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‘Persian Complex DPs: How Mysterious Are They?’
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Persian Complex DPs

How Mysterious Are They?

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1 Introduction*

The following sentence illustrates an instance of complex DP containing an argument clause in Modern Spoken Persian.¹

- (1) Hæme [_{DP} [in edde'a]-ro [_{CP} ke Ramin bigonah-e]] mi-pæzir-æn.
all this claim-OM that Ramin innocent-be-3SG DUR-accept-3PL
“Everyone accepts this claim that Ramin is innocent.”

In this example, the particle *ra*, which marks specific DPs for accusative Case and shows up as *o* and *ro* in colloquial language, appears between the head noun and the complement CP.²

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Thats to also add that the dates of some papers in the reference section have been updated.

¹ The data in this paper are taken from Farsi, one of the variants of Persian and the standard language in Iran.

² I am using a revised version of Enç's (1991) definition for the term *specific* in this paper. According to this definition, specific DPs are linked to a discourse referent. Thus definite DPs are always specific, while indefinites are specific if they are partitive or modified, for example, by a relative clause. Nonspecific DPs are either existential or kind level. See Karimi (1999b) for more detail.

The appearance of *ra* following the complex DP, as illustrated in (2), is much less acceptable than (1). This version is a recent innovation employed in mass media and by the younger generation.³

- (2) Hæme [_{DP} [in edde'a] [_{CP} ke Ramin bigonah-æ]]-ro mi-pæzir-æn.
 all this claim that Ramin innocent-be3SG-OM DUR-accept-3PL

The position of the particle *ra* in (1) is peculiar given the fact that it has scope over the entire DP, which would normally require that it follows the whole projection rather than the head noun, as evidenced by the following contrast:

- (3) a. Kimea [_{DP} gol-ha-ye baq-e hamsayæ]-ro be mæn dad.
 Kimea flower-PL-EZ⁴ garden-EZ neighbor-OM to me give-PAST-3SG
 'Kimea gave to me the flowers of the neighbor's garden.'
 b. * Kimea [_{DP} gol-ha-ro-ye baq-e hamsayæ] be mæn dad

The particle *ra* appears following the entire DP projection in (3a), while it follows the head noun in the ill-formed string in (3b). This contrast clearly indicates that *ra* must be placed at the end of the DP it marks for specificity and accusative Case.

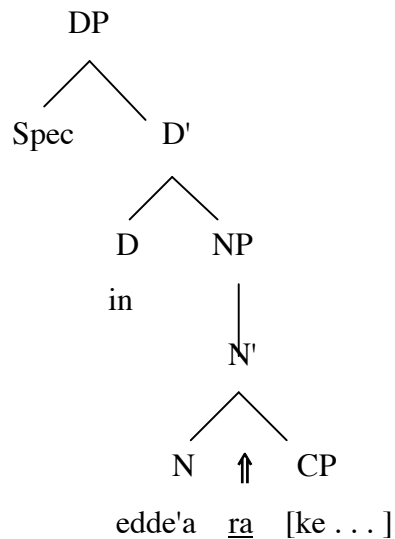
The contrast in (3) thus raises the following question: how can we justify the well-formedness of (1) where *ra* intervenes between the head noun and the complement?

If the subcategorized CP in (1) were the sister to the head noun, as in (4), the presence of *ra* in its surface position would be a mystery since, as we see in (3), this particle must follow the whole projection rather than the head noun.

³ I would like to thank one of the reviewers for bringing this innovation to my attention. I am grateful to Mohammad Reza Bateni for an enlightening discussion on this issue, and for pointing out to me relevant references.

⁴ An *Ezafe* construction is a DP consisting of the head (an element with the feature [+N], such as N or A), its modifier(s), an optional possessive DP, and the *Ezafe* particle *e*, which serves in the structure as a link between the head and its modifiers. For a discussion of the Persian *Ezafe* construction, see Tabaian (1994), Samiiian (1983, 1994), Karimi and Brame (1986), and Ghomeshi (1996, 1997).

(4)



The following example shows that restrictive relative clauses exhibit the same pattern: *ra* appears between the head noun that is attached to the relative marker *-i* and the modifying CP:

- (5) Mæn [_{DP}[un ketab-i] - ro [_{CP} ke Sepide diruz xærid]]
I that book-REL-OM that Sepide yesterday buy-PAST-3SG
be Kimea dad-æm.
to Kimea give-PAST-SG

'I gave that book that Sepide bought yesterday to Kimea.'

As in (2), the appearance of *ra* following the embedded CP in (6) is less acceptable than (5), but is used in mass media and by the younger generation.

- (6) Mæn [_{DP}[un ketab-i] [_{CP} ke Sepide diruz xærid]]-ro
I that book-REL that Sepide yesterday buy-PAST-3SG-OM
be Kimea dad-æm.
to Kimea give-PAST-1SG

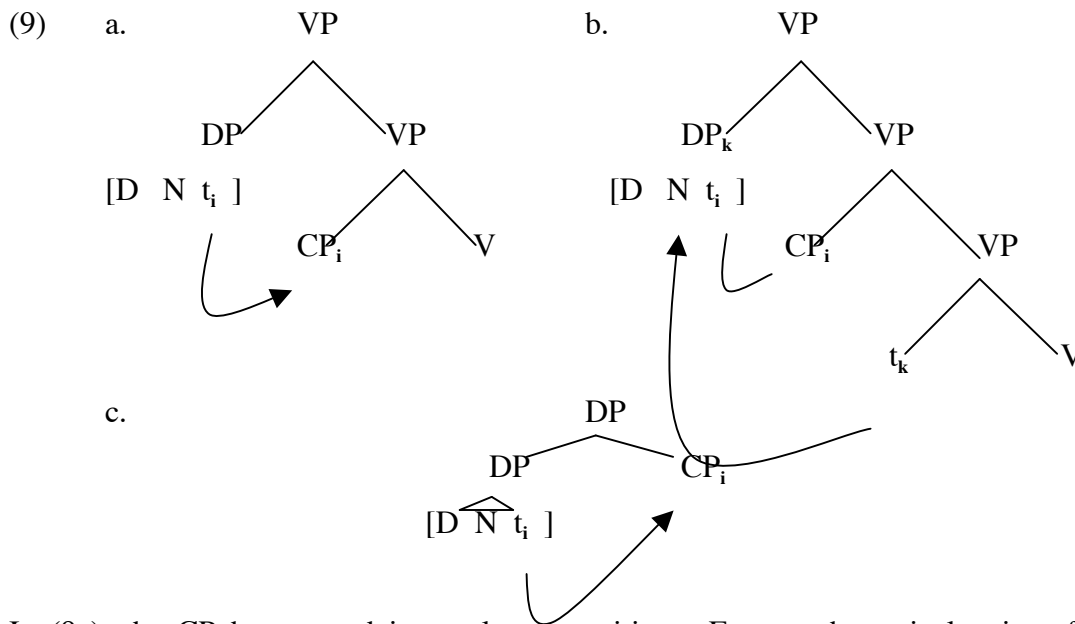
The data in (1) and (5) thus reveal a striking similarity: In both cases, the determiner and the head noun seem to constitute one unit, followed by *ra*, and modified by a complement or a relative clause. One possible explanation for this fact, given the existence of the contrast in (3), could be that the embedded CP is in an extraposed position in these examples.

To determine whether this is the case and what this extraposed position might be, let us first consider the Persian word order in a neutral context illustrated in (7) and (8).

(7) (S) (O+ra)_s (PP) V

(8) (S) (PP) (O) V

As shown in (7), Persian is a verb-final language in which, in a neutral context, the specific object followed by the particle *ra* precedes the indirect object (PP) or any other kind of PP. The nonspecific object is adjacent to the verb, as shown in (8), again in a neutral context,. If we assume that CP-extrapolation has taken place in (1) and (5), three possibilities present themselves as to the structure involved:



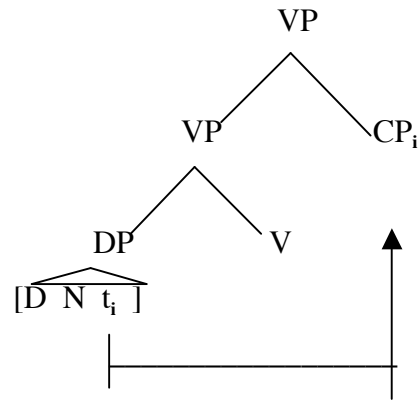
In (9a), the CP has moved into a lower position. From a theoretical point of view, however, lowering is not an option since it allows the trace to remain unbound. The ill-formedness of the sentence in (10) supports the claim that the relative clause in (5) cannot be in such a position. In this example, the relative clause has moved to the right of the indirect object.

(10) *Mæn [_{DP}[un ketab-i t_i]]-ro be Kimea [_{CP_i} ke Sepide diruz

|—————↑

I that book-REL-OM to Kimea that Sepide yesterday
xær-id]] dad-æm

(12)



If the embedded CPs in (1) and (5) cannot be in an extraposed position, how can we account for the mysterious appearance of *ra* between the head noun and the CP? Furthermore, what explains the naturalness of (1) and (5) and what is the source of the recent innovation represented by the sentences in (2) and (6)? Finally, is the sentence in (11), where the CP is to the right of the verb, the result of extraposition? If so, how can this movement be justified within the Minimalist framework which does not allow a rightward movement? What other syntactic process could possibly be responsible for this and similar constructions?

