Raising and Control in Persian
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1 Introduction*

Raising and control constructions have been discussed at length since the early stages of Generative Grammar. While some linguists have assigned the same syntactic structure to both constructions, others have concentrated on the structural and semantic differences between the two. Among the second group, there are some who argue that the distinctions are accounted for syntactically, while others attribute the differences to the semantic nature of the predicates. Within Non-Chomskyan frameworks, for example, differences between raising and control constructions have been suggested to be due to the semantics of their predicates (GPSG, HPSG, and Categorial Grammar, also see Culicover and Jackendoff 2005). Within Chomskyan trend, however, from Standard Theory through Minimalism, the differences between these two constructions have been considered to be of syntactic nature.

The goal of this chapter is to investigate the syntax and semantics of raising and control predicates in Persian in a rather descriptive fashion, although the literature review and the analysis include some theoretical criticisms and suggestions. In addition to raising constructions, this chapter includes analyses of three distinct control types in this language: Arbitrary Control (ArbC), Non-Obligatory control (NOC), and Obligatory Control (OC). There are predicates in Persian which allow the embedded subject to appear in the (seemingly) matrix subject position. Compare the English raising construction in (1a) to its Persian counterpart in (1b).

(1) a. John seems e to be smart.

b. Kimea be-nazar mi-yâd (ke) e bâhush bâsh-e K to view dur-comes (that) smart be-3sg
‘Kimea seems to be smart.’

In both sentences, the subject of the embedded clause appears in the subject position of the matrix clause. The bold e in both cases represents the empty subject in the embedded clauses.

Persian ArbC comes in two versions: impersonal constructions, as in (2a), and nominal infinitives, as in ((2b).

(2) a. Impersonal ArbC
bâyad e haghîhat-ro goft
must truth -râ said
‘One must tell the truth.’

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1 Theoretical discussions of arbitrary control and obligatory control appear, respectively, in Karimi (2007a) and Karimi (2007b).

2 The data provided in this chapter are taken from Farsi, the standard language spoken in Iran.

3 Simple verbs constitute a small subset of verbal predicates in Persian. The majority of predicates consist of a non-verbal element and a light verb in this language. The predicate be-nazar âmadan ‘to seem’ is one example that consists of the non-verbal element be-nazar ‘to view’ and the light verb âmadan ‘come’. For detailed analyses of Persian complex predicates see, among others, Vahedi (1997), Karimi (1997), Folli, Harley, and Karimi (2005).

Abbreviations: dur; duration; sg: singular; pl: plural, subj: subjunctive, neg: negation.

4 The particle râ is the accusative marker for specific objects. This element appears as –ro and –o in spoken language, depending whether it is attached to a vowel or a consonant, respectively. Non-specific objects lack this element.
b. *Nominal infinitive ArbC*

\[
\begin{align*}
e & \text{ Kár kardan} \quad \text{dar in sharāyet} \quad \text{xeyli saxt-e} \\
& \quad \text{work doing} \quad \text{in this conditions} \quad \text{very difficult-is} \\
& \quad \text{\textquote{Working in these conditions is very difficult.}}
\end{align*}
\]

Again, the bold \(e\) represents the null subjects in these cases.

NOC is represented by the example in (3), while the data in (4) exemplify OC constructions.

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**Non-obligatory control**

(3) Kimea mi-xāst [(ke) \(e/\text{Parviz be-r-e}\)]

K dur-wanted-3sg (that) \(e/\text{Parviz subj-go-3sg}\)

\textquote{Kimea wanted \(e/\text{Parviz to go.}\)}

**Obligatory control**

(4) a. *Subject control*

Kimea tasnim gereft [(ke) \(e^{*}/\text{Parviz be-r-e}\)]

K decision took-3sg (that) \(e^{*}/\text{Parviz subj-go-3sg}\)

\textquote{Kimea decided to go.}

b. *Object control*

mā Kimea-ro majbur kard-im [(ke) \(e^{*}/\text{Parviz be sinamā be-r-e}\)]

we K – rā forced did-1pl (that) \(e^{*}/\text{Parviz to cinema subj-go-3pl}\)

\textquote{We forced Kimea to go to the movies.}

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In NOC constructions, either an empty subject or a full noun phrase may appear in the embedded subject position, as in (3). In OC constructions, only an empty subject is allowed in that position. This is true of subject control ((4a) and object control constructions (4b)).

While the empty subject in (1) is considered in the literature to be a trace/copy left behind by the movement of the noun phrase, the one in ArbC and OC is suggested to be an empty pronoun known as PRO since Chomsky and Lasnik (1977). The empty subject in NOC construction is suggested to be \textit{pro} by some linguists (e.g. Hornstein 1999 and work thereafter).

In this chapter, I first discuss the raising predicates in Persian and show that, unlike English, there is no subject to subject movement in this language. That is, what we see in (1b) represents a topic construction, and therefore, (1a) and (1b) are of two different natures. Then I turn to an analysis of the three distinct types of control constructions, and argue that (a) the impersonal ArbC, NOC, and OC predicates have full clauses as their complements, contrary to some of the proposals in the literature, (b) the empty subject in ArbC and OC is not the null pronounal known as PRO, contrary to Chomsky and Lasnik (1977) and work thereafter, and (c) OC is not the result of movement, contrary to Hornstein (1999), among others. In a brief theoretical discussion I propose a general treatment for all types of control constructions by suggesting the existence of a special feature in C (Complementizer) or D (Determiner) which is determined by the lexical semantics of the predicate involved. This analysis is in the spirit of Manzini and Roussou (2000), although it differs from their proposal in certain ways.

The organization of this chapter is as follows. In section 2, a general overview of the literature on raising and control is presented. Section 3 discusses Persian raising constructions, followed by an analysis of ArbC structures in section 4. NOC and OC predicates are investigated in section 5. Section 6 consists of a brief theoretical proposal. Concluding remarks, including some remaining problems, appear in section 7.

