māī [PRO/ \*apnaa/ \*meeraa/ \*un=kaa saaikal calaa-naa] siikh-ūṅgi  
 I.[Nom] self’s/ I.Gen.M.Sg 3.Pl=Gen.M.Sg bicycle.F.[Nom] ride-Inf.M.Sg learn-Fut.1Sg.F  
 ‘I will learn [PRO/\*self’s/\*my/\*them to ride a bicycle].’

But the same obligatory control contexts prohibit controlled (null) subjects which would have dative case if they were overtly expressed, the case which is lexically selected by the verb in the embedded clause. The verb *mil-naa* ‘get’ in (16) is a verb of this category.

- (16) a. \*us=nee [PRO ghuus mil-nii] siikh-ii hai  
 3Sg=Erg bribe.F.[Nom] get-Inf.F.Sg learn-Pf.F.Sg be.Pres.3.Sg  
 ‘He has learned [PRO to get bribes].’ (cf. (15d))  
 b. \*māī [PRO sirdard hoo-nee]=kii nahī sooc rahaa hūū  
 I[Nom] headache be-Inf.Obl=Gen.F.Sg not think Prog.M.Sg am  
 ‘I am not thinking of [PRO getting a headache].’ (cf. (15c))

This ungrammatical sentence (16a) would be grammatical with *lee-naa* ‘take’, which has a nominative/ergative subject, and (16b) would be good in the meaning ‘I don’t want [PRO to be a headache/a bother].’

The case restriction is stated descriptively in (17):

- (17) The Dative Restriction

In contexts of obligatory control, the embedded verb may not assign its (null) subject dative case.

I will use the descriptive generalization (17) as a test for obligatory control, and as an argument that the embedded subject is represented in some way, independently of its coindexed antecedent.

In the contexts of object control and control into *-kar* adjuncts, we find the same restriction: dative subject verbs cannot occur in controlled complements (18) or adjuncts (19).

- (18) ham=nee un-koo<sub>i</sub> [PRO<sub>i</sub> aisaa paisaa \*mil-nee/ lee-nee]=kee liyee  
 we=Erg 3.Pl=Dat such money[Nom] get-Inf.Obl/ take-Inf.Obl=Gen for  
 majbuur nahī ki-yaa  
 forced not do-Pf.M.Sg  
 ‘We did not force them<sub>i</sub> [PRO<sub>i</sub> to get/take such money].’  
 (19) \*[PRO<sub>i</sub> kroodh aa-kar] raam<sub>i</sub> beṭṭee=par cillaa-yaa  
 anger[Nom] come-Prt Ram.M.Sg.[Nom] son=on shout-Pf.M.Sg  
 ‘[PRO<sub>i</sub> having gotten angry] Ram<sub>i</sub> shouted at his son.’

Participles with *-kar* contrast with oblique imperfective participles, which may have an overt subject, as in (20) and (12b) above:

- (20) Participial adjuncts  
 [(raam=koo)/pro<sub>j</sub>/<sub>j</sub> kroodh aa-tee= hii] woo<sub>i</sub> cillaa-nee  
 Ram=Dat anger[Nom] come-Impf.Obl=only 3.Sg.M shout-Inf.Obl



absent. The object modifier interpretation is in principle entailed by the propositional reading, so it is hard to discern whether this interpretation is absent.<sup>3</sup>

There are some complications for the analysis of the verb *caah-naa* ‘want’ as an obligatory control verb. For many speakers whom I have consulted, *caah-naa* is an obligatory control verb, unlike English *want*, which is syntactically ambiguous between a control verb and a Raising to Object verb. The Hindi verb is an obligatory control verb (25a) which does not permit a lexical subject in the non-finite embedded clause, either with a nominative or genitive subject (25b). Only the finite complement allows an overt subject (25c):

- (25) a. māĩ<sub>i</sub> [PRO<sub>i/\*j</sub>/ \*meeraa jaa-naa] caah-tii hũũ  
 I[Nom] I.Gen.M.Sg go-Inf.M.Sg want-Impf.F.Sg am  
 ‘I<sub>i</sub> want [PRO<sub>i/\*j</sub>/ \*me to go].’
- b. \*māĩ [vee/ un=kaa/ un=koo jaa-naa] caah-tii hũũ  
 I[Nom] 3.Pl.[Nom]/ 3.Pl=Gen.M.sg 3.Pl=Dat go-Inf.M.Sg want-Impf.F.sg am  
 ‘I want [they/ their/ them to go].’
- c. māĩ caah-tii hũũ [ki vee jaa-ẽẽ]  
 I[Nom] want-Impf.F.Sg am that 3.Pl.Nom go-Cont.3.Pl  
 ‘I want [that they should go].’

For other speakers, an overt disjoint subject is possible; (26) is due to an anonymous reviewer, see also Bhatt (2004):

- (26) māĩ [un-kaa [be-izzat hoo-kar]] ghar laut-naa] hargiz  
 I[Nom] 3.Pl-Gen.M.Sg humiliated be-Prt house return-Inf.M.Sg certainly  
 nahĩ caah-tii hũũ  
 not want-Impf.F.Sg am  
 ‘I certainly don’t want [for them to return home [PRO having become humiliated]].’

Sentences such as these suggest that at least for some speakers, *caah-naa* has two selection properties, one for obligatory control (24a), the other for non-obligatory control. If non-obligatory control were the only selection property, then we could not explain why the dative restriction still holds for like subjects, and disallows disjoint subjects:

- (27) a. \*māĩ<sub>i</sub> [PRO<sub>i/\*j</sub> kroodh aa-naa] nahĩ caah-tii hũũ  
 I[Nom] anger[Nom] come-Inf.M.Sg not want-Impf.F.Sg am  
 ‘I don’t want [PRO to get angry].’
- b. \*māĩ<sub>i</sub> [usee<sub>j</sub> kroodh aa-naa] nahĩ caah-tii hũũ  
 I[Nom] 3.Obl anger[Nom] come-Inf.M.Sg not want-Impf.F.Sg am  
 ‘I don’t want [him/her to get angry].’
- (28) a. \*māĩ [PRO sirdard hoo-naa] nahĩ caah-tii hũũ  
 I[Nom] headache[Nom] be-Inf.M.Sg not want-Impf.F.Sg am  
 ‘I don’t want [t to get a headache].’ (OK as ‘I don’t want to be a headache.’)

<sup>3</sup>Some evidence for a control analysis of participial modifiers comes from an anonymous reviewer, who distinguishes between a modifier with a nominative subject of *haNs-naa* ‘laugh’ (i) and one with a dative subject *bhuukh lag-naa* ‘feel hungry’ (ii) in participle adjuncts.

- (i) raam<sub>i</sub>=nee siitaa<sub>j</sub>=koo [PRO<sub>j</sub> [PRO<sub>j/j</sub> hās-tee hu-ee ]  
 Ram=Erg Sita=Dat laugh-Impf be-Pf  
 ghar jaa-nee]=kee liyee kah-aa  
 house go-Inf.Obl=Gen for say-Pf.M.Sg  
 ‘Ram<sub>i</sub> told Sita<sub>j</sub> [PRO<sub>i</sub> to go home] [PRO<sub>j/j</sub> laughing].’
- (ii) \*raam<sub>i</sub>=nee siitaa<sub>j</sub>=koo [PRO<sub>j</sub> [PRO<sub>j/j</sub> bhuukh lag-tee hu-ee ]  
 Ram=Erg Sita=Dat hunger strike-Impf be-Pf  
 ghar jaa-nee]=kee liyee kah-aa  
 house go-Inf.Obl=Gen for say-Pf.M.Sg  
 ‘Ram<sub>i</sub> told Sita<sub>j</sub> [PRO<sub>i</sub> to go home] [PRO<sub>j/j</sub> feeling hungry].’