This article aims to provide answers to these questions concerning Persian complex DPs containing a subcategorized CP or a restrictive relative CP.⁵ I will show that DPs in (1) and (5) are not as mysterious as they seem to be, by reanalyzing their internal structure in the light of Kayne (1994), and by taking into account the structure of the *ra*-phrase and the distribution of clitic pronouns within Persian embedded CPs. Furthermore, the analysis advanced in this paper suggests a simple explanation for the difference between the traditional order in (1) and (5), and the recent innovation in (2) and (6). Finally I will show that the presence of the embedded CP to the right of the verb, as exemplified by (11), is not the result of extraposition nor remnant-VP movement. We will see that (11) and similar cases are best analyzed as the result of V-raising and XP-movement triggered by focus. This analysis is consistent with general characteristics

⁵ . Persian free relative constructions are not discussed in this paper.

of this language, which allow scrambling motivated by discourse features, including focus.

The article is organized as follows. A brief review of the literature on relative clauses as well as a comparison of the structure of Persian relative constructions with their English counterparts are presented in section 2. In section 3, a proposal regarding the internal structure of Persian relative constructions is introduced. In this section, Kayne's (1994) basic configuration for relative constructions is adopted, in which the CP is the complement of D rather than N. However, it is proposed that a base generation analysis of the head noun and its optional determiner in the Spec of the complex DP accounts more adequately for Persian data than Kayne's raising analysis. Section 4 offers an examination of Persian complex DPs in the light of this proposal. Since the distribution of the specificity marker *ra* is crucial for this analysis, this element is briefly discussed, complex DPs containing relative clauses are examined, and the analysis is extended to complex DPs containing subcategorized CPs. The new version of complex DPs is then discussed, followed by a cross-linguistic discussion which provides evidence supporting the analysis proposed for the Persian data presented in this article. Section 5 examines the problem of the appearance of the embedded CP in postverbal position. It is suggested that the presence of the embedded CP to the right of the verb is the result of V-raising rather than extraposition. Some problems that emerge from this analysis are then discussed, and remnant-VP movement, as an alternative analysis to V-raising is examined. It is shown, however, that this analysis faces some theoretical as well as empirical problems. Finally, the V-raising analysis is addressed once again, and it is argued that this analysis is more adequate than the alternative proposals. Section 6 offers concluding remarks, and some open questions are highlighted.

2 Relative Clauses

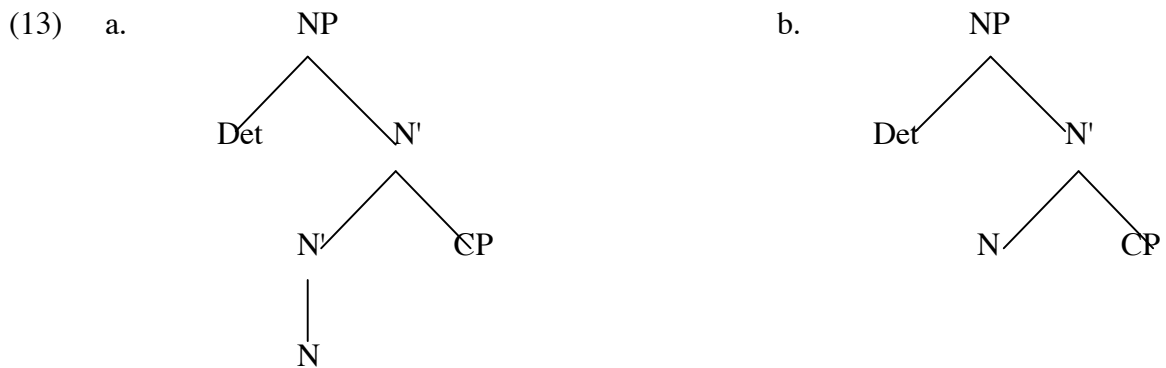
In this section, I present some of the main features of the analysis of relative clauses in the generative framework, focussing particularly on a recent proposal by Kayne (1994), and I then compare the main properties of Persian relative clauses with those of their

English counterparts.

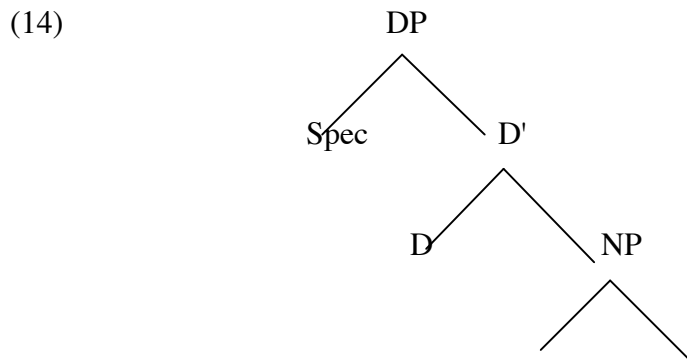
2.1 A brief literature review

In the early years of generative grammar, Chomsky (1965:145) and Ross (1967:65), among others, analyzed relative clauses as involving a relative NP, an element identical to the head of the relative construction, which was first fronted from its base (relativized) position, and then deleted and replaced by a relative pronoun. Later, Chomsky (1977:85-6) compared relative pronouns and *wh*-phrases, and stated that these elements share certain properties, including the sensitivity to island conditions. Thus, he concluded that relative pronouns move to Comp like *wh*-phrases. Browning (1987:52-63) had suggested that relative operators (and pronouns) move into [Spec, CP] rather than to Comp.

As for the internal structure of complex NPs, the following constructions represent classical configurations with respect to complex NPs containing a relative CP (13a) or a subcategorized CP (13b).



Kayne (1994), adopting the proposal that determiners are the head of the "nominal" projection (Brame 1981; Abney 1987), as shown in (14), suggests that the relative CP is the complement of the determiner, rather than the head, as in (15).



N

(15) [DP D⁰ CP]

The head of the relative clause is base-generated inside the CP, and moves into [Spec, CP], as in (16).

(16) the [CP picture_i [C, that Bill saw [e_i]]]

In (16), the determiner D⁰ selects a CP, and the head noun *picture* moves from its base position into [Spec, CP].

The relative pronoun is in the determiner position of the DP containing the head noun. Thus the derivation of the complex DP in (17) is the one in (18).

(17) The boy who we saw

(18) [DP the [CP [DP boy_k [who e_k]_i [C, we saw [e_i]]]]]

In (18), first the DP [*who boy*] moves into [Spec, CP]. This raising is followed by the movement of the noun *boy* into [Spec, DP].

Bianche (1999) provides evidence supporting Kayne's theory of relative constructions. She argues that the determiner in (19) is not part of the DP containing the proper name *Paris* since **the Paris* is not a grammatical unit.

(19) The Paris I love.

Thus (19) must have the derivation presented in (20):

(20) [DP the [CP Paris_i [I love t_i]]]

↑ _____ |

Bianche further states that the discussion of idiomatic constructions found in Browning (1987) and Fabb (1990) supports the structure in (18). While (21a) and (22a) are ill-formed, their relativised versions in (21b) and (22b) are grammatical, indicating that *the* together with *headway* and *fun* does not constitute a unit in these examples.

(21) a. *We made the headway on that problem.

b. The headway that we made on that problem.

(Browning 1987:130, Source Bianche 1999:44)

(22) a. *They made the fun of me.

b. The fun that they made of me. (Fabb 1990:71, Source Bianche 1999:44)

As for Persian relative constructions, there are two somewhat elaborated analyses of these constructions. Tabaian (1974) discusses both restrictive and free relative clauses within the framework of Chomsky's Standard Theory. Samiiian (1983) presents an interesting discussion of the differences between the restrictive and free relative clauses within the framework of the Extended Standard Theory. Both authors mention that *ra* may appear either following the head noun or the complete complex DP (NP in their frameworks). Samiiian (1983:103) base generates the relative marker *-i* and the restrictive relative clause as sisters to the head noun, dominated by N'. She further suggests that all restrictive modifiers are base generated under N', while some subcategorized arguments to the head noun are in a higher position, dominated by NP (page 107). Neither Tabaian nor Samiiian explain the occurrence of *ra* following the head noun in a complex NP construction.

2.2 Persian versus English

The Persian relative construction is different from its English counterpart in three ways. First, there is a relative particle *-i* attached to the head noun in Persian, as in (23). English lacks this particle.

- (23) Ketab-i ke mæn xær-id-æm
 book-REL that I buy-PAST-1SG
 'The book that I bought'.

Second, there is no relative pronoun in Persian. In fact, Persian relative clauses are more similar to English [*that* CP] constructions like (24), the English translation of (23): in Persian, the relative clause is always introduced by the invariant relative complementizer *ke*.

- (24) The book that I bought.

Finally, Persian allows either a gap or a clitic pronoun, representing the missing head noun, within the CP. This difference, crucial for my analysis, is discussed in the following section.

3. The Internal Structure of Persian Relative Clauses

Kayne's raising analysis, discussed in the preceding section, provides us with another

option to account for the internal structure of Persian restrictive relative constructions. Under that approach, it seems conceivable to suggest that the relative particle *-i* is the counterpart of the English relative pronoun, in which case, based on Kayne's analysis, the structure of the relative construction in (25a) would be that given in (25b). Note that Persian does not have a definite article equivalent to *the*; thus the demonstrative *un* 'that' occupies the D position in (25b).

- (25) a. Kimea un pesær-i-ro ke inja neshæste bud be mæn
 Kimea that boy-REL-OM that here sitting be-PAST to me
 mo'ærrefi kærd
 introduction do-PAST-3SG
 'Kimea introduced to me that boy who was sitting here.'
- b. un [_{CP} [_{DP} [pesær]_{k-i} t_k]_i [_{C'} ke t_i inja nesæste]
 ↑
 ↑

First, the DP [*-i pesær*] moves to [Spec, CP]. Then the head noun *pesær* 'boy' raises further to [Spec, DP], yielding the structure in (25b). In this configuration, however, it is not obvious how *ra* could be inserted following the relative marker *-i* in [Spec, CP]. Our puzzle is still unsolved.

