

NEGATION IS LOW IN PERSIAN: EVIDENCE FROM NOMINALIZATION*

Arsalan Kahnemuyipour
University of Toronto Mississauga

This paper investigates nominalization in Persian to identify the height at which nominal structure is introduced. It then uses the findings about nominalization to provide an argument for a low position of sentential negation in the language.

1. Introduction

In much of the recent syntactic literature, particularly since Borsley and Kornfilt's (2000) seminal paper, nominalization structures are treated as "mixed extended projections", structures that are verbal to a point but are nominal above that due to the introduction of a nominal functional category (see, for example, Roeper 2004, Kornfilt and Whitman 2011 and all papers in that volume).

A key question in this type of approach is the height at which the nominal head/category is introduced. For example, Kornfilt and Whitman (2011) propose a typology based on three different structural height possibilities: vP (e.g. Dutch, Italian), TP (e.g. English poss/-ing gerunds, Turkish) and CP (e.g. Greek, Polish).

This paper investigates nominalization in Persian within this framework. After considering the range of attested nominalization data in the language, it is proposed that the domain of nominalization in Persian is the vP. Furthermore, by showing that sentential negation can be included in the domain of nominalization, it is argued that negation has to be low in Persian, contrary to what has often been claimed about negation in Persian as being above TP (see, for example, Karimi 2005, Taleghani 2008, Kwak 2010, Farudi 2013).

Before we proceed with the nominalization data, it may be useful to consider a simple Persian transitive sentence involving some of the basic elements we will encounter throughout the paper.

- (1) |Maryam-o man xoshbaxtaane sari? naahaar na-xord-im
Maryam-and I fortunately fast lunch NEG-eat(PAST STEM)-1PL
'Fortunately, Maryam and I didn't eat lunch quickly.'

2. Nominalization: Persian data

There is a type of deverbal nominalization (known as *masdar*, also referred to as a long infinitive) in Persian which is formed by attaching the nominalizing suffix *-an* to what is

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known as the past stem in traditional grammars.¹ No agreement suffixes are ever present on these nominalized verbs. Some examples are given in (2).

- (2) a. xordan b. xundan c. didan
 ‘eating’ ‘reading’ ‘seeing’

A closer look at the data reveals that the nominalizer *-an* can attach to structures bigger than just the verb. In (3) we see examples involving a verb and a nonspecific object.²

- (3) a. keyk xordan
 cake eating
 ‘eating cake’
- b. ketaab xundan
 book reading
 ‘reading books’

Importantly, the examples in (3) cannot be seen as the nominalized verb being modified by a noun phrase, as in such cases, like any other nominal modifier in Persian, it would have to appear postnominally, with the noun marked by the Ezafe (4). Ezafe is an unstressed vowel *-e* (*-ye* after vowels) which appears between a noun and its modifier (*N-e Mod*), and is repeated on subsequent modifiers, if they are present, except the last one (*N-e Mod1-e Mod2-e Mod3*) (see Samiian 1983, Ghomeshi 1997, Kahnemuyipour 2014, among others).

- (4) a. xordan-e keyk
 eating-EZ cake
 ‘eating of (the) cake’
- b. xundan-e ketaab
 reading-EZ book
 ‘reading of the book/books’

In fact, each example in (3), can be treated as a noun and take a plural suffix *-haa* or modified as such by taking the Ezafe marker followed by an adjective or possessor. We can also use a demonstrative to mark the left edge of the nominalized structure. The

¹ It has been argued in Kahnemuyipour and Megerdoomian (2002) (see also Kahnemuyipour 2004) that the suffix *-t* (sometimes appearing as *-d* or *-id*) in what is traditionally known as the past stem is not a true tense marker, realizing instead a low vP-internal aspectual head.

² It appears that only bare nonspecific objects are allowed inside nominalization. A nonspecific object marked by an indefinite article *ye* (e.g. *ye ketaab* a book) or a numeral (e.g. *do ketaab* two books) cannot be used in the nominalization domain. While it is argued in this paper that the domain of nominalization is vP in Persian, if we take these non-bare nonspecific objects to be vP-internal, (see, for example, Kahnemuyipour 2009, cf. Faghiri 2016), we will need reasons other than structural height for their exclusion from the nominalization domain.

preceding demonstrative and following plural marker or adjective/possessor give us a good frame to identify the left and right edges of nominalization. In other words, in the examples below, whatever appears between *in* ‘this’ and the plural or Ezafe marker can be treated as the nominalized portion. In (5), the demonstrative marks the left edge and Ezafe (5a) or plural (5b) marks the right edge.

- (5) a. in keyk xordan-e Ali
 this cake eating-EZ Ali
 ‘this cake eating of Ali’
- b. in ketaab xundan-haa
 this book reading-PL
 ‘these acts of book reading’

In (3)/(5), the domain of nominalization includes the verb and a nonspecific object. Meanwhile, manner adverbs can also be included in this domain, as shown in (6a). (6b) shows the parallel structure with a modified deverbal noun (akin to (4)). It has been argued that manner adverbs mark the left edge of the vP indicating that the domain of nominalization is at least as large as the vP (see Holmberg 1986, Webelhuth 1992).

