NON-FINITE CONTROL IN PERSIAN

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This paper provides an analysis of PRO in Persian. I will show that apparently infinitival clauses are actually nominal in nature, and not clausal. Then, considering the mixed behavior of the infinitival form with respect to its precedence relation with its complement, I will propose two distinct structures for the construction in question: one involving a nominal construction headed by a noun taking its complement to the right à la Giorgi & Longbardi’s (1991) analysis of a similar construction in Italian and another having the structure [NP [IP PRO ...]] following Chomsky’s (1996b) analysis of a corresponding construction in English. A new analysis of arbitrary PRO in Persian is presented in section four, providing further support for the proposed analysis. The paper is concluded with arguments against analyzing the infinitival forms in Persian as morphological compounds.

1. Persian infinitival clauses

Persian is an pro-drop language in which major phrasal categories, except VPs, are head-initial (Samii 1983, Ghomeshi 1996). Although, the language is an SOV type, complement clauses follow the matrix verb underlyingly (c.f. Karimi 1989, Darzi 1996). There are sentences in which the covert subject of an embedded clause is strictly coreferential with the matrix subject suggesting a subject control phenomenon in finite clauses. This is illustrated in (1). The head of the embedded clause in this sentence is inflected for person and number, suggesting that the clause is finite, though due to the presence of the subjunctive mood prefix the verb may not be morphologically in the past tense. The subjunctive mood in Persian involves the morpheme to be prefixed to the present stem of the verb.

(1)  

\[ \text{mam}_1 \text{ quesd dar-\text{\textae}m} \ [\text{PRO}_1 \text{ name be-nevis-\text{\textae}m}] \]

\[ \text{I intention have-1sg letter sub-write-1sg} \]

‘I intend to write a letter.’

There are various analyses of sentences similar to (1) (c.f. Hashemipour 1990, Ne’matzadeh 1995). However, I am not concerned with finite control constructions in Persian in this study. There are also sentences corresponding to (1) in which the embedded clause is apparently non-finite as illustrated in (2). In (2a), neveşt\text{\textae}n ‘writing’ follows its complement ‘letter’, whereas in (2b), it preceds its complement with the morpheme e ‘of’, known as Ezafe ‘addition’ intervening between the two. Ezafe, according to Samii (1983), usually links a non-verbal head (N, P, A) to its postmodifiers. Given the Uniformity of Theta Assignment
Hypothesis, assigning a structure to the bracketed infinitival clause in (2) identical to the corresponding finite clause in (1) is warranted within the GB framework (Chomsky 1981, 1986a,b).

(2) a. man qæsd-e name neveštæn dar-æm
   I intention-Ez letter writing have-1sg
   ‘I intend to write a letter.’

   b. man qæsd-e neveštæn-e name dar-æm
   I intention-Ez writing-Ez letter have-1sg
   ‘I intend to write a letter.’

In addition to this type of sentences, Ne’matzadeh (1995) maintains that non-verbal components of compound verbs and constructions containing a nominal do, in fact, involve a control construction. This is illustrated in (3) and (4), respectively, with the highlighted relevant constituents adopted from her study. In these sentences, Ac stands for accusative and ye is an allomorph of the Ezafe morpheme.

(3) dowlastt bayæd ba æFZAYE$E dæstmøzd-ha æz
government must by increase-Ez wage-pl from
   kargær-an hemayæt kon-æd
   worker-pl support do-3sg
   ‘The government must support workers by increasing their wages.’

(4) dadgah BÆRÆS-I-YE pærvænde-ye u ra æqe bændaxt-o
court investigation-Ez file-Ez he-Ac back threw-3sg
   ‘The court postponed his file.’

Ne’matzadeh (1995) analyzes the sentences in (2) and the relevant parts of (3) and (4) as involving an obligatory control construction. She holds that there is a PRO in the Specifier of the infinitival IP of the embedded clause. She states that the string embedded under the matrix verb of the construction under discussion is an exceptional clause. Under, her analysis, the structure of the sentences in (2) may be represented as in (5) in which Ind stands for ‘indicative’.