- b. mǎĩ [PRO aisaa paisaa \*mil-naa /lee-naa] nahĩ caah-tii hũũ  
 I-[Nom] such money[Nom] get-Inf.M.Sg / take-Inf.M.Sg not want-Impf.F.Sg am  
 ‘I don’t want [PRO to \*get/take such money].’

The dative-subject expression *sirdard hoo-naa* ‘to get a headache’ cannot be embedded in the complement of ‘want’, nor can a dative-subject verb like *mil-naa* ‘to get, receive’ (10b). Ordinary transitive verbs like *lee-naa* ‘take’ are possible in (28b) because this verb has a nominative or ergative subject.

Another construction which is disambiguated by the condition (17) involves participles used as nominal modifiers, much like relative clauses. The participle has a null constituent corresponding to the modified head, which for purposes of exposition I will represent as 0, coindexed with the modified DP head. There is a condition on modifying participles which is connected to the aspectual morphology of the clause. If the participle is imperfective, the subject is null. If the participle is perfective and transitive, the direct object is null (Subbarao 1984, Chapter 9). For grammatical relations other than subject and direct object, the participle modifier is ungrammatical, such as the indirect object in (31).

- (29) Imperfective participle with null subject

[0<sub>i</sub> bijlii=see      ḍar-tee      hu-ee]      baccee<sub>i</sub>      roo-nee  
 lightning=from fear-Impf.M.Pl be-Pf.M.Pl child.M.Pl cry.Inf.Obl  
 lag-ee  
 begin.Pf.M.Pl  
 ‘The children [who are afraid of lightning] began to cry.’

- (30) Perfective participle with null direct object

[mǎã=kee      /\*=nee 0<sub>i</sub> ḍāāt-ee      hu-ee]      baccee<sub>i</sub>  
 Mother=Gen.M.Pl /\*=Erg scold-Pf.M.Pl be.M.Pl child.M.Pl  
 roo-nee      lag-ee  
 cry-Inf.Obl begin-Pf.M.Pl  
 ‘The children [whom mother scolded] began to cry.’

- (31) Perfective participle with null indirect object

\*[mǎã=kee      0<sub>i</sub> kitaab di-yee      hu-ee]      baccee<sub>i</sub>      is=see      prasann  
 mother=Gen.M.Pl book give-Pf.M.Pl be-Pf.M.Pl child.M.Pl 3.Sg=from pleased  
 thee  
 be-Pst.M.Pl  
 ‘The children [to whom mother gave the book] were pleased with it.’

I conclude that the coindexed null category is actually PRO. The Dative Restriction shows up in (32b), in which the coindexed null element is a subject with dative case.

Dative-marked experiencers have subject properties, such as ability to bind subject oriented anaphors (Davison 2004).

- (32) a. baccee=koo      bijlii=see      ḍar      hai  
 child.Sg.Obl=Dat lightning=from fear.M.Sg.[Nom] is  
 ‘The child is afraid of lightning.’  
 b. \*[PRO<sub>i</sub> bijlii=see      ḍar      hoo-taa      hu-aa]      baccaa<sub>i</sub>  
 lightning=from fear [Nom] be-Impf.M.Sg be-Pf.M.Sg child.M.Sg  
 roo-nee      lag-aa  
 cry-Inf.Obl begin-Pf.M.Sg  
 ‘The child [who is a afraid of lightning] began to cry.’

The Dative restriction (17) also extends to other types of case clitics, such as *-see* ‘from’ in (32), which is selected by the predicate *ḍar(N) hoo-naa* ‘have fear, be afraid of’. If we combine a sentence like (33a) as a perfective modifier with a null (post-positionally marked) object, the results are, like (32b), very ungrammatical.

- (33) a. *baccee teez aawaaz=see dar ga-ee*  
 child.M.Pl loud sound=from be frightened go-Pf.M.Pl  
 ‘The children became frightened of the loud noise.’
- b. *\*[baccooN=kii PRO<sub>i</sub> dar-ii hu-ii] aawaaz<sub>i</sub>*  
 child.M.Pl.Obl=Gen.F be frightened.Pf.F.Sg be-Pf.F.Sg noise.F.Sg.[Nom]  
*teez thii*  
 loud was.F.Sg  
 ‘The noise [of which the children became frightened] was loud.’<sup>4</sup>

The relation between the null element in the modifying clause and the modified NP seems therefore to be obligatory control, by this test. This test for obligatory control allows us to distinguish between uses of participles as complements, as in (23c), versus controlled modifiers (29)-(31). The Dative condition holds only for modifier participle clauses, the prenominal modifiers shown here, and perhaps for the oblique modifiers cited in note 3. The complement use is not a special case of a modifier clause, with obligatory control, given that the Dative Condition is not violated in sentences like (17) (see also Subbarao 1984, 162).

Finally, the Dative Condition distinguishes between predicates with a variety of modal and aspectual meanings. There are two predicates in Hindi/Urdu for ‘begin’, *shuruu kar-naa* ‘begin, start’, and *lag-naa* ‘strike, begin’, *shuruu hoo-naa* ‘begin (intrans.)’. They behave differently with dative embedded subjects. The ergative is found in (34a) but not (34b). Only the dative is allowed in (35a,b,c).

- (34) a. *raam=nee kitaab parh-nii shuruu k-ii*  
 Ram=Erg book.F.Sg read-Inf.F beginning.M.[Nom] do-Pf.F.Sg  
 ‘Ram began/started to read a book.’
- b. *raam (=nee/\*kee) kitaab parh-nee lag-aa*  
 Ram.M.Sg.[Nom]/ \*=Erg/\*Gen.Obl book.F.Sg.[Nom] read-Inf.Obl begin.Pf.M.Sg  
 ‘Ram began to read a book.’
- (35) a. *\*raam=nee/=kaa kroodh aa-naa shuruu ki-yaa*  
 Ram=Erg/=Gen anger.M.Sg[Nom] come-Inf beginning.M do-Pf.M.Sg  
 ‘Ram began to get angry.’  
 NP<sub>i</sub> [PRO<sub>i</sub> VP-naa] *shuruu kar-* ‘begin’ (Control)
- b. *raam=koo kroodh aa-nee lag-aa*  
 Ram=Dat anger.M.[Nom] come-Inf.Obl begin.Pf.M.Sg  
 ‘Ram began to get angry.’
- c. *raam=koo kroodh aa-naa shuruu hu-aa*  
 Ram=Dat anger.M.[Nom] come-Inf.M.Sg beginning be-Pf.M.Sg  
 ‘Ram began to get angry.’
- d. [ e [NP=dat VP-nee] *lag-/shuruu hoo-* ‘begin’ (Raising to subject)

The Dative restriction (17) is violated only in (35a). I conclude that the predicates for ‘begin’ have different selectional properties. The complex predicate *shuruu kar-naa* selects an object infinitive with a PRO subject, a construction of obligatory control. The predicates *lag-naa*, *shuruu hoo-naa* ‘begin’ are not control constructions; we may speculate that they require Raising to Subject (35d)<sup>5</sup>.

The control predicate (26a) is like other control predicates in Hindi, with a nominative infinitive complement; others include *siik-naa* ‘learn to’, *bhuul-naa* ‘forget to’, *xatam kar-naa* ‘stop, finish’. However, the raising versions *lag-naa*, *shuruu hoo-naa* ‘begin’ (25b) select a full clausal complement.<sup>6</sup> The clause has an overt subject which may have a case clitic like *-koo*. It lacks a structural case;

<sup>5</sup>Perlmutter (1970) argues that the English sentences with the verb *begin* are structurally ambiguous between raising and control.