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### 2 Overview of the Literature

In the 70's, complements to raising and control predicates were both considered to consist of a simple verb phrase (Bresnan 1972, 1982, Brame 1976, Bach 1977).

\[\text{Note that the complementizer } ke \text{ is optionally present in the embedded clause of both raising and control predicates, as shown in (1b)-(4). This is not an isolated situation since control infinitives in Romance can be introduced by the prepositional complementizer de/di as well, although raising constructions cannot (Rizzi 1982, Kayne 1984, 2000). The presence of a complementizer in a finite control and raising complement is also attested in Balkan languages, including Modern Greek (Terzi 1992).}\]
It has been acknowledged by various authors (Rosenbaum (1967), Chomsky (1973), Postal (1974), Davies and Dubinsky (2004), among others) that there are differences between these two types of constructions. For example, while raising verbs can have pleonastic subjects (6a), this is not true of control predicates (6b).

Moreover, the overt subject is linked to one predicate in a raising construction (7a), while it is linked to two predicates in control constructions (7b).

Finally, while raising allows scope reconstruction, as in (8a), this is not possible in control constructions, as in (8b).

Considering the nature of the empty subject in control constructions, Chomsky and Lasnik (1977) propose the existence of a null pronoun they call PRO. This element appears in the subject position of obligatory and arbitrary control constructions, as in (9).

PRO is co-indexed with the matrix subject in (9a) and (9b), while it has an arbitrary antecedent in (9c). As for Non-obligatory control, Chomsky and Lasnik suggest that there is no PRO in these constructions, since the empty subject position can be filled with an overt DP, as in (10b).

Within the Principles and Parameters model (Chomsky 1981), PRO is considered to appear only in a Case-less position. That is, while the subject position of a tensed clause, where Nominative Case is assigned, is filled by an overt noun phrase (or pro in Null Subject languages), PRO can only appear in the subject position of an infinitival clause. Thus overt DP and PRO are in complementary distribution. Due to some theory internal developments within the more recent syntactic theory known as Minimalist Program (Chomsky and Lasnik 1993, Chomsky 1995, and work thereafter), it is assumed that the subject position of tense-less (infinitival) clauses is assigned Null Case.

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6. I use both DP (Determiner Phrase) and NP (Noun Phrase) to represent a noun phrase in this chapter. The distinctions between the two are not relevant to our discussions.

7. The existence of PRO was heavily based on Government, one of the basic ingredients within Chomsky’s Principles and Parameters Theory. That is, it was considered to appear in an ungoverned position, and therefore, it could not have Case which
Thus PRO is considered to receive Null-Case within this model, in contrast to lexical DPs which receive Nominative Case in the subject position of a tensed clause.

The nature of tense in infinitive complements was discussed in the literature as early as in the 70’s. Bresnan (1972) argues that the infinitival complement of a control verb (as opposed to that of a raising verb) is specified for tense, and implies unrealized future. Stowell (1982) concurs with this proposal. Building on the same idea, Martin (2001) proposes a three-way Case system for subject positions:

\[\begin{align*}
[+\text{Tense}, + \text{finite}] & \quad \text{checks Nom Case (Full noun phrase)} \\
[+\text{Tense}, - \text{finite}] & \quad \text{checks Null Case (PRO in control constructions)} \\
[-\text{Tense}, - \text{finite}] & \quad \text{Does not check Case (subject positions in raising constructions)}
\end{align*}\]

There are, however, some empirical problems with both Case-less and Null Case assumptions. Borer (1989), for example, states that overt pronouns are possible in infinitive constructions in Italian and Korean. Furthermore, Harley (2001) shows that PRO appears freely in Nominative Case positions in Irish. Similarly, Stenson (1989) argues that PRO appears in tensed clauses in Icelandic, and Sigurðsson (1991) shows that this element is governed and Case-marked in this language. Finally, Ghomeshi (2001) and Karimi (2005) provide data indicating that PRO and lexical DPs can both appear in the subject position of subjunctive verbs in Persian, as the data in (12) attest.

\[\begin{align*}
\text{(12) a.} & \quad \text{man fekr mi-\text{kon-am} [CP ke Kimea be-r-e]} \\
& \quad \text{I thought dur-do-1sg that K subj-go-3sg} \\
& \quad \text{‘I think that Kimea (will) go.’} \\
\text{b.} & \quad \text{Kimea tasmim gereft [CP ke PRO be-r-e]} \\
& \quad \text{K decision caught-3sg that subj-go-3sg} \\
& \quad \text{‘Kimea decided to go.’}
\end{align*}\]

The embedded clauses in (12) are identical in terms of verbal morphology and tense. Both are tensed, and indicate future action. This fact clearly shows that PRO is not in complementary distribution with an overt DP.

PRO and Null Case pose some problems from a purely theoretical point of view as well. That is, Null Case applies only to PRO, and is a property of infinitives, two purely descriptive properties, as observed by Hornstein (1999), Manzini and Rousou (2001), among others.

Having presented the basic properties of control and raising constructions in this section, I will now turn to a discussion of raising predicates and their properties in Persian.

3 Raising constructions

Before discussing the raising constructions in Persian, a few facts about the syntax and verbal morphology of this language need to be reviewed here.

Persian is a Null subject language which exhibits fairly free word order. The reordering of phrasal elements are considered to be the result of discourse functional elements such as topic and focus (Karimi 2005). Relevant to our discussion is the fact that there are no infinitive clauses in this language. The predicate in the embedded clause of raising and control constructions is typically represented by a subjunctive form\(^8\). As for Persian verbs, they consist of the following morphological elements:

- Aspectual prefix \textit{mi}- (glossed as dur(ation))
- Mood prefix \textit{be}- (employed for imperative and subjunctive cases)
- Negative prefix \textit{ne}- (which is in complementary distribution with the subjunctive prefix \textit{be}-)
- Agreement suffixes, representing person and number.

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\(^8\) In addition, desire verbs (\textit{to like, be pleased}, etc.) and conditionals take the subjunctive form as well.
The following data show the presence of verbal morphemes (in italic):  

(13)  \( \text{Kimea mi-tun-e ketâb be-xun-e} \)
     K   dur-can-3sg book subj-read-3sg  
     ‘Kimea can sing.’ (Kimea is able/has permission to read)

(14)  \( \text{Kimea mi-tun-e ketâb na-xun-e} \)
     K   dur-can-3sg book neg-read-3sg  
     ‘Kimea has the permission not to sing.’

Returning to raising predicates, the following facts hold with respect to these constructions in Persian. First, the embedded subject does not need to move into the matrix clause, as in (15).  