(5) a. man$_i$ qæsd-e [IP PRO$_i$ name neveštæn] dar-æm
   I intention-Ez letter writing have-1sg
   ‘I intend to write a letter.’

   b. man$_i$ qæsd-e [IP PRO$_i$ neveštæn-e name] dar-æm
   I intention-Ez writing-Ez letter have-1sg
   ‘I intend to write a letter.’

She states that PRO is Case marked by the preposition preceding it as in (3) as required in Chomsky’s (1981:322) analysis. She further maintains that cases where PRO is preceded by an Ezafe as in (5), satisfy the Case requirement on the PRO as the Ezafe is, in fact, a preposition assigning Case to PRO. In short, she presents an ECM analysis of infinitival clauses in Persian. In the next section, I will propose several arguments to show that the infinitival construction in Persian is nominal and not clausal.
2. The grammatical category of Persian infinitival clauses

In this section, I demonstrate that the so-called infinitival construction in Persian has a clausal structure.

2.1. Theoretical considerations

Ne'matzadeh's (1995) ECM analysis of Persian infinitival clauses is problematic. Firstly, the exceptional clause analysis of the embedded constituent, treated by Ne'matzadeh as a clause, makes the PRO available for outside government in violation of the PRO Theorem. Secondly, Chomsky (1986a:104) proposes that PRO has an Inherent Case not a Structural one as assumed by Ne'matzadeh (1995). Thirdly, Samiian (1983) has persuasively argued that the Ezafe is not a preposition.

2.2. Empirical considerations

In this subsection, I present several syntactic arguments to support the hypothesis that infinitival clauses in Persian are not clausal. The arguments are constructed in such a way as to show that the structure under discussion is a nominal structure (NP/DP).

Overt NPs

If the exceptional clause analysis of the construction in question is on the right track, we would expect overt NPs to occur in the position of PRO as the NP is governed and Case assigned by an outside governor. This prediction is not borne out as suggested by the ungrammaticality of (6) which correspond to those in (2).

(6) a. mæn qæsd-e [æli name nevestæn] dar-æm
    I intention-Ez Ali letter writing have-1sg

b. *mæn qæsd-e [æli nevestæn-e name] dar-æm
    *I intention-Ez Ali writing-Ez letter have-1sg

The complementary distribution between PRO and an overt NP in these sentences undermines Ne'matzadeh's (1995) analysis, indicating that the structural position in question is not a structural Case position. This makes the ECM analysis of the construction implausible.

Presence of ke ‘that’

The second argument against the ECM analysis and in support of the nominal nature of infinitival clauses in Persian comes from the impossibility of the so-called infinitival clause to be headed by the complementizer ke ‘that’ which optionally heads all embedded complement clauses in Persian. The sentence in (7) which involves a finite control may optionally be headed by the optional complementizer, whereas the NP object in (8) may not. The apparently infinitival clause in (9) cannot be headed by the complementizer either. This can be explained if the seemingly infinitival clause is treated as an NP not an IP or CP.
(7) mæn₁ qaesd dar-æm (ke) [PRO, name be-nevis-æm]  
I intention have-1sg (that) letter Sub-write-1sg
‘I intend to write a letter.’

(8) *mæn ke name mi-nevis-æm  
I that letter Ind-write-1sg
‘I write a letter.’

(9) mæn qaesd-e (*ke) [name neveštæn] dar-æm  
I intention-Ez (that) letter writing have-1sg
‘I intend to write a letter.’

Restrictions on coordination

The third argument in support of the nominal analysis of infinitival constructions in Persian comes from the restrictions on coordination. In this language, two CPs or NPs may be coordinated as shown in (10) and (11) respectively.

(10) a. æli dær bank kar mi-kon-æd vœ pedær-æš doktor æst  
Ali in bank work Ind-do-3sg and father-his doctor is
‘Ali works in a bank and his father is a doctor.’

b. u mi-dan-æd æli dær bank kar mi-kon-æd vœ  
he Ind-know-3sg Ali in bank work Ind-do-3sg and
pedær-æš doktor æst
father-his doctor is
‘He knows that Ali works in a bank and his father is a doctor.’

