

## **A Typology of Control in Persian Language**

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### **Abstract**

**This paper investigates different kinds of control predicates in Persian subjunctive complements. First, it is shown that the obligatory control (OC) constructions syntactically consist of two subtypes exhaustive control (EC) and non-exhaustive control (NEC). Then building upon Jackendoff and Culicover (2003) and Culicover and Jackendoff's (2005) semantic analysis of control which is devoted to the treatment of infinitival and gerundive complements, we show that in a very large class of cases of OC in Persian, the controlled subjunctive complement also denotes an action. Providing a descriptive typology of each verb class, this analysis justifies the syntactic classification of control predicates proposed in this paper. Classes of exceptions are treated as coercion in the sense of Sag and Pollard (1991), Pollard and Sag (1994), followed by Jackendoff and Culicover (2003) and Culicover and Jackendoff (2005), in which internal conventionalized semantic materials, not present in syntax, are added. The article shows that both semantic and syntactic properties of control predicates determine the type of control relation in Persian subjunctive complement clauses.**

**Keywords: Exhaustive Control; Non-Exhaustive Control; Obligatory Control.**

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## 1. Introduction

One of the issues in the analysis of control constructions is which syntactic and semantic criteria are responsible for the distinction of control predicates. Syntactically, Since Williams (1980) control phenomenon is divided into two subtypes: OC and NOC. In the generative model, verbs that take subject-less infinitival complements are known as control verbs. Among these verbs there are some that can never appear with the complement containing an overt subject. In such a case the covert subject is co-referential with the matrix subject. This construction has been known as OC. In English “try” is such a case, on the contrary, the verb “hope” which allows overt subject in its infinitive complement called NOC:

1. John<sub>i</sub> tried (\*for Mary) RRO<sub>i</sub> to buy that house
2. John<sub>i</sub> hoped (for Mary)/ PRO<sub>i</sub> to buy a gift.

Most linguists (Manzini 1983, Koster 1984, Bouchard 1984, Lebeaux 1984, Hornstein 1999 among others) maintain the spirit of Williams’ syntactic criteria for OC/NOC distinction, believing that PRO in OC constructions is required to have a local, c-commanding and unique antecedent while PRO in NOC does not have to be c-commanded and allows split antecedent and long distance control.

In this paper, methodologically like many generative grammarians, we believe that language should be analyzed by the methodology of natural science (Chomsky 2000), therefore we adopt the generalization of William’s as our hypothesis and test this hypothesis against control constructions in Persian. As source of data, since we are native speakers of Persian language we rely on our knowledge and our introspective judgments about the well-

formedness of these kinds of constructions. Analyzing such constructions in Persian we show that Although in Persian some constructions like (3) called exhaustive control (following Landau 1999) and the ones known as arbitrary control<sup>1</sup> such as (4) maintains the spirit of Williams's criteria and obviously classified as OC and NOC respectively, recognizing the type of the statements such as (5) as OC or NOC is controversial. This kind of predicates is classified as NEC in this paper. In contrast with EC predicates, NEC predicates do not observe all Williams' OC criteria.

3. Ali<sub>i</sub> mitune e<sub>i</sub> in xune-ro  
*Ali Dur-can-3sg this house-*  
*be-xar-e.*  
*Ac subj-buy-3sg.*  
 Ali can buy this house

4. Ali fekr mikonad e<sub>i/arb</sub>  
 Farâham  
*Ali thinking Dur-do-3sg*  
*Providing*  
 kardan-e mohit-e shad  
*doing-Ez situation-Ez happy*  
 barây-e ba e-hâmfid-e  
*for-Ez child-luseful-is*  
 Ali thinks it is useful for children to provide them with a happy situation

5. Ali<sub>i</sub> Hasan-o<sub>j</sub> motaqâ'ed kard  
 (ke)  
*Ali<sub>i</sub> Hasan-Ac persuade did-3sg*  
*(that)*  
 e<sub>i/j</sub> injâ ro tark kon-e  
*e hereAc leaving subj-do-3sg*  
 Ali persuaded Hasan to leave here.

Attempting to revise our hypothesis, we use semantic criteria of Jackendoff and Culicover (2005) as well as syntactic criteria to analyze the typology of control constructions specially the NEC ones in Persian. In this article, it is shown that although NEC predicates do not observe all Williams's criteria, OC properties of NEC are taken to be critical. This result is supported

1. In arbitrary control, exemplified in (4), PRO may be controlled by *Ali* but it may also have an arbitrary interpretation.

by Jackendoff and Culicover's hypothesis showing that the meaning of the matrix predicates plays an important role in determining the kind of control such that in a very large class of cases of obligatory control, the controlled VP denotes an action. Then after reviewing the criteria that have traditionally distinguished OC from NOC, we suggest that not all traditional criteria are valid for the OC vs. NOC distinction. Generally, in this paper, the following questions will be answered regarding the control predicates in Persian:

- a) What is the typology of control in Persian?
- b) Is NEC a kind of OC or NOC?
- c) Are subtypes of OC homogeneous?
- d) What is responsible for the distinction of control predicates? Syntactic or semantic properties of control predicates?
- e) How can we account for the expectations to OC predicates?

Here, Section 2 reviews the diagnostic properties that previous approaches have offered for OC/NOC distinction. In section 3, a brief survey on the similar researches done about Persian language is shown. Then looking over examples given by Iranian linguists, we discuss three general differences observed between Persian control constructions. In Section 4, regarding these differences, we introduce properties helping to identify EC and NEC classification and justify their interaction with OC and NOC distinction. In Section 5, we show how the conceptual structure of control predicates help to determine the type of control construction. Then we try to analyze the exceptions to NEC classes as cases of coercion in which conventional meaning, not present in syntax, is added and show that semantic

properties of control predicates also confirm the classification of Persian control constructions given in this paper. Section 6 concludes the article.

