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A Minimalist Analysis of PRO in Persian: Merge Theory of Control

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Abstract

The *control* construction has attracted the attention of a considerable number of linguists since the early development of generative grammar. The present study examines the properties of PRO in Persian, adopting the syntactic approach developed in Kim's (2003) *theory of Merge Control* within the minimalist framework. According to this theory, the control construction is fundamentally based on the theta-domain relation between PRO and its controller. The findings indicate that Kim's theory of Merge Control addresses certain issues related to *promise* verbs, which challenge two key properties of PRO, namely, the locality and C-command conditions. Within this framework, there is no need to distinguish between obligatory and non-obligatory control; instead, the distinction should be made between complement and adjunct control clauses. Consequently, the violation of the proposed properties of PRO in Persian is resolved because the theory accounts for the objects of *promise* verbs in control constructions as adjuncts rather than complements. As a result, such objects are neither theta-marked by the *promise* verbs nor passivized, and they do not function as the controller of PRO.

Keywords: Minimalist program, PRO, merge theory of control, promise verbs

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1. Introduction

The phenomenon of *control* has attracted the attention of many linguists since the early stages of generative grammar (Rosenbaum, 1967). Some researchers have examined it purely from a syntactic perspective (Rosenbaum, 1967; Chomsky & Lasnik, 1993; Hornstein, 1999), whereas others have argued that syntactic analysis alone is insufficient and that semantic aspects must also be considered alongside syntactic factors (Jackendoff & Culicover, 2003, 2005).

Regarding the types of control, Williams (1980) proposes two kinds: obligatory control (OC) and non-obligatory control (NOC). Hornstein (1999) identifies six properties that distinguish OC from NOC: obligatoriness of an antecedent, locality, C-command, sloppy interpretation, de se interpretation, and no split antecedent (p. 73). However, these properties have been the subject of extensive debate. For instance, promise-type constructions have posed a major challenge to these proposed distinctions. Consider the sentence in (1): the matrix subject, which serves as the antecedent of PRO, controls it. According to the principles of locality and C-command, however, the direct object "Jill" should have controlled PRO, but it does not.

(1) . Jack_i promised Jill_j [PRO i/*j to leave]

In line with the above authors, Kim (2003) deals with three characteristics of PRO, namely, "obligatoriness, locality and c-command" in English. In this respect, she shows that these properties are not adequate for distinguishing OC from NOC and then proposes another framework for control theory i.e., Merge theory of control.

In Persian, there has been ongoing debate regarding the existence of PRO, as control constructions in the language are obligatorily associated with subjunctive complements. Accordingly, some linguists argue that subjunctives in control environments are nonfinite because they involve a defective *T*, and the null subject in such clauses is PRO (Nematzadeh, 1995; Ghomeshi, 2001). Others, however, maintain the finiteness of the subjunctive and propose that there is no PRO in Persian; rather, it should be replaced with a small *pro* (Hashemipour, 1989). A third group upholds both the finiteness of the subjunctive and the close association between control and PRO (e.g., Motevalian, 2011). In this regard, the present study provides evidence supporting the third view and treats the null subject in such constructions as PRO.

Correspondingly, the present article aims to analyze the syntactic structures of Persian control construction using Kim's (2003) Merge theory of control. To this end, it specifically addresses the following question:

1. Does the structure of Persian control construction, corresponds to the mechanisms described in the Merge theory of control?

Congruently, first, we will examine the adequacy of the three properties mentioned above in Persian. Then we will verify the suitability of Kim's (2003) Merge theory of control in Persian in order to show that, apart from the semantic criterion, the assumption of PRO can be elaborated according to syntactic properties as well.

This article consists of six sections. Section Two provides a brief overview of the literature on the control construction. Section Three introduces the theoretical background and framework of the study, in which Kim's (2003) *Merge Theory of Control* is also illustrated. Section Four presents the results of the research. In Section Five, *Data Analysis and Discussion*, we first examine three properties of OC proposed by Hornstein (1999) in Persian data, and then evaluate the adequacy of Kim's (2003) theory. Finally, Section Six is devoted to the conclusions.

2. Literature Review

2.1. Non-Iranian Linguists' Studies

PRO is one of the null constructions which has been dealt with since the beginning of generative grammar up to now. While Rosenbaum (1967) introduces Equi NP deletion[1], Chomsky (1981), for the first time, offers the term PRO. In fact, Chomsky (1981), in Binding theory, categorizes the basic categories for nominal expressions in terms of their referential characteristics as the following groups:

(A) Anaphors: reflexive pronouns, reciprocal pronouns and NPs trace

(B) Pronouns: personal pronouns (subject pronouns, object pronouns, and little pro (*pro*))

(C) Referring/R-expressions: names and WH-trace

Based on the above categorization, he proposes one principle for each category to determine the occurrence and distribution of referential elements according to the governing category. These three principles of the Binding theory include:

(A) An anaphor is bound in its governing category.

(B) A pronominal is free in its governing category.

(C) An R-expression is free. (Chomsky, 1981, p.188)

Chomsky (1981), in addition, suggests PRO as a pronominal Anaphor [+pronominal, +anaphor]. He then claims that PRO must obey Binding conditions A and B (listed above) simultaneously (Chomsky, 1981, p. 191), as in (2) below.

(2) . John is too clever [PRO to expect us to catch]

However, it is contradictory to satisfy both Binding conditions A and B in the form of [+pronominal, +anaphor] at the same time, since an anaphor must be bound and a pronoun must be free within the same binding domain. In order for PRO to avoid the contradictory situation of satisfying Binding conditions A and B all at once, Chomsky suggests "PRO is restricted to ungoverned positions that are non-opaque in the sense of the theory of binding; and it must appear in positions where an NP is required but no Case is assigned (excluding phonetically –realized NP) and the position is ungoverned (excluding trace)" (Chomsky, 1981, p. 74). In this regard, Chomsky and Lasnik (1993) argue that in obligatory control (OC) PRO 'which has the properties [+pronominal, +anaphor]' takes a specific case called 'null' (null case) meaning that OC PRO lacks a phonetic

[1] It is a transformation which deletes one of two identical NPs

content. More importantly, they assert that the null case is only assigned by nonfinite T and restricts the distribution of OC PRO to subject position of nonfinite clauses. Consequently, PRO is assigned a case like other noun phrases.

On the other hand, as Chomsky (2001) states, control clauses can assign case to their subjects as they occur in Spec-CP of a finite clause. Martin (1996, 2001), O'Neil (1997) and Hornestein (1999, 2001) offer some ideas about OC and PRO, too.

Martin (1996) develops a theory to explain the distribution of PRO. He (1996) contends that OC involves movement of the clitic PRO to the superordinate clause, in order to distinguish between raising and control clauses. For NOC structures, he assumes that there is a Functional Projection (FP) layer on top of TP which is licensing the empty elements within the infinitival at LF. Martin (2001) expresses that the head of control infinitives checks the null case of PRO only if it carries the tense feature. Thus, the control structure becomes distinct from the raising structure because of having the tense feature. Example (3) is an instance of control sentence and (4) is an example of raising (to-subject) which is represented by Martin (2001)

(3) John wants very much [PRO to win] (Martin, 2001, p.159).