<sup>6</sup>A small number of aspectual verbs optionally select an oblique complement, including *paa-naa* ‘manage’. The ditransitive verb *dee-naa* ‘give, allow’ requires the oblique inflection on the infinitive complement.

the default structural case for infinitive subjects would be the genitive, which is ill-formed (35a). In all instances, the embedded subject raises to the matrix null subject position, where it may get nominative case from the matrix clause. It is unlikely that the matrix verb is responsible for the case clitic in (35b), because *lag-naa* ‘begin’ does not assign a case clitic. It takes a matrix dative experiencer only in the sense ‘seem’. The dative occurs in the ‘begin’ sense if and only if the embedded predicate selects the dative.

The Hindi-Urdu aspectual verbs corresponding to English ‘begin’ are lexically as well as syntactically distinct. The ‘begin’ verb *lag-naa* combines with non-volitional or unaccusative verbs as well as agentive verbs, while *shuruu kar-naa* ‘begin’ implies agentivity in its complement. It is odd with unaccusative *mar-naa* ‘die.’

- (36) a. woo mar-nee lag-aa  
 3.M.Sg.[Nom] die-Inf.Obl begin-Pf.M.Sg  
 ‘He began to die.’  
 b. ?? us=nee [PRO mar-naa shuruu ki-yaa  
 3.Sg=Erg die-Inf.M.Sg beginning do-Pf.M.Sg  
 ‘He began [PRO to die].’

In the examples above, two lexically distinct verbs meaning ‘begin’ take different complements, one a control complement, the other a non-control raising complement. Some modal verbs with infinitive complements have two distinct syntactic complements. There are, however, some different semantic nuances. Modals have both deontic meanings, an obligation ascribed to an individual, and epistemic meanings, concerning possibility or necessity of a proposition. This kind of difference emerges in comparing similar constructions of obligation with and without the Dative Restriction. For example, the epistemic reading is found in (37a,b), without a violation of the Dative Restriction in (37b):

- (37) a. [baraf kal paṛ-nii] hai  
 snow.F.[Nom] tomorrow fall-Inf.F.Sg is  
 ‘Snow is likely to fall tomorrow.’  
 b. aap=koo aisaa paisaa mil-naa nahī hai  
 you=Dat such money[Nom] get-Inf.M.Sg not is  
 ‘It’s not likely, it’s not in the cards for you to get such/so much money.’  
 c. mariiz=koo buxaar aa-naa nahī caahiye  
 ill=Dat fever.M.Sg.[Nom] come-Inf.M.Sg not ought  
 ‘It is necessary that the patient not get a fever.’ (Not: ‘the patient is obliged not to get a fever’). (K.V. Subbarao, p.c.)

The deontic reading is found in (38a,b)

- (38) a. mujhee jaa-naa hai/ paṛ-taa hai/ caahiye  
 I=Dat go-Inf.M.Sg is fall-Impf.M.Sg is / ought  
 ‘I want/have/need to go.’  
 b. \*mujhee sirdard hoo-naa nahī caahiye  
 I=Dat headache [Nom] be-Inf not ought  
 ‘I don’t need [PRO to get a headache.]’  
 (Grammatical as ‘It ought not to be the case that I am getting a headache’ (R. Bhatt p.c.))  
 (39) \*aap=koo [PRO aisaa paisaa mil-naa] nahī paṛ-taa hai  
 you=Dat such money[Nom] get-Inf.M.Sg not fall-Impf.M.Sg is  
 ‘You ought (deontic) not [PRO get that kind of money].’

The deontic reading of verbs of obligation and necessity requires a matrix experiencer coindexed with embedded PRO, as in the structures (37). The epistemic reading does not require a matrix dative experiencer, as the subject need not have an animate referent (37a) or one which is under an

obligation (38a); the experiencer in (37c) cannot volitionally choose to have or not have a fever.<sup>7</sup> This distinction argues that the obligation construction with the deontic reading is a control construction.

## 2.2 Summary of control constructions

The Dative restriction (17) applies to obligatory control constructions, independently defined as those which require coreference between an antecedent/controller and a null embedded subject. The restriction has been used to make distinctions among other constructions with non-finite complements. Where the dative embedded subject makes the sentence ungrammatical, I conclude that the sentence is a control sentence. The grammaticality of lexically cased embedded subjects in the propositional complement of *deekh-naa* ‘see’ indicates that this construction involves raising, not object control.

For some though not all speakers, complements of the verb *caah-naa* ‘want’ show mixed properties. For all speakers I have consulted, embedded dative subjects are ungrammatical, suggesting that this verb selects an obligatory control complement. For some speakers, this verb also selects an infinitive complement which requires a disjoint subject with genitive case, perhaps the equivalent of the English ‘for -to’ complementizers, a non-control complement.

Perfective and imperfective participles are used as nominal modifiers. A nominal head is coindexed with a null subject (if the participle is imperfective) or null object (if the participle is perfective). This null element must be controlled PRO, because it cannot have dative or other case selected by the verb in participle form.

There are distinct transitive and intransitive verbs meaning ‘begin’, which differ both in the effect of the Dative restriction and in congruence with volitional-subject complements. The transitive verb ‘begin’ is a control construction, showing the Dative restriction, while other inceptive verbs are Raising to subject predicates. Modal constructions show a semantic distinction between deontic and epistemic readings, which is correlated with control and raising syntax; the Dative restriction applies to deontic readings, but not to the epistemic reading. I assume two subcategorization properties, with a theta-marked matrix subject (experiencer or locus of obligation) for the deontic reading, which is absent in the epistemic version. The Dative restriction serves to distinguish control from raising constructions, distinctions of case correlated with other syntactic features, such as the possibility of an overt disjoint embedded subject, and also semantic differences.

## 3 Assumptions about case licensing

The Dative restriction involves case clitics on subjects and certain objects. The case forms which violate the Dative restriction are different in nature from the ones which can occur on overt arguments with nominative or ergative case. This distinction would appear to be the distinction between structural case and lexical case. Structural case is valued by the formal features on functional heads such as T and v. Lexical or inherent case is selected by specific predicates. The basic distinction carries over from Principles and Parameters (Chomsky 1981, 1986). Structural cases are licensed in specific syntactic contexts, as defined by functional projections, such as v and T; cases selected by lexical items are lexical or inherent (Chomsky 1986, 1995, Ura 2000, 2006, Woolford 2007). The lexical case requirement is expressed as a category selection feature for a particular case clitic, associated with an argument of the predicate. This category feature is checked when the argument discharges a theta role (or is identified in some way with an argument position of the predicate) (Chomsky 1995, Ura 2000).

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<sup>7</sup>This distinction is associated here with the difference between raising and control. It is not quite the same distinction associated with the presence or absence of clitic climbing in Romance languages. Paula Kempchinsky (p.c.) points out that in Spanish, clitic climbing is possible with both the deontic and epistemic readings. See accounts of ‘restructuring’, the absence of embedded PRO, with a variety of verb classes (Wurmbrand 2003).

I will partition the cases of Hindi/Urdu as follows:

Structural cases

- (40) a. Nominative, unmarked or zero case.  
 b. Ergative *-nee* on transitive subjects of perfective, finite clauses.  
 c. Dative *-koo* on direct objects with specific/animate reference.  
 d. Genitive *-kaa* on possessors and subjects of some non-finite clauses.