(15)  \( \text{be nazar mi-yâ-d (ke) bachche-hâ xaste bâsh-an} \)
     to view dur-come-3sg that child-pl tired subj.be-3pl
     'It seems that children are tired.'

Second, there is no agreement between the matrix verb and the moved embedded subject, as in (16). The subject agrees with the embedded verb in these cases. The letter ‘t’ in this and similar examples represents the trace of the moved element.  

(16)  \( \text{bachche-hâ be-nazar mi-yâ-d / *be-nazar mi-yâ-n  t xaste bâsh-an} \)
     child-pl to view dur-come-3sg/*to view come-3pl tired be-3pl
     'As for the children, it seems that they are tired.'

Furthermore, any other phrasal element from the embedded clause may move into the matrix clause in these constructions.  

(17)  \( \text{ketâb-â-ro be-nazar mi-yâ-d/\text{mi-yâ-n (ke) bachche-hâ t xunde bâsh-an}} \)
     book-pl-râ to view dur-come-3sg/*dur-come-3pl that child-pl read be-3pl
     'As for the books, tt seems that they have read (them).'

In (17), the object has moved into the matrix clause while the embedded subject remains in-situ. As the inflection on the matrix verb indicates, there is no agreement between the verb and the extracted object. Based on these pieces of evidence, it has been argued in the literature that Persian lacks raising constructions (Hashemipour 1989, Karimi 1999, and Ghomeshi 2001). It is worth noting that the subject position in these constructions is not filled by an expletive either, since this language lacks both overt and covert expletives, as argued in detail by Karimi (2005).  

Raising constructions offer two issues that are relevant to our general discussion in this chapter. First, the sentences in (16) and (17) present instances of topicalization, as the English translation indicates. That is, the subject or the object, and sometimes both of them, may move into the matrix clause in so called raising constructions only if they are topicalized (or focused). Otherwise, they stay in situ. This issue shows that the overt subject of the embedded clause receives its Case in-situ, and does not have to move for the purpose of Case assignment. Thus unlike English, there is no A(rgument) movement (subject-to-subject movement in this case) in Persian so-called raising constructions. Second, the tense of the embedded predicate has to be anaphoric. That is,
this predicate does not have an independent tense, since its tense is determined by the matrix clause. This is evident by the ungrammaticality of the following sentence.

(18) *diruz be-nazar mi-âmâd ke Kimea fârd be-r-e
     yesterday to-view dur-came-3sg that K tomorrow subj-go-3sg
     Intended meaning: *It appeared yesterday that Kimea will go today.

This fact suggests that the embedded clause lacks a T(ense) P(hrase), and consists only of a V(erb) P(hrase). However, the presence of the complementizer ke ‘that’ contradicts this assumption. Crucially, a full noun phrase appears in the subject position in these constructions, indicating that the subject noun phrase can receive Nominative Case in that position, as mentioned before. This issue will become relevant when we discuss control constructions in this language.

4. **Arbitrary Control (ArbC)**

As stated in the introduction of this chapter, there are two types of ArbC in Persian. The first one to discuss here is called Impersonal Constructions (IC). The second one is nominal in nature which we call Nominal Infinitives (NI) here. I will start with a description and analysis of the first group.

4.1 Impersonal Constructions (IC)

Arbitrary control is found in impersonal constructions (IC) in Persian, exemplified by (2a), repeated in (19a), and the one in (19b).

(19) a. bâyad PRO haghighat-ro goft
     must truth -râ said
     ‘One must tell the truth.’

b. mi-sh-e PRO haghighat-ro goft
     dur-possible –is truth -râ said
     ‘It is possible to tell the truth.’

The properties of Persian IC constructions are as follows.

**General properties**

The major ingredients of impersonal constructions are the adverbial bâyad ‘must’ and the semi auxiliary mi-sh-e ‘it is possible’. Historically, both forms have derived from regular verbs. However, bayad has lost its verbal inflection completely, while mi-sh-e has maintained the durational prefix mi- and the third person inflection -e. The main verb in these constructions consists of the past stem with no overt inflection, representing the 3rd person singular for the past tense. The main verb in (20) below exemplifies the third person in past tense.

(20) un goft ke …. s/he said-3sg that…. Infinitives utilize this stem plus the infinitive morpheme –an. Therefore, the predicates in IC constructions are called masdar-e moraxam ‘curtailed infinitives’ in Persian grammar books, and short infinitives by Karimi (2005). We use the term impersonal to refer to the arbitrary interpretation of the subject in these constructions.

**External argument**

The claim that there must be an external argument in IC constructions is supported by the following arguments:

a. The ability of the verb to license the Accusative Case (cf. Burzio’s Generalization, Burzio 1986), as in (19).

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14. Persian auxiliaries are real verbs, and appear with full inflection. Therefore, mi-sh-e is considered a semi-auxiliary since it only appears in 3rd person singular.

15. The final –t in goft (and its allomorph –d where the verbal root ends in a voiced consonant or a vowel) represents the past tense morpheme in Persian.
b. The incompatibility of IC to be formed with subject-less (raising) constructions.

(21) a. be-nazar mi-yâd ke in dâstân dorost na-bâsh-e
to-view hab-come-3sg that this story right neg-subj-be-3sg
‘It seems that this story is not correct.’

b. *bâyad be-nazar āmad ke in dâstân dorost na-bud
must to-view come-that this story right neg-be

The predicate be-nazar-mi-yâd ‘seems’ in (21a) is a so-called raising predicate which has no subject (see section 3 in this chapter). The string in (21b) shows that the impersonal construction is incompatible with this predicate.

c. Intentional adverbs cannot be used in so-called raising constructions, while they are permitted in ICs when the predicate requires an agent.

(22) a. *amdan be nazar mi-yâd ke Kimea be madrese rafte
intentionally to view hab-come-3sg that K to school gone-3sg

b. bâyad amdan bâ in kâr mokhâlefat kard
must intentionally with this matter objection do
‘One must purposely object to this matter.’

Arbitrary reading
Persian IC receives an arbitrary reading, as in (23).

(23) mi-dun-am (ke) [bâyad raft]
dur-know-1sg that must go
'I know one must go.' (Ghomeshi 2001:20)

There are pieces of evidence that support this claim.

a. IC is incompatible with a referential antecedent for its subject, as suggested by Ghomeshi.