## **2. Previous Approaches to Control Distinction**

One of the most central issues which must be focused in control analysis is the interpretation of PRO in control constructions. There are two major views towards this problem. On the one hand, in most studies this problem is primarily accounted for syntactically (Rosenbaum 1967; Chomsky 1981; Manzini 1983; Chomsky and Lasnik 1993; Lasnik 1993; Martin 1996; O'Neil 1997; Hornstein 1999; Landau 2000; Manzini and Rossou 2000; Wurmbrand 2001; and Boeckx and Hornstein, 2003). On the other hand, we have an account that emphasizes the distinction of control predicates is due to semantic of their predicate

(Jackendoff 1972, Jackendoff 1974; Sag and Pollard 1991; Culicover and Jackendoff 2001; Jackendoff and Culicover 2003 and Culicover and Jackendoff 2005). Syntactically, the first related criteria on OC/NOC distinction dates back to Williams (1980) mentioned in the previous section. Although some of his distinguishing properties have been subject to debate, all the theories seem to accept that OC PRO needs a local antecedent. Some of these theories will be discussed below:

The GB theory cannot offer a precise account for PRO's interpretation in contrast with null case theory in which PRO has a null case and gets licensed by local syntactic relation. This weak point of GB is due to the inadequacy of PRO theorem based on which PRO must be syntactically ungoverned. Regarding this aspect, all PROs seem to be syntactically the same,

i.e. they are all [+ anaphoric, + pronominal]. Due to this problem, Hornstein (1999, 2003) proposes that PRO is ambiguous under GB. He resolves this problem by regarding PRO anaphoric in OC as shown in (6a) in which PRO is co-indexed with the matrix subject and pronominal in NOC like (6b) in which PRO has an arbitrary antecedent.

6. a. The unfortunate expects PRO to get a medal  
b. It was believed that PRO shaving was important (Hornstein 2003:13)

On the other hand, according to Hornstein's movement theory, controller in OC constructions is merged in the subject position of the clausal complement and moves to its surface position in the next higher clause to get its case feature checked. Then, local syntactic relation is observed in this approach too. Hornstein followed Williams

(1980) in maintaining that OC exhibits properties of anaphors. From this perspective, PRO in OC constructions, just like an anaphor, needs a theta marked, local, c-commanding and unique antecedent as illustrated respectively in examples(7).

7. a. \*It was expected PRO to shave himself.  
b. \*John thinks that it was expected PRO to shave himself.  
c. \*John's campaign expects PRO to shave himself.  
d. \*John<sub>i</sub> told Mary<sub>j</sub> PRO<sub>i+j</sub> to leave together / each other. (Hornstein 1999:73-74)

He notes further distinctions between OC and NOC: OC permits "sloppy" reading of the elided VP in (8a) and OC PRO must be interpreted "de se". Then example (8b) means that the unfortunate believes of himself that he will be a medal recipient.

8. a. John expects PRO to win and Bill does too. (= Bill win)

b. The unfortunate expects PRO to get a medal. (It means that the unfortunate believes of himself that he will be a medal recipient) (Hornstein 1999:73)

According to Landau's agree-based theory, Infl in the complement of OC control construction is linked up to a matrix functional head that agrees with the controller. Although Landau (2003) accepts that OC needs a local antecedent, he severely rejects some of aforementioned diagnostic properties. In his opinion c-command is not a necessary condition on OC as shown in example (9).

9. Yesterday, it spoiled Mary's<sub>i</sub> mood [PRO<sub>i/\*Arb.</sub> to listen to the news].(Landau 1999:43)

Furthermore he shows that controller in OC can be split i.e. two individual arguments of a polyvalent matrix predicate jointly control the

controlee.

10. John<sub>i</sub> persuaded Mary<sub>j</sub> [ PRO<sub>i+j</sub> to kiss in the library].(Landau 1999:43)

Another criteria for distinguishing OC from NOC, adopted by some linguists such as Williams (1980), Bouchard (1984), Koster (1984), and Hornstein (1999) but left out by Landau, is whether PRO can alternate with lexical subjects or not. Landau refers to Manzini(1983), who notes that a NOC analysis of *signal* which also takes for – complements, would fail to rule out (11b), since controller choice is allegedly free in NOC.

11.a. John signaled to Mary for Bill to shave himself.

b. \*John signaled to Mary to shave himself.(Landau 1999:45)

Landau (1999) notes four crucial criteria to distinguish between the two type of control constructions. Arbitrary and long distance-control

is impossible with OC but possible with NOC. Moreover, OC disallows strict and *de re* reading but NOC allows it. Respectively, these are shown in the contrasts in (12)-(15) adopted from Landau (1999) :

12.a. \*John tried [ PRO<sub>arb</sub> to be quiet].

b. PRO<sub>arb</sub> Making a large profit requires [PRO<sub>arb</sub> exploiting the tenants]. (Lebeaux 1984)

13.a. \*Mary<sub>i</sub> knew that John dared [ PRO<sub>i</sub> to perjure herself].

b. John<sub>i</sub> said that Mary thought that [PRO<sub>i</sub> shaving himself would bother Sue]. (Chierchia & Jakobson 1986)

14.a. John tried [PRO to leave early], and Bill too. (Bill tried to leave early)

b. John thinks that [PRO feeding himself will be difficult and Bill does too]. ( Bill thinks that John's feeding himself will be difficult) (Bouchard 1985)

15.a. The unfortunate expects to get a medal.(He expects himself to get a medal)

b. The unfortunate believes that getting a medal will be boring. (Hornstein 1999)

Making distinctions between OC and NOC is not limited to pure syntactic approaches. Jackendoff and Culicover (2003) propose that one major class of obligatory control is determined by the semantics of the predicate that selects the controlled complement. This suggestion is embodied in Culicover and Jackendoff's (2005: 427) notion of Unique Control of Actional Complement Hypothesis (UCAC):

Infinitival and gerundive complements that are selected by their head to be of the semantic type Action have unique control. The unique controller is the character to which the head assigns the role of Actor for that Action – whatever its syntactic position.

Under the UCAC hypothesis, the obligatory status of the sentences in



(16a,b) are shown to correlate with actions as opposed to states<sup>2</sup>.