Inherent and lexical cases

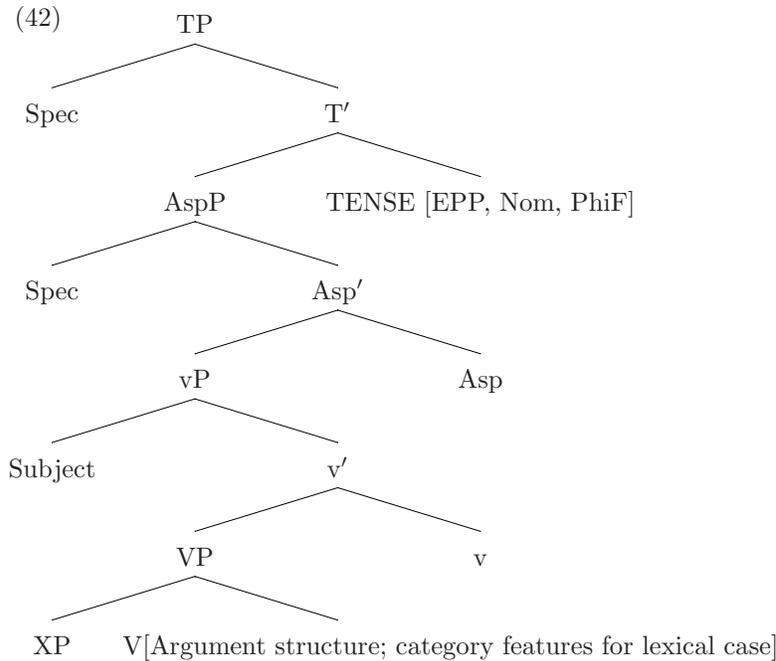
- (41) a. Dative *-koo* on goals and experiencers, associated with these theta roles.  
 b. Locatives *-mēē* ‘in’, *-see* ‘with, from’, *-par* ‘on’, *-kee liyee* ‘for’, etc, selected by the predicate for its object.

This classification is not uncontroversial. Woolford (2007) and others argue that ergative is an inherent case associated with the theta role of agent or cause. Polinsky (2007) concludes that ergative is a structural case. Ergative case in Hindi/Urdu is an example of morphological and ‘split’ergativity (see comparison and discussion in Ura 2000, 2006). It is licensed under a set of conditions: the predicate must be transitive and unexceptional, the sentence aspect must be perfective and the tense finite (for other language particular conditions and arguments, the reader is referred to Davison 2000, 2004). Ergative subjects like nominative subjects originate in vP, and are licensed not just by the lexical V, but also by perfective aspect and finite tense, higher functional projections. I take this fact to mean that ergative case is licensed in relation to functional projections of tense and aspect.

On the other hand, the case clitics selected by predicates are checked in close association with the selecting predicate, within VP. This is true for dative experiencer/goals which have subject properties; they originate in VP, and like ergative and nominative subjects, they are raised, successively, through specifier positions to the Specifier of Tense. The motivation for movement is the Extended Projection Principle (EPP), which requires a phrase of a nominal category to be in the Spec/TP. While this motivation for movement originated under different theoretical assumptions in the Principles and Parameters theory, it is generalized in Minimalism to motivate movement. The Agree relation between functional heads and DPs is sufficient to value case, but does not account for overt position and the grammatical function associated with Spec/TP. This position contains the antecedent of a subject-oriented anaphor (Mohanani 1994, Davison 2000), and the controller of a *-kar* participle.

The dative *-koo* has two identities. It is an inherent case on indirect objects, associated with the goal thematic role. It is an inherent case on dative subjects, associated with the experiencer and goal roles. The *-koo* on direct objects is an example of Differential Object Marking (Aissen 2003), equivalent in some ways with accusative case. It contrasts with unmarked nominative case on objects. It is found with DP direct objects with animate or specific reference, including Raising to Object subjects (8b). There are some interesting questions about how differential object case for specific DPs is related to the dative on indirect objects, which have a position above vP (Bhatt 2007). The *-koo* dative on a direct object would be relevant for the imperfective participial modifiers, such as (30) above. Here the direct object is a well-formed PRO; it’s not possible to say whether the object is underlyingly nominative or dative. In any case, the null direct object is well-formed, suggesting that the case of the direct object is a structural case. The only kind of object case which violates the restriction (17) is the lexically-selected locative in (33b).

I assume the general clause structure in (42). Lexical cases are licensed within VP and vP. Structural case on subjects is licensed in projections above vP, including the special null case on PRO (Chomsky and Lasnik 1993). Subject arguments originate in vP and are raised to value the EPP feature on TENSE. The Dative restriction could be seen as a clash between the requirements of Spec TP and the case features valued in vP. It is rephrased as (43).



(43) Obligatory controlled subjects cannot be assigned a lexical case within VP/vP.

This condition could be specific to Hindi/Urdu, required in all languages with control, or a parametric option in Universal Grammar found in some languages and not others.

#### 4 Evidence from other languages

In this section, I survey a selection of other languages, some historically related to Hindi/Urdu, others not, in order to show that the Case Restriction (43) is not an isolated idiosyncrasy of just one language, nor a universal.

##### 4.1 The Case restriction in other languages

A number of languages with non-nominative subjects show a version of the Case Restriction (43), including other Indic languages such as Marathi (44) and Maithili (45):

(44) a. ravi=laa mini aavd-te [Marathi]  
 Ravi=Dat Mini [Nom] like-Pres  
 ‘Ravi likes Mini.’ (Rosen and Wali 1989, 15)

b. \*ravi=ni [PRO mini aavdaay-caa] prayatna kelaa  
 Ravi=Erg Mini [Nom] like-Inf attempt do.Pf  
 ‘Ravi tried [PRO to like Mini].’ (Rosen and Wali 1989, 15)

(45) \*raam harii=kii [PRO dar nahi ho-baak-lel] kaha-l-ak [Maithili]  
 Ram [Nom] Hari=Dat Dat fear not be-Inf-for say-Pst-3N  
 ‘Ram told Hari<sub>i</sub> [PRO<sub>i</sub>(Dat) not to be afraid].’ (Bickel and Yadav 2000, 357)

Nepali is very similar to Maithili (Bickel and Yadav 2000).<sup>8</sup>

Some Dravidian languages of South Asia also have the Case Restriction (43):

<sup>8</sup>Bangla, with both genitive and nominative experiencer subjects, may not show the Case Restriction unambiguously (Bayer, p.c., 2004, 56). Sinhala has a variety of non-nominative cases with involitive forms of verbs; it appears that these forms cannot be embedded in the complement of ‘want’ (J. Paolillo p.c.)

- (46) a. shiila-Lige aapareeshan aayitu [Kannada]  
 Shila-Dat operation[Nom] become.Pst  
 ‘Shila had an operation.’ (Sridhar 1976, 141)  
 b. \* avaru shiila-Lige [PRO aapareeshan aagalu] heeLidaru  
 they[Nom] Shila-Dat operation become.Inf tell.pst.3.Pl  
 ‘They told Shila<sub>i</sub> [PRO<sub>i</sub> to have an operation].’ (Ibid)
- (47) ?\* en-ikkə [PRO avan-ooḍə deeSyam var]-aṇam [Malayalam]  
 I-Dat1 he-Dat2 anger[Nom] come-want  
 ‘I don’t want [PRO to be angry with him].’ (K.A. Jayaseelan, p.c.)<sup>9</sup>

Outside of South Asia, other languages with dative subjects have the Case Restriction:

- (48) gustatu nahiko nuke [Basque]  
 like want aux.1  
 ‘I want [PRO to be liked by someone(Dat)].’ NOT ‘I want [PRO(dat) to like someone.]’  
 (J. Ortiz de Urbina, p.c.). See also Davison 2004, 160.
- (49) a. mne ne zdorovitsia [Russian]  
 I-Dat not feel.well.3.Sg  
 ‘I do not feel well.’  
 b. \*tebe khochetsia [PRO/ tebe ne zdorovitsia]?  
 you-Dat want.3.Sg you-Dat not feel well.3.Sg  
 ‘Do you want [PRO to get sick]?’ (E. Gavrusseva, p.c.)