- (6) a. in sariʔ ketaab xundan-e Ali
 this fast book reading-EZ Ali
 ‘this fast book-reading of Ali’
- b. xundan-e sariʔ-e ketaab tavassote Ali
 reading- EZ fast- EZ book by Ali
 ‘fast reading of books by Ali’

Further investigation of the nominalization data in Persian reveals that the domain of nominalization cannot be larger than the vP, as elements outside of vP, such as higher adverbs, specific objects and subjects cannot be part of this domain. This is shown for a high speaker-oriented adverb in (7) (see Van Hout and Roeper 1998 for a similar use of adverbs to determine height of nominalizations).

- (7) *in xoshbaxtaane ketaab xundan-e Ali
 this fortunately book reading-EZ Ali
 (lit.) ‘this fortunately book reading of Ali’

It has been noted in the literature that the same lexical element can be used as an adverb in different positions leading to different interpretations (e.g. high=subject-oriented, low=manner, see Jackendoff 1972, Cinque 1999). In Persian, where main sentence stress has been argued to mark the left edge of vP (Kahnemuyipour 2009), this difference in height is not manifested in a difference in surface word order, but rather marked by a prosodic difference. In (8), we can see the two prosody-dependent interpretations.

- (8) Ali *sexaavatmandaane* komak kard
 Ali generously help did
 ‘Ali helped generously.’ (main prominence on *sexaavatmandaane*) **manner**
 ‘It was generous of Ali to help.’ (main prominence on *komak*) **subject-oriented**

Interestingly, only the manner reading is maintained under nominalization, as shown in (9). This provides further support for the claim that the domain of nominalization is vP, as vP-external adverbs cannot be included in the structure.

- (9) in *sexaavatmandaane* komak kardan-e Ali
 this generously help doing-EZ Ali
 ‘this helping generously of Ali / this helping of Ali in a generous way’
 ‘#this generous act of helping by Ali’

Persian specific (*ra*-marked) objects have been proposed to be in a higher syntactic position than non-specific objects, with the former in a vP-external position and the latter in a vP-internal one (see Browning and E. Karimi 1994, Ghomeshi 1996, S. Karimi, 1996, Megerdooimian 2002, Kahnemuyipour 2009).³ As expected, the specific *ra*-marked (colloquially, *-ro* after vowels and *-o* after consonants) object cannot be part of the domain of nominalization, as shown in (10) (see McGinnis 2014 for a similar argument for Georgian).

- (10) *in *ketaab-o* *xundan-e* Ali
 this book-RA reading-EZ Ali
 ‘this book reading of Ali’

It is also not possible to have a subject as part of the nominalization domain, as shown in (11).⁴

- (11) *in Ali *bastani* *xordan-haa*
 this Ali ice-cream eating-PL
 ‘these acts of Ali eating ice-cream’

³ Similar proposals have been made for other languages: Mahajan (1990) for Hindi, Koopman and Sportiche (1991) and de Hoop (1996) for Dutch, Enç (1991) and Diesing (1992) for Turkish, among others.

⁴ Subjects included in the nominalization domain may not be able to take nominative case for independent reasons (see, for example, Kornfilt and Whitman 2011 on Turkish), instead requiring genitive case. One might take the ungrammaticality of (10) to be the result of the unavailability of nominative case. In Persian, there is no genitive case marking per se and possession is expressed using the Ezafe construction. Meanwhile, even with the Ezafe construction, the subject/possessor has to be outside the nominalization domain (ia) and forcing it inside the domain leads to ungrammaticality (ib).

- (i) a. in *bastani* *xordan-haa-ye* Ali
 this ice-cream eating-PL-EZ Ali
 b. *in [*bastani* *xordan-e* Ali] – *haa*
 this ice-cream eating-EZ. Ali – PL
 ‘these acts of ice-cream eating by Ali’

Given the above data, we can conclude that the domain of nominalization in Persian is the vP and as such, it includes the verb, the non-specific object, manner adverbs and excludes vP-external elements such as specific objects, the subject and higher adverbs. In the following section, we will see that negation can also be included in this domain.

3. Negation

This section examines the status of sentential negation in Persian and its interaction with nominalization. As we can see in (12), negation can also be part of the nominalization domain.

- (12) a. in ketaab na-xundane-haa
 this book NEG-reading-PL
 ‘these acts of not reading books’
- b. in sariʔ qazaa na-xordan-e Ali
 this fast book NEG-eating-EZ Ali
 ‘this habit of Ali, not eating food fast’
 (lit.) ‘this not fast food eating of Ali’

It is worth noting that sentential negation has the exact same linear position as the negation used in the nominalized constructions above, as shown in (13), repeated from (1). It is also impossible to have a second negation in the clause resembling something like the English *I didn’t not tell him*. These facts indicate that the negation used in the nominalization context is not an instance of constituent negation.