16.a. John<sub>i</sub> promised Susan<sub>j</sub> to  
*i/\*j/\*gen*take care of  
 himself/\*herself/\*oneself /\*to be  
 tall.

b. John<sub>i</sub> ordered/ Susan<sub>j</sub> to  
*j/\*i/\*gen*take care  
 ofherself/\*himself/\*oneself /\*to  
 be tall. (Jackendoff and  
 Culicover's 2005: 528-529)

### 3. Differences between Persian Control Constructions

In Persian, most studies on control have been limited to syntactic approaches (Hashemipour 1988; Ghomeshi 2001; Darzi 2001, 2008; Karimi 2008; Danaye Toosi 2001; Pirooz 2008; 2011; Moinzadeh and Mosaffa Jahromi 2010). Just a few studies dealing with Persian Control Constructions have considered the significance of semantic factors in analyzing such constructions (such

as Darzi and Motavallian 2010, Motavallian 2010, 2011, 2012). Darzi and Motavallian (2010) and Motavallian (2011) reviewed different syntactic approaches to control in light of the Minimal Distance Principle (MDP) which requires that the null subject of control constructions choose the closest c-commanding potential DP as its controller. They presented data from Persian in which the MDP was not respected in a variety of constructions. They took this fact as suggesting that a pure syntactic analysis of obligatory control in Persian is not on the right track. Motavallian (2011, 2012) discusses the finiteness of subjunctive complement and tries to justify the distribution of PRO in such constructions semantically and syntactically. In the present article, we try to deal with the other problem that strengthens considering

2. J&C (2005) consider embedded null subject as a bound variable.

semantic factors in analyzing control, that is, the investigation of the typology of control is not possible in Persian based on pure syntactic analysis. In fact, the properties of control constructions in Persian provide evidence for the necessity of considering semantic factors in analyzing control typology too.

Syntactically, in most studies on Persian Control Construction, It is believed that PRO in OC constructions are required to have a local, c-commanding, unique and theta-marked antecedent. NOC differs from OC in allowing the empty subject position to be filled with an overt DP. Hashemipour (2009) and Karimi (2008) have adopted these criteria. They believe that some Persian predicates such as sa'y kardan 'to try', ejâze dâdan 'to allow' and tasmim gereftan 'to decide' only take complement

clauses whose subjects are phonetically null as shown in (17a)<sup>3</sup>. Thus they have classified such predicates as OC. However, they believe NOC predicates in Persian permit complements whose subject positions are either empty or filled with a full noun phrase (e.g. qowl dâdan 'promise', taqâzâ kardan 'request' and xâstan 'want') as shown in (17b,c).

17.a. Kimea tasmim gereft  
 (ke)  
*K decision took-3sg*  
 (that)  
*e/\*Parviz be-r-e*  
*e/\*Parviz subj-go-3sg*  
 Kimea decided to go.

b. Kimea mi-xâst [(ke)  
*K Dur-wanted-3sg*  
 (that)  
*e/Parviz be-r-e ]*  
*e/Parviz subj-go-3sg*  
 Kimea wanted e/Parviz to go.  
 (Karimi 2008 :178)

c. Hasan<sub>i</sub> be ra'is-eš<sub>j</sub> qowl dâd

3. In next sections giving contradictory examples, we show these predicates allow the embedded subject position to be filled by an overt subject.

*H* *to boss-his promise*  
*gave-3sg*  
 [ke e<sub>i/\*j/\*k</sub> un kâr-râ anjâm  
 be-d-e]

*that e that work-Ac perform*  
*subj- give -3sg*  
 Hasan<sub>i</sub> promised his boss<sub>j</sub> to e<sub>i/\*j/\*k</sub>  
 do the work.(Hashemipour  
 1988:116)

Ghomeshi (2001) does not directly refer to the distinction of OC and NOC but she posits control verbs on a continuum. Contrary to verbs like *xâstan* ‘want’, which are ranked lower on the continuum, highly ranked verbs like *tavânestan* ‘to be able’ exhibits more diagnostics of obligatory control predicates. It bars overt subject in the embedded clause (18a), long distance control (18b), arbitrary reference (18c) and different verbal agreement between the embedded

verb and the matrix verb as shown below (18d)<sup>4</sup>.

18. a. \* *žîân mi-tun-e*  
 (ke)  
*Jian Dur-be.able-3sg*  
 (that)  
 [Ashkan be-r-e].  
 [ *Aškân subj-go-3sg* ]  
 \* Jian can Ashkan goes.

b.\* *mi-tun-am (ke) [ lâzem*  
*Dur-be.able-1sg(that)*  
*[necessary*  
*baš-e (ke) [be-r-*  
*am]]*.  
 [*subj- subj.be-3SG(that) go-*  
*1sg ] ]*  
 \*I can be necessary to go.

c.\* *bâyad tunest*  
 (ke) *must*  
*be.able (that)*  
 [barande be-š-e]  
 [*winner subj- become-3sg*  
 ]?  
 One must be able to win.’

d.\* *mi-tun-am (ke) [ bi-âd ]*.  
*Dur-be-able-1sg (that)*  
*[subj-come- 3sg]*

4. Ghomeshi has used SBG as standing for subjunctive but we use subject instead for consistency.

\*I can him come. (Ghomeshi 2001: 15-20)

\* 'Bijan could yesterday go tomorrow.' (Ghomeshi 2001: 26:39a )

Looking over the examples of control constructions given by Persian linguists (Karimi 2008; Hashemipour 1988; Ghomeshi 2001 and Darzi 2008), we pinpoint to some differences between control structures in Persian:

1) In some kinds of the predicates, the event time of the subjunctive complement is identical with the matrix clause. These types of subjunctives are called anaphoric subjunctives (AS) which means that the temporal reference of the embedded event is anaphoric to that of the matrix clause event. Such predicates do not allow conflicting temporal adverbials.

19.\* Bižan diruz mi-tunest  
*B yesterday Dur-be.able-Past-3sg*  
 (ke) [ fardâ be-r-e ].  
 (that) [ tomorrow Subj-go-3sg]

But in Persian most control predicates select dependent subjunctive (DS) with fixed temporal reference which are future-oriented or sometimes simultaneous with respect to the matrix one. This kind of subjunctive can be modified by a temporal adverbial which is future-oriented with respect to the matrix clause temporal reference (20-21). But the embedded clause does not allow posterior time reference as shown in (22).