(24) * sa'y kard-am (ke) [bâyad raft]
try did-1sg that must go (Ghomeshi 2001:21)

In (24), IC is the complement to the obligatory control predicate sa'y kardan 'to try'. The ungrammaticality of this sentence is justified if the subject receives an arbitrary reading, and thus cannot be controlled by the implicit referential subject of the main clause. Note that the arbitrary subject can be controlled by another arbitrary subject, as in (25).

(25) bâyad say kard [ke PRO movaffagh shod]
must effort do-3sg that successful become-3sg
‘One must try to become successful’

The arbitrary subject in the embedded sentence in (25) is controlled by the arbitrary subject in the impersonal matrix clause.

b. IC is incompatible with weather constructions.

(26) a. bårun āmad
rain came
‘It rained.’

b. *bårun bâyad āmad

c. IC is incompatible with an emphatic pronoun:
The data discussed in this section show that IC receives a generic reading equivalent to the overt arbitrary pronoun *one* in English. That is, the subject seems to be bound by a generic operator that provides a global interpretation. We come back to this issue in section 6.

**Lack of overt subject**

IC cannot take an overt subject, as in (28).

(28)  

*un bāyād goft ke .....*  

s/he must said that...

Why is the presence of an overt DP excluded from the subject position in IC? One possible answer is that these clauses are not tensed. However, IC is a full clause (e.g. C(omplement) P(hrase)) when embedded inside another clause, as in (29).

(29)  

Kimea goft [\[CP ke bāyād in kār-ro kard\]]  
\[K said-3sg that must this work-rā do\]  

‘Kimea said that one must do this.’

Overt complementizers are traditionally considered to represent finite clauses. Rizzi (1997), for example, argues that *that* is specified for clause-typing (+declarative), but also for finiteness. As (29) shows, IC appears with the complementizer *ke* ‘that’, and thus must have tense. Furthermore, IC may appear as an independent clause by itself, as in (19), implying that there must be some sort of tense in this clause.

An alternative response is that Persian lacks an overt impersonal pronoun comparable to English *one*. We will see, however, that lack of overt impersonal pronoun is naturally accounted for by the analysis advanced in section 6.

### 4.2 Nominal infinitives (NI)

In this section I briefly examine nominal infinitives in Persian. We will see that, similar to their English counterparts, the null subject in these constructions can be replaced by an overt DP, and receive a generic reading.

The examples in (30) and (31) exemplify nominal infinitives in Persian. As mentioned in section 4.1, the infinitive consists of the past stem plus the infinitive morpheme -*an* that appears as a suffix on the verbal stem (and glossed as ‘inf’).

(30)  

Kār kard-an dar in sharāyet xeyli saxt-e  
\[work do-inf in this conditions very difficult-is\]  

‘Working in these conditions is difficult.’

(31)  

Dir āmad-an kār-e xubi nist  
\[Late com-inf work-Ez good not-is\]  

Lit. Coming late is not a good thing.

One argument of the nominal infinitive may appear as an overt DP in these constructions, similar to English gerunds. The examples in (32) and (33) correspond to (30) and (31), respectively.

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16 There is another type of impersonal construction in Persian where the DP ādam ‘people’ appears in the subject position, and receives an arbitrary interpretation.

(i)  

ādam mamulan in kār-ro ne-mi-kon-e  
\[people usually this work-rā neg-dur-do-3sg\]  

‘One usually does not do this.’

This construction is different from the one discussed in the text since the verb appears with a third person inflection for present tense, and the aspectual prefix *mi-*.
kâr kardan-e Kimea dar in sharâyet xeyli saxt-e
work do-inf-Ez K in this conditions very difficult-is
‘Kimea’s working in these conditions is very hard.’

Dir âmad-an-e Kimea kâr-e xubi na-bud
Late come-inf-Ez K work-EZ good neg-was
‘Kimea’s late coming was not a good thing.’

The Ezafe17 particle in (31), (32) and (33) is responsible for the Case of the DP Kimea in these examples, as argued for by Samiian (1983, 1994).

4.3 Discussion
The natural question that arises here is this: is the subject in IC constructions PRO, pro, or something else? Stenson (1989) argues that the subject of Irish autonomous impersonals is the element PRO. The null subject in these constructions, similar to their IC counterpart in Persian, need not (in fact, cannot) be controlled by a referential DP. It thus seems clear that if it is PRO, it is arbitrary PRO. However, the existence of PRO has been challenged in recent years, as we saw in section 2 (see also section 5.2) in this chapter.

Is this null element pro? One property of IC constructions is that the emphatic xod cannot be placed in the subject position of these constructions, as observed in section 4.1. The example illustrating this fact appears in (27), repeated below in (34).

* bâyad xod in kâr-râ kard
must self this job-râ do

The semantics of the emphatic xod is incompatible with the arbitrary reading of the subject (but see also section 6). That is, the mismatch here is parallel to the impossibility of an arbitrary they reading for (35) below.

They themselves say that it is going to rain today.

Thus these examples do not convincingly show that pro cannot be the subject in Persian ICs. There emerge, however, some difficulties if we assume pro as the subject in these constructions.

First, it is interesting to note that in Brazilian Portuguese pro is completely vanishing from the subject position, although historically it existed in this language. The empty arbitrary subject, however, prevails in this language (William Alexander, personal communication). This fact shows that these two elements must be of distinct semantic and syntactic natures.

Second, another major difference between pro and the arbitrary subject is that only the latter is underspecified in terms of number and person18. That is, although the verb has number and person features (usually 3rd person singular in Persian), these features are fixed and cannot vary. In other words, the arbitrary subject is not φ-complete in these cases, and thus it is not clear how this is to be reconciled with the semantic nature of pro. The underspecification of the φ-features in arbitrary subjects is evident by the fact that they are not compatible with weather verbs, as in (26b), repeated in (35).

* bârun bâyad âmad
rain must come

What (36) implies is that the φ-properties of the arbitrary subject cannot even refer to weather nouns, elements that do not independently surface in some languages such as English (as in it rained).