It could be argued that *ra* is base generated following the head noun in the relativized position, as in (26a). After movement of the DP to [Spec, CP] and raising of the head noun to [Spec, DP], the structure in (26b) is obtained.

- (26) a. un [_{CP} [_{C'} ke [-i]peæar-ro] inja neshæste]
 b. un [_{CP} [_{DP} [pesær]_{k-i} t_k -ro]_i [_{C'} ke t_i inja nesæste]
 ↑
 ↑

The problem with this analysis is that *ra* is a specificity marker for accusative Case, and therefore, it cannot mark the subject (see section 4.1 below). Consequently, the generation of the relative head with *ra* in the relativized position (i.e., the subject position of the relative clause in (25)) would not be possible since, in this example, it is the large

DP that can be marked by *ra* as the object of the matrix verb 'to introduce'. It seems that Kayne's raising analysis does not solve our problem.

As mentioned in the previous section, one of the differences between Persian and English relative constructions is that the former allows a gap and an optional clitic pronoun to represent the head noun within the relative clause, as illustrated in (27).

- (27) a. Un mærd_k-i ke mæn e_k did-æm.
 that man-REL that I see-PAST-1SG
 'That man I saw.'
- b. Un mærd_k-i ke mæn e_k did-æm-esh_k
 that man-rel that I see-PAST-1SG-CL
 'That man I saw him.'

The clitic pronoun, coindexed with the relative head, is attached to the verb inside the relative clause in (27b). Clitic pronouns can also appear in constructions where the full object DP is missing, as in (28b). In this example, the clitic pronoun is c-commanded by, and coindexed with, a small *pro* in the object position.⁶

- (28) a. Kimea diruz un ketab-ro xær-id.
 Kimea yesterday that book-OM buy-PAST-3SG
 'Kimea bought that book yesterday.'
- b. Kimea diruz pro_i xær-id-esh.
 Kimea yesterday buy-PAST-3SG-CL
 'Kimea bought it yesterday.'

In contrast, English does not allow a pronoun in the relative site as attested by the example in (29).

- (29) I saw the man who you introduced (*him) to me yesterday.

Crucially, the Persian relative head can be construed with a clitic pronoun within an island, as shown in (30).

- (30) a. Un pesær_i-i ke mæn fekr mi-kon-æm [_{CP} age Kimea

⁶ See Ghomeshi (1996) for a more detailed analysis of clitic pronouns in Persian.

that boy-REL that I thought DUR-do-1SG if Kimea
 pro_i mi-did-æt-esh_i] xeyli xoshal mi-shod.
 DUR-see-PAST-3SG-CL very happy DUR- become-PAST-3SG
 'That boy that I think if Kimea saw him, she would become very happy.'

b. Un pesær_i-i ke Kimea [_{sc} pro_i [qabl-æz didæn-esh_i]]
 that boy-REL that Kimea before seeing-CL
 æz otaq birun ræft.
 of room out go-PAST-3SG

'That boy that before Kimea's seeing him left the room.'

c. Un qæza_i-i ke hæme ma [_{sc} pro_i [bæ'd-æz xordan-esh_i]]
 that food-REL that all us after eating-CL
 mæriz shod-im
 sick become-PAST-1PL

'That food that after eating it all of us became sick.'

The examples in (30) suggest that the relative head noun does not move from the relativized site since the movement out of the adjunct clause *age Kimea mi-did-æt-esh* 'if Kimea saw him' and out of the adjunct small clauses *qabl-æz didæn-esh* 'before (Kimea's) seeing him' and *bæ'd-æz xordan-esh* 'after eating it' would violate Subjacency. Therefore, the gap c-commanding the clitic pronoun inside the relative clause cannot be the trace left behind by movement.

Finally, the relative marker *-i* seems to be the right candidate to head the relative construction by occupying the D position of the complex DP since this element takes the relative CP as its complement. In the light of this discussion, I propose the following configuration for Persian relative constructions.

(31) [_{DP} [_{DP} (D) N]_i [_{D'} -i [_{CP} OP_i [_{C'}pro_i.]]]]

The configuration in (31) reveals Kayne's basic idea that the relative CP is the complement of the head D within the DP. Compare (31) with (16), repeated below in (32), which is proposed by Kayne for English relative clauses that lack a relative pronoun.

(32) the [_{CP} picture_i [_{C'} that Bill saw [_{e_i]}]]

The difference between (31) and (32) is that, in the latter, the head noun raises from the relativized site whereas, in the former, it is base generated in the Spec of the larger DP, along with the optional demonstrative.⁷ Furthermore, the relative particle *-i*, rather than the determiner, heads this projection, and takes a CP as its complement. Finally, there is a small *pro* inside the relative CP, co-indexed with an operator inside [Spec, CP] in (31). A clitic pronoun, attached to the verb and c-commanded by this small *pro*, is optionally possible in this configuration. The structure of (27b), provided in (33), illustrates this fact.⁸

(33) [_{DP} [_{DP} mærd]_i [_{D'} -i [_{CP} OP_i [_{C'} ke mæn pro_i did-æm-esh_i]]]]
 man - REL that I see-PAST-1SG-CL
 'The man I saw.'

We will see in the next section that complex DPs containing a subcategorized CP have the same internal structure. The only difference is that the D in the large DP is empty in those cases.

Before turning to an analysis of Persian complex DPs, there is one more issue that requires some explanation, that is, the fact that no pronoun is allowed to represent the relativized noun within the CP when the noun is the subject of this clause, as evidenced by (34a). If the relativized head is the object, however, it can either be represented by the clitic pronoun (cf. 33), or by a free standing pronoun, as in (34b) (note that an optional clitic is also possible in (34b):

⁷. One possibility is to assume that the [_{DP} D N] is base-generated in [Spec, CP], and moves to [Spec, DP]. I leave this option open. The crucial point is that the relative head cannot have moved from the relativized site.

⁸. The clitic pronoun can be attached to the nonverbal element of a complex verb:

(i) un mærd_i - i ke mæn dæ'væt-esh_i kærd-æm
 that man-REL that I invitation-him do-PAST-1SG
 'The man I invited.'

- (34) a. Mærd-i ke *un diruz am-æd bæradær-e mæn-e.
 man-REL that he yesterday come-PAST-3SG brother-EZ I-be-3SG
 'The man who *he came yesterday is my brother.' (Samiian 1983:132)
- b. mærd_i -i ke to diruz un-o_i did-i]]]]
 man -REL that you yesterday him-OM see-PAST-2SG
 'The man you saw yesterday.'

As Samiian has noticed (page 133), the appearance of a subject pronoun in an embedded clause is not possible if it is co-indexed with the subject of the matrix clause.⁹

- (35) Kimea_i fekr mi-kon-e ke *un_i/pro_i be-r-e.
 Kimea thought DUR-do-3SG that *she/pro SBJ-go-3SG
 'Kimea thinks that she will go.'

Note that Persian is a null subject language that allows a pronoun in the subject position only for emphasis. Therefore, an emphatic pronoun is allowed in (35), as shown in (36).

- (36) Kimea_i fekr mi-kon-e ke XOD-esh_i be-r-e
 Kimea thought DUR-do-3SG that SELF-CL SBJ-go-3sg
 'Kimea thinks that she herself will go.'

The distribution of the subject pronoun explains why a pronoun cannot appear in the subject position of the relative clause in (34), since the relativised site is not compatible with emphasis.

4. Persian Complex DPs

I begin the discussion in this section with a brief description of *ra*, its distribution, and the internal structure of the phrase it heads. This is followed by an analysis of complex DPs containing relative clause. I then extend this analysis to Complex DPs containing subcategorized argument clauses. The recent innovation exemplified in (2) and (6) is then examined, followed by a cross-linguistic analysis.

4.1 More about *ra*

⁹. This issue has been noted and discussed by Hashemipour (1989) and Ghomeshi (1996).

The particle *ra* has been traditionally considered to be an object marker with a secondary function of marking the NP for definiteness. Browne (1970) observes that *ra* follows indefinite objects as well, and therefore, cannot be merely a definite marker. He was the first to consider *ra* as a specificity marker. Samiian (1983:128) also considers *ra* as an element that marks objects for specificity. Within the framework of Principles and Parameters, I have provided a detailed analysis regarding this element, and have tried to provide a structural justification for the obligatory presence of *ra* following the specific direct object, as well as for the lack of this element following the subject of the clause and the object of a preposition (Karimi 1989, 1990). Data are presented in (37).¹⁰

- (37) a. *Kimea - ro am-æd.
 Kimea - OM come-PAST-3SG
- b. *Mæn bæra Kimea - ro ketab xund-æm.
 I for Kimea - OM book read-PAST-1SG
- c. Kimea [_{DP} in ketab]*(ro) bæra mæn xund
 Kimea this book - OM for me read-PAST-3SG
 'Kimea gave me this book.'

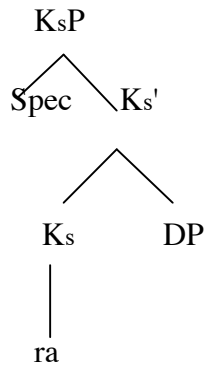
The particle *ra* follows the subject in (37a) and the object of the preposition in (37b) and both sentences are ill-formed. The sentence in (37c) indicates that a definite, thus specific, object must be followed by *ra*.