20.Kimea diruz Parviz-ro  
*Kimea yesterday Parviz-Ac*  
 tašviq kard [ke  
*encouragement did.3sg [that*  
 fardâ be-r-e]  
*tomorrow subj-go-3sg]*  
 Yesterday Kimea encouraged  
 Parviz to go tomorrow'

21.Kimea diruz tasmim  
 gereft  
*Kimea yesterday decision*  
*took-3sg*

[ke faradâ be-r-e]  
[that tomorrow subj-go-3sg]

Yesterday Kimea decided to leave tomorrow.’ (Karimi, 2008: 187-188<sup>5</sup>)

- 22.\* Kimea tasmim gereft  
Kimea decision took.3sg  
[ke diruz rafte bâš-e ]  
[that yesterday subj-go-past-3sg] Kimea decided to leave yesterday.’

Some control predicates select subjunctive complements allowing subject position filled by an overt DP as in (23), while other predicates take subjunctive complements only allow null subjects as in (24).

23. žiân mi-tun-e (ke) [ be-r-e ]  
J Dur-be.able-3sg (that) [Subj-go-3sg] ‘Jian [can/is able to] go.’

24. žiân mi-xâ-d (ke) [aškân be-r-e].  
J Dur-want-3sg (that)  
[AshkanSubj-go-3sg ]

5 Karimi (to appear) claims that sa’y kardan ‘to try’, tašviq kardan ‘to encourage’ and tasmim gereftan ‘to decide’ are all core OC predicates.

‘Jian wants Ashkan to go.’ (Ghomeshi 2001: 16-17)

- 2) In some control contexts, the embedded subject must be strictly coreferential to the matrix controller as shown in (25) giving an exhaustive control interpretation.

25. Ali mitune e<sub>i</sub> injâ be-mun-e.  
Ali<sub>i</sub> Dur-can-3sg here subj-stay-3sg  
Ali can stay here

While in other constructions the empty subject in complement clause refers to more than

one argument which usually includes the controller and some salient entity in the discourse as exemplified in (26), giving a partial control interpretation in Landau’s (1999) terms.

26. Ali<sub>i</sub> tasmim gereft (ke) e<sub>i</sub>  
Ali decision took-3sg (that)  
xuna-ro be-xar-im.  
house-Ac Subj-buy-1pl

Ali decided that we buy the house.

For Landau (1999), the complement of partial control predicates involve collective predicates such as *gather*, *meet*. These predicates can be predicated of semantically plural, but syntactically singular subjects. Then PRO in this construction is semantically plural, not syntactically.

27. The chair<sub>1</sub> preferred [ PRO<sub>1+</sub> to gather at 6] (Landau 1999:14)

But the empty subject of embedded clauses in Persian PC constructions not only exhibit semantic plurality but also display syntactic plurality as reflected morphologically on the embedded verb as shown in (26). Furthermore, in Persian PC constructions need not to include only collective predicates and can take all predicates as it is indicated in example (26).

Now the question is how general classification of NEC and EC interact with other properties of control constructions mentioned above including allowing overt subject and selecting DS and AS complement. Furthermore, the other problem that we try to justify in the next section is the interaction of NEC and EC environment with OC and NOC distinction.

#### 4. Obligatory Control

##### 4.1. Exhaustive Control

In exhaustive control, null subject is obligatorily co-referential with a unique controller in the matrix clause as in (28).

28. Reza<sub>i</sub> movaffaq šo-d  
*Reza successful become-*  
*Pst.3sg (ke) e<sub>i/\*j</sub> ketâb-o be-*  
*gir-e*  
*(that) book-Ac subj- get-*  
*3sg*  
 Reza managed to get the book.

Subject of the embedded clause must be null and an overt subject is

not permitted at all as shown in example (18a) repeated below in (29).

- 29.\* žiân mi-tun-e (ke)  
*Jian Dur-be.able-3SG (that)*  
 [aškan be-r-e].  
 [Aškan Subj-go-3SG ]

Empty subject of the embedded clause must be locally controlled (30) .

- 30.Hasan<sub>k</sub> goft Rezâ<sub>i</sub>  
 movaffaq  
*Hasan said-3sg Reza*  
*successful*  
 šo-d (ke) e<sub>i/\*k</sub> ketâb-o be-  
 gir-e  
*become-Past.3sg (that) book-Ac*  
*subj-get-3sg*  
 Hasan said Reza managed to take the book.

The empty subject must be identical to the controller and split, partial and variable controls are not allowed:

- 31.\*Rezâ<sub>i</sub> mitune e<sub>i+</sub> bâ hamdige  
*Reza Dur-can-3sg together*  
 piše ra'is be-ran.  
*to boss subj-go-3pl*  
 Reza can together go to the boss.

The antecedent in the matrix clause must c-command the empty subject in the embedded clause:

- 32.[Pedar-e- Ali<sub>k</sub>]<sub>j</sub> jor'at kard e<sub>j/\*k</sub>  
*Father e Ali dare did-3sg*  
 haqiqat-o be-g-e.  
*reality -Ac subj-say-3sg*  
 Ali's father dared to say reality.

The difference of agreement of the embedded verb from the matrix verb is not allowed as shown in example (18d) repeated below:

- 33.\* mi-tun-æm bi-â-d  
*Dur-be.able-1sg subj-come-3sg*  
 \*I can him come.

Considering the interpretive properties of obligatory control, EC falls under this type of control as the examples below indicate. The empty subject in (34) has a sloppy reading such that *Mary stays here*. In (35), the empty subject only has the *de se* reading. Then only Ali can buy the house not somebody else

34. Sârâ<sub>i</sub> mitune e<sub>i</sub> injâ be-  
mun-e  
*Sarah Dur-can-3sg here subj-  
stay-3sg*  
Maryam ham hamintor.  
*Mary also too*  
Sarah can stay here, Mary too.

35. Ali<sub>i</sub> mitune e<sub>i</sub> in xune ro  
*Ali Dur-can-3sg this house Ac  
be-xar-e*  
*subj-buy-3sg.*  
Ali can buy this house.

As Landau suggests semantically matrix predicates including predicates of aspectual (begin, continue...), modal (can, need...) and implicative (manage, dare...) license this type of control. Accordingly, in Persian EC constructions are licensed by some of ability predicates such as qâder budan 'be able', tavânestan 'can' and verbs of beginning<sup>6</sup> like šoru'

6. Aspectual verbs are ambiguous between control and raising (Perlmutter 1968, 1970). Based on Perlmutter analysis, it seems that whenever they select inanimate arguments, they are regarded as non-control. Anyway, this subject is controversial and needs more research. Qatâr shoru be harekat kard. Train begin to moving did-3sg Train began

kardan 'begin', tamâm kardan 'finish' motavaqef kardan and istâdan 'stop', edâme dâdan 'continue',....and other verbs like majbur budan 'must', movaffaq shodan 'manage' and jor'at kardan 'dare' . In this kind of predicates shown in example (36), the event time of the subjunctive complement is identical with the matrix clause.