Finally, the issue becomes even more complicated if we consider the fact that arbitrary subjects receive different types of interpretation in different types of sentences. Consider the following examples representing a

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17 An Ezafe construction is a DP consisting of the head (an element with the feature [+N], such as N or A), its modifier(s), an optional possessive DP, and the Ezafe particle e, which serves in the structure as a link between the head and its modifiers[possessor. For a discussion of the Persian Ezafe construction, see Samiian (1983, 1994), Karimi and Brame (1986), and Ghomeshi (1996, 1997).

18 This is true of overt impersonal pronouns such as the French on and German man.
type of impersonal construction in Persian that is different from those discussed thus far. The arbitrary subject in (37) receives an existential reading, while the one in (38) has a generic reading.

(37) dar mi-zan-an door hab-hit-3pl
    ‘Someone is knocking at the door.’

(38) jom’e-hâ madrese-hâ mi-band-an Friday-pl school-pl –râ hab-close-3pl
    ‘It is the case that on Fridays ‘they’ close the schools’

The sentence in (37) has the interpretation that someone is knocking at the door at this time, while the one in (38) receives a reading that implies that generically it is the case that schools are closed on Fridays.

Turning now to the subject in NI constructions, we saw that this element can either be null or overt, similar to its English counterpart that appear in a gerundive form. This has prompted Hornstein (1999) to suggest that the null subject is pro in these constructions. However, one major problem with this analysis concerns the presence of the arbitrary subject, but lack of pro, in English and similar languages. That is, if the arbitrary subject is pro, how can we explain the lack of a referential empty category in other constructions in English? Although Persian is a Null Subject Language which otherwise allows pro in the subject position, lack of this element in English provides a problem for postulating the existence of pro as the arbitrary subject in NI constructions, since they have the same properties as English gerundive forms. I will propose an alternative analysis in section 6.

We now turn to a discussion of Persian NOC and OC constructions in the next section.

5. Non-Obligatory Control (NOC) and Obligatory Control (OC)
The number of predicates that allow NOC and OC in Persian is limited. These two groups of predicates include the following:

(39) NOC
    a. xâstan (wanting) ‘to want’
    b. ghol dâdan (promise giving) ‘to promise’

(40) Subject OC
    a. sa’y kardan (effort doing) ‘to try’
    b. tasmim gereftan (decision taking) ‘to decide’
    c. tavânestan ‘to be able’
    d. shoru’ kardan (start doing) ‘to start’
    e. yâd raftan/âmadan (memory going/coming) ‘to forget/remember’
    f. ejâze dâshan (permission having) ‘to have permission’
    g. jor’at kardan (daring doing) ‘to dare’

(41) Direct Object OC
    a. majbur kardan (force doing) ‘to force’
    b. tashvigh kardan (encouragement doing) ‘to encourage’
    c. nasihat kardan (advice doing) ‘to advise’

(42) Indirect Object OC
    a. entezûr dâshan (expectation having) ‘to expect’
    b. tosieh kardan (recommendation doing) ‘to recommend’
    c. ejâze dâdan (permission giving) ‘to permit’
    d. nasihat kardan (advice doing) ‘to advise’

19 See Spyropoulos (2002) who noted that the existential reading represents a specific time frame (e.g. present tense), while the generic reading implies an indefinite time frame.
20 The complex predicate nasihat kardan ‘to advise’ may take a direct or an indirect object.
A null subject may alternate with an overt DP in the subject position of the complement clause of a NOC predicate, while only a null subject is allowed in Subject and Direct Object OC constructions, as in (3) and (4), respectively. The same situation holds for Indirect Object OC, as shown in (43).

(43) Kimea be Rahjue nasihat kard [ke e/*Parviz na-r-e]
    K to R advice did that neg-go-3sg
    ‘Kimea advised Rahjue not to go.’ Lit: Kimea gave Rahjue the advice not to go.

In this section, I review some of the proposals previously discussed in the literature, and show that they cannot account for control data in Persian. In section 5.1, I argue that OC constructions are full clauses (CPs) rather than verb phrases (vPs), contra Ghomeshi (2001) (or Bresnan 1972 with respect to English). Then I turn to a discussion of PRO in section 5.2, and provide evidence against its existence. I investigate Hornstein’s (1999) movement analysis in 5.3, and offer counter evidence to his claim. Finally I briefly review the arguments against pro in these constructions in section 5.4.

5.1 The syntactic category of OC: vP or CP?
Is OC a verb phrase (vP) or a full clause (CP) containing T(ense)? I try to answer this question in this section.

Following Wumbrandt (1999), Ghomeshi (2001) provides some arguments to show that OC has a vP construction. Two of her arguments are reviewed in this section. First, there is no independent Tense in OC, thus there is no Tense Phrase (TP) in this construction.

(44) a. *Bijan diruz mi-tunest (ke) [faradā be-r-e]
    Bijan yesterday dur-be-able-past-3sg (COMP) tomorrow subj-go-3sg
    ‘Bijan could yesterday go tomorrow.’

b. ?Bijan diruz sa’y-kard (ke) [faradā be-r-e]
    Bijan yesterday try - do -past-3sg (COMP) [tomorrow subj-go-3sg]
    ‘Bijan tried yesterday to go tomorrow.’ (Ghomeshi 2001:26)

That is, the tense in the embedded clause must be anaphoric of the one in the matrix clause: the matrix and embedded verbs take place at the same point of time. Therefore, independent temporal adverb is not allowed in the embedded clause.

Second, there is no indirect question in OC constructions. This leads Ghomeshi to believe that there is no Complementizer Phrase (CP) in the embedded clause:

(45) a. Bijan gof (ke) [chi mi-xun-e]
    Bijan said (COMP) what dur-read-3sg
    ‘Bijan said what he is reading/he will read.’

b. Bijan (chi) mi-tun-e (ke) [(chi) be-xun-e]
    Bijan (what) dur-be-able-3sg (COPM) [(what) subj-read-3sg
    ‘What can Bijan read?’ (Ghomeshi 2001: 24)

In (45a), the embedded clause is a full CP, and therefore, an indirect question is possible. In (45b), in contrast, there should not be a CP, since no matter where the wh-phrase appears, a direct question is the only possible interpretation. On the basis of these pieces of evidence, Ghomeshi suggests the following phrase structure for OC constructions:

(46) [CP Control verb [vP PRO ⋮]]

There are, however, some pieces of counter evidence to both assumptions. First, not all control constructions have anaphoric tense in the embedded clause. It seems that speech act verbs, such as encourage and decide allow non-anaphoric tense in their complements, contrary to verbs with intentional semantics such as try.