In Basque, there are dative subjects, but in embedded infinitives, they are not coreferential with the matrix subject (48). In Russian, there is a large class of dative subject predicates, as in (49a), which may not be embedded in control constructions (49b).<sup>10</sup>

In German, the verb *interessieren* ‘to be interested in’ requires an accusative experiencer. A control construction like (50) is ungrammatical:

- (50) \*Er hoff-te [PRO der neue Roman zu interessier-en] [German]  
 He.Nom hope-Pst (Acc) the new novel [Nom] to be.interested-Inf  
 ‘He hoped the new novel would interest him.’ (Bayer 2004, 55)

The sentence may be ill-formed in any case because non-nominative experiencers are not subjects in German. But Icelandic famously contrasts with German in that non-nominative experiencers are clearly subjects, and also there is no Case Restriction (Sigurðsson 1991). The PRO subject is dative in (51), and the sentence is well-formed:

- (51) Hann vonast [til að PRO leiðast ekki] [Icelandic]  
 he.Nom hope.Pst for to (Dat) bore.Pres not  
 ‘He hoped [PRO not to be bored].’ (Bayer 2004, 54)

#### 4.2 Languages without the Dative restriction

In the examples above, we see that the Case Restriction (43) is found in many related and unrelated languages, but is far from being universal. Where it does occur, it applies uniformly to complement clauses as well as conjunctive participle adjunct clauses (see Rosen and Wali 1989 for detailed analysis of these clause types in Marathi).

<sup>9</sup>The equivalent sentence in Telugu requires a finite complement with the quotative, and is not grammatical (K.V. Subbarao, p.c.)

<sup>10</sup>These dative predicates are very similar to the psychological predicates found in Hindi/Urdu and other Indic languages, as well as in Slavic languages. Moore and Perlmutter (2000) note that similar dative predicates are found in Russian, Polish, Slovenian, Serbo-Croatian and Slovak, with the properties that the dative experiencer does not control agreement nor occur as controllee subjects. They do have other subject properties, binding subject oriented anaphors and perfective participle subjects. They argue that true dative subjects are found only in another modal construction found only in Russian and Polish. My discussion of Russian focuses on the more general Slavic (and Indo-European) datives, which I take to have dative syntactic subjects, *pace* Moore and Perlmutter.

Telugu differs from the related languages Kannada and Malayalam in not having the Case Restriction. Telugu has dative subjects (52a), which occur in infinitive complements (52b), and in a controlled conjunctive participle (53a):

- (52) a. *pratima-ki mamata-miida koopam waccin-di* [Telugu]  
 Pratima-Dat Mamata-on anger[Nom] come.Pst-3.Sg  
 ‘Pratima became angry at Mamata.’ (Subbarao and Bhaskararao 2004, 167)
- b. *siita-ki ramaṇa-miida koopam raa-(v)adam iṣṭaam leedu* [Telugu]  
 Sita-Dat Ramana-on anger come-Gerund liking not  
 ‘Sita did not like to get angry at Raman.’ (K.V. Subbarao p.c)

Conjunctive participles also allow dative subjects. Telugu has both forward control (53a) and backward control (53b), in which the matrix coreferent subject is null rather than the embedded subject. By definition, this matrix null subject cannot be PRO. The existence of backward control has been used to argue for the Movement Theory of Control (Polinsky and Potsdam 2002), which will be discussed in more detail below.

- (53) a. Forward control  
*maalati [~~maalati-ki~~ koopam wacc-i] weLLipooyan-di* [Telugu]  
 Malti[Nom] Malti=Dat anger[Nom] come-CPrt leave.Pst.3.Sg  
 ‘[PRO<sub>i</sub> having gotten angry] Malti<sub>i</sub> left.’ (Subbarao and Bhaskararao 2004, 173)
- b. [*maduri-ki talanoppi gaa und-i*] ~~*maduri*~~ *ippuḍee paḍukondi* [Telugu]  
 Maduri-Dat headache Adjv have-CPrt Maduri[Nom] just.now sleep.Pst  
 ‘[Maduri<sub>i</sub> having had a headache, Δ<sub>i</sub> slept just now.’  
 (Subbarao and Bhaskararao 2004, 173)

The subject of the non-finite participle in (53b), *maduri-ki* ‘Maduri-Dat’ is overt and has the dative case required by the predicate ‘have a headache’<sup>11</sup>. Backward control is correlated with the ability of the embedded clause to have case on the subject (Polinsky and Potsdam 2002, Potsdam 2008). It appears that languages which have both backward and forward control are exempt from the Dative restriction, a hypothesis which needs to be further investigated. Languages with forward control only are subject to the Dative restriction with the perhaps singular exception of Icelandic, which also seems to allow various cases on the embedded subject (Sigurðsson 1991).

### 4.3 Raising is independent of control

Hornstein (1999) proposes to derive control constructions as instances of raising to subject or object position in the matrix clause. The Hornstein account generalizes across control, reflexive binding and A-movement, which includes clause-internal passive movement as well as raising across clause boundaries. Cross-clausal raising is therefore a logical consequence of A-movement, and control is not syntactically distinct from raising, as the only difference is in the number of theta roles assigned in the matrix clause. A-movement and raising would seem to be logically prior to control, in that control is a sub-case of raising. If control is not distinct from A-movement, then a language which has control (assigning multiple theta roles to the matrix subject) should imply the existence of raising, which moves a DP without assigning an additional theta role. The Indic language Sinhala robustly has control constructions in complements and adverbial participles (54):

- (54) a. *mamə [PRO ee wæḍə iwərə kər-annə] nal-annang* [Sinhala]  
 I [Nom] this work[Nom] finish do-Inf look-Vol.Opt  
 ‘I will try [PRO to finish this work].’ (Gair and Paolillo 1997, 47)

<sup>11</sup>While complement and adjunct control sentences in Telugu do not show a lexical case restriction on the embedded clause subject, there is a case restriction on the matrix subject in adjunct clauses. The sentence is degraded if the matrix subject is dative:

- (i)?? *sarita=ki [~~sarita~~ aa maaTaa win-i ] koopamu waccin-di*  
 Sarita=Dat Sarita[Nom] that matter hear-CPrt anger come.Pst.3.N.Sg  
 ‘Having heard the news, Sarita got angry.’ (Haddad 2007, 75)

- b. mamə gunəpaalə-ṭəi [PRO<sub>i/\*j</sub> wədə kər-annə] balə-ker-uwa [Sinhala]  
 I[Nom] Gunapala-Dat work[Nom] do-Inf force-do.Pst  
 ‘I forced Gunapala [PRO to work].’ (Gair and Paolillo 1997, 48)
- c. [mamə<sub>i</sub> [PRO<sub>i/\*j</sub> gedərə gihil-la] kəæmə kəæ-wa [Sinhala]  
 I[Nom] home[Nom] go-Prt food[Nom] eat-Pst  
 ‘[PRO<sub>i</sub> having gone home], I<sub>i</sub> ate.’ (Gair 1998, 275)
- d \* [mamə [kalyaani gedərə gihil-la] kəæmə kəæ-wa [Sinhala]  
 I [Nom] Kalyani home[Nom] go-Prt food[Nom] eat-Pst  
 ‘[Kalyani having come home] I ate. (Gair 1998, 275)

In Colloquial Sinhala, there is no syntactic (periphrastic) passive involving raising of a direct object to subject position. Instead, the verb has involitive form, and the agent is marked with an oblique case (Gair 1998, 69).

- (55) a. mamə ee wacane kiwwa [Sinhala]  
 I.Nom that word.Nom say.Pst  
 ‘I said that word.’ (Gair and Paolillo 1997, 38)
- b. maṭə ee wacane kiyəwuna [Sinhala]  
 I.Dat that word.Nom say.invol.Pst  
 ‘I blurted out that word, I said that word inadvertently.’ (Gair and Paolillo 1997, 38)

Sinhala does not have Raising to Object, which would require accusative case on the embedded subject; instead the complement subject in (56) must be nominative, and the embedded verb is marked for present tense, instead of being a participle or infinitive.