36. \* Hasan diruz majbur  
bud  
*Hasan yesterday forced  
was-sg*  
(ke) [fardâ be-r-e].  
(that) [tomorrow sub-go-  
3sg]  
\* Hasan must yesterday go  
tomorrow.

Landau (1999, 2000) argues that tenseless infinitives yield Exhaustive Control. Such verbs which do not allow conflicting temporal adverbials and their temporal reference is anaphoric in

to move. Qatâr az harekat istâd Train from moving stopped-3sg Train stopped from moving



Persian are named as core control by Ghomeshi.

#### 4.2. Non-Exhaustive Control

Unlike EC whose status as OC is uncontroversial, whether NEC should be classified as OC or NOC is subject to debates. It seems that NEC falls under NOC in the light of following pieces of evidence.

1) NEC often permits variable, split, partial control. As illustrated in example (37), in variable control or control shift the null subject of the embedded clause can refer to either the subject or the object of the matrix clause:

37. Ali<sub>i</sub> Hasan-o<sub>j</sub> motaqâ'ed kard  
 Ali<sub>i</sub> Hasan-Ac persuade  
 did.3sg  
 (ke) e<sub>i/j</sub> injâ be-mun-e  
 (that) here subj-stay-3sg  
 Ali persuades Hasan to stay here.

Example (38) shows NEC predicates permit split control in

which the empty subject is controlled simultaneously by two arguments in the superordinate clause.

38. Ali<sub>i</sub> Hasan-o<sub>j</sub> motaqâ'ed kard  
 Ali<sub>i</sub> Hasan-Ac persuade  
 did.3sg  
 (ke) e<sub>i+j</sub> injâ be-mun-an  
 (that) e here subj-stay-3pl  
 Ali persuades Hasan they stay here together.

As represented in example (39) in partial control the controlled null subject must include the controller. Then the controller is the subset of the reference set of the null subject.

39. Ali<sub>i</sub> Hasan-o<sub>j</sub> motaqâ'ed kard  
 Ali<sub>i</sub> Hasan<sub>j</sub>-Ac persuade  
 did.sg  
 (ke) e<sub>j+</sub> injâ be-mun-an  
 (that) e<sub>j+</sub> here subj-stay-3pl  
 Ali persuades Hasan that they stay her.

2) The agreement of the matrix predicate can be different from the embedded predicate. Then NEC contexts don't require strict identity and allow for the

embedded subject to be entirely free in reference:

40. man tasmim gereft-am (ke)  
 I decision take-1sg (that)  
 bâ ki ezdevâj kon-e  
 with whom marriage subj-do-3sg  
 I decided with whom he marries.

3) The C-command relation between controller and the empty subject needs not be observed in NEC context:

41. mo'alem<sub>i</sub> be [madar-e-man<sub>k</sub>]<sub>j</sub> ejâze  
 teachert to mother-my permission  
 dâd (ke) e<sub>k</sub> be madrese  
 nayâyam. gave-3sg (that) to school subj-not come-1sg  
 The teacher permitted to my mother that I don't come to school.

42. [Pedar-am<sub>k</sub>]<sub>i</sub> sa'y mikone e<sub>j</sub>  
 Father-my try do-3sg  
 dar Irân be-mun-am.  
 in Iran subj-stay-1sg.  
 My father tries that I stay in Iran.

4) The other feature distinguishing EC type from the NEC type is that unlike EC, NEC predicates can often take complements with

subject position filled with overt DP-subject or pronoun which is entirely free in reference.

43. man<sub>i</sub> tasmim mi-gir-am  
 I decision take-1sg  
 tu<sub>j</sub> bâ ki ezdevâj kon-i  
 you with whom marriage subj-do-2sg  
 I will decide with whom you marry.

44. Unhâ<sub>i</sub> be Amir<sub>j</sub> ejâze  
 dâdand  
 They to Amir permission gave-3pl  
 Ke pesareš ham bi-â-d.  
 that son-his also subj-come-3sg  
 They permitted Amir that his son might come as well. (intended interpretation)

Considering aforementioned properties, it seems that NEC falls under NOC classification but each case can be justified in some way. These contradictory cases can be semantically justified as coercion as discussed in the next section. Like OC, empty subject in the embedded clause of variable, split and partial control requires an antecedent in the

matrix clause. On the other hand not observing c-commanding relation between antecedent and null subject occurs when the specification of the empty subject in the embedded clause is different from the specification of the potential controller. But when the null subject of the subjunctive complement in NEC has the same feature specification as the potential matrix controllers only one c-commanding argument in the matrix clause is identified as its controller but in special context.

45. Ali<sub>k</sub> goft Hasan<sub>i</sub> sa'y mikone  
*Ali said Hasan try Dur- do-*  
*3sg*  
 (ke) e<sub>i/\*k</sub> be-r-e  
*(that) e subj-go-3sg*  
 Ali wanted e/Hasan to go

46. [Pedar-eš<sub>k</sub>]<sub>i</sub> sa'y mikone  
 e<sub>i</sub>  
*Father-my try do-3sg*  
 dar Irân be-mun-e.  
*in Iran subj-stay-3sg.*  
 His father tries to stay in Iran.

Moreover as Landau (1999) shows, c-command is not a necessary condition on OC as shown in (9) repeated below.