In Karimi (1996), I propose that *ra* is the head of a projection with a semantic property (specificity) and a morphological property (accusative Case). The phrase structure proposed for this projection is the one in (38). In this configuration, "K" stands for Case, "S" for specificity, and "P" for phrase.¹¹

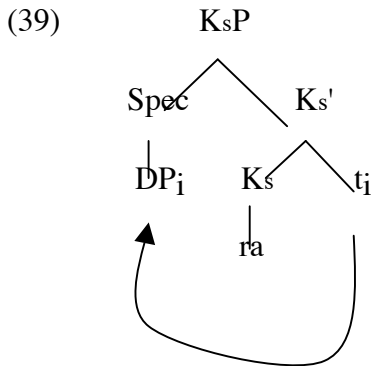
¹⁰. *Ra* has a similar function as *-i* in Turkish (Enç 1991) and to some extent as *-ko* in Hindi (Mahajan 1990, 1992).

¹¹. I do not employ *KP* for the maximal projection in (38), as is customarily assumed for Case phrases, because the head *ra* checks its complement DP for both specificity and Case. Thus *KsP* reveals the dual property of the head *ra* in (38). Ghomeshi (1997)

(38) The Structure of *ra*-Phrase



Since *ra* follows its complement DP at Spell-out, the latter must have moved to [Spec, KsP] at some point in syntax. In this regard, I propose the following: (a) Specificity is the primary function of *ra* in this language¹², and (b) the complement DP moves overtly into [Spec, KsP] for the sake of specificity feature checking. The Case feature will have a free ride at this stage. Thus we arrive at the following configuration:



The particle *ra* appears as an affix attached to its complement DP in the colloquial language. This fact suggests that it must merge in the sense of Halle & Marantz (1993) within the framework of Distributive Morphology. This theory suggests that merge

advances an alternative analysis. She suggests that *ra* Case marks noun phrases that are adjoined to VP, proposes a *KP* projection for *ra*, and places this element in the final position of its projection.

¹² See also Butt (1993) for a similar analysis of *-ko* in Urdu and Hindi.

applies under structural adjacency of the type discussed by Marantz (1988, 1989). Given this analysis, *ra* syllabifies with the final element in the preceding DP, as illustrated in (40):

(40) $[[_{KSP} [DP_i - ra] t_i]]$

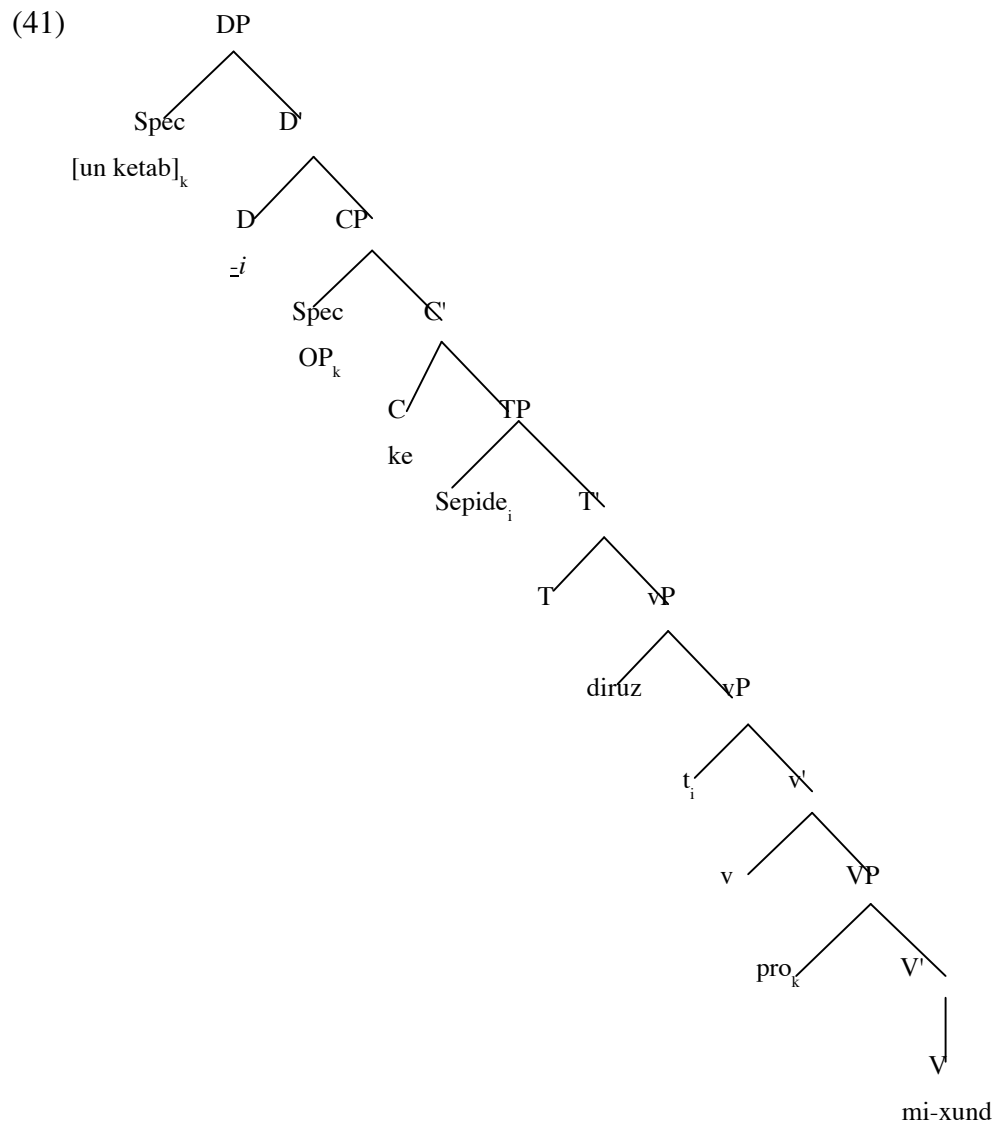
Having examined the basic distribution of the specificity marker *ra* and the internal properties of the projection it heads, I now turn to an analysis of relative constructions in Persian.

4.2 Relative constructions

Before turning to the mysterious constructions where the specificity marker *ra* intervenes between the head noun and the relative CP, I analyze relative constructions in the subject position where *ra* is excluded.

4.2.1 Relative constructions without *ra*

The configuration in (41) represents a relative construction that appears in the subject position, as exemplified in (42). *Ra* is excluded in this position.



- (42) [un ketab-i ke Sepide diruz mi-xund]
 that book-REL that Sepide yesterday DUR-read-PAST-3SG
 ru miz-e.
 surface table be-3SG

'That book that Sepide was reading yesterday is on the table.'

In (41), the DP *un ketab* is base generated in the Spec of the larger DP, coindexed with an operator in the Spec of the embedded CP and a *pro* inside that CP. The head D dominates the relative marker *-i*, and has the relative clause as its complement. As discussed earlier, the DP *un ketab* 'that book' can be coindexed with an overt clitic

pronoun inside the CP, as in (43):

- (43) un ketab_i-i ke Sepide diruz pro_i xær-id-esh_i
 that book-REL that Sepide yesterday buy-PAST-3SG-CL
 'That book that Sepide bought (it) yesterday.'

In the following examples, the clitic pronoun is either part of the subject DP or is the object of a preposition within the relative CP. *Ra* is excluded in both cases.

- (44) un pesær_i-i [OP_i [ke bærådær-esh_i inja bud]]
 that boy-REL that brother-CL here be-PAST-3SG
 'That boy whose brother was here.'

- (45) un mærd_i-i [OP_i [ke to æz-æsh_i ketab xær-id-i]]
 that man-REL that you of-CL book buy-PAST-2SG
 'The man that you bought books from (him).'

The clitic pronouns in (44) and (45) are bound variables c-commanded by, and coindexed with, the operator in [Spec, CP]. This means that the Persian clitic pronoun can appear either as a resumptive pronoun, a variable bound by an operator in the sense of Sells (1984) and Shlonsky (1992) (cf. (44) and (45)), or as a pronoun c-commanded by an element in an argument position (cf. (28b), (33), (34b), and (43)).

The head noun and the relative affix *-i* must merge in the same fashion discussed before with respect to the specificity marker *ra* in section 4.1. Thus (44) will have the structure in (46):

- (46) [_{DP} [un pesær_i -i] [_{CP} OP_i [_C ke bærådær-esh_i inja bud]]]
 that boy-REL that brother-CL here be-PAST-3SG

In (46), the relative particle *-i* and the head noun *pesar* have merged under syntactic adjacency.

4.2.2 Relative constructions with *ra*

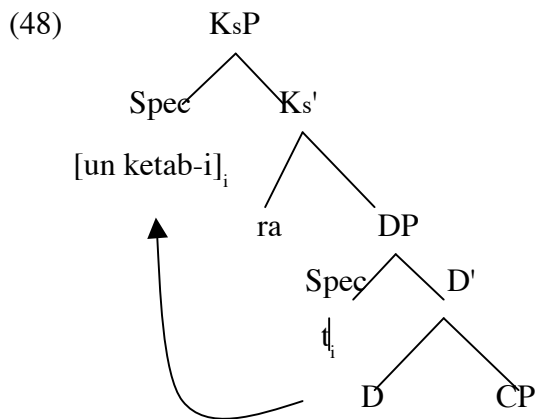
Now we are prepared to solve the puzzle discussed in the introduction of this article. Consider the sentence in (5) once again, repeated below in (47).