(47) a. Kimea diruz Parviz-ro tashvigh kard [ke fardā be-r-e]
Kimea yesterday Parviz-râ encourage did [that tomorrow subj-go-3sg]
‘Yesterday Kimea encouraged Parviz to go tomorrow.’

b. Kimea diruz tasmim gereft [ke farâd be-r-e ]
Kimea yesterday decision took [that tomorrow subj-go-3sg]
‘Yesterday Kimea decided to leave tomorrow.’

Although *sa’y kardan* ‘to try’ in (44b), *tashvigh kardan* ‘to encourage’ and *tasmim gereftan* ‘to decide’ in (47) are all core OC predicates, and the verb is in subjunctive mood in all of them, only the latter (=47) allows temporal modifiers in the embedded clause. This is compatible with Landau (2004) who makes a distinction between C(ontrol) subjunctive and F(ree) Subjunctive: the former has anaphoric tense that falls within the matrix tense domain, and therefore, cannot introduce temporal modifiers (cf. 44a&b), while the latter has its own tense (cf. (47a&b)). He further suggests that C-Subjunctive is compatible with PRO, while F-Subjunctive may allow either PRO or pro in the subject position. Landau’s analysis, however, faces a serious problem with respect to the data discussed in this chapter. We saw in section 3 that raising predicates force an anaphoric tense in the embedded clause, which would be compatible with Landau’s C-Subjunctive. We also saw that the embedded clause in these constructions allows an overt DP in the subject position, contrary to what Landau’s theory would predict21.

Second, certain NOC verbs which clearly have tense and allow an overt subject do not allow indirect questions either:

(48)

a. Kimea (emruz) mi-xâd [ (ke) Parviz (fardâ) chi be-xun-e]
Kimea (today) dur-want-3sg [ (that) Parviz (tomorrow) what subj-read-3sg]
‘What does Kimea want Parviz to read?’
*‘Kimea wants Parviz what to read.’

b. Kimea dust dâr-e [ (ke) Parviz chi be-xun-e]
Kimea friend have-3sg [ (that) Parviz what subj-read-3sg]
‘What does Kimea like (for) Parviz to read?’
*‘Kimea likes what (for) Parviz to read’

Furthermore, the complement clauses of both NOC and OC, similar to raising verbs discussed in section 3, are optionally introduced by the complementizer *ke* ‘that’ which suggests that all these constructions are full clauses consisting of a C(omplementizer) P(hrase)22.

I propose a generalized phrase structure for all OC and NOC constructions as in (49). They all have a T(ense) node, T(ense) is selected by C(omplimentizer) (Chomsky 2005), and therefore, OC constructions consist of CP.

(49)

a. [CP C TP T Control Verb [CP C….. T [+tense] ..... vP ] (47)

b. [CP C TP T Control Verb [CP C….. T[Anaphoric] ..... vP ] (44)

Whether or not the embedded clause has independent (49a) or anaphoric (49b) tense must be part of the semantic specification of the matrix verb. In the same way, whether or nor the embedded clause allows indirect questions must be part of the semantic specification of the matrix verb.

**5.2 The null subject is not PRO**

As discussed in section 2, PRO is considered to appear in positions where Null Case is assigned. This is the subject position of infinitive verbs in control constructions which, according to Martin (2001), have Tense, but lack finiteness. Overt subject noun phrases, however, can only appear in Nominative Case positions where both Tense and Finiteness are present. This assumption does not hold water in Persian for the following reasons.

First, raising constructions seem to have anaphoric tense and lack finiteness, as shown in (18), repeated below in (50a). This is compatible with its English counterpart in (50b).

21 For further criticism of Landau’s analysis see Hornstein (2003) and Boeckx and Hornstein (2004).

22 Following Hashemipour (1989) who suggest that *ke* is a subordination marker which lacks features, Ghomeshi (2001) argues that this element is an enclitic that is cliticized to the following element. For a detailed criticism of this assumption see Karimi (2007b).
(50) a. *diruz be-nazar mi-âmad ke Kimea fardâ be-r-e
    yesterday to-view dur-came that K tomorrow subj-go-3sg
    Intended meaning: *It appeared yesterday that Kimea will go today.

    b. *Yesterday John seemed to leave tomorrow.

Yet full noun phrases may appear in the subject position of Persian raising verbs, as discussed in section 3.

Second, we saw in the previous section that the embedded clause is tensed and arguably finite, at least in some of the control constructions, as exemplified by (47), repeated below in (51).

(51) a. Kimea diruz Parviz-ro tashvigh kard [ke fardâ be-r-e]
    Kimea yesterday Parviz-râ encouragement did [that tomorrow subj-go-3sg]
    ‘Yesterday Kimea encouraged Parviz to go tomorrow.’

    b. Kimea diruz tasmim gereft [ke faradâ be-r-e]
    Kimea yesterday decision took [that tomorrow subj-go-3sg]
    ‘Yesterday Kimea decided to leave tomorrow.’

Interestingly, the complement clause of a non-control verb can have exactly the same verbal morphology (subjunctive) and semantic reading (tensed), as in (52). Yet, a full noun phrase may appear in the embedded subject position.

(52) Kimea fekr mi-kard ke Rahjue fardâ hatman be kelâs be
    K thought dur-did that R tomorrow certainly to class subj-go-3sg
    ‘Kimea thought that Rahjue (would) certainly go to class tomorrow.’

In conclusion, PRO seems to appear in positions where full noun phrases may be placed as well. Thus the existence of this element, which is mainly based on its special Case, is doubtful at best.

5.3 OC is not DP-movement

PRO and NP-traces have several differences which were briefly discussed in section 2. However, they also share some similarities. One such shared property is contraction.

Contraction
(53) a. John’s going [ t\text{NP} to leave]
    b. John’s gonna leave.

(54) a. I want [PRO to leave]
    b. I wanna leave.

(55) a. Who do you want [ t\text{wh} to vanish ]?
    b. *Who do you wanna vanish

Contraction is possible when a NP-trace intervenes (53b). The same situation holds for PRO (54b). In contrast, a wh-trace does not allow contraction (55b).