47. Yesterday, it spoiled Mary's mood [PRO<sub>i</sub>/\*Arb to listen to the news]. (Landau 1999:43)

About allowing overt subject in NEC, As mentioned before, this criterion is adopted by many linguists (Williams 1980, Chomsky 1981, Manzini 1983, Bouchard 1984, Koster 1984, Martin 1996, Manzini and Roussou 2000, Hornstein 1999, in Persian: Hashemipour 1988, Karimi 2008) to distinguish OC/NOC. However, this property is controversial for OC/NOC distinction in Persian, because unlike the subject position of infinitival complements in English, the subject position of embedded clauses in Persian control constructions is assigned nominative case, hence allowing an overt DP in

this position in many control complements. Thus, one may be led to the wrong conclusion that many predicates in Persian are NOC predicates despite the fact they display all the properties of OC as shown in the next section. Take the following examples in which the null subject of embedded clause should be locally controlled by one specific argument in the matrix clause, but an overt DP may also appear in the embedded subject position, suggesting NOC construction:

- 48.a. Hasan<sub>k</sub> goft Ali<sub>i</sub>  
 sa'y  
*Hasan said-3sg Ali*  
*try*  
 mi-kon-e ke e<sub>i/\*k</sub> be  
*Dur-do-3sg that to*  
 mehmuni bi-â-d  
*party subj-come-3sg*  
 Hasan said Ali tries to go to the party.
- b. Ali<sub>i</sub> sa'y mi-kon-e ke  
 barâdar-eš  
*Ali try Dur- do-3sg that*  
*brother-his*  
 ham be mehmuni bi-â-d.  
 d.

*also to party subj-come-3sg*

Ali tries that his brother goes to the party.

This phenomenon is not specific to Persian. The same condition is found in languages in which control structure can select subjunctive complement like Greek, Romanian, Basque, and Arabic where NEC allows for looser coreferential possibilities (San Martin 2004: 50-52) and in other languages like English.

49. Jonek<sub>i</sub> [zuk/GAP<sub>i/k</sub> ogia egitea]  
*Jon-ERG you-ERG bread-det-ABS*  
 pentsatu du. (Basque)  
*make-Nom-Det-ABS decide Aux (3ABS-3ERG)*  
 'Jon has decided/planned to make bread/that you/someone else make bread.' [San Martin & Uriagereka 2002]

50. Hilary intends/plans for Ben to come along to the party. (Culicover and Jackendoff 2005,451)

- 51.a. Dana asked Pat to be able to attend the party

b. Kim promised Sandy to be hassled by the police. (Sag & Pollard 1991, 82)

Also, Wurmbrand (2001, 246-263) maintains that while obligatory control infinitives can be represented as subjectless predicates, the lack of an infinitival subject in syntax is not obligatory. She provides several pieces of evidence in support of the presence of a syntactic subject in obligatory control construction in German and shows the correlation between the lack of a syntactic subject and obligatory control is only one-way correlation. As such, the presence of a syntactic subject does not entail non-obligatory control or obligatory control does not entail the lack of a syntactic subject.

The most critical issue is that NEC also displays OC properties barring arbitrary and long distance control, strict reading of null subject under ellipsis and *de re*

interpretation as indicated in below examples. Example (52) indicates that NEC doesn't allow arbitrary control in which the reference of null subject can be unspecified. In example (53) the antecedent of the null subject must be in the immediately higher clause. Example (54) has sloppy reading in which Sara decided to leave here too. This sentence can not mean Sara decided that Mina leave here. Sentence (55) shows *de se* interpretation then Ali and not somebody else tries to buy the house.

52. Reza<sub>i</sub> sa'y mi-kon-e e<sub>i/\*arb</sub>  
*Reza try Dur-do-3sg*  
 tamâme šab bidâr be-mun-e.  
*all night awakesubj-*  
*stay-3sg* Reza tries to be awake all  
 the night.

53. Rezâ<sub>k</sub> goft Ali<sub>i</sub> be  
 Mohammad<sub>j</sub>  
*Reza said-3sg Ali to*  
*Mohammad*  
 ejâze dâd (ke) e<sub>j/\*k</sub>  
 in

*permission gave-3sg (that)*  
*this*  
 kâr -o tamum kon-e  
*work-Ac finish subj-do-3s*  
 Reza said Ali permitted  
 Mohammad to finish this work.

54. Minâ tasmim gereft  
 injâ ro  
*Mina decision took-3sg here*  
 Ac  
 tark kone Sârâ ham  
 hamintor *leaving subj-do-3sg*  
*Sara too*  
 Mina decided to leave here, Sara did too.

55. Faqat Ali sa'y mikone  
*Only Ali try Dur-do-3sg*  
 in xune ro bexare  
*this house Ac subj-buy-3sg*  
 Only Ali tries to buy this house.

Another crucial point about NEC is that they select dependent subjunctive (DS) across languages (56), contrary to EC complements which denote events that coincide with the matrix event.

56. Sârâ; diruz tasmim  
 gereft  
*Sara yesterday decision took-3sg*  
 [ke e<sub>i+</sub> faradâ be-ran]  
*[that tomorrow subj-go-3pl]*

Yesterday Sara decided that they leave tomorrow.

## 5. Semantic Approach to Control

The aforementioned syntactic classification of control predicates can also be verified by its semantic analysis and the classes of exceptions can be treated as coercion in terms of Sag and Pollard and Pollard (1991, 1994) followed by Jackendoff and Culicover (2003) and Culicover and Jackendoff (2005) in which internal conventionalized semantic material is added not present in syntax.

Jackendoff and Culicover (2003) and Culicover and Jackendoff (2005) analyzed control as a relation stated over the level of conceptual structure where syntactically implicit arguments are explicit and thematic roles are structurally represented. They concluded that one major class of obligatory control is determined by the semantics of the predicate that

selects the controlled complement and in these cases controller is determined by the thematic roles that the control predicates assign to its argument. This suggestion constitutes the basis of and Culicover and Jackendoff's (2005,427) Unique Control of Actional Complement Hypothesis (UCAC). Thus predicates that select infinitival and gerundive complements designating voluntary actions show obligatory control. Jackendoff and Culicover distinguished voluntary action from other events by tests such as the imperative and the adverbials *voluntarily* and *on purpose*.

(Culicover and Jackendoff 2005,427-428):

57. Voluntary actions: Run the race!

Roberta ran the race voluntarily.

58. Non-voluntary (non-)actions:

\* Grow taller! \* Roberta grew taller voluntarily.

According to Jackendoff and Culicover (2003), there are at least five main classes of predicates showing unique control which corresponds to obligatory control in our terms obligatory control: predicates of intention, obligation, ability, normativity, force-dynamic.

There is parallel situation in Persian. this means that The class of **intention** predicates including *qasd dâştan* 'to intend', *tasmim gereftan* 'to decide i.e. come to intend', *dar nazar dâştan* 'to plan', *motaqâ'ed kardan* 'to persuade i.e. cause to come to intend', *xâstan* 'to want' and *sa'y kardan* 'to try' show obligatory control and select actional complement. In these cases, someone who holds an intention is necessarily identical with the individual who executes the intended action.