- (47) Mæn [_{DP} [un ketab-i]-rø [_{CP} ke Sepide diruz xær-id]]
 I that book-REL-OM that Sepide yesterday buy-PAST-3SG

be Kimea dad-æm.
 to Kimea give-PAST-1SG

“I gave that book that Sepide bought yesterday to Kimea.”

Given the structure of the *ra* phrase discussed in 4.1, the relative clause in (47) will have the configuration in (48) in which the DP in the Spec of the larger DP has moved into [Spec, K_sP] (irrelevant details are omitted).



The structure in (48) solves the puzzle since the DP *un ketâb-i* has moved into [Spec, K_sP], and thus the specificity marker *ra* intervenes between this element and the modifying CP.¹³

The structure in (48), however, violates the Minimal Link Condition (MLC), stated in (49). This condition requires that the larger DP, rather than the one embedded inside

¹³ The extraction of the DP *un ketab-i* in (48) seems to violate the *Specificity Effect* since this element has moved out of a specific DP. However, Karimi & Lobeck (1997) and Karimi (1999a) provide a syntactic, rather than semantic, explanation for cases in which extraction out of a specific DP is blocked. Karimi (1999a) argues that extraction is impossible only when the Spec of the specific DP is lexically filled and thus cannot serve as an escape hatch. Karimi and Lobeck (1997) offer an alternative analysis along the same lines. In (48), the extracted DP itself occupies the Spec position of the complex DP, and thus its extraction out of that position is not blocked.

its Spec, be moved into the [Spec, K_sP] since it is closer to the target position.

(49) *Minimal Link Condition* (Chomsky 1995:311)

K attracts α only if there is no β , β closer to K than α , such that K attracts β .

The answer to this apparent violation might have to do with the heaviness of the large DP.¹⁴ That is, the embedded DP, rather than the heavy complex DP, is allowed to move and violate the MLC simply because it is lighter. This issue is reminiscent of preposition stranding in English, as illustrated in (50)

- (50) a. Who did you talk to t ?
 b. To who(m) did you talk t ?

Although (50a) violates the MLC, it is more natural in the spoken language than (50b). Similarly, the sentences in (1) and (5), where the embedded DP rather than the complex DP moves to [Spec, K_sP] are more natural than those in (2) and (6). (See also section 4.4 for further discussion of this issue.

4.3 Sentential complements of N

I now turn to complex DPs containing a head noun subcategorized for a CP, as in (51).

- (51) [_{DP}[In vaqe'iyæt] [_{CP}ke Ramin bigonah-e]] bæra hæme
 this fact that Ramin innocent-be-3SG for everyone
 roshæn-e
 clear-be3SG

'This fact that Ramin is innocent is obvious to everyone.'

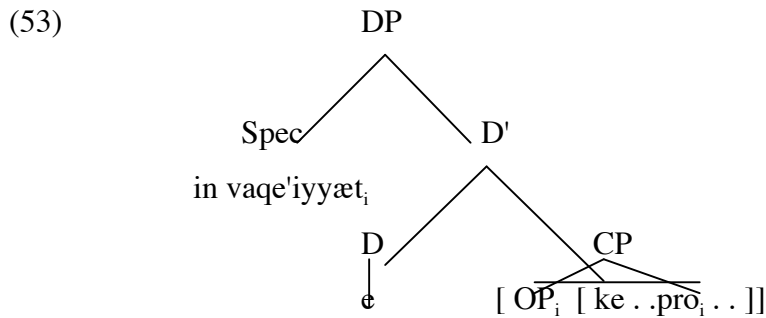
The sentence in (51) is similar to the complex DP containing a relative clause in (42), repeated below in (52).

- (52) [_{DP}Un ketab-i ke Sepide diruz mi-xund]
 that book-REL that Sepide yesterday DUR-read-PAST-3SG
 ru miz-e.
 on table-be-3SG

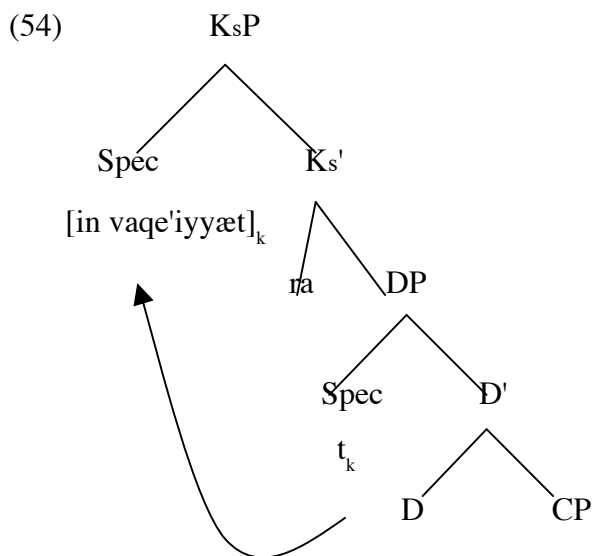
¹⁴. I would like to thank one of the reviewers for suggesting this possibility.

“That book that Sepide was reading yesterday is on the table.”

On the basis of the structural similarities between (51) and (52), I propose the structure in (53) for the sentence in (51).



In (53), the DP containing the head noun is in the Spec of the complex DP, and the selected CP is the complement of the null D. This configuration accounts for a complex DP in the subject position where *ra* is excluded. In contrast, the complex DP in the object position of the sentence requires movement of the embedded DP into [Spec, K_sP]. This structure, which is similar to the one in (48), is presented in (54).



In (54), the determiner and the head noun have moved from the Spec position of the complex DP into [Spec, K_sP].

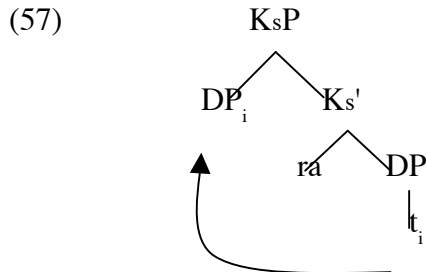
4.4 Recent innovation

As was mentioned in the introduction of this article, constructions such as those in (2) and (6), repeated below in (55) and (56), are employed in mass media and by younger speakers, and are considered to be incorrect by prescriptive grammarians (see, for example, Najafi 1991).¹⁵

(55) Hame [_{DP} [in edde'a] [_{CP} ke Ramin bigonah-e]] ro mi-pæzir-æn.
 all this claim that Ramin innocent-be-3SG-OM DUR-accept-3PL

(56) Mæn [_{DP} [un ketab-i] [_{CP} ke Sepide diruz xær-id]] ro
 I that book-REL that Sepide yesterday buy-PAST-3SG-OM
 be Kimea dad-æm
 to Kimea give-PAST-1SG

How does our theory of complex DPs account for this new innovation? The answer is simple: In both cases, the entire complex DP containing the CP, must have moved into [Spec, K_sP], as in (57):



The naturalness of (1) and (5), compared to the awkwardness of the innovation in (55) and (56), could be attributed to factors governing sentence processing. That is, it could be argued that the sentences in (1) and (5) are easier to process than those in (55) and (56) since, by marking the head noun for accusative Case and specificity, the grammatical

¹⁵ Prescriptive grammarians traditionally provide evidence from classical Persian literature in order to show *correctness*. Najafi, (1991:203-6), for example, cites examples from classical literature, including Golestan-e Sa'di (13th century), to show that the new innovations, as those in (55) and (56), are "incorrect".

function of the complex DP becomes clear early on. The innovation, however, exhibits native speakers' natural intuition regarding the placement of *ra*. This element has scope over the entire DP, and appears at the end of this projection in all other cases (cf. (3)). Therefore, it is not surprising that the younger speakers generalize this rule to include complex DPs.

4.5 Cross-linguistic similarities

We saw so far that Persian complex DP's are best analyzed in terms of base generation rather than raising of the head noun. The question that emerges now is whether there are other languages that exhibit the same or similar properties as Persian relative constructions.

Demirdache (1991) discusses restrictive relative clauses in Hebrew, and extends her analysis to Swiss German, Standard Arabic, Egyptian Arabic, Palestinian, Irish, Welsh, and Breton. She suggests that all these languages have the following properties in common:

- a. They allow resumptive (= operator bound) pronouns.
- b. There is either a gap or a resumptive pronoun in the relativized site.
- c. There is no *wh*-relative pronoun
- d. Relative clauses are introduced by an invariant particle.¹⁶

Demirdache suggests that the resumptive pronoun in these languages is the overt equivalent (or the spell-out) of the null operator in English *that*-relatives.¹⁷ Here are some examples taken from Hebrew, originally reported by Chomsky (1977).¹⁸

- (58) a. ha-ʔish_i she / 'asher pagashti t_i
 the-man that met-I

¹⁶. In Irish, the choice of complementizer is determined by whether there is a gap or a resumptive pronoun in the relativized position.

¹⁷. Demirdache suggests, therefore, that the resumptive pronoun moves to C (overtly or covertly).

¹⁸. In Hebrew, the complementizer in restrictive relatives is either *asher* or the declarative complementizer *she*.

One important distinction between my analysis and Kayne's is that under my analysis the Persian demonstrative (equivalent to the determiner *the* in English) is not the head of the complex DP, but rather is base-generated in the [Spec, CP], inside the small DP containing the head noun. A similar analysis was proposed for the Venetian dialect of Italian by Bianche (1999). In this dialect, relativization of a prepositional object allows the deletion of the preposition within the relative clause if it is identical to the preposition introducing the external DP. Consider the following example.