(4) John appears [to like Bill] (Martin, 2001, p.162).

O'Neil (1997) and Hornestein (1999, 2001) consider PRO as an example of NP trace left by A-movement in which it moves to a position in the main clause. Similarly, Hornestein (1999, p. 83) asserts if the Minimal Distance Principle (MDP) is preserved as a markedness condition, then verbs like *persuade* are considered as the unmarked case and verbs like *promise* are counted highly as marked. In this regard, he maintains, Subject control in *persuade* clauses is ungrammatical due to the violating of the Minimal Link Condition (MLC). Consider the derivation of a subject control structure like (5-a) represented by Hornestein (1999, p. 87).

(5) a. $John_i$ persuaded Harry [PRO_i to leave].

b. [$_{IP\,2}$ John [$_{I}{}^{0}$ past [$_{VP\,3}$ John v + persuaded [$_{VP2}$ Harry persuaded [$_{IP\,1}$ John [to [$_{VP\,1}$ John leave]]]]]]].

If *John* is the controller as it displays in (5-b), it must have been merged with *leave* and raised to [Spec, IP1], the place of "PRO." *Harry* has the object-of-*persuade* theta-role, as shown by its merger in [Spec, VP2]. Now, the external theta-feature of *V + persuaded* must be checked. In (5-b) *John* is raised to [Spec, VP3]. This violates the MLC and is prohibited since it crosses *Harry* in [Spec, VP2].

Regarding the explanation of the control structure, Manzini and Roussou (2000) argue that a DP generates the controller in the control structure from the outset through the *Merge* operation, as rooted in the minimalist framework, in its surface position rather than moving to that position. They further state that DPs merge in the surface position and attract the theta-role features of a predicate from there, in accordance with Chomsky's (1995) *Minimal Link Condition (MLC)* and Kayne's (1984) *Connectedness Condition*. Therefore, within Manzini and Roussou's (2000) framework, the control structure involves the movement of features rather than the DP controller itself. Nevertheless, they identify a problem when dealing with *promise*-type control constructions, as in (6), because despite the presence of an

intervening matrix direct object, the matrix subject controls PRO.

(6) Tom$_i$ promised Jane$_j$ [PRO$_{i/*j}$ to sing] (Manzini and Roussou, 2000, p. 405)

Landau (2000, 2003) can be regarded as one of the major approaches supporting the existence of PRO. Landau's (2000) theory is based on the *Anaphoric Agreement* approach. Accordingly, when a local agreement relationship exists between the functional head in the matrix clause and the referential head in the complement clause, the resulting structure is classified as Obligatory Control (OC). In such a configuration, the attractor is the matrix functional head that agrees with the controller, while the attractee is PRO or infinitival *Agr*. Conversely, in the absence of such a relationship, for any reason, the resulting structure is a Non-Obligatory Control (NOC) construction.

Landau (2003) proposes two ways to address *promise*-type control constructions: (1) treating them as marked structures that fall outside the core grammar, or (2) providing a detailed analysis that considers them regular, albeit with certain deviations. He rejects the first option and, through a primarily semantic analysis, classifies all verbs into three types: (a) *commitment verbs* (e.g., *promise*, *vow*), (b) *verbs of request for permission* (e.g., *ask*, *beg*), and (c) *propositional verbs* (e.g., *propose*, *discuss*), as illustrated below.

(7) We$_i$ vowed to our leader [PRO$_i$ to be loyal].

(8) The prisoner$_i$ asked the guard [PRO$_i$ to smoke one more cigarette].

(9) John$_i$ proposed to Mary [PRO$_i$ to help her with the arrangements]. (Landau, 2003, p. 481)

Kim (2003), in order to deal with control construction, proposes Merge operation which will be elaborated in details in Theoretical framework of the present study.

Culicover and Jackendoff (2005) argue that a purely syntactic approach to PRO encounters several problems, whereas a semantic explanation of control theory yields broader generalizations. They analyze *control* as a relation established at the level of conceptual structure, where syntactically implicit arguments become explicit and thematic roles are structurally represented. According to their account, the type of control is determined by the semantic role that the control predicate assigns to its complement clause, and by the controller options that follow from the meaning of the predicate. For example, in sentence (10), the verb *promise* assigns the actor role to the giver of the promise (*John*), resulting in subject control. In contrast, in sentence (11), when the verb changes from *promise* to *order*, the actor role is assigned to the recipient (i.e., the object), resulting in object control.

(10) John$_i$ promised Susan$_j$ to $_{i/*j/gen}$ take care of himself/ *herself/ *oneself / /*to be tall. (Culicover and Jackendoff, 2005, p.433)

(11) John$_i$ ordered/ Susan$_j$ to $_{j/*i/gen}$ take care of herself/ *himself/ *oneself /*to be tall. (Culicover and Jackendoff, 2005, p.434)

2.2. Iranian Linguists' Studies

In Persian, some properties of PRO have been investigated as well. Hashemipour (1989) views subject

of the control construction as a trace of movement of an empty operator to the specifier of the complement phrase in the embedded clause. He, following Radford (1988, p. 485), regards this operator as an inaudible and invisible pronoun. In her opinion, the thematic role of the external argument of the embedded operator is assigned to the empty operator which, like other operators, must move to the landing site of WH-phrase, of course, this landing site is the specifier of the complement phrase. According to Hashemipour (1989), this movement takes place in Logical Form (LF) level of grammar. She shows case assignment of Persian finite control structure as in (12)

(12)… V… [OPi [X i...

[-case] [+case]

(Hashemipour 1989, p.304)

Hashemipour (1989, p.152) describes two classes of object control verbs in Persian manipulative: and communication verbs.

Manipulative verbs: *mæʤbur kærdæn*[1] = 'cause/force'

vadar kærdæn = 'compel'

Communication verbs: *tæqaza kærdæn* = 'request'

dæstur dadæn= 'order'

eʤaze dadæn = 'allow'

esrar kærdæn = 'urge'

goftæn= 'tell'

sefareʃ kærdæn = 'recommend'

piʃnæhad kærdæn ='suggest'

Examples (13) and (14) illustrate the object control verbs suggested by Hashemipour (1989):

(13) *moællem*$_i$ *be* *ʃagerd*$_j$ *sefareʃkærd* *ke* *e*i/j*
teacher to student recommended that
bolænd *be-xun-e*
loud Subj-read.PRES-3SG
'The teacher recommended to the student that he read out loud.'
(Hashemipour 1989, p.152)

(14) *moin*$_i$ *æli*$_j$ *ro* *vadar kærd* *ke* *e*i/j* *zud*
Moin Ali Acc compelled that soon
be-r-e
Subj-go.PRES-3SG
'Moin compelled Ali to leave soon.' (Hashemipour 1989, p.195)

Danaye Tusi (1380/2001) examines the object control construction in Persian, as given in example (15):

[1] It should be noted that in this article the authors decided, due to the faithfulness to the original texts to keep the translations and the glosses which belong to other authors unchanged.

(15) *leyla* *mæryæm*$_i$ *ra* *vadar-kærd* *ke*
Leyla Maryam Acc make.PAST.3SG t hat
[e$_i$ *dærs* *be-xan-æd*].
lesson Subj-read.PRES-3SG
'Leyla made Maryam to study.) Danaye tusi, 2001, p. 256)

To account for such a derivation, she proposes a new analysis of the subject position in the structure of Persian clauses, based on the *VP-internal Subject Hypothesis* proposed by Sportiche and Koopman (1989). In this analysis, the empty subject of the complement clause occurs in the specifier position of the verb phrase, a position that lacks a governor. Following Chomsky (1981), she considers this empty subject to be PRO.

Karimi (2005) argues that infinitival clauses do not exist in Persian and that subjunctive forms are used in control constructions and other contexts where infinitival clauses would otherwise occur. She suggests that PRO in Persian receives nominative case in the same way as *pro* and overt *DP*s, since it appears in the same syntactic position as these elements. This is illustrated in the following examples:

(16) a. *mæn* *dust* *dar-æm* [CP *ke* *pro*
I friend have.PRES-1SG that pro
be -r-æm]
Subj-go.PRES-1SG
'I like to go.'

b. *mæn* *dust* *dar-æm* [CP *ke* *to*
I friend have.PRES-1SG that you
be-r-i]
Subj-go.PRES-2SG
'I like for you to go.'

c. *sæ'y kærd-æm* [CP *ke* PRO *be –r-æm*]
'I tried to go.' (Karimi, 2005, pp. 102-103)

As shown, PRO has the same distribution in (16) as *pro* and an overt *DP*, and it receives nominative case. This, as Karimi (2005) herself affirms, represents a clear departure from the claims of Chomsky (1993) and Chomsky and Lasnik (1993), who argue that PRO bears a null case.

Hojatollah Taleghani (2006) contends that control constructions must be treated as both semantic and syntactic phenomena. She examines the distinction between OC and NOC in Persian modal verbs, following Wurmbrand (1999). According to her, modal verbs that assign a theta role and case to the surface subject exhibit control constructions. Accordingly, the following Persian modal verbs, *tunestæn* ('can / to be able'), *maʤbur budæn* ('to be obliged'), *maʤbur ʃodæn* ('to become forced'), *ehtijaʤ daʃtæn* ('to need'), and *eʤaze daʃtæn* ('to have permission'), constitute control constructions. In line with Wurmbrand (1999), she further argues that *split antecedence* is the key distinguishing feature between OC and NOC. That is, while split antecedence is possible in OC, it is not permissible in

NOC. Hojatollah Taleghani (2006) tests this characteristic in Persian modal verbs and demonstrates its adequacy in Persian data, as shown in the following examples.

(17) a.*$sara_i$ *goft (ke) dust-ef_j* *mæʤbur-e* [(ke) e $_{i+j}$ *bɑ hæmdige*
Sara said that friend-her obliged-be -3rdSG that with each other
dærs *be-xun-æn*].
lesson Subj-read.-3rdPL.
'Sara said that her friend is obliged to study with each other.'

b. $sara_i$ *goft (ke) dust-ef_j* *mæʤbur-ʃod-e* [(*ke*) e $_{i+j}$ *bɑ hæmdige*
Sara said that friend-her obliged-become-3rdSG that with each other
dærs *be-xun-æn*.]
lesson Subj-read -3rdPL.
'Sara said that her friend is forced to study with each other.'(Hojatollah Taleghani, 2006:106)

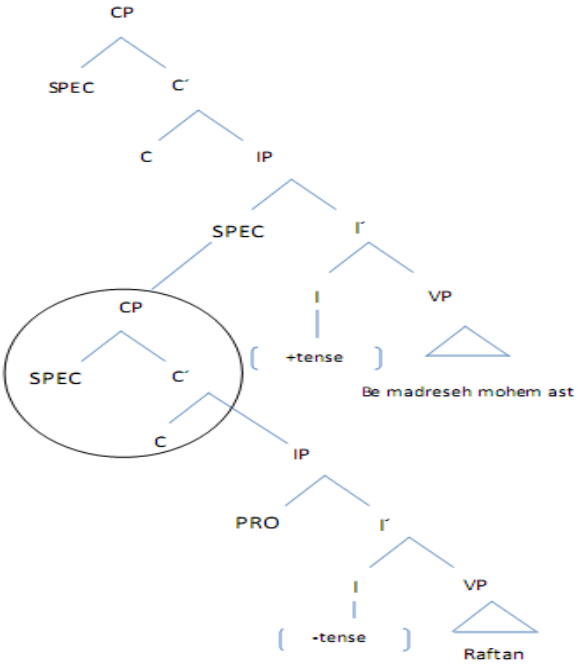
Example (17-a) shows that the split antecedent is not compatible with the root modal *mæʤbur budæn* 'to be obliged' while it is compatible with *maʤbur ʃodæn* 'to become forced' as shown in (17-b). In other words, this example signifies that *mæʤbur budæn* is an OC verb, and *mæʤbur ʃodæn* is a NOC verb because it is compatible with the reciprocal pronoun *hæmdige 'each other'*.

Moenzadeh and Jahromi (1388/2010) have challenged Karimi's (2005) opinion about the nonexistence of the infinitive clause and receiving nominative case by PRO in Persian. They, first, demonstrate the existence of infinitives in Persian by means of various theories (theta, predicate, logic …). They, then, following Hageman 1994, argue that PRO could be on subject position of infinitives, but it is theoretically necessary to propose that the CP exists above the maximal IP. The existence of CP above IP prevents the government of tensed INF, because CP is a barrier for case assigning (Hageman 1994). As a result, PRO occurs on tenseless position and its inaudibility can theoretically be explained. Therefore, in the following sentence the existence of CP is necessary. Diagram (1)[1] shows that Persian infinitives are CPs.

(18) *ræftæn* *be* *mædrese* *mohem* *æst.*
Going to school important be.PRES.3SG
'To go to school is important.' (Moenzadeh and Jahromi, 1388, p. 45)

[1]. It should be noted that diagram (1) has not been transcribed with IPA since it has been taken from Moenzadeh and Jahromi (1381/2011) so the authors decided in order to respect trustworthiness not to change its transcription.

Diagram (1): The representation of Persian infinitives as CP (Moenzadeh and Jahromi, 1388/2010, p.45)



Darzi and Motavallian (2010) study OC constructions in Persian. In this respect, like Jackendoff and Culicover (2003) and Culicover and Jackendoff (2005), they try to show that semantic factors have the major role in account of control theory in Persian and that a purely syntactic account does not work. They believe that the conceptual structure of predicates plays an important role in determining the controller choice in Persian.[1]

Piruz (1389/2011) reconsiders the interpretive features of PRO in OC and NOC (non-obligatory control) constructions in Persian. He verifies these features in both finite and no-finite clauses. According to his analysis, the main features of PRO in OC construction of Persian is reduced to: obligatoriness of an antecedent, locality, sloppy interpretation, de se interpretation, and finally arbitrary reading. Similarly, he demonstrates that PRO in NOC doesn't need a local antecedent and if it needs an antecedent, it would not be based on the agreement principle. Then he contends that the removal of the verb phrase in the co-ordinate clause gives rise to a strict interpretation. In addition, this element in NOC has non de se interpretation, and, finally, he says that non de se interpretation is one of the features of PRO in NOC. In the end, he discusses that some stated features of PRO in both OC and NOC constructions are invalid, inadequate and contradictory according to Persian data for various reasons. These features are: C-commanding and Split antecedent. Examples (19) and (20) show inadequacies which Pirooz (1389/2011) proposed.

[1] Since Darzi and Motavallian's (2010) study will be compared with the findings of the present study in section 5, giving the extra information of their study was discarded here.

(19). *[hale [mæryæm$_{i\,DP}$]DP] (æz in) behæm mi-xor-e [PRO$_i$*
Condition Maryam (from this) Dur-disgust.PRES.3SG
ke futbal tæmaʃa kon-e]
that soccer watch Subj.do.PRES-3SG
'Watching soccer is disgusting for Maryam.'

(20). *pedær$_i$ be pesær$_j$ qol dad [ke PRO$_{i+j}$*
Father to boy promise.PAST.3SG that
ba hæm be gærdeʃ be-r-æn]
together to walk Subj-go.PRES-3PL
'The father promised the boy to go for a walk together.' (Piruz1389/2011, 86)

Motavallian (1394/2015) studies the distribution of PRO and OC in Persian based on Landau (1999, 2000, 2004, and 2006). On the word of landau (1999, 2000, 2004, and 2006), the distribution of PRO is more directly linked to tense/agreement properties of inflection. Landau (1999, 2000, 2004, and 2006) claims to represent a general rule for the distribution of PRO in finite and nonfinite contexts in all languages. Motavallian (2015) shows that while Landau's model is effective for justifying exhaustive and non-obligatory or non-control constructions in Persian, it has some deficiencies in accounting for non-exhaustive control in this language. Then she proposes that, based on Jackendoff and Culicover's (2003) semantic analysis of control, inadequacies of a purely syntactic analysis can be solved in justifying the distribution of PRO and overt DPs in the subject position of the embedded clauses in Persian control structures[1].

Piruz (1395/2016) analyzes the Case of PRO in accordance with Minimalist Program. In Minimalist Program, PRO is considered to have Case to be checked against the T head of the embedded clause in control constructions. Thus, Piruz (2016) examines the previous conceptions about PRO in Persian and displays that this empty category has a standard structural Case, checked against the T head within the finite subjunctive clauses, as illustrated in example (21).

(21) *mæn$_i$ tæsmim gereft-æm* [CP *ke* PRO$_i$ *be-r-æm*
I decision take.PAST-1SG that Subj-go.PRES-1SG
ʃenā]
swimming
'I decided to go swimming.' (Piruz, 2016, p. 43)

In example (21), PRO stands in subject position of embedded clause and has the nominative case checked against the T head within the finite subjective clause.

3. Theoretical Background and Framework

William (1980) distinguishes two kinds of control: obligatory control (OC) and non-obligatory

[1] Due to the lack of space, we ignored the whole explanation provided in this article.

control (NOC). He holds that PRO must have a local c-commanding antecedent in OC. Also he introduces five criteria for OC:

1- "Lexical NP cannot appear in the position of PRO
2- The antecedent precedes the controlled PRO
3- The antecedent c-commands the controlled PRO
4- The antecedent is thematically or grammatically uniquely determined
5- There must be the antecedent" (Williams, 1980, p. 209)

Throughout the investigations of generative grammarians, additional properties have been introduced, while some of the earlier features have been revised. Koster (1984) identifies four features of OC: *obligatoriness of an antecedent, locality, C-command,* and *no split antecedent*. Hornstein (1999, p. 174) proposes six properties that distinguish OC from NOC: *obligatoriness of an antecedent, locality, C-command, sloppy interpretation, de se interpretation,* and *no split antecedent*.

In this context, Kim (2003) focuses on three of these properties, *obligatoriness of an antecedent, locality,* and *C-command*, and argues that they are insufficient to clearly differentiate OC from NOC. Demonstrating the inadequacy of these properties, she proposes her *Merge Theory of Control*. According to Kim, the relevant distinction lies not between *obligatory* and *non-obligatory* control, but rather between *complement* and *adjunct* control clauses. She defines the *Merge Theory of Control* as follows: "The most immediate argument (either explicit or implicit) that is merged with the PRO clause in the course of derivation is the controller for the PRO" (Kim, 2003, p. 291). In this definition, "the most immediate argument" does not necessarily refer to the element that merges directly with the PRO clause. Kim uses the term *most immediate* to denote both *the first merged* and *the most recently merged* argument. The term *argument* in this definition encompasses both *PP* and *DP* arguments, since either can serve as the argument of the verb.

Before continuing the discussion, it is necessary to represent Chomsky (2000) and Collins (2002) opinions about Merge operation Chomsky (2000) assumes that if two elements A and B are merged, a feature F of one of the elements must be satisfied. Chomsky (2000) calls this feature the selector.

Collin (2002) proposes a label free theory of syntax based on Minimalism, where a VP has the structure given in (22) instead of (23):

(22) Merge (V, X) = {V, {V, X}}

(23) Merge (V, X) = {V, X} (Collin, 2002, p. 61)

Collin (2002) argues that in a theory which merge is represented like (21), the generalization or formation of operations which refer to the labels (VP vs NP) or x-bars (VP vs V') is not possible, he suggests in a labeled free theory that it is very important to notice to basic syntactic relations presented below:

(i) Subcategorization (α, β): if α subcategorizes for β, then α projects, as D subcategorizes for N in DP

(ii) Theta mark (α, β): if α theta marks β, then α projects, as V theta marks DP in VP.

(iii) EPP (α, β): if α has an EPP-feature that can be satisfied by β, then α projects, as T has EPP -feature then can be satisfied by DP in TP

(iv). Agree (α, β): if α as probe agrees with β, then α projects, as T/v agrees with subject/object in TP/vP, respectively. (Collin, 2002, pp. 44-45)

Adopting the non-existence of labels suggested by Collins (2002), Kim (2003) puts forward that when the control clause is a complement of a verb, theta-marking relation holds. So the derivation of the control structure 'John tried to leave' will be given as follows:

(24) John tried [PRO to leave]

a. merge (to, leave) = {to, leave}

b. merge (PRO, {to, leave}) = {PRO, {to, leave}}

c. merge (tried, {PRO, {to, leave}}) = {tried, {PRO, {to, leave}}}

d. merge (John, {tried, {PRO, {to, leave}}}) = {John, {tried, {PRO, {to, leave}}}} (Kim, 2003: 292)

As shown in (24-c), the PRO- clause merges with 'tried' and then in (24-d) it merges with 'John', which is the only and the first argument merged with the PRO- clause. Also, in the derivation of example (25) which is an instance of control structure in Persian, the control clause first merges with the verb *tasmim gereft* 'decided' then with 'sɑrɑ'.

(25) *sɑrɑ$_i$* *tæsmim gereft* [PRO*i* *qæza*
Sara decision take.PAST.3SG PRO food
bo-xor-æd]
Subj-eat.PRES-3SG
'Sara decided to eat food.'

a. merge (*qæza , boxoræd*) = {*qæza, boxoræd*}

b. merge (PRO, {*qæza, boxoræd*}) = {PRO,{*qæza, boxoræd*}}

c. merge (*tæsmim gereft*,{PRO,{*qæza, boxoræd*}}) = {*tæsmim gereft*, {PRO,{*qæza, boxoræd*}}}

d. merge (*sɑrɑ*,{*tæsmim gereft*,{PRO,{*qæza, boxoræd*}}})= {*sɑrɑ*, {*tæsmim gereft*, {PRO, {*qæza, boxoræd*}}}

So far, the control clauses which appeared in a complement position of a verb were discussed. But the control clause may also appear in an adjunct position and then can be placed in different positions, giving rise to ambiguity, as what is seen in example (26)

(26) John hired Mary [PRO to fire Bill] (Kim, 2003, p. 293)

This sentence is ambiguous and has two interpretations given as (27-a) and (27-b):

(27) a. John hired Mary (in order) [PRO to fire Bill] Rational clause

b. John hired Mary [PRO to fire Bill] purpose clause (Kim, 2003, p. 293)

As for Kim (1989), the ambiguity of (26) depends on different attached positions of the control clause. When the PRO-clause is a VP-external rational clause, PRO is interpreted by the subject 'John' as in (27-a) while when the PRO-clause is a VP-internal purpose clause; PRO is interpreted by the object 'Mary', as in (27-b). (Kim, 2003, p. 172).

With respect to the *Merge Theory of Control*, Kim (2003) clarifies the ambiguity observed in example (26) as follows: according to this theory, the most immediate argument merged with PRO varies depending on the attachment position of the PRO clause. If the rationale clause is adjoined to the *TP*, the most immediate argument merged with the PRO clause is *John*, as in (27-a). Conversely, if the purpose clause is adjoined to the *VP*, the most immediate argument merged with the PRO clause is *Mary*, as in (27-b). Thus, depending on the two distinct attachment sites, or, equivalently, two different merge orders, two different interpretations arise (Kim, 2003, p. 294).

4. Results

To address the research question, we first examined the adequacy of the three properties of PRO in Persian. Specifically, we analyzed the three properties identified by Hornstein (1999), *obligatoriness of an antecedent, locality,* and *C-command condition*, within Persian data. The analysis revealed that these properties were not adequate in accounting for the Persian data, as syntactic violations were observed. The most significant of these cases involved *promise* verbs, a type of predicate that violates two properties: *locality* and *C-command condition*. Kim (2003) treats the object of *promise* verbs as an adjunct that is not θ-marked by the verb and cannot be passivized; therefore, it does not serve as the controller of PRO. The findings from Persian data are consistent with Kim's (2003) account. Consequently, it can be concluded that the *promise* predicate problem can be syntactically explained within Kim's *Merge Theory of Control*, without recourse to semantic criteria.

5. Data Analysis and Discussion

In this section, we will examine Kim's (2003) control theory of merge in Persian. Nevertheless, following her, first, we test the adequacy of three properties of PRO as asserted by Hornestein's (1999) theory (obligatoriness of antecedent, locality and c-command).

5.1. Obligatoriness of Antecedent

One of the properties to distinguish OC from NOC is the obligatoriness of the controller. In an OC structure, PRO is obligatorily controlled by the local C-commanding NP, as shown in the following examples:

English examples:

(28) a. John tired [PRO to behave himself]

b. John persuaded Mary [PRO to behave herself] (Kim, 2003, p. 287)

Persian examples:

(29) a. *kimeɑ$_i$* *tæsmim gereft* [(*ke*) PRO$_i$/*pærviz *be-r-e*]
Kimea decision took-3SG (that) PRO/*Parviz subj-go.PRES-3SG
'Kimea decided to go.' (Karimi, 2008: 2)

b. */æli$_i$* *hæsæn$_j$-rɑ* *mædʁbur kærd* *[ke* *PRO$_j$* *be* *park*
Ali Hasan-Acc force do.PAST.3SG that PRO to park
be-ræv-æd]
Subj-go.PRES-3SG
'Ali forced Hasan to go to the park.'

In (28-a), PRO is controlled by the local c-commanding DP, 'John' and, in (28-b), it is controlled by 'Mary'. Similarly, in Persian examples, PRO is controlled by the local c-commanding DP, 'Kimeɑ' in (29-a) and 'Hasan' in (29-b), respectively. On the other hand, in case, PRO has no an explicit local c-commanding antecedent and, instead, it has a generic interpretation, it is treated as arbitrary control, as indicated both in English and Persian:

(30) a. John said (+Θ)[PRO to behave oneself] (Kim, 2003: 287)

b. (+Θ) *bajæd* *PRO* *hæqiqæt* *ro* *goft*
must truth Acc say.PAST.3SG
'One must tell the truth.' (Karimi, 2008, p. 6)

The cases in (30) differ in obligatoriness from other cases of obligatory control because in both of them PRO is controlled by the closet implicit argument. Although examples like (30) are considered as instances of non-obligatory control in other studies (Hornestein 1999) but from Kim's (2003) point of view these kinds of sentences are examples of obligatory control.

In implicit argument control, the implicit argument has a location. Kim (2003) claims that a non-audible DP can serve as an antecedent if it has a theta role for the reason that control refers to relations among theta roles and not among explicit arguments.

In previous studies (Manzini, 1986; Hornestein, 1999; landu, 2000), the implicit argument control is not considered as an obligatory control because its controller is not explicit. However, PRO is controlled by the closest implicit argument in verbs such as (signal, say, whisper, …). This means that PRO is controlled by the closet argument which has a theta role either implicit or explicit.

Therefore, in line with Kim (2003), the control by the implicit argument should be considered in the same way as the control by the closet explicit argument. Look at the examples below:

(31) a. John$_i$ signaled Mary$_j$ [PRO*$_{i/j}$ to behave herself/*himself]

b. John$_i$ signaled (+Θ$_j$) [PRO*$_{i/j}$ to behave oneself/*herself] (Kim, 2003, p. 297)

(32) a. */æli$_i$ be reza$_j$ /ælamæt dad ke [PRO*$_{i/j}$*
Ali to Reza signal give.PAST.3SG that
vared=e /otaq na-ʃæv-æd]
entry=EZ room Subj.not-become.PRES-3SG
'Ali signaled Reza not to enter the room.'

b. */æli$_i$ /ælamæt dad (+Θ$_j$) ke [PRO*$_{i/j}$ *vared=e*
Ali signal give.PAST.3SG (+Θ$_j$) that PRO entry=EZ
/otaq næʃævæd]
room Subj.not-become.PRES-3SG
'Ali signaled Reza not to enter the room.'

(33) a. *hæsæn$_i$ be ʔæli$_j$ sefareʃ kærd ke*
Hasan to Ali recommendation do.PAST.3SG that
[PRO*$_{i/j}$ *be-ræv-æd*]
PRO Subj-go.PRES-3SG
'Hasan recommended Ali to go.'

b. *hæsæn$_i$ sefareʃ kærd (+Θ$_j$)*
Hasan recommendation do.PAST.3SG (+Θ$_j$)
ke [PRO*$_{i/j}$ *be-ræv-æd*]
that Subj-go.PRES-3SG
'Hasan recommended to go.'

In examples (31), (32) and (33) the object is the closet argument with a theta role merged with the control clause. In fact, while in examples (31-a), (32-a), and (33-a), PRO is controlled by the explicit object, in examples (31-b), (32-b), and (33-b), PRO is controlled by the implicit object.

5.2. Antecedent Locality

Another property to distinguish an OC from a NOC is the locality of the antecedent. Locality means that PRO should be controlled by the closest C-commanding available antecedent. In examples (34), (35), and (36), PRO is controlled by the object ('Bill', 'Zæhr', 'Minɑ') which is the closest C-commanding antecedent.

(34) John$_i$ persuaded Bill$_j$ [PRO*$_{i/j}$ to leave] (Hornstein, 1999: 76)

(35) *mɑdær$_i$ be zæhrɑ$_j$/ /edʒɑze dad ke*
mother to Zahra permission give.PAST.3SG that
[PRO*$_{i/j}$ *be sinemɑ be-ræv-æd*]
to cinema Subj-go.PRES-3SG
'Mother permitted Zahra to go to the cinema.'

(36) *nilufær$_i$ //æz minɑ$_j$ tæqɑza kærd ke*

Nilufar from Mina request do.PAST.3SG that
[PRO* $_{i/j}$ *dærs* *be-xan-æd*]
lesson Subj-read.PRES-3SG
'Niloofar requested Mina to study.'

However, the Promise verbs show a contradictory behavior to this property in English. For instance:

(37) a. John promised to Susan [PRO to behave himself/* herself]
b. John promised Susan [PRO to behave himself/* herself]
c. John promised e [PRO to behave himself/*oneself] (kim, 2003: 288)

If the locality is limited to 'closest c-commanding antecedent' so in example (37 -a, b, c) the antecedents must be ('to Susan, Susan, e') whereas in all of these examples 'John' is the antecedent.

In Persian some Promise verbs do not meet locality restriction (examples (38 -a),(39-a), (40 -a)) while some others do, as in examples (38-b),(39-b), (40-b).

(38) a. *mæryæm*$_i$ [pp *ʔæz* [DP *zæhra*$_j$]] *qowl* *gereft* *ke*
Maryam from Zahra promise take.PAST.3SG that
[PRO *$_{i/j}$ *dærs* *be-xan-æd*]
lesson Subj-read.PRES-3SG
'Maryam made a promise with Zahra to study.'

b. *mæryæm*$_i$ [pp *be* [DP *zæhra*$_j$]] *qowl* *dad* *ke*
Maryam to Zahra promise give.PAST.3SG that
[PRO$_i$/*$_j$ *dærs* *be-xan-æd*]
lesson Subj-read.PRES-3SG
'Maryam promised Zahra to study.'

(39) a. *ʔæli*$_i$ *madær*$_j$ *ro* *qæsæm* *dad* *ke*
Ali mother Acc swear give.PAST.3SG that
[PRO*i/j *be-r-e* *ʔundʒa*].
Subj-go.PRES-3SG there
'Ali swore his mother to go there.'

b. *ʔæli*$_i$ *be* *madær*$_j$ *qæsæm* *xord* *ke* [PROi/*j
Ali to mother swear eat.PAST.3SG that
be-r-e *ʔundʒa*]
Subj-go.PRES-3SG there
'Ali swore by the mother to go there.'

(40) a. *nima*$_i$ *ʔæz* *sina*$_j$ *tæ'æhhod* *gereft* *ke*
Nima from Sina commitment take.PAST.3SG that
[PRO*i/j *ʔezdevadʒ* *kon-æd*]
marrage Subj.do.PRES-3SG
'Nima got a commitment from Sina to marry.'

b. *nima*$_i$ *be* *sina*$_j$ *tæ'æhhod* *kærd* *ke*
Nima to Sina commitment do.PAST.3SG that
[PROi/*j *ʔezdevadʒ* *kon-æd*]
marrage Subj.do.PRES-3SG
'Nima made a commitment to Sina to marry.'

As observed above, in example (38-a) the local antecedent of PRO is '*zæhra*', the local antecedent in (39-a) is '*madær*' and in (40-a) is '*sina*'. But in (38-b), (39-b), and (40-b) with changing light verbs (38-b*): gereft → dad*), (39-b): (*dad → xord*), and (40-b): (*gereft → kærd*)) and prepositions *(æz → be*) or (*Ø→ be*) the local antecedent changes as well, (*zæhra → mæryæm, madær → ʔæli, sina → nima*), where these new antecedents do not meet locality restriction. In analyzing these sentences, if we consider the prepositions before the nouns responsible for such a dual action of the Promise verbs in Persian, we encounter some samples like (41) that, despite the use of both prepositions, the antecedent of PRO has not changed.

(41) a. */ostad*$_i$ */æz* */æli*$_j$ *xast* *ke* [PRO*$_{i/j}$ *be*
professor from Ali want.PAST.3SG that to
goruh *moradʒeʔe* *kon-æd*]
department refer Subj.do.PRES-3SG
'Professor wanted Ali to refer to the department.'

b. *mæryæm*$_i$ *be* *mina*$_j$ */ælamæt* *dad* *ke*
Maryam to Mina signal give.PAST.3SG that
[PRO*$_{i/j}$ *hærf* *næ-zæn-æd*]
talk Subj-not-hit.PRES-3SG
'Maryam signaled Mina not to talk.'

Due to the point that sentences in (41) have the same structure with sentences (38), (39), and (40), it can be concluded that the change of PRO antecedent in Promise verbs is not attributable to the change of prepositions preceding the local nouns. But along with Kim (2003), it is as a result of the closet argument which controls the PRO.

In what follows, first, Darzi and Motavallian's (2010) explanations on Promise verbs which has the semantic base will be elaborated. Then the explanation of authors of the present article will be given based on Kim's (2003) perspective, which has a syntactic-oriented base.

Darzi and Motavallian (2010) believe that the reason of the change of PRO antecedent in Persian is because of the change of light verb. Following Jackendoff and Culicover (2001), they stipulate the determination of controller choice in terms of the conceptual structure of predicates. They affirm that the problem of control structure of Promise verbs of Persian will be solved with reference to the lexical semantics of these predicates. Consequently, they introduce three categories of obligatory control predicates. The first category belongs to the verbs in which a change in their light verbs will cause a change in their controller choice. Of course, this change is attributable to the change in their meaning.

Verbs like *qowl dadæn* 'to promise", *qæsæm xordæn* 'to take oath', *zemanæt dadæn* 'to guarantee', *dæstur gereftæn* 'to take an order' show the subject control whereas others such as *dæstur dadæn* 'to give an order', *qowl gereftæn* 'to get a promise', *zemanæt gereftæn* 'to get a guarantee', *qæsæm dadæn* 'to put under an oath' present the object control. Both sets of verbs belong to the category of obligation predicates. According to Jackendoff and Culicover (2005), there are, at least, five main classes of predicates presenting obligatory control: predicates of intention, obligation, ability, normativity, and force-dynamic.

Correspondingly, examples (43) and (44) indicate the first category of obligatory control. As they demonstrate, the change in the light verb will change the controller choice. In first class (subject control) X is obligated to Y to perform action Z, as shown in the conceptual structure (CS) and in the second class (object control) X imposes the obligation on B to perform the action Z.

(42) Xα BE OBLIGATED [αACT] TO Y

(43) *hæsæn$_i$* *be* *æli$_j$* *qowl* *dad* [CP *ke* PRO i/*j
Hasan to Ali promise give.PAST.3SG that
be-r-e *undʒa*].
Subj-go.PRES-3SG there.'
'Hasan promised Ali to go there.' (Darzi and Motavallian, 2010: 497)

(44) *hæsæn$_i$* *æz* *æli$_j$* *qowl* *gereft* [CP *ke* PRO* i/j
'Hasan from Ali promise take.PAST.3SG that
be-r-e *undʒa*].
Subj-go.PRES-3SG there
'Hasan got a promise from Ali that he would go there.'
(Darzi and Motavallian, 2010, p. 498)

The Second category just illustrates the object control, this type of predicates includes predicates of causing, preventing, enabling and helping as well. Some of these verbs are: *edʒaze dadæn* 'to permit, allow', *tæʃviq kærdæn* 'to encourage' *dʒelowgiri, kærdæn* 'to prevent', *komæk kærdæn* 'to help', *næsih æt kærdæn* 'to advise', …). Examples (45) and (46) present the second category of predicates:

(45) h*æsæn$_j$* *be* *æli$_i$* *edʒaze* *dad* [CP *ke*
Hasan to Ali permission give.PAST.3SG that
PROi/*j *be-r-e* *undʒa*].
Subj-go.PAST-3SG there
'Hasan permitted Ali to go there.'

(46) *æli$_i$* *hæsæn$_j$-o* *mædʒbur* *kærd* [CP *ke* PRO*i/j
Ali Hasan-Acc force do.PAST.SG that
be-r-e *undʒa*].
Subj-go.PAST-3SG there.'
'Ali forced Hasan to go there.'

(47) X CS Yα [α ACT] (Darzi and Motavallian, 2010, p.500)

Finally, the third category simply displays the subject category; these predicates have the sense of ability. *qader budæn* 'to be able', *tævanestæn* 'can', *jad gereftæn* 'to learn' are instances of this category.

(48) [*dust-a_j-j=e to*]$_i$ *mi-tun-æn* [CP PROi/* j
friend-PL-EP=EZ Your IND-can.PRES-3PL
in *kar-o* *ændʒam be-d-æn*].
this work-Acc Subj-do. PRES-3PL
'Your friends can do this work.'

(49) *æli$_i$ jad gereft-e* [CP PROi *ke*
Ali learn take-PASTP-3SG *that*
ranændegi *be-kon-e* */*bozorgtær* *be-ʃ-e]*
drive Subj-do.PRES-3SG /* older Subj-become.PRES-3SG.'
'Ali learnt to drive/*grow older.'

(50) Xα ABLE [α ACT] (Darzi and Motavallian, 2010, p. 501)

On the other hand, Kim (2003) deals with the object of Promise predicates as an adjunct, which is not θ-marked by the verb. Hence, it does not function as a controller for PRO. In addition, Promise predicates cannot be passivized.

(51) a. John promised Bill [PRO to leave early]
b.* Bill was promised [PRO to leave early] (Kim, 2003, p. 296)

Now, if we look at example (37), in keeping with Kim (2003), the objects ('to Susan', 'Susan', 'e') are regarded as adjuncts and are not theta marked by verb. Also, like other Promise predicates objects are deletable, without a change in their meaning and grammaticality. Subsequently, on the word of Kim (2003), Promise verbs are not exceptions to the Minimal Distance Principal (MDP[1]), only if we consider that PRO is controlled by the closet argument and not the nearest DP.

Before dealing with Persian Promise predicates, another example of English Promise predicates is provided to make this issue (Promise predicate problem) more clear.

(52) John promised Bill to be examined.

Sentence 48 is ambiguous and it is understood in two ways:

(53) a. John promised (Bill) [PRO to be examined]
b. John promised [Bill PRO to be examined] (Kim, 2003**, p.** 296)

As to Promise verbs, Kim (2003) states that they have two different features. An exceptional case marking verb property like (53-b) and the other control verb property as (53-a). Just as a consequence of this reason in (53-a), 'John' is considered as the controller of PRO while in (53-b) 'Bill' is understood as the subject of infinite verb. From Kim's (2003) point of view, the Promise verbs problem is due to misinterpretation of the apparent object of 'promise' as a real object in (53-a) and also due to the misinterpretation of the apparent control structure as a real control structure as in (53-b). As a final

[1] The minimal distance principal was suggested by Rosenbaum (1967). In this condition, Rosenbaum states that the PRO in obligatory control structures should be c-commanded by the closest controller.

point, Kim (2003) suggests that Promise verbs cannot be limited to one structure (for instance, control structure). Rather, it must be assumed that Promise verbs have mixed properties of a control verb, a raising verb and an exceptional case marking verb.

Now, adapting Kim's (2003) analysis of Promise verbs and properties of the object in control structures, we can explore Promise verbs of Persian control structures.

As mentioned above, the object of Promise verbs in control structures is known as an adjunct which is not θ-marked by the verb and also cannot be passivized. As a result, it does not function as a controller of PRO. As far as these properties are concerned, now, we can recognize the reason of double acts of Promise verbs of Persian by applying the passivization test. In this test, first both structures of Persian Promise verbs are changed into passive; if the consequent structure is grammatical so the structure is not a control clause. But if passivization leads to an ungrammatical structure then, according to Kim (2003), it is a control structure and its controller is the subject of the matrix clause.

(54) a. *ʔæz zæhra$_j$ qowl gerefte ʃod ke* [PRO$_j$ *dærs bexanæd*][1]

'Zahra made a promise to study.'

b. ** be zæhra$_j$ qowl dade ʃod ke* [PRO$_j$ *dærs bexanæd*]

(55) a. *madær$_j$ qæsæm dade ʃod ke* [PROj *be-r-e xune*].

'The mother was sworn to go home.'

b. * *be madær$_j$ qæsam xorde ʃod ke* [PROj *be-r-e xune*].

(56) a. *ʔæz sina$_j$ tæ'æhod gerefte ʃod ke* [PROj *ʔezdevadʒ konæd*]

'Sina was committed to getting married.'

b.* *be sina$_j$ tæ'æhod kærde ʃod ke* [PROj *ʔezdevadʒ konæd*]

As indicated, through passivization test, as a syntactic criterion, the examples (38-a), (39-a), and (40-a) were changed as corresponding grammatical sentences (54-a), (55a), and (56-a). Then, again, by passivizing the examples (38-b), (39-b), and (40-b), they became ungrammatical: (54-b), (55-b), and (56-b). Therefore, in accordance with Kim (2003), the examples (38-a/54-a), (39-a/55-a), and (40-a/56-a) lead to grammatical sentences and they have control structures, instead, the examples (38-b/54-a), (39-b/55-b), and (40-b/56-b) lack control structures because their passivization test results in ungrammatical sentences

5.3. C-command Restriction

One more property to distinguish OC from NOC is the C-command restriction. In this respect, PRO must be controlled by a C-commanding antecedent in obligatory control but it is not necessary in non-obligatory control.

(57). John persuaded Mary [PRO to leave]. (kim, 2003, p. 293)

(58). *mæryæm$_i$ be mina$_j$ ʔælamæt dad ke* [PRO*i/j *hærf næzænæd*]

[1] Sentences (54), (55) and (56) were evaluated by 40 Farsi speakers. All the speakers realized (54-a), (55-a) and (56-a) as grammatical and (54-b), (55-b) and (56-b) as ungrammatical.

In examples (57) and (58), PRO is controlled by a C-commanding antecedent but this property faces some contradictory instances both in English and Persian i.e., the possessive structure and Promise verbs. As said, the possessive structure is one of the contradictory instances to C-command property in English.

(59) John's sister is reluctant [PRO to leave] (Kim, 2003, p. 290)

In example (59), the entire *DP* "John's sister" C-commands PRO. Consistent with Kim's (2003) *Merge Theory of Control*, in (59) "John's sister" serves as the most immediate argument to the PRO clause, as it directly merges with the PRO clause, whereas "John" first merges with "sister" and only then with the PRO clause. Therefore, the *Merge Theory of Control* provides an adequate explanation for sentences such as (59), irrespective of the *C-command* relation.

Similarly, C-command relation sometimes fails in Persian; look at the examples below:

(60) [*xɑhær=e* [*nilufær*]$_i$]$_j$ *(?æz ?in)* *bizɑr* *?æst* *ke*
sister=EZ Nilufar (from this) hate be.PRES.3SG that
[PRO*$_{i/j}$ *?ɑʃpæzi* *be-kon-æd*]
PRO cooking Subj-do.PRES-3SG
'Nilufar's sister hates to cook.'

(61) [*ʃowhær=e* [*mæryæm*]$_i$]$_j$ *?entezɑr* *dɑr-æd* *ke*
husband=EZ Maryam expectation have.PRES-3SG that
[PRO*$_{i/j}$ *bærænde* *be-ʃæv-æd*]
PRO won Subj-become.PRES-3SG
'Maryam's husband expects to win.'

In examples (60) and (61), the whole constituent [*xɑhær=e* [*nilufær*]] and [*ʃowhær=*e *mæryæm*]] C-command PRO in the two sentences whereas the nouns (*nilufær* and *mæryæm*) which are closer to PRO do not C-command it. The solution of this problem in Persian is just like that of English example (59). Here, again, '[*xɑhær=e* [*nilufær*]]' in (60) and '[*ʃowhær=e* [*mæryæm*]]' in (61) as a whole are closer to PRO- clause and the PRO-clause merges with them directly. However, in (60), '*xɑhær*' already merges with '*nilufær*' and, in (61), '*ʃowhær*' is previously merged with '*mæryæm*'.

6. Conclusions

In this study, following a brief review of previous research on control structures, we introduced Kim's (2003) *Merge Theory of Control*, a model situated within the Minimalist framework. We then examined the applicability of the main concepts of this theory to Persian control constructions. The findings verified the suitability of Kim's (2003) *Merge Theory of Control* for Persian, demonstrating that, aside from semantic criteria, the assumption of **PRO** can also be explained in terms of syntactic properties. Moreover, we showed that the *promise* predicate problem in Persian can be resolved syntactically within Kim's (2003) model.

This conclusion contrasts with Darzi and Motavallian's (2010) claim that semantic factors play

a dominant role in explaining control phenomena in Persian and that a purely syntactic account is insufficient. Additionally, there is no need to consider *promise* verbs as highly marked, as suggested by Hornstein (1999, p. 83), or to adopt Landau's (2003) semantically based classification of verbs into three types, (a) *commitment verbs* (*promise*, *vow*), (b) *verbs of request for permission* (*ask*, *beg*), and (c) *propositional verbs* (*propose*, *discuss*). Instead, a detailed syntactic analysis can treat these constructions as regular at certain levels of derivation.

In other words, the apparent violations of the *locality* and *C-command* conditions in Persian *promise* verbs can be adequately explained by treating the objects of such verbs in control constructions as adjuncts rather than complements. Consequently, these objects are not θ-marked by *promise* verbs, are not passivized, and do not function as controllers of PRO in Persian. On a broader scale, further research is recommended to investigate all properties of PRO based on Kim's (2003) *Merge Theory of Control*.

List of Abbreviations

Acc	Accusative marker
Agr	Agreement
C	Complement
CS	Conceptual structure
CP	Complement phrase
DP	Determiner phrase
e	empty
EZ	Ezafe (genitive marker in Persian)
EP	Epenthesis
=	Clitic boundary
FP	Functional Projection
Gen	Genitive
I	Infinitive
IND	Indicative
IP	Infinitive phrase
MLC	Minimal Link Condition
MDP	Minimal Distance Principle
Dur	Duration
NP	Noun phrase
NOC	Non obligatory control
OC	Obligatory control
PAST	Past tense
PASTP	Past participle
PL	Plural
PP	Preposition phrase
PRES	Present tense
PRO	Big PRO (abstract pronoun)
Pro	little pro (null subject pronoun)
V	Verb
VP	Verb phrase
SPEC	Specifier
SG	Singular
Subj	Subjunctive
T	Tense
TP	Tense phrase
θ-marked	Theta- marked

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