(11) a. sara in mæqale vœ an ketab-e čamski-ra xande æst  
Sara this paper and that book-Ez Chomsky-Ac read is
‘Sara has read this paper and that book by Chomsky.’

b. u nešani-ye ma vœ nam-e pedær-æm ra mi-dan-æd  
he address-Ez we and name-Ez father-my Ac Ind-know-3sg
‘He knows our address and my father’s name.’

However, while an NP may be coordinated with an infinitival clause as in (12), a CP may not be so coordinated as shown in (13). This shows that infinitival clauses in Persian are not CPs.

(12) a. mæn₁ qaesd-e [PRO₁ ræftæn-e be emrika] vœ [IP molaqat  
I intention-Ez going-Ez to U.S and meeting
ba u-ra] næ-dar-æm
with he-Ac neg-have-1sg
‘I do not intend to go to the U.S and meet him.’

b. mæn₁ qaesd-e [PRO₁ xeridæn-e xane] vœ [IP foruš-e  
an be u-ra] næ-dar-æm
it to he-Ac neg-have-1sg
‘I do not intend to buy a house and sell it to him.’
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Distribution of the Ezafe morpheme

The fourth argument in support of the nominal analysis of infinitival forms in Persian comes from the distribution of the Ezafe morpheme. Samiian (1983) shows that Ezafe occurs between a non-verbal head and some of its postmodifiers. Specifically, she (1983:64) mentions that the Ezafe does not occur between a head noun and its complement clause or relative clause. Now, considering the fact that this morpheme must precede an infinitival form as in (14) but may never precede a complement clause as shown in (15), we can legitimately conclude that infinitival forms in Persian are not clausal. The sentence in (14) that involves an infinitival form is totally out in the absence of the Ezafe morpheme. However, the sentence in (15) which involves a finite embedded clause is totally out in the presence of the Ezafe morpheme.

(14) a. mæn qæsd-*(e) [name nevæstæn] dar-æm
   I intention-Ez letter writing have-1sg
   ‘I intend to write a letter.’

(15) a. mæn_qæsd-((e) dar-æm [PRO_i name be-nevis-æm]
   I intention-Ez have-3sg letter Sub-write-1sg
   ‘I intend to write a letter.’

The specificity marker ra

The presence of ra which, according to Karimi (1989), marks certain NPs for specificity provides us with the fifth argument in support of the nominal analysis of infinitival forms in Persian. The crucial point here is that ra strictly marks NPs, mainly specific direct objects, but not complement clauses as shown in (16) and (17) respectively. The absence of ra in (16) renders the sentence ungrammatical regardless of its precedence relation with the complement clause.

(16) man u-ra mi-ʃenas-æm
   I he-Ac Ind-know-1sg
   ‘I know him.’

(17) a. *u mi-dan-æd æli dær bank kar mi-kon-æd (*ra)
   he Ind-know-3sg Ali in bank work Ind-do-3sg Ac
b. *u mi-dan-æd (*ra) ali dær bank kar mi-kon-æd
  he Ind-know-3sg (Ac) Ali in bank work Ind-do-3sg
  ‘He knows that Ali works in a bank.’

The fact that ra may follow infinitival forms in Persian suggests that infinitivals in this language are nominal. This is shown in (18).

(18) maen qæsd-e [raeftæn be emrika-ra] nae-dar-aem
  I intention-Ez going to U.S-Ac neg-have-1sg
  ‘I do not intend to go to the U.S.’

**Distribution of the infinitival forms**

Another syntactic argument in support of the hypothesis proposed in this paper comes from the differences in the distribution of clausal complements as opposed to NP complements. Non-specific NPs in Persian have to precede the verb according to Karimi (1989). While object NPs in general occur before the main verb in unmarked cases, complement clauses have to follow the main verb or the sentence is ungrammatical. This is illustrated in (19) and (20) respectively.