- (60) *nea situassion che semo*
 in-the situation that (we) are
 'In the situation in which we are.' (Bianche 1999:49)

This deletion is impossible if there is no external preposition:

- (61) **la situassion che semo*
 the situation that (we) are (Bianche 1999:49)

The same situation holds in Persian.¹⁹

- (62) *Ba un doxtær-i ke diruz molaqat kærd-æm emruz telefoni*
 with that girl-REL that yesterday meeting do-PAST-1sg today by-phone
sohbæt mi-kon-am.
 talk DUR-do-1SG
 'I will talk today with the girl I met yesterday.'

Similar to Venetian dialect, the deletion of the preposition is not possible if there is no external preposition.

- (63) **Un doxtær-i ke diruz inja am-æd emruz telefoni*
 that girl-REL that yesterday here come-PAST-3SG today by-phone
sohbæt mi-kon-æm
 talk DUR-do-1SG

The only way we can analyze the PP deletion in (62) is that the PP, containing the demonstrative and the head relative, originates in the Spec of the complex DP, and moves

¹⁹. This type of relative constructions was first brought to my attention by Jan Mohammad (personal communication).

5. Postverbal CPs

As we saw in (11), the embedded CP of a complex DP may appear to the right of the verb. Verbal argument CPs also appear to the right of the verb in this language. Is there any relationship between these two types of postverbal CPs? In other words, do both types of CPs originate in a preverbal position, and move into their surface position by the same type of syntactic operation?

Sentential arguments of Persian verbs appear in the postverbal position, as illustrated by the following examples:

(65) Ramin æz mæn xahesh kærd [_{CP} ke namæ-sh-o tayp kon-æm.]

Ramin of me ask do-PAST-3SG that letter-CL-OM type do -1SG
'Ramin asked me to type his letter.'

(66) Ramin Sepidæ-ro vadar kærd [_{CP} ke namæ-sh-o tayp kon-e.]

Ramin Sepide-OM force do-PAST-3SG that letter-CL-OM type do-3SG
'Ramin made Sepide type his letter.'

Some authors have suggested that the CP argument of Persian verbs originates in the preverbal position and moves to its surface position in the course of a syntactic derivation (Moyne & Carden 1974; Soheili-Isfahani 1976; and Dabir-Moghaddam 1982)²⁰, while others have argued that these elements originate in their surface positions (Tabaian 1974; Karimi 1989; Darzi 1996). One piece of evidence supporting the claim that the verbal argument CP is base generated in postverbal position comes from the fact that it can never appear in preverbal position, as the ill-formedness of (67)-(68) indicate:

(67) *Ramin æz mæn [_{CP} ke namæ-sh-o tayp kon-æm] xahesh kærd.

Ramin of me that letter-CL-OM type do-1SG request do-PAST-3SG.

(68) *Ramin Sepidæ-ro [_{CP} ke namæ-sh-o tayp kon-e] vadar kærd.

²⁰ These authors generally assume that the sentential argument of the verb is base-generated either as the complement of a preposition (Dabir-Moghaddam 1982), or as an embedded clause inside an NP (Moyne & Carden 1974 and Soheili-Isfahani 1986), in the preverbal position.

Ramin Sepide-OM that letter-CL-OM type do-3SG force do-PAST-3SG
 Further support for the claim that sentential arguments of verbs are base-generated in postverbal position comes from the fact that extraction out of these CPs is possible, as in (69) and (70).

- (69) [Un ketab- a-ro]_i mæn mi- dun- æm [_{CP} ke Kimea t_i xærɪde.]
 ↑_____|
 that book-PL-OM I DUR-know-1SG that Kimea bought-have-3SG
 'As for those books, I know that Kimea has bought.'

- (70) [Ki-ro]_i to goft-i [_{CP} Kimea t_i færda mi - bin - e]?
 ↑_____|
 who-OM you say-PAST-2SG Kimea tomorrow DUR-see-3SG
 'Who was it you said Kimea will see tomorrow?'

The phrases *un ketab-a-ro* 'those books' and *ki-ro* 'who' are extracted out of the sentential arguments in (69) and (70), suggesting that these CPs are base-generated in their surface positions.²¹

Postverbal CPs of complex DPs differ from sentential arguments of the verb in two respects. First, they originate inside the complex DP in the preverbal position, as we have seen before. Second, extraction out of this postverbal CP is not possible, as shown in (71).

- (71) *Sepide_i mæn [_{DP} un ketab-i]-ro t_i be Kimea dad-æm [_{CP_i} ke t_i
 ↑_____|
 Sepide I that book-REL-OM to Kimea give-PAST-1SG that
 diruz xær-id.]]
 yesterday buy-PAST-3SG

The question that emerges is this: how do these CPs end up in the postverbal position?

²¹ This is the analysis advanced by Koster (1987) for German and Dutch. Also Zwart (1997) argues that sentential arguments of verbs are base-generated in postverbal position in Dutch.

This question is addressed in the next three sections. I show that V-movement, rather than extraposition, might be responsible for the appearance of these CPs postverbally. Some problems that emerge are then discussed and remnant-VP movement as a potential solution is suggested, discussed, and rejected. Finally, the analysis based on V-movement is reexamined and adopted.

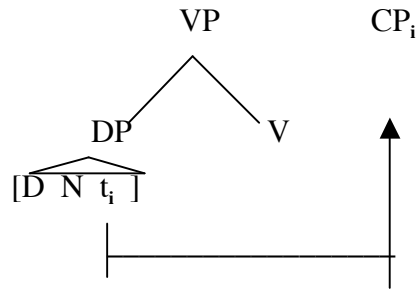
5.1 Postverbal CPs of complex DPs: Extraposition or V-Movement?

Compare the sentences in (1) and (5), repeated in (72a) and (73a), respectively, with those in (72b) and (73b). (Capital letters represent emphasis or contrast in the following examples.)

- (72) a. Hæme [_{DP} [in edde'a] -ro] [_{CP} ke Ramin bigonah-e]
 all this claim - OM that Ramin innocent-be-3SG
 mi-pæzir-æn
 DUR-accept-3PL
 'Everyone accepts this claim that Ramin is innocent.'
- b. Hame [_{DP} in edde'a] -ro MI-PAZIR-AN [_{CP} ke Ramin bigonah-e.]
 'Everyone DEOS accept this claim that Ramin is innocent.'
- (73) a. Man [_{K^{SP}} [_{DP} un ketab-i] -ro] [_{CP} ke Sepide diruz xær-id]]
 I that book-REL-OM that Sepide yesterday buy-PAST-3SG
 be Kimea dad-æm
 to Kimea give-PAST-1SG
 'I gave that book to Kimea that Sepide bought yesterday.'
- b. Man [_{DP} un-KETAB-i] -ro be Kimea dad-æm [_{CP} ke Sepide diruz xærid]
 'I gave THAT BOOK (As opposed to a different book) to Kimea that Sepide bought yesterday.'

In previous work, I suggested that examples like (72b) and (73b) are derived from (72a) and (73a), respectively, by the rule of extraposition (Karimi 1989). This rule adjoins the CP to VP as illustrated by (12), repeated below in (74).





Under the Minimalist framework, extraposition is problematic since movement is allowed only if: a) it is motivated by an uninterpretable feature and b) it applies leftward into the Spec of a functional head. Extraposition violates both of these basic principles. Furthermore, extraction of CP out of the specific DP would violate the Specificity Effect since the specifier of the complex DP is filled with the determiner and the head noun (or their trace), and therefore, there would not be an escape hatch available to CP to move out of the DP (see also footnote 13). Finally, if such operation is possible, extraposition of two embedded CPs should be allowed, contrary to facts, as evidenced by (75b).

- (75) a. Kimea [_{K^{SP}} [nevisænde-i-ro]_i [_{DP} t_i [_{CP} ke pro_i dær shæhr bud]]
 Kimea writer-REL-OM that in city be-PAST-3SG
 [_{PP} be dust-i [_{CP} ke pro æz qædim mi-shenaxt]]
 to friend-REL that of past DUR-know-PAST-3SG
 mo'ærrefi kærd.
 introduction do-PAST-3SG
 'Kimea introduced the writer who was in the city to a friend she knew from old times.'

- b. *Kimea [_{VP} [_{K^{SP}} [nevisænde-i-ro]_i [_{DP} t_i [t_j]] [be dust-i [t_k]]
 mo'ærrefi kærd] [_{CP} ke]_j [_{CP} ke]_k

In (75b), both relative CPs appear postverbally, which renders the sentence ungrammatical.

If extraposition is ruled out as an operation responsible for the generation of (72b) and (73b), what other process could be involved here? One option would be the movement of [_{DP} D N] out of the complex DP into the Spec of a functional head, a

movement motivated by focus. This is not an idiosyncratic property of complex DPs since Persian is a scrambling language, and XP movement is generally motivated by features representing discourse functions such as focus or topic, as in (76a) and (76b), respectively (capital letters represent contrastive focus).

(76) a. [In film - ro]_i ma hafte-ye ayænde t_i mi-bin-im.

↑_____↓

this film-OM we week-Ez coming DUR-see-1PL

'As for this movie, we will see (it) next week.'

b. DIVAN-E HAFEZ-O mæn t_i bæra Kimea xærid-æm

↑_____↓

DIVAN-E HAFEZ-OM I for Kimea buy-PAST-1SG

'It was DIVAN-E HAFEZ (not Divan-e Sadi.) that I bought for Kimea.'

Along with [D N], the main verb raises to be adjoined to the head of the focus projection.

Verb movement is also motivated by focus feature in this language, as in (77).²²

(77) AMAD Kimea!

come-PAST-3SG Kimea

'Kimea did come!'

If this analysis is correct, the structures of (72b) and (73b) are those in (78) and (79), respectively.