- (56) mamə [gunəpaalə /\*gunəpaalə -wə paare duwənəwa] dækka  
 I[Nom] Gunapal[Nom] Gunapala-Dat road[Nom] run-Pres see.Pst  
 ‘[I saw [Gunapala running on the road]].’ (Gair 2005)<sup>12</sup>

This sentence looks like an instance of a general pattern in Sinhala, according to which tensed clauses are allowed in case-marked complement position. (Gair 2005). Otherwise, there seems to be no evidence for any kind of raising.<sup>13</sup> The ‘Raising’ class of verbs in Sinhala would select tensed complements, which may preclude movement in some way. Control verbs select infinitive complements, as in many other languages.

If Control is a variant of Raising, differing only in the number of distinct theta roles assigned by the matrix and embedded predicates in Hornstein’s analysis, then it should be quite unexpected that a language would have obligatory Control but no Raising to Subject or Object. Yet this seems to be what the evidence from Sinhala shows.

In this and preceding sections, I have made two empirical arguments against Control as Raising. Control, but not Raising, is subject to a Case Restriction (43) in some but not all languages which have non-nominative, lexically cased subjects. This restriction differentiates control sharply from Raising, and it cannot be in a sense added on to or derived from Control as Raising except in the form of a stipulation applying just to control contexts. Second, Hornstein’s generalization of

<sup>12</sup>There is a version of this sentence with an accusative case, as well as different word order and constituent structure. The accusative represents the object of ‘see’, modified by a subjectless finite clause:

(i) mamə gunəpaalə-wə<sub>i</sub> dækka [0<sub>i/\*j</sub> paare duwənəwa]  
 I[Nom] Gunapala-Acc see-Pst road[Nom] run-Pres  
 ‘[I saw Gunapala [0 running on the road]].’ (Gair 2005)

<sup>13</sup>Sinhala also has non-verbal independent clauses with a NP or AP instead of a verb (Gair and Paolillo 1998, 87–110). (i) may be an embedded example with accusative case on the embedded subject. Note the use of the quotative *kiyəla*, typically used on embedded clauses in Sinhala, though not exclusively. It is not clear if (i) is an example of Raising to Object from a small clause.

(i) mamə [malliwə ugətek kiyəla] hitənəwa  
 I[Nom] younger.brother-Acc learned.person [Nom] Quot think.Pres  
 ‘I consider younger brother a learned person.’ (Gair 2005)

*de se* relations should be incorporated into the way Universal Grammar defines possible human languages. It should not be the case that a language could have Control, but not Raising, if Control is an instance of Raising. Yet it seems on the evidence in Gair (2005) that Colloquial Sinhala has Control but not Raising or Passive movement. Control involves non-finite complement morphology, while only finite complements are found where other languages have Raising to Object. The same is true for Madurese (W. Davies, p.c.).

The dissociation of raising and control in these languages would imply that the two processes are in principle independent in UG. The prior existence of raising is not necessary for there to be control constructions, nor does Control imply Raising. In the next section, I sketch briefly analyses of control as raising/movement. Then I discuss the problems posed for movement analyses by the case restriction and independence of raising and control in some languages. Movement is motivated by a need to check formal features, but whatever the formal features, they do not account in themselves for the case restriction which I have discussed above.

## 5 The movement analysis of control

Universal grammar would seem to include as a common option in languages the occurrence of a null subject coindexed with an identifying antecedent. Various control constructions are found in both finite and non-finite embedded clauses under a variety of syntactic and semantic conditions (Landau 2004). The analysis of control has taken many forms in the evolution of grammatical theory, such as Control Theory in Chomsky (1981, 1986). This analysis assumes a null pronominal anaphor PRO, which must have an antecedent as a reflexive does, but is not locally bound, like a pronoun. PRO is a special lexical entity with no phonological form. It occupies subject position, satisfying the Extended Projection Principle requiring a subject in a minimal clause. It antecedes subject oriented reflexives in languages like Hindi/Urdu. It is subject to something like the binding conditions, requiring a c-commanding antecedent in a governing category (Manzini 1983). In all versions of Control theory, some special assumptions are required to regulate where PRO occurs, what its antecedent(s) may be, and how it expresses an argument with a thematic role. Questions arise about whether it has case or not (Chomsky and Lasnik 1993), and whether it satisfies the EPP requirement for a specifier/subject of TP.

With the evolution of syntactic theory away from notions such as government, as Hornstein (1999) and Boeckx and Hornstein (2004) argue, the assumptions of Minimalist theories do not allow for a special null entity PRO, which requires special assumptions and a special kind of null case, distinct from the cases found on overt constituents. If so, this case would be anomalous, as many writers have pointed out.

Hornstein's response is to eliminate PRO and Control Theory, and to reduce obligatory control to a movement process which is formally like raising. Local A movement creates a chain akin to anaphoric binding. Control into adjunct clauses is achieved by 'Sideways' movement, construction of separate clausal projections sharing a constituent, the raised DP. Non-obligatory control involves coindexing with a null pronominal *pro* (Hornstein 1999). In obligatory control, the subject of the infinitive receives a theta role from vP in the embedded clause, but no case. The motivation for A movement of an embedded subject is to discharge a theta role assigned by vP of the matrix clause, to discharge the EPP feature of the subject position in T, and to check case in the matrix clause. This case could be nominative, for subject control such as (57), or accusative for object control (58).

(57) John wants [to make a film]. *John* [Nom]: experiencer, agent

(58) John persuaded them [to make a film] *Them* [Acc]: theme, agent

The moved DP ultimately gets multiple theta roles, violating the Theta Criterion, a basic assumption of both Principles and Parameters theory and many versions of the Minimalist program. Hornstein makes a major revision to the Theta Criterion, relaxing the prohibition of more than one theta role on an argument (chain). He retains the condition that theta roles must be checked/discharged, on the analogy of morphological features. The crucial difference between Raising and Control construc-



to Spec/TP for the EPP and nominative case in (61a). In (61b), the dative case is checked within matrix vP; then the DP moves to Spec/TP for the EPP feature.

## 6.2 The problems of accounting for the Dative Restriction

The analysis in (61) would proceed in the same way for the ungrammatical (62a,b):

- (62) a. \*woo [~~3.M.Sg.Dat~~ paisaa mil-naa] caah-taa hai  
 3.Sg.[Nom] money[Nom] get-Inf.M.Sg want-Impf.M.Sg is  
 ‘He wants [to get money].’
- b. \*usee [~~3.M.Sg.Dat~~ paisaa mil-naa ] aa-taa hai  
 3.Sg.Dat money[Nom] get-Inf.M.Sg come-Impf.M.Sg is  
 ‘He knows [(how) to get money].’

The embedded subject would get a theta role and lexical case in the embedded vP. It would move to the embedded Spec/TP for the EPP.<sup>14</sup> It would then raise to matrix vP to discharge the second theta feature. Finally, it would move to Spec/TP for the EPP feature. As the MTC is formulated, movement would be blocked from the Specifier of embedded TP if the DP in that position received case in VP—a restatement of (43) which must stipulate that the lexically cased DP would be moving to a matrix position in which it receives another theta role. Otherwise, if the movement were a case of Raising to subject or object, the sentence would be grammatical, as in (24a,b), (35b, c), repeated as (63) and (64):

- (63) a. baccee=koo buxaar aa-yaa  
 child=Dat fever.M.Sg.[Nom] come-Pf.M.Sg  
 ‘The child got a fever.’
- b. mãã=nee baccee=koo [~~baccee-koo~~ buxaar aa-tee hu-ee]  
 mother=Erg child=Dat child=Dat fever.M.Sg.[Nom] come-Impf.Obl be-Pf.Obl  
 deekh-aa  
 see-Pf.M.Sg  
 ‘The mother saw the child getting a fever.’
- (64) a. raam=koo [~~raam-koo~~ kroodh aa-nee] lag-aa  
 Ram=Dat Ram=Dat anger.M[Nom] come-Inf.Obl begin.Pf.M.Sg  
 ‘Ram began to get angry.’
- b. raam=koo [~~raam-koo~~ kroodh aa-naa ] shuruu hu-aa  
 Ram=Dat Ram=Dat anger.M[Nom] come-Inf.M.Sg beginning be-Pf.M.Sg  
 ‘Ram began to get angry.’