59. Parvin<sub>i</sub> qasd dâre  
(ke)

*Parvin intention have-3sg*  
*(that)*  
 e<sub>i</sub> mâšin bexare / \*bozorgtar  
 beše  
*car subj-buy-3sg/ \*older subj-*  
*become- 3s*  
 Parvin intends to buy a car /\*grow  
 up.

60. Maryam<sub>i</sub> Zahrâ<sub>j</sub> ro motaqâ'ed  
*Maryam Zahrâ Ac persuade*  
 kard (ke) e<sub>j</sub> be širâz be-r-e  
*did-3sg (that) to Shiraz subj-*  
*go.3sg*  
 /\*bozorgtar beše did-3sg  
 /\*older subj become-3sg  
 Maryam persuaded Zahra to go to  
 Shiraz/\*grow up.

**Obligation predicates** either involves an individual in authority imposing an obligation on someone to perform an action( like “Ordering”) or an individual is undertaking an obligation to someone else (such as “ promising”). This is a function of three arguments: person A is obligated to person B to perform some action (Culicover and Jackendoff 2005,446) . This kind of predicates including qowl dâdan ‘to promise’,

qasam xordan ‘to swear’, zemânat dâdan ‘to guarantee’, ta’ahod dâdan ‘to commit’ and dastur gereftan ‘to get an order’ which show subject control and verbs like dastur dâdan ‘to give an order’, qowl gereftan ‘to get a promise’, zemânat gereftan ‘to get a guarantee’, ta’ahod gereftan ‘to get a commitment’ and qasam dâdan ‘to give an oath’ that show object control support UCAC hypothesis as indicated in below examples:

61. Ali<sub>i</sub> be Hasan<sub>j</sub> qowl dâd  
 ke  
*Ali to Hasan promise gave-3sg*  
*that*  
 e<sub>i</sub> haqiqat ro bege /\*bozorgtar  
 beše. *truth Ac subj-tell-*  
*3sg/\*older subj-be-3sg*  
 Ali promised to Hasan to tell the  
 truth.

62. Ali<sub>i</sub> az Hasan<sub>j</sub> qowl gereft  
 ke  
*Ali from Hasan promise got-3sg*  
*that*  
 e<sub>j</sub> haqiqat ro be-g-e  
*e truth Ac subj-tell-3sg*  
 /\*bozorgtar be-š-e  
 /\*older subj-be-3sg



Ali got a promise from Hasan  
that he  
(Hasan) would tell the truth.

Ability predicates such as *qâder budan* ‘to be able to’, *tavânestan* ‘can’, *yâd gereftan* ‘to learn (come to be able to VP)’ and *yâd dâdan* ‘teach (cause to be able to VP)’ are compatible with actional complement as shown in (63). According to Culicover and Jackendoff (2005:446) in such cases, One cannot have an ability with respect to someone else’s performance of an action; that is, the person with the ability must be bound to the actor position in the action :

63. Parviz<sub>i</sub> mitune / qâdere  
(ke) e<sub>i</sub>  
*Parviz Dur-can-3g/ able is- 3sg*  
*(that)*  
*rânandegi kon-e/\*bozorgtar be-š-*  
*e*  
*drive subj-do-3sg/\*older subj-be-*  
*3sg*

Parviz can/ is able to drive a car  
/\*grow up.

**Normativity predicates** carry the presupposition that the subject is supposed to do something (because of social norm). Such predicates like *farâmuš kardan* or *az yâd bordan* ‘to forget’, *be xâter âvardan* or *be yâd âvardan* ‘to remember’ and *yâdavâri kardan* ‘to remind’ also select actional complement and show obligatory control.

64. pro<sub>i</sub> farâmuš kardam (ke) e<sub>i</sub>  
be  
*pro<sub>i</sub> forget did-1sg (that) to*  
*mehmuni be-r-am / \*bozorgtar be-*  
*š-am party subj-go-1sg/\*older*  
*subj-be-3sg*  
*\*older subj-be-3sg*  
I forgot emembered to go to the  
party.

The observation shows **force – dynamic** predicates in Persian like English show obligatory control; predicates like *ejâze dâdan* ‘to permit’, *qâder sâxtan* ‘to enable’, *tašviq kardan* ‘to encourage’, *mâne*

šodan , momâne'at kardan, 'to prevent' , , komak kardan 'to help', nasihat kardan 'to advise', majbur kardan 'to force' and tosiye kardan 'to recommend' are compatible with actional complement. In these predicates one character, the antagonist or agent, is involved in influencing the execution of an action by another character, the agonist (Culicover and Jackendoff 2005,447).

65. Ali<sub>i</sub> be Mohammad<sub>j</sub> komak kard  
*Ali to Mohammad help did-3sg*  
 (ke) e<sub>j</sub> in kâr ro tamum  
*(that) this work Ac finish*  
 Kone /\*bozorgtar beše  
*sub-do-3sg /\*older subj-be-3sg*  
 Ali helped Mohammad to finish  
 this  
 work/ \*be older.

66. Amir Hasan<sub>i</sub> râ majbur  
*Amir Hasan Ac forced*  
 kard (ke) e<sub>i</sub> az inja  
*did-3sg (that) from here*  
 bere /\*bozorgtar  
 beše  
*subj-go-3sg /\*older subj-be-3sg*

Ali forced/enabled Hasan to go from here/\* to be older.

### 5.1. Coercion

Although most of the aforementioned predicates are incompatible with true situational complements which can neither be performed voluntarily nor be brought about by voluntary action like *bozorgtar šodan* 'grow up', some of them sometimes select non-true situational complement like 'feel happy' *šad budan*, lose the fear 'bar tars qâleb šodan', have luck 'šans dâštan', seem intelligent 'âqel be nazar residan'. This shows that the distinction between action and state is slippery:

67. qasd dâram šâd bâšam  
*intention have-1sg happy subj-be-1sg*  
 I intend to feel happy.