(78) Hame [_{FP} [in edde'a -ro]_i [_FMI-PAZIR-AN]_k] [_{K^{SP}} t_i [_{DP} t_i

all this claim-OM DUR-accept-3PL

²² Yes/no questions may also trigger verb movement, as in the following examples:

(i) Dad-i ketab-a-ro be bæcce-ha?

give-PAST-2SG book-PL-OM to child-PL

'Did you give the books to the children?'

(ii) Amad Kimea?

come-PAST-3SG Kimea

'Did Kimea come?'

- [_{CP} ke Ramin bigonah-e]]] t_k
 that Ramin innocent-be-3SG
- (79) Mæn [_{FP} [un KETAB-i -ro]_i [_F be Kimea dad-æm]_k] [_{KsP} t_i [_{DP} t_i
 I that BOOK-REL-OM to Kimea give--PAST-1SG
 [_{CP} ke Sepide diruz xær-id]]] t_k
 that Sepide yesterday buy-PAST-3SG

The DP *in edde'a* “this claim” in (78) moves out of the KsP into the Spec of a functional head. The fact that the determiner and the head noun undergo the syntactic movement together supports the claim that these two elements constitute one single syntactic constituent, as suggested throughout this article. The verb *mi-pæzir-æn* “accept” also moves to be adjoined to the functional head that is generated to represent focus.

The sentence in (79) is more complicated than the one in (78). In (79), the indirect object has moved along with the verb. The example in (80) shows that the nonspecific object may also move along with the verb.

- (80) Mæn [_{FP} æz MARD-i [_F xune xærid-am]] ke to
 I of MAN -REL house buy-PAST-1SG that you
 be mæn mo'ærrefi kærd-i.
 to me introduction do-PAST-2SG

'I bought a house from a MAN that you introduced to me.' (not someone else.)
 How does the grammar account for the movement of the indirect object and the nonspecific direct object along with the verb in (79) and (80)?

Larson's (1988: 348) V' Reanalysis, restated in (81), might provide the answer to this question.

- (81) *V' Reanalysis*

Let α be a phrase [_{V'} ...] whose θ -grid contains one undischarged internal θ -role. Then α may be reanalyzed as [_V ...]

By the rule of V' Reanalysis, the V' containing the indirect object and the verb in (79) is reanalyzed as V⁰, and thus is able to adjoin to the functional head that represents

focus. The same argument holds for the movement of the nonspecific direct object along with the verb in (80). However, the combination of [modifier+verb] may also move into the head position of the functional projection representing focus. This is shown in (82) and (83).

- (82) Mæn [_{FP} un KETAB-i-ro [_{FP} æmdæn næ-xund-æm]]
 I that BOOK-REL-OM intentionally NEG-read--PAST-1SG
 ke Alæm neveshte bud.
 hat Alam written be-PAST-3SG

'I intentionally did not read that BOOK that Alam had written.' (As opposed to some other book.)

- (83) Mæn [_{FP} un SHE'R-i-ro [_{FP} xeyli dust - dar-æm]] ke Kimea bæra-m
 I that poem-REL-OM very friend- have-1SG that Kimea for-me
 xund
 read-PAST-3SG

'I like that POEM very much that Kimea read for me.' (not a different one.)

Obviously, the rule of V' Reanalysis, as defined in (81), does not account for the examples in (82) and (83) where verbal modifiers are involved.

An alternative analysis is to utilize the rule of Syntactic Word Formation (SWF) (Karimi 2003b), based on a version of the rule developed by Marantz (1997) within the framework of Distributed Morphology (Halle & Marantz 1993). The idea is that there is a list of complex elements with special meanings that is called the *Encyclopedia*. The domain of the encyclopedic knowledge is the *phrase* rather than the *word*. Based on this idea, SWF accounts for special meanings that have the *phrase* as their syntactic foundation. In Karimi (2003b), I have suggested that this formation rule accounts for the special meaning that is obtained on the basis of the combination of the nonspecific object and the verb in a language like Persian. I have further suggested that V' is the domain of SWF where the special meaning of the verb and its modifiers/arguments is obtained. This is restated here in (84).

(84) *The Domain of Syntactic Word Formation (SWF):*

V' is the domain of SWF that provides the encyclopedic knowledge.

The statement in (84) allows not only the arguments of the verb but also verbal modifiers inside the V' to undergo the rule of SWF. Consequently, V' receives a unified interpretation and may move to be adjoined to the head of the projection that represents focus. Since SWF applies to verbal arguments and modifiers, it is superior to V' Reanalysis stated in (81). It also accounts for the semantic unity between the verb and its modifiers, including the nonspecific object.

5.2 Some problems

In this section, I discuss two problems that emerge from the proposed analysis. Although I offer a solution for the first problem, the second one remains a puzzle given the theory of Verb-raising and [D N] movement adopted in this section.

The first problem has to do with the construction represented by (85b) below.

- (85) a. Mæn [_{PP} ba [_{DP} [doxtær-i] [_{CP} ke dær kelas bud]]].
 I with girl-REL that in class be-PAST-3SG
 sohbæt kærd-æm
 talk do-PAST-1SG
 'I talked with the girl who was in the class room.'
- b. Mæn [ba_i [_{DP} [DOXTAR-i]_k [sohbæt kærd-æm]_j]] [_{PP} t_i [_{DP} [t]_k
 [_{CP} ke dær kelas bud]]] t_j
 'I talked with the GIRL who was in the class room.'

The problem is that *ba doxtær-i* “with (the) girl” does not constitute a syntactic unit in (85a) since it is not part of the small DP that is allowed to move. However, these elements must have moved together in order to yield the grammatical sentence in (85b). How is this possible?

In section 4.5, I suggested that the PP in (62), repeated below in (86), is base generated in the Spec of the larger DP, and moves into the matrix position, as in (64) repeated in (87).

(86) Ba un doxtær-i ke diruz molaqat kærd-æm emruz telefoni

with that girl-REL that yesterday meeting do-PAST-1SG today by-phone
sohbæt mi-kon-æm.

talk DUR-do-1SG

'I will talk today with the girl I met yesterday.'

(87) $[_{PP} \text{ba un doxtær-i}]_i [_{DP} t_i] [_{CP} OP_i [_{C'} \text{ke diruz e}_i \text{ molaqat kærd-æm} \dots$
 $\uparrow \text{-----} |$

If this analysis is on the right track, the movement of the preposition along with its complement is not a problem any more. Thus the structure of (85b) would be the one in (88).

(88) $Mæn [_{FP} [_{PP} \text{ba DOXTAR-i}]_k [_{F'} \text{sohbæt kærd-æm}]_j] [_{DP} t_k$
 $\uparrow \text{-----} |$
 I with GIRL-REL talk do-PAST-1SG

$[_{CP} \text{ke dær kelas bud}]]] t_j$
 that in class be-PAST-3SG

Here the PP has moved from [Spec, DP] into the Spec of a functional head to represent focus, and the verb has also moved into the head position of this projection. Note that the sentence in (80) has a similar construction, and the same analysis would apply to the PP within this sentence.

The second problem concerns (79), repeated below in (89). In this example, the indirect object moves along with the verb.

(89) $Mæn [_{FP} [\text{un KETAB-i -ro}]_i [_{F'} \text{be Kimea dad-æm}]_k] [_{KSP} t_i [_{DP} t_i$
 I that BOOK-REL-OM to Kimea give-PAST-1SG
 $[_{CP} \text{ke Sepide diruz xær-id}]]] t_k$
 that Sepide yesterday buy-PAST-3SG

It seems that the movement of the indirect object along with the verb is obligatory, as the ill-formedness of (90b) attests:

- (90) a. Kimea [_{K^{SP}} [ketab-i-ro]_i [_{DP} t_i [_{CP} ke pro_i ruy-e miz bud]]]
 Kimea book-REL-OM that surface-EZ table be-PAST-3SG
 be Sepide dad.
 to Sepide give-PAST-3SG
 'Kimea gave the book that was on the table to Sepide.'
- b. *Kimea [_{FP} [KETAB-i-ro]_i [dad]_k] [_{K^{SP}} t_i [_{DP} t_i
 Kimea BOOK-REL-OM give-PAST-3SG
 [_{CP} ke pro ruy-e miz bud]]] be Sepide t_k
 that surface-Ez table be-PAST-3SG to Sepide
- c. Kimea [_{FP} [KETAB-i-ro]_i [be Sepide dad]_k] [_{K^{SP}} t_i [_{DP} t_i
 Kimea BOOK-REL-OM to Sepide give-PAST-3SG
 [_{CP} ke pro ruy-e miz bud]]] t_k
 that surface-Ez table be-PAST-3SG

In (90b), the verb is adjoined to the head of the functional projection, leaving behind the indirect object. The result is ill-formed. The contrast between (90b) and (90c) indicates that the indirect object must move along with the verb.

The same pattern holds with respect to the complement CP of N:

- (91) a. [_{DP} in vaqe'iyyæt [_{CP} ke Sepide bigonah-e]] bær hæme
 this fact that Sepide innocent-be-3SG to all
 roshan-e
 obvious-be-3SG
 'This fact is obvious to all that Sepide is innocent.'
- b. *[_{FP} [in vaqe'iyyæt]_i [ROSHAN-e]_k] [_{DP} t_i [_{CP} ke Sepide
 this fact OBVIOUS-be-3SG that Sepide
 bigonah-e]] bær hæme t_k
 innocent-be-3SG to all
- c. [_{FP} [in vaqe'iyyæt]_i [bær hæme ROSHAN-e]_k]
 this fact to all OBVIOUS-be-3SG

$[_{DP} t_i \quad [_{CP} ke \quad Sepide \quad bigonah-e]]$ t_k
 that Sepide innocent-be-3SG

Again, the movement of the verb along with the prepositional phrase yields a grammatical result, as in (91c).