Furthermore, OC requires PRO to have the following properties which are shared with the NP-trace in raising constructions (Hornstein 1999: 73):

(56) \( \text{PRO must have an antecedent} \)
    a. *It was expected PRO to shave himself.

    b. *sa’y shod [ ke PRO be-r-e]
    effort became that subj-go-3sg
    ‘*It was tried to go.’
c. John, seems it to be happy.

(57)  *John, thinks that it was expected PRO to shave himself.

b. *Parviz, fekr mi-kon-e [ke Kimea sa’y kard [ke PRO, be-r-e]] P thought hab-do-3sg that K effort did that subj-go-3sg  
   Intended meaning: Parviz thinks that Kimea tried that he (Parviz) goes.

c. *John, seems it is obvious it to be happy.

(58)  PRO must be c-commanded by its antecedent

a. *John’s campaign expects PRO to shave himself.

b. *dust-e Kimea, sa’y kard [ke PRO, be-r-e] friend-Ez K effort did that subj-go-3sg  
   Intended meaning: Kimea’s friend tried that Kimea goes.

c. *John,’s sister seemed it to be happy.

Moreover, thematic restrictions discussed by Lasnik (1995) are imposed on Persian OC constructions, as evidenced by the data in (59).

(59)  a. Kimea sa’y kard [ke PRO ketâb-ro be Parviz be-d-e ]  
   K effort did that book-rā to P subj-give-3sg  
   ‘Kimea tried to give the book to Parviz.

   b. *Kimea sa’y kard [ke PRO ketâb-ro daryâft kon-e ]  
   K effort did that book-rā reception do-3sg  
   Intended meaning: Kimea tried to receive the book.

The controlee, similar to the controller, must be agentive in an OC construction (59a). Otherwise, the result will be ungrammatical (59b).

Based on these properties, Hornstein suggests that PRO is in fact a NP-trace. Thus control is subsumed under raising for this author. There are some advantages to such analysis, as summarized below.

a. OC is reduced to a movement theory, and thus,
b. There is no need for a purely speculative control module,
c. nor for the existence of the descriptively motivated Null Case and PRO.

However, there are some problems with this analysis. First, as we saw in section 3, raising constructions allow the noun phrase to have a narrow scope in the original position (embedded clause), while control constructions do not. This was illustrated in (8), repeated below in (60).

(60)  a. A unicorn seems to be in the room.  
   (narrow scope possible for a unicorn: seems a unicorn to be in the room)

   b. A unicorn tried to enter the room.  
   (narrow scope NOT possible for a unicorn *tried a unicorn to be in the room)

Second, Persian is a topic prominent language which lacks A(rgument) movement out of the verb phrase altogether (Karimi 2005). Lack of raising constructions in this language provide a piece of evidence in this regard, as discussed in section 3. In addition, there is no movement of subject-to-object position, and thus there is no Exceptional Case Marking (ECM) in this language. Compare the English ECM construction in (61a) to its Persian counterpart in (61b).
(61) a. John believes her to be happy.

b. Kimea eteghâd dâr-e ke un xoshhâl-e
K believe have-3sg that s/he happy-is
‘Kimea believes that s/he is happy’

While the embedded subject her in (61a) is assumed to have moved into the object position of the matrix verb to receive Accusative Case, an instance of Argument movement, this assumption cannot be held for the embedded subject un ‘she/he’ in (61b), since the complement clause is finite, and its subject receives Nominative Case in that position without the need to move into the matrix clause for the purpose of Case assignment/checking.

Based on these arguments it seems that Hornstein’s movement analysis does not hold. One more possibility remains to be discussed: is NOC subject pro? This question is briefly addressed in the following section.

5.4 NOC subject is not pro

Hornstein (1999) suggests that the null subject in NOC control is pro. The same problems discussed with respect to pro in arbitrary control constructions in section 4 hold here as well. That is, (a) how can pro be arbitrary in some constructions and referential in some others?, (b) how can it only allow fixed φ-features, unlike pro which allows full φ-features?, and (c) how can English allow pro in NOC constructions but not elsewhere?

In the next section, I will briefly present an alternative proposal that would provide a general treatment for null subjects in all control constructions.

6. Control as feature agreement

We saw throughout this chapter that the embedded clauses in raising and control constructions are full clauses (CPs). We also saw in section 3 that raising constructions are instances of topicalization in Persian rather than subject-to-subject movement as is the case in English. As for control constructions, we observed the following properties:

a. The embedded predicate in OC and NOC is in the subjunctive mood, similar to the embedded predicate in the so-called raising construction.

b. The tense in raising constructions is anaphoric.

c. The tense is anaphoric in some OC constructions, and non-anaphoric in some others.

d. Yet overt subject DP is allowed in raising constructions, but not in OC.

This summary suggests that the subject position of a control construction, at least in the case of OC, cannot be PRO. We also saw some problems with respect to pro as well as Hornstein’s movement theory.

In this section, I suggest an alternative analysis based on Manzini and Roussou (2000) (M&R henceforth). These authors argue against an Argument movement in general, and suggest that the DP is base-generated in its surface position. That is, they depart from the standard transformational theory of A-movement. They propose that the DP in the matrix subject position attracts an aspectual feature of a predicate, and that control is just a special case of this operation where the same DP attracts more than one predicate. This is illustrated in (62)

(62) [IP John I [VP tried [IP to [VP leave ]]]]                         (Manzini and Roussou 2000:422)

In (62), the DP John attracts the thematic features of both predicates. This seems to be some sort of return to the analysis in the 70’s when the embedded clause in control and raising constructions were suggested to consist of a VP. However, M&R assume a full embedded clause. As for arbitrary control, they suggest that an operator in C attracts the predicate, and provides the generic reading. What follows in this section is an proposal in the spirit of M&Rs analysis.

Descriptively, this proposal has the following properties:

(63) a. There is an agreement between the features in the matrix predicate and the matrix C(omplementizer) in the case of OC, NOC (64a).

b. This agreement creates a path with the embedded C and predicate.

c. A similar agreement holds between C and the predicate in IC constructions (64b), as well as the D(eterminer) and the nominal predicate in NI constructions (64c).
d. This agreement satisfies the theta-features of the predicates, and determines
the semantic type and interpretation of the clause/phrase.
e. The agreement relation must be strictly local without intervention.