19) a. æli ketab mi-xan-æd
    Ali book Ind-read-3sg
  b. *æli mi-xan-æd ketab
    Ali Ind-read-3sg book
    ‘Ali is reading a book.’

(20) a. u mi-dan-æd [CP æli dær bank kar mi-kon-æd] he Ind-know-3sg Ali in bank work Ind-do-3sg
  b. *u [CP ælilder bank kar mi-kon-æd] mi-dan-æd
    he Ali in bank work Ind-do-3sg Ind-know-3sg
    ‘He knows that Ali works in a bank.’

Now the fact that infinitival forms in Persian strictly precede the main verb as shown in (21) may be explained if they are not treated as clauses.3

(21) a. maen qæsd-e [raeftæn (e) be emrika-ra] nae-dar-aem
    I intention-Ez going Ez to U.S-Ac neg-have-1sg
  b. *maen qæsd-(e) nae-dar-aem [raeftæn (e) be emrika-ra]
    I intention-Ez neg-have-1sg going Ez to U.S-Ac
    ‘I do not intend to go to the U.S.’

**Morphological evidence**

Finally, infinitival forms behave morphologically like NPs as they can take plural ending not available to clauses. This is illustrated in (22) in which the infinitival form is marked for plurality, making the nominal analysis of infinitival forms more plausible. Note also that the infinitival form in this example is the complement of the preposition æz ‘from’, further supporting the nominal analysis of infinitivals in Persian under the Case Resistance Principle (Stowell 1981) which restricts clauses to non-Case positions.
In sum, there are variety of reasons coming from both syntactic and morphological facts supporting the idea that infinitivals in Persian are nominal not clausal. In the following section, I will propose two distinct structures for the construction in question.

3. The structure of non-finite control in Persian

In this section, two distinct structures are assigned to Persian infinitival constructions. If we consider the struture of the infinitival clauses in Persian, we will see a discrepancy in the head position of the construction relative to its complement. The head of the seemingly infinitival form *nevestaen* ‘to write/ writing’ takes its complement to the left in (2a) and to the right in (2b) repeated here in (23). These sentences also show a sharp contrast with regard to the presence of the Ezafe morpheme. The presence of Ezafe before *nevestaen* ‘to write/ writing’ renders (23a) ungrammatical, whereas in (23b) the absence of Ezafe makes the sentence totally out.

(23) a. man qæsd-e intention-Ez [name (*e) nevestaen] dar-aem
ingo tell-Persian he tired got-en-1sg

b. man qæsd-e intention-Ez [nevestaen-*e name] dar-aem

‘I cannot tolerate his lies (him telling lies).’

Recall that as mentioned earlier non-verbal heads which are head-initial take Ezafe before certain of their postmodifiers whereas VPs are head-final and are never separated from their complements by the Ezafe morpheme. As such, the analysis that suggests itself is that the bracketed phrase in (23a) contains a projection of IP whereas the one in (23b) is purely nominal with no Infl. However, if the infinitival form (23b) is treated as an NP with a PRO in its Spec, then PRO will be governed by the matrix verb under Chomsky’s (1986a,b) analysis violating the PRO Theorem. Chomsky (1986a,b) refers to a similar situation in English Exceptional Case Marking constructions with an infinitival complement as in (24).

(24) a. John regretted [IP PRO losing the game]

b. John believed [IP [PRO losing the race] to be a tragedy]

To avoid the PRO Theorem violation, Chomsky (1986b) proposes that the infinitival clauses in (24) are dominated by an NP. I will adopt Chomsky’s (1986b) proposal and extend it to the first type of infinitival phrases in Persian exemplified in (23a). The infinitival forms is, then, analyzed as having the structure [NP/DP [IP PRO]] in which the complement of the non-finite verb precedes it and the head of the NP is empty. The sentence in (23a) has the structure assigned to it in (25). The fact that the presence of Ezafe between *nevestaen* ‘to write’ and name ‘letter’ renders the sentence ungrammatical is then straightforwardly accounted for as verbs do not take Ezafe.
(25) a.  maen qaesd-e [NP/DP [IP name neveštən] dar-əm
I intention-Ez letter writing have-1sg
‘I intend to write a letter.’