The ill-formedness of (90b) and (91b) and their contrast with (90c) and (91c) suggest that the rule of SWF, discussed above, must apply obligatorily in these cases. Why would that be the case?

Note that a nonspecific object may not appear in postverbal position, as attested by the ill-formedness of (92).

(92) *Kimea be dust-esh DAD ketab
 Kimea to friend-CL GIVE-PAST-3SG book

Unlike nonspecific objects, indirect objects may appear in the postverbal position, as shown in (93).

(93) Kimea ketab-ro DAD be dust-esh
 Kimea book -OM GIVE-PAST-3SG to friend-CL
 “Kimea DID give the book to her friend.”

The contrast between (92) and (93) indicates that the syntactic-semantic bond between the verb and its indirect object is not as tight as the relation between the verb and its nonspecific object. Thus the former does not have to undergo the rule of SWF, and the ill-formedness of (90b) and (91b) must be of a different nature.

5.3 Remnant-VP

It could be argued at this point that all cases discussed thus far in this section involve (remnant)-VP movement rather than V raising. This would explain why the nonspecific object in (80), the verbal modifiers in (82) and (83), and the indirect object in (89) must move along with the verb. Let us consider this option by analyzing the sentence in (89), repeated below in (94).

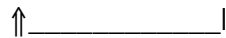
(94) Mæn $[_{FP} [un \ KETAB-i \ -ro]_i \ [_F \ be \ Kimea \ dad-\text{æm}]_k]$
 I that BOOK-REL-OM to Kimea give-PAST-1SG

$[_{K^sP} t_i [_{DP} t_i [_{CP} \text{ke Sepide diruz xær-id }]]] t_k$
 that Sepide yesterday buy-PAST-3SG

Three steps are involved in order to yield this sentence. This is illustrated in (95).

(95) **Step I** [D + N] moves into [Spec, K^sP].

a. $mæn [_{VP} [_{K^sP} [\text{un ketab-i -ro}]_i [_{DP} t_i [_{CP} \text{ke Sepide diruz xærid }]]]] \dots\dots\dots$



Step II Relative Clause moves out of the VP.

b. $mæn [_{CP} \text{ke Sepide diruz xærid}]_k [_{VP} [_{K^sP} \text{un ketab-i -ro}]_i [_{DP} t_i t_k]] \dots\dots\dots$



Step III VP moves.

c. $mæn [_{FP} [_{VP} [_{K^sP} [\text{un ketab-i -ro}]_i [_{DP} t_i t_k]]]_j \text{be Kimea dad-am}] [_{CP} \text{ke } \dots\dots\dots]_k t_j$

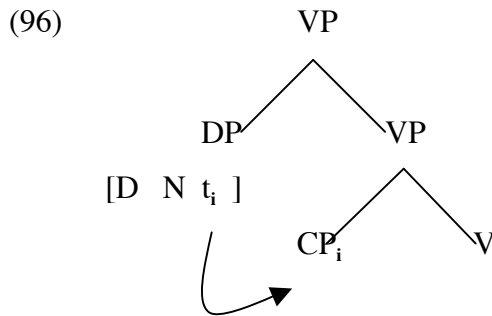


The movement in Step III is triggered by a feature representing focus. That is, VP carries this feature, and therefore, it must move into the Spec of a projection whose head has the same feature. Since the embedded CP lacks this feature, it must move out. It could be argued that the movement of this CP is triggered by lack of focus.²³

This analysis faces three problems. First, the trace of the relative clause is not c-commanded by its antecedent, and thus remains free. This issue is a problem for all analyses based on remnant-VP movement. Massam (2000), discussing aspects of Nivean word order, mentions this problem and suggests that the moved VP returns to its original position at LF. An alternative analysis is to assume that binding applies cyclically. That is, once the embedded CP moves into a higher position, it binds its trace, and therefore, the binding requirement is satisfied, and the moved element does not need to move back

²³. Holmberg (1999) argues that object shift is triggered by the feature [-Focus]. That is, objects carrying this feature must move out of VP. This analysis could be extended to the extraction of CP out of VP in (95c).

at LF.²⁴ If this analysis is correct, the configuration in (95c) will have a different status from the one in (9a), repeated below in (96), since the trace in the latter is not c-commanded and bound by its antecedent at any level.



Even if the solution to this first problem is justified, an analysis based on remnant-VP movement faces yet two more problems. First, CP extraction out of the complex DP in this case poses the same problem discussed with respect to extraposition. That is, this movement violates Specificity Effect (see footnote 13). Finally, remnant-VP should allow the appearance of two relative clauses in the postverbal position. That is, if extraction out of the complex DP is possible at all, more than one unfocused relative CP should be able to move out of the VP. This is not an option though as the ill-formedness of (75b), repeated below in (97), attests.

(97) *Kimea [_{VP} [_{K^{SP}} [nevisænde-i-ro] _i [_{DP} t_i [t_j]] [be dust-i [t_k]]]
 Kimea writer-REL-OM to friend-REL
 mo'ærrefi kærd] [_{CP} ke]_j [_{CP} ke]_k
 introduction do-PAST-3SG that that

In (97), both relative CPs appear postverbally, rendering the sentence ungrammatical. Recall that extraposition faces the same problem, as discussed in 5.1.

The discussion in this section shows that even though remnant-VP movement can account for the ill-formedness of (90b) and (91b), it faces some theoretical as well as empirical problems.

5.4. Back to V-movement

²⁴. Mahajan (2003) suggests a similar possibility.

We saw that the movement of the embedded [D N], which co-occurs with the movement of the verb, is an instance of scrambling motivated by focus. Consequently, the sentence in (97), and similar cases, will be ruled out since only one XP can be focused in each sentence. This is illustrated by (98).

- (98) *KIMEA_i [SE - ta film]_k pro fekr mi-kon-æm t_i t_k
 KIMEA THREE - CLASS film thought DUR-do-1SG
 did
 see-PAST-3SG

Lit. *'It was Kimea, it was three movies, that I think (she) saw (them).

There are two focused elements in (98), and thus this sentence is ill-formed. This fact explains the ill-formedness of (97) as well since two XPs (i.e. *nevisænde-i-ro* "a witer" and *be dust-i* "to a friend") must appear in the focus position in this sentence, while there is only one focus position available in each sentence.²⁵ If this analysis is on the right track, V-movement, rather than remnant-VP movement, is the correct solution for the data discussed in this section, both from a theoretical as well as an empirical point of view.

6. Conclusion

The discussion in this article shows that Persian complex DPs containing a CP appear puzzling only superficially. It was demonstrated that the idiosyncratic properties of these complex DPs can be explained on the basis of a revised version of the structure proposed by Kayne (1994) for English relative clauses, and by taking into consideration the properties of the *ra*-phrase in Modern Persian. It was suggested that a base generation

²⁵ Karimi (2003a) shows that two focal elements are possible in the same sentence only if at least one of them bears inherent identificational focus in the sense of Kiss (1998), as for example *only*-phrases or *wh*-phrases. The contrast between (98) in text and (i) indicates this fact.

- (i) KI_i ba KI_j pro fekr-mi-kon-i [_{CP} t_i emruz t_j be-ræqs-e]
 WHO with WHO thought-DUR-do-2SG today SBJ-dance-3SG
 Lit. 'WHO with WHO is it you think will dance today?'

analysis of the head noun (and the demonstrative) accounts more adequately for Persian data than does Kayne's raising theory. Further, the appearance of the relative/complement clause of a complex DP in postverbal position was shown to be the result of the movement of [(D) N] into the Spec of a functional head representing focus. The verb is adjoined to the head of this functional projection in these cases, leaving the CP stranded in the postverbal position. These movements represent the general tendency in Persian, a scrambling language that exhibits movements triggered by discourse functional features. Finally, it was demonstrated that this analysis is superior to alternative accounts, namely extraposition and remnant-VP movement, both from a theoretical and an empirical point of view.

One piece of evidence in support of [(D) N] movement along with V-movement comes from the following examples (data from Jan Mohammad, p.c.):

- (99) a. Iranian-i ke dar Beverly Hills zendegi mi-kon-an
 Iranian-REL that in Beverly Hills life DUR-do-3PL
 servatmand hast-an
 rich be-3PL
 'The Iranians who live in Beverly Hills are rich.'
- b. [_{FP} Iranian-i [_F servatmand hastand]] [_{DP} t_i [_{CP} ke dar Beverly Hills
 zendegi mi-kon-an]] t_k

The sentence in (99a) has the reading 'Iranians in Beverly Hills are rich' (but there are other rich Iranians). The one in (99b) receives a different interpretation: 'Only those Iranians are rich who live in Beverly Hills'. This interpretation is compatible with Kiss's (1998) definition of identificational focus, which singles out one member out of a set. Thus the data in (99) support the claim that [(D) N] must have moved into [Spec, FP], representing identificational focus in all those cases where the relative clause appears in postverbal position.

Two issues remain unsolved. First, it is not obvious why the movement of [D N] into the [Spec, FP] triggers the movement of the verb into the head position of this functional projection, even in those cases where the verb is not focused (typically in

relative constructions). This problem is reminiscent of verb-second languages, such as German and Dutch, where topicalization of an XP and its placement in [Spec, CP] applies along with the obligatory movement of the verb into the head position of this projection.

The second problem concerns the obligatory movement of the indirect object along with the verb which yields the contrast in (90b&c) and (91b&c). I leave these problems for future research.

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