This sentence is pretty grammatical. It sounds reasonable to assume that an implicit meaning is hidden in such sentences. This sentence may

mean I intend to bring about a situation in which I feel happy. Consequently although these complements describe non-voluntary situations in general, they must be interpreted as actions. Mismatch of this sentence with true situational complement provides evidence for this justification:

68.\* qasd dâram bozorgtar  
 bešam. *intentionhave-1sg older*  
*subj- become-1sg\**  
 I intend to grow up.

Therefore the concept of coercion as discussed by Sag and Pollard (1991) helps to maintain the UCAC hypothesis and treat these sentences as obligatory control constructions.

The other exception to control structures is where control predicates semantically allow controlled actional complement but syntactically select complements in which overt subject is licensed. Thus the question arises how overt subject

in NEC constructions can be justified. The solution of this paradox also lies in applying coercion to these cases. A closer look at examples in (69a-b) makes it obvious that most of these sentences can be paraphrased to sentences in which conventional causative meaning, not represented in syntax, is added. This process is called coercion by Sag and Pollard (1991) and Pollard and Sag (1994). Roughly speaking, the conceptual representation of the predicate qowl dâdan ‘promise’ for instance shows that no one can promise to do someone else’s action. But as indicated in (69 a-b) X can promise to bring it about the situation that Y, Y as well as X or Y with others can do the action Z. In all the above examples the situation can be brought about by voluntary action even though no voluntary complements are selected. Then they

are incompatible with the situation which cannot be voluntarily brought about as illustrated in example (70).

69.a. man<sub>i</sub> be Minâ<sub>j</sub> qowl  
 dâdam  
*I to Mina promise gave-1sg*  
 ke e<sub>i+j+k</sub> bâ ham be mehmani be-  
 r-im *that together to party subj-go-1pl*  
 I promised Mina to go to the party altogether.

b. Maryam<sub>i</sub> be Minâ<sub>j</sub> qowl  
 dâd  
*Maryam to Mina promise gave-3sg*  
 ke Sârâ bi-â-d  
*that Sara subj-come -3sg*  
 Maryam promised Mina that Sara comes.

70.\*Ali<sub>i</sub> az Hasan<sub>j</sub> xâst /  
 taqâzâ  
*Ali from Hasan wanted-3sg / request*  
 Kard (ke) bârun biyâd  
*did-3sg (that) rain subj-come-3sg*  
 Ali wanted /requested Hasan that it rains.

It contrast with OC predicates, non-control constructions involving volitional predicates like arezu

dâştan ‘to wish’, omid dâştan ‘to hope’, dust dâştan ‘to like’, motanaffer budan ‘to hate’ and xâstan ‘to want’ in wishing meaning, and predicates like fekr kardan ‘to think’, pišbini kardan ‘to predict’ are compatible with true situational complements as shown in (71). This kind of predicates can select Independent Subjunctive (IS) complements in which the event time of the subjunctive complement can be independent from the matrix clause. As illustrated in (72) it includes past and non-past form of verbs denoting anterior, simultaneous or posterior time reference respectively.

On the one hand in contrast with control constructions, coercion cannot justify their different controller choices and on the other hand the null subject in the subjunctive complement when it has the same feature specification as a

matrix potential controller, can have the controller outside of the context as indicated in (71).

71. Hasan<sub>i</sub> omidvâre ke e<sub>i/k</sub> /  
*Hasan hope-3sg that e/*  
 Reza bi-â-d / burun bi-â-d  
*Reza subj-come-3sg/ rain subj-come-3sg*

Hasan hopes to come.

Hasan hopes that someone else comes.

Hasan hopes that Reza comes /it rains.

72. Hasan arezu mikard (ke)  
*Hasan wishing Dur-do-3sg (that)*  
 Rezâ umade baš-e / barf umade baš-e  
*Reza subj-came-sg /snow subjcomepast-3sg*

Hasan wished that Reza came/ it snowed.

## 6. Conclusion

In this article, we introduced properties helping to identify EC and NEC classification and justified their interaction with OC and NOC distinction. Suggesting an appropriate classification for control

predicates in Persian, We have proposed two groups of properties for NEC in Persian. The first ones denoting NOC properties of NEC and the latter refer to OC reading of NEC. However it is shown that NOC properties of NEC predicates can be justified. Then OC properties of NEC are taken to be critical and they are used to take NEC as obligatory control.

We applied semantic factors for verifying our analysis. It supported Jackendoff and Culicover's hypothesis showing that the meaning of the matrix predicates plays an important role in determining the kind of control. Then Predicates selecting voluntary actional complement show obligatory control and finally the exceptions to OC are argued as coercion in which conventional meaning is added which is not present in syntax. In sum, to obtain a comprehensive

account of different kinds of control, incorporation of both semantic and syntactic factors is necessary.

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## انواع ساخت کنترلی در زبان فارسی

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در این مقاله انواع مختلف کنترل به درون متمم خودایستا در زبان فارسی بررسی می گردد. نخست نشان داده می شود که از لحاظ نحوی ساخت کنترل اجباری در زبان فارسی از دو زیرگروه کنترل کامل و کنترل غیر کامل تشکیل می شود. سپس براساس رویکرد معنایی جکنداف و کالیکاور (۲۰۰۳) و کالیکاور و جکنداف (۲۰۰۵) که به ساخت کنترلی ناخودایستا اختصاص دارد، نشان داده می شود در بخش اعظمی از ساخت های کنترل اجباری در زبان فارسی نیز متمم خودایستا بر فعالیت کنشی دلالت دارد. با ارائه توصیف هر دسته از افعال کنترلی، طبقه بندی نحوی ارائه شده از ساخت کنترلی در این مقاله نیز تأیید می گردد. موارد استثناء در چارچوب رویکرد ساگ و پولارد (۱۹۹۱) و پولارد و ساگ (۱۹۹۴) که به وسیله جکنداف و کالیکاور (۲۰۰۳) و کالیکاور و جکنداف (۲۰۰۵) دنبال شده است تحلیل می گردد که بر اساس آن در لایه معنایی موضوعاتی در نظر گرفته می شوند که بازنمایی آشکار نحوی ندارند. این مقاله نشان می دهد برای تشخیص نوع ساخت کنترلی در کنترل به درون متمم خودایستا در زبان فارسی هر دو نوع ویژگی نحوی و معنایی لازم است.

واژگان کلیدی: کنترل کامل، کنترل غیر کامل، کنترل اجباری