Under the MTC, the only distinction between control and raising is whether the matrix predicate assigns a second theta to the moved DP.

Another stipulation would be to say that Raising as control simply does not move DPs which get an experiencer theta role. This stipulation would describe the ungrammaticality of (62a,b), but it would not account for the contrast in (65a,b)

- (65) a. mãĩ [~~mãĩ~~ yah taaraa deekh-naa] caah-tii hũũ  
 I[Nom] I[Nom] this star[Nom] see-Inf.M.Sg want-Impf.F.Sg am  
 ‘I want [to see this star].’
- b. \*mãĩ [~~mũjhee~~ yah taaraa dikhaaii dee-naa] caah-tii hũũ  
 I[Nom] I.Dat this star[Nom]- sight give-Inf.M.Sg want-Impf.F.Sg am  
 ‘I want [to see this star].’

<sup>14</sup>Lexically cased subjects have the same reflexive binding and control into adjunct properties as structurally cased subjects, both satisfying the EPP requirement on T (Davison 2004). If so, then DPs with lexical case can raise out of vP/VP to Spec/TP to meet the EPP requirement of T’, just as other external arguments do.

The embedded predicates both discharge an experiencer theta role; *deekh-naa* ‘see’ has a nominative/ergative subject, while its near synonym *dikhaaii dee-naa* ‘see, be visible to’ requires a dative subject. (See Davison 2004 for further discussion of the semantic and syntactic properties of these predicates.) This restriction would have to apply only to control instances of movement, as the experiencer in (63b) can undergo raising to object position, and the experiencer in (64c) raises to subject position, without loss of grammaticality.

Another possible solution would be to assume a case matching principle to explain the ungrammaticality of (62a,b). This would mean that there is case assigned in the embedded clause, which must match the case of the matrix subject position. In (62a), there would be a potential case clash between the lexical case checked in the lower vP and the nominative case feature of matrix T. Assuming structural cases are unvalued on DP, then the [Nom] feature of T could not value an already valued lexical case feature. This mismatch of case might account for the ungrammaticality of (62a). But there should be no mismatch in (62b), in which the dative case of the matrix vP matches the dative case checked in the embedded vP. Yet without a case mismatch, the sentence (62b) is still ungrammatical.

Yet another possible is to explain (62a) as an instance of case overwriting. Some versions of the MTC require that the embedded subject position is a case valued position, because in instances of backwards control, the embedded subject is the part of the chain which is pronounced. Polinsky and Potsdam (2002) and Potsdam (2008) show that the case on the lower copy is the one determined by the local predicate. Let us assume that in grammatical sentences the infinitive subject has nominative case, which somehow merges with matrix nominative or ergative case. In the ungrammatical sentences, the embedded clause dative case illicitly overwrites the nominative case valued in the matrix, violating a restriction that a subject position may not have both lexical and structural case. The MTC would say for Hindi/Urdu that (62a) is ungrammatical because the embedded subject is moved with dative case to a matrix subject position which must be valued nominative, or ergative in (66). Ergative case is associated with the transitivity of the matrix verb and its tense and aspect, and is not overwritten by dative case if the embedded verb is the dative-subject verb *mil-naa* ‘get’.

- (66) us=nee/ \*usee [yah kitaab parh-naa/ \*mil-naa] caah-aa  
 3.Sg=Erg 3.Sg.Dat this book.F.Sg.[Nom] read-Inf.M.Sg/ \*get-Inf.M.Sg want-Pf.M.Sg  
 ‘He/she wanted [to read/\*to get this book].’

This explanation fails for (62b), in which both subject positions have lexical case. The movement analysis of control would move a DP which receives its case in subordinate vP to the matrix clause, where it also gets dative case, as in (63b). This move should be licit in the MTC, but the sentence is just as ungrammatical as (62a), in which the dative case does not appear in the matrix clause.

In order to explain (62a) and (63b) as violations of a match between structural and lexical case, we would have to assume that Hindi/Urdu always rules out positions with both structural and lexical case. But in Raising to Object constructions, the embedded clause may have a lexically cased subject (67b). Raising to Object constructions value structural dative case on the raised subject (67c):

- (67) a. [Lexical dative case]  
 baccee=koo buxaar aa-yaa  
 child=Dat fever.M.Sg[Nom] come-Pf.M.Sg  
 ‘The child got a fever.’
- b. [Lexical and structural dative]  
 mãã=nee baccee=koo [~~baccee=koo~~ buxaar aa-tee hu-ee] deekh-aa  
 mother=Erg child=Dat child=dat fever [Nom] come-Impf.Obl be-Pf.Obl see-Pf.M.Sg  
 ‘The mother saw the child getting a fever.’
- c. [Structural dative]  
 mãã=nee baccee=koo [~~baccee~~ roo-tee hu-ee] deekh-aa  
 mother=Erg child=Dat child[Nom] cry-Impf.Obl be-Pf.Obl see-Pf.M.Sg  
 ‘The mother saw the child crying.’

So again there is a categorical difference between raising and control constructions. Raising allows case overwriting (65b), but control sentences would not under the restriction on case overwriting.

### 6.3 The persistence of the control/raising distinction under various stipulations

In the preceding section, I have proposed stipulations of various kinds to account for violations of what I have called the Dative Restriction. The first stipulation recasts the Dative Restriction as a ban on moving embedded subjects with lexical case. This ban is too strong, as it would include Raising to Object and Subject as well. The only principled difference between control and other raising in the MTC is the number of theta roles lexically assigned by the matrix predicate in vP. The case ban applies just to movement to a vP position which values a theta role feature. The condition on moving is expressed as a diacritic use of the matrix argument structure, whether one does or does not accept theta roles as purely syntactic formal features.

The second stipulation is more semantic in nature. It says that DPs with an experiencer role (or goal role) may not be raised. This tack runs into the problem that non-lexically cased subjects may have an experiencer theta role, such as the close synonyms for ‘see’ in (63). And this prohibition also only applies to control sentences, leaving Raising sentences exempt, such as (63) and (64).

The third stipulation is to require case matching in the embedded and matrix positions of a DP. This accounts for some ungrammatical sentences, such as (62a), in which the embedded clause case does not match the matrix, but it fails to account for (62b), where there is a match of lexical case in the embedded and matrix clauses. It also does not account for Raising to Subject sentences like (64), in which the embedded subject has lexical case, but nominative is normally valued on the matrix subject.

The final stipulation would be to prohibit case overwriting, if the lexical case on the embedded subject is to overwrite the matrix case. This stipulation does not account for case-matching sentences like (62b), which should be grammatical but are not. It also does not explain Raising to Object sentences such as (67b), which are grammatical instances of a lexical dative and a structural dative (or accusative) appearing on the same raising DP.

The Dative Restriction (43) is also a stipulation, without apparent motivation. It lacks elegance and explanatory power. Yet it seems to be a correct stipulation, as it focuses on (a) the lexical case of the embedded subject and (b) the control construction, however this is to be represented formally. The alternative stipulations placed on a Movement account of Control which I have summarized above are no more explanatory, and have the extra requirement that some diacritic has to distinguish the control constructions in which the various restrictions apply from ordinary raising, where they do not. Nothing in the general account of movement predicts that such a restriction should apply specifically to control, but there is abundant evidence that it does.