Following Giorgi & Longobardi’s (1991) analysis of Romance languages, the structure of the second type of control construction in Persian, illustrated in (23b), is proposed to be [DP [NP PRO N’ [ N ...]]] in which the seemingly infinitival verb is actually an NP/DP with a PRO in its spec. This is suggested by the presence of the Ezafé morpheme which appears only between a non-verbal head and certain of its postmodifiers. The structure of (23b) is represented in (26).

(26) maen qaesd-e [NP/DP PRO neveštən-e name] dar-əm
I intention-Ez writing-Ez letter have-1sg
‘I intend to write a letter.’

In so doing, the nominal nature of the construction in question, as suggested by various syntactic arguments, is accounted for as the apparently infinitival clause is embedded under an NP/DP. Moreover, the order of the complement of the so-called infinitival verb with respect to its complement is accounted for in both constructions.

4. *Arbitrary control in Persian*

The analysis proposed in this paper accounts for arbitrary control in Persian as well. The construction, not investigated in the literature on Persian as far as I know, involves sentences like (27)-(28) below.

(27) [ræftən (-e) be danešgah] fayde næ-dar-e
going (Ez) to university use neg-have-3sg
‘It is no use going to school.’

(28) sohbaet kærdaen pošt-e sær-e u] xub ni-st
talk doing behind-Ez head-Ez he good not-is
‘It is not good to talk behind him.’

In Persian, the reciprocal anaphor *yekdīgær* (each other/ one another) requires a commanding antecedent in the same clause as predicted by the Principle A of the Binding Theory. The lack of an appropriate antecedent for the anaphor renders the sentence ungrammatical as is suggested by the contrast in (29).

(29) a.  bæradaer-e ma ba yekdīgær sohbaet mi-kær-d-∅
brother-pl-Ez we to each other talk Ind-did-3sg
*‘Our brother was talking each other.’

b.  bæradaer-an-e ma ba yekdīgær sohbaet mi-kær-d-ænd
brother-pl-Ez we to each other talk Ind-did-3pl
‘Our brothers were talking to each other.’

Now, the sentence in (30) which involves an embedded infinitival construction can be explained if we assume that there is an arbitrary PRO in the embedded clause binding the anaphor.
have-lsg [sohbet kardan posht-e saer-e yekdiger]  
I of talk doing behind-Ez head-Ez each other

motenaeffer hast-am  
hateful be-1sg

'I hate talking behind each other.'

In these sentences, the semantic subject of the infinitival form is understood to be arbitrary in reference. As such, positing a PRO in the subject position of the bracketed phrase (NP/DP) is in line with the analysis proposed in section three and explains why yekdiger 'each other' which requires the presence of a plural NP/DP in sentence has been licensed.

5. Against a nominal compound analysis

An alternative view might be to suggest that control constructions in Persian simply involve a morphological compound. Under this view, the bracketed constituents in (23) repeated here in (31) would involve a morphological compound with the control interpretation arising from theta-role assignment along the lines proposed in Williams (1987) and not through PRO. This analysis may also be extended to similar forms in the arbitrary control constructions in Persian.

(31) a. mën qaesd-e [name (*e) nevestaen] dar-äm  
I intention-Ez letter (Ez) writing have-1sg

'I intend to write a letter.'

b. mën qaesd-e [nevestaen-*(e) name] dar-äm  
I intention-Ez writing-(Ez) letter have-1sg

'I intend to write a letter.'

Such an analysis may face difficulties in explaining the presence of Ezafe in (31b). Recall that Ezafe links a non-verbal major lexical head to some of its post modifiers. As such, (31b) in which the absence of Ezafe renders the sentence ungrammatical may not easily be accounted for under the nominal compound analysis. Moreover, sohbet kardan 'talking' in (30) has a modifying phrase posht-e saer-e yekdiger 'behind each other' which may also appear before 'talking' indicating that we are dealing with a phrasal category not a morphological/lexical compound. In what follows, I present further arguments to show that a morphological compound analysis of the construction in question is not on the right track.