- (13) |Maryam-o man xoshbaxtaane sariʔ naahaar na-xord-im
 Maryam-and I fortunately fast lunch NEG-eat(PAST STEM)-1PL
 ‘Fortunately, Maryam and I didn’t eat lunch quickly.’

We saw in section 2 that the domain of nominalization in Persian is vP. In this section, we noted that sentential negation can be part of the nominalized domain. This provides strong evidence that negation is low and inside vP, contrary to what has been argued in much of the syntactic literature on Persian (see, for example, Karimi 2005, Taleghani 2008, Kwak 2010, Farudi 2013). Below we will consider some of the arguments in favor of a high position for negation in Persian.

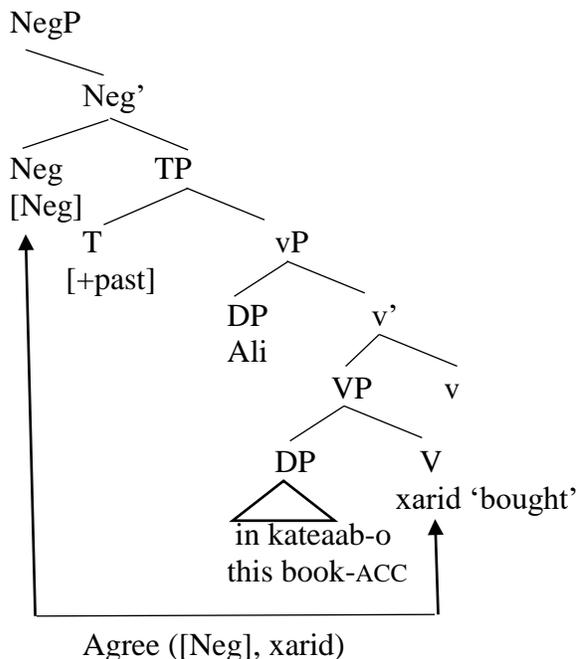
Taleghani (2008) (see also Farudi 2013, Kwak 2010) proposes a structure like the one given in (15) for the example in (14) (with minor notational modifications). In order to account for the realization of the Neg morphology on the verb, she suggests the following mechanism. According to her, there is an interpretable [Neg] feature on negation which checks an uninterpretable [Neg] feature on the verb via Agree, which is realized as the Neg prefix on the verb.⁵ Crucially, if negation were the result of such an

⁵ Kwak’s (2010) proposal is different in minor details. She posits a [verb] feature on the Negation and the verb which need to be checked against each other, leading to the morphological realization of negation on the verb.

Agree relation with a head so high in the structure, its inclusion in the nominalization domain is a surprise.

- (14) Ali in ketaab-o na-xarid
 Ali this book-ACC NEG-bought
 ‘Ali didn’t buy this book’

- (15) Negation structure for Taleghani (2008)



Taleghani’s main argument for placing Neg above TP comes from the licensing of elements such as *hichkas* ‘nobody’, which she refers to as NPI. In Persian, these elements can be licensed in both subject and object position in a negative clause, as in (16). The crucial example is the one with a subject NPI in (16a). Taleghani concludes that Neg has to be higher than TP to be able to c-command the subject in SpecTP (see also Farudi 2013).

- (16) a. hichkas qazaa na-xord
 nobody food NEG-ate
 ‘Nobody ate food.’
- b. Ali hichkas-o na-did
 Ali nobody-ACC NEG-saw
 ‘Ali didn’t see anybody.’

The facts in (16) with respect to the licensing of elements like *hichkas* ‘nobody’ are unquestionable. Meanwhile, these facts cannot be used as evidence for a high Neg.

Persian is a strict Negative Concord (NC) language and these elements can best be understood as n-words. N-words in NC languages (e.g. Korean, Japanese, Greek, Hungarian, Romanian, etc.) have different licensing conditions from the NPIs found in a language like English (e.g. anyone, anything, etc.). In particular, they are not licensed by a c-commanding Neg. One proposal to account for the distribution of n-words is the Clause-mate Condition, the requirement that they should be in the same clause as negation (see, for example, Progovac 1994, Zanuttini 1997, Déprez 1997, Giannakidou 2000, Sells & Kim 2006, Han et al. 2007).

N-words are expressions that can only appear in structures containing sentential negation (or similar expressions), leading to a single negation interpretation (Giannakidou 2006). This is true of Persian (see (16)). In addition, crucially, n-words are known to be able to appear as negative fragment answers. This is true of Persian n-words such as *hichkas* ‘nobody’, as can be seen in (17) (cf. English *any* NPIs). Hereafter, I refer to Persian n-words as *hich*-words, as they are compounds containing *hich* ‘no’ (e.g. *hichkas* ‘no one’, *hichchiz* ‘nothing’