The Hornstein movement analysis might be rescued if we make the stipulation (68):

(68) Lexical case realization condition (I)

Lexical cases must be realized phonetically within the local clause.

We would also have to assume that, as with Raising/Passive, no case may be assigned by local Tense/Aspect in a control construction. This case suppression property would be one selected by the matrix predicate in Raising/Control contexts. There would therefore be a contradiction. Dative or other lexical case must be assigned with a theta role within embedded vP, and by assumption this DP raises to Spec TP. No overt case may be realized on the embedded TP subject because of properties of embedded Tense/Aspect, which are in turn selected by the matrix verb. Only ‘null case’ is possible, if such a case exists. The contradiction could immediately make the sentence ungrammatical, as the featural properties of the embedded subject are illegible at the PF interface. Or the presence of an obligatory dative-case subject somehow blocks movement to the matrix, blocking the checking of a theta feature of the matrix verb. In that case, Full Interpretation would be violated.

The stipulation about the realization of lexical case is (43) is too strong. It does not hold in cases of non-obligatory control, such as (69):

- (69) a. [pro(arb) paisaa mil-nee]=kaa mauqaa hai  
           money[Nom] get-Inf.Obl=Gen.M.Sg opportunity is  
           ‘It is an opportunity [(for one) to get money].’
- b. [pro kroodh aa-tee]=hii woo ghar=kee andar ghuus ga-yaa  
           anger[Nom] come-Inf.Obl 3.Sg house=Gen.Obl in enter go-Pf.M.Sg  
           ‘As soon as he/she got angry, he/she went inside the house.’

The examples in (69) are grammatical instances of null subjects of dative subject predicates, where the lexical case which is not realized. So the stipulation on lexical case has to include the condition that it applies only to Control, not Raising:

- (70) Lexical case realization condition (II)

Lexical cases must be realized phonetically within the local clause in contexts of obligatory control.

This condition is not materially different from the descriptive generalization (43). Both have to circumscribe the condition to just those sentences where obligatory control is involved. Raising and non-obligatory control contexts are exempt. The ungrammaticality of control sentences in Hindi/Urdu is not explained by any intrinsic property of the Raising analysis.

One implication of the restriction is that case constrains control. Landau (2006) argues against a special null case on PRO, noting that there is language specific evidence for the ordinary range of cases on null subjects. He bases his arguments on case concord and conditions on dependencies of case assignment (2006, 157). The Lexical Case Restriction is a condition based ultimately on Case, even if the presence of lexical case can be derived from the shape of the verbal projection projecting lexical properties of predicates.

## 7 Control, raising and the Lexical Case condition

In the preceding sections, I have proposed a condition specifically on control sentences, applying subject, object and adjunct control subcases (43). In languages with lexically cased subjects, primarily experiencers, these subjects cannot be embedded in control complements. This condition (43) does not hold in raising complements in Hindi/Urdu, a language subject to this case constraint. The evidence from Hindi/Urdu strongly supports the idea that raising and control are distinct, and control is not reducible to movement, at least in the class of languages which includes Hindi/Urdu and others mentioned above.

This conclusion is not dependent on data from just one language. Some other languages besides Hindi/Urdu have the condition on control sentences. Much more remains to be discovered. Some important questions are (a) which languages with lexically case-marked subjects have the case condition (43), and (b), is there there the same very clear distinction between raising and control in some or all of these languages with the case restriction? Very little investigation has been done of possible differences between Raising and Control in these languages. Sinhala has been mentioned above as a language with control but no raising. It has not yet been possible to find out definitively if Sinhala rejects control sentences with involitive subjects of the kind which would correspond to lexically cased embedded subjects. The answers to these questions will be important in trying to find commonalities among languages which might define what gives rise to the condition.

Other languages, such as Icelandic, Telugu and Assamiya, lack the lexical case condition in all types of control sentences. It is suggestive that Telugu and Assamiya have both forward and backward or copy control (Subbarao 2004, Haddad 2007). Is it possible to predict that if a language has backward or copy control, expressing the embedded subject overtly, it will fail to have the lexical case condition? The reverse does not hold, as Icelandic is exempt from the lexical case restriction, and has no backwards control. Other backward control languages like Tsez might be explored for conditions on lexical case and raising.

The evidence presented in this paper has cast doubt on the identification of control sentences with raising sentences in Hindi/Urdu. Some language-particular evidence exists that control and

raising are subject to different conditions. Some languages like Sinhala and Madurese have robust control complements but no raising; it would be useful to add to the number of such languages. Runner (2006) has noted that in languages like English, extraction from object controllers is free, but raised objects have restrictions on extractions. He also notes that case agreement in various languages affects raising to object sentences differently from raising to subject and control cases .

The language-specific facts and generalization presented in this paper point towards a tension within approaches to syntax. Syntactic theory which tries to capture Universal Grammar is biased towards minimal assumptions of basic components of the grammar, and maximum generality of description. The movement theory of control is attractive from this point of view, though it leaves open some important questions about the nature of thematic roles and the conditions on them. Variation among languages should be reducible to different parameter values, whether they are very broad (such as word order), or very local, such as lexical selection and feature properties of lexical items in individual languages. The kind of close examination of raising and control in Runner (2006) and this paper shows that the maximally general account of control misses some important patterns which turn up in more than one language; they are not pure language idiosyncrasies, nor are they universal. More research is needed on the actual properties raising and control, whether it is motivated by scepticism about the movement theory of control, or by a wish to give a full account of the way a specific language instantiates control and raising constructions. A greater range of data would then be the basis for hypothesis about finding features which predict whether or not a language has both forward and backward control (a relatively rare feature), and whether it has the case restriction. These questions also lead to further questions about the nature of control and raising in Universal Grammar.

## 8 Summary and Conclusions

Many languages have lexically cased subject. In some types of embedded non-finite clause in Hindi/Urdu and certain other languages, there is a restriction on the case of the subject. This restriction creates an ungrammatical sentence in some non-finite clause types, but not others. I have proposed that case restriction affects control but not raising complements. In one kind of analysis, null obligatorily controlled subjects are PRO, subject to a still unexplained incompatibility between PRO and lexical case.

In the Movement Theory of Control, control and raising both derive from movement for formal feature checking. Languages with backward as well as forward control lack the case condition. They offer strong support for the movement account. However, in the case of Hindi-Urdu, the movement account runs up against an insurmountable problem in stating the case restriction as a general condition on movement. Somehow the various imaginable stipulations have to distinguish between raising and control. The MTC also does not predict that some languages would have control but not raising, but this seems to be the case.

There are puzzling questions for further investigation. It seems implausible that languages differ in how controlled subject are represented. Yet we have seen that there are languages like English without lexically case subjects and no case restriction, languages like Hindi with lexically cased subjects which may not be controlled, and languages with lexically cased subjects which may be controlled, including ones like Telugu with both forward and backward control. These differences suggest that there is more variation individual languages which remains to be further explored.

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### Abbreviations

Acc=Accusative, Adj=Adjectivizer, Cont=Contingent, Cp=Conjunctive participle, Dat=Dative, Erg=Ergative, F=Feminine, Fin=Finite, Gen=Genitive, Hon=Honorific, Imp=Imperfective, Inf=Infinitive, M=Masculine, N=Neuter, Nom=Nominative, Nonfin=Nonfinite, Obl=Oblique, Opt=Optative, Pf=Perfective, Pl=Plural, Pres=Present, Prog=Progressive, P=Conjunctive participle, Pst=Past, Quot=Quotative, Sg= Singular, Vol=Volitional, 1=First person, 3=Third person.

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