The statements in (63) are schematized in (64).

\[(64) \quad \begin{array}{l}
a. \quad \text{OC, NOC} \\
   \text{[C …… DP …… [vP …… Predicate-φ [C …[vP … Predicate-φ]]]]} \\
   \text{Agreement}

   \text{[C bāyad / shāyad [vP … Predicate-φ]}} \\
   \text{Agreement}

   \text{[D ………[NP ……… Predicate-φ …]]} \\
   \text{Agreement}
\end{array} \]

There are many reasons for choosing C and D as the crucial heads. For example, C determines the clause type
(finiteness, etc.) and D determines the type of the noun phrase (definiteness, etc.)\textsuperscript{23}. The agreement between
the predicate and C goes through the head of the matrix subject DP in (64a), and creates a path with the embedded C
and the embedded predicate. A similar agreement relation is held between C and the predicate in (64b), and D and
the nominal predicate in (64c). The difference between (b) and (c) in (64) is that the highest head is a C in the
former and a D in the latter. Otherwise, the main principle holds for all cases in (64). The relationship between
the highest head and the predicate dictates the type of the clause/phrase, and satisfies the thematic roles of the predicate.
It also determines the generic reading in IC and NI constructions. The locality condition in (63e) is supported by the
fact that an intervening element blocks the agreement. Thus the ungrammaticality of (57b), repeated in (65) is
accounted for.

\[(65) \quad \text{*Parviz fekr mi-kon-e [ke Kimea sa’y kard [ke PRO, be-r-e]]} \\
P \quad \text{thought hab-do-3sg that K effort did that subj-go-3sg} \\
\quad \text{Intended meaning: Parviz thinks that Kimea tried that he (Parviz) goes.} \]

The proposal advanced here is somewhat different from that suggested by M&R. First, it does not
necessarily deny the existence of A-movement in subject prominent languages. This is mainly due to the distinct
scope domains observed in control versus raising constructions (cf. examples in (8))\textsuperscript{24}. Second, M&R’s analysis is
focused on OC and arbitrary constructions, and no suggestions are offered with respect to control in DP
constructions. Thus this analysis is an extension of theirs.

There seems, however, to be at least one piece of counter evidence to feature agreement in the case of OC,
which is exemplified by quantifier floating as in (66) and (67).

Quantifier Floating:

\[(66) \quad \begin{array}{l}
a. \quad \text{hame mâ sa’y kard-im [ ke be sinamâ be-r-im ]} \\
   \quad \text{all we effort did-1sg that to cinema subj-go-1sg}

   \text{b. mâ sa’y kard-im [ ke hame be sinamâ be-r-im ]} \\
   \quad \text{‘We all tried to go to the movies.’} \\
\end{array} \]

\[(67) \quad \begin{array}{l}
a. \quad \text{mâ hame bachehe-hâ-ro majbur kard-im [ ke be sinamâ be-r-an ]} \\
\end{array} \]

\textsuperscript{23} A full theoretical justification for this analysis, including the significance of C and D, and the consequences of such an
analysis with respect to Phase Theory (Chomsky 2001) is discussed in Karimi (2007a) for ArbC and Karimi (2007b) for OC and
NOC.

\textsuperscript{24} However, see the discussion in M&R where arguments are offered to account for this distinction.
We all child-pl-rā force did-1pl that to cinema subj-go-1pl

b. mà bacheche-hā-ro majbur kard-im [ ke hāme be sinamā be-r-an ]
‘We forced all the children to go to the movies.’

The quantifier is inside the embedded vP in (66b) and (67b), as illustrated in (68)25.

(68) … DP … [ ke … [DP hāme ] ] …..

If the DP is directly base-generated in its surface position, the sentences in (66b) and (67b) would be predicted to be ungrammatical, contrary to facts. In other words, how can we account for the presence of the quantifier in the embedded clause if we assume a feature agreement between the embedded predicate and the head of the clause, and no overt subject in the embedded clause?

One property of the subjunctive predicate in Persian is that it is attached to an inflectional suffix representing person and number, as seen in (66) and (67). It could be argued that the agreement inflection allows the quantifier to appear in embedded subject position. If this line of argumentation is correct, we should not be able to have an overt noun phrase in the subject position of IC constructions where there is no inflectional suffix. This prediction is borne out as we saw in (34), repeated below in (69).

(69) * bāyād xod in kār-rā kard
must self this job-rā do

The presence of the quantifier in (66) indicates that the subject position of a subjunctive verb is in fact a Nominative Case position. Otherwise, the quantifier would not receive Case in that position, and the sentence would be ungrammatical. This issue further supports the claim that the subject of the OC construction is not PRO.

One obvious question is this: why does the appearance of an overt DP render the sentence ungrammatical in an OC construction? The answer is that the presence of a DP in the subject position of an OC construction is barred by principles of the binding theory. That is, in a sentence like the one in (70), the lower overt DP, a R-expression, is co-indexed and c-commanded by the higher DP, violating Principle C of the binding theory which states that R-expressions should be free everywhere.

(70) *John, sa’y kard [CP ke John, be-r-e ]
John effort did that John subj-go-3sg

Thus the obligatory null subject in OC constructions is predicted by principles that independently exist in the grammar.

7. Conclusion
The discussion in this chapter offers the following conclusions. First, raising is not a subject-to-subject movement in a topic prominent language such as Persian. Second, raising and control constructions are full clauses (CP), contrary to some of the previous suggestions. Third, tense is anaphoric in so-called raising constructions, but not in all types of control constructions. Furthermore, the presence of a full DP in the embedded subject position of a so-called raising verb indicates that Nominative Case is assigned in that position. Similarly, the presence of a quantifier in the embedded subject position of an OC verb indicates that Nominative Case is assigned in that position as well. These facts, combined with the lack of an overt DP in the subject position of impersonal constructions suggests that Tense plus Agreement is the combination that licenses Nominative Case. Crucially, null subjects in certain control constructions can be accounted for by the properties and principles that already exist independently (such as Principles of the binding theory). Finally, it was suggested that feature agreement between the predicate and the head of the CP or DP determines the type of CP/DP and satisfies the theta-features of the predicates.

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25 Similar cases are observed in English where the quantifier is left behind. This is shown in (i).

(i) We tried to all go to the movies.
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