First, I follow Koizumi (1995:82) in assuming that the productivity of lexical compounds is relatively low as opposed to post-lexical compounds which are highly productive. In Persian, a great number of semantically appropriate nouns may cooccur with the infinitival form in the construction at hand. That is to say, in addition to 'letter writing' in (31a), Persian also has article writing, book writing, memory writing, note writing, phone number writing, prescription writing, joke writing, slogan writing, lie writing, dictionary writing, fine writing, statement writing, etc.
Second, following Koizumi (1995:82), I maintain that syntactic processes may access the first element of a post-lexical compound but not the first element of a morphological compound. Now, the nominal form in the bracketed infinitival construction in (32a) may be elitic left-dislocated to give (32b). This is not possible under the alternative analysis I am arguing against. In the worst case, infinitival constructions in Persian may involve a post-lexical compound, not a lexical compound, though this does not seem plausible either as I will show shortly.

(32) a. name neveštan do saæt tul mi-keš-e
    letter writing two hour duration Ind-pull-3sg
    ‘Writing a letter takes two hours.’

b. name neveštan-ešt do saæt tul mi-keš-e
    letter writing two hour duration Ind-takes-3sg
    ‘The letter, it takes two hours to write it.’

Third, and more importantly, the nominal part of the allegedly compound form may be separated from the infinitival form. This is not possible if the two formed one single constituent, namely a compound. This is illustrated in (33) in which telefon ‘call’ is not adjacent to zadæn ‘place or make, lit:hit’ with which it forms a compound under the alternative analysis I am rejecting.

(33) telefon be ostad zadæn dorost ni-st
    call to professor hitting appropriate not-is
    ‘It is not appropriate to call one’s professor.’

Fourth, the nominal element of the infinitival form may take some post-modifiers. This is illustrated in (34) indicating that the construction in question does not involve a compound.

(34) a. man qæsd-e [name-ye ašeqane neveštan] dar-æm
    I intention-Ez letter-Ez amorous writing have-1sg
    ‘I intend to write a love-letter.’

6. Summary

In this paper, I presented an analysis of PRO in Persian. I showed that apparently infinitival clauses are actually nominal in nature, and not clausal as proposed in the literature. Then, considering that the complement of the infinitival form sometimes follows and sometimes precedes it, I proposed two distinct structures for the construction in question. The first type of infinitival construction was analysed as simply involving a nominal construction in which the infinitival form is the head of an NP taking its complement to the right. The second type was analysed as having the structure \[NP/DP [IP PRO ... ]\] in which the infinitival form is the head of a VP. The proposed analysis was then extended to arbitrary PRO in Persian. I finally showed that the infinitival forms in Persian may not be treated as involving a nominal compound undermining the analysis according to which Persian control constructions does not involve PRO, rather the control interpretation arises through theta-role assignment.
NOTES

* This paper was supported by Grant Number 314/1/296 from the Vice Chancellor for Research at Tehran University. The theoretical framework of the paper is the traditional GB theory as developed in Chomsky (1981, 1986a, b), and others. More recent analyses of control constructions, such as Hornstein’s (1999) movement analysis may not straightforwardly account for the Persian due to the identical distribution of some overt NPs in Persian with PRO.

1 The sentence in (8) may be considered grammatical just in case ke is construed to have an emphatic function on the identity of the subject performing the action stated by the verb.

2 Further arguments presented in this paper makes it clear the infinitival form does not belong to any other category either.

3 According to Karimi (1989), only specific NPs marked by ra may follow the verb. The ungrammaticality of the ill-formed sentences has been attributed to ECP violation in Karimi’s (1989) analysis. I will not discuss how infinitival forms seem to intervene between the constituents of what appears to be a compound verb such as qaesd daštwan (lit: to have intention) in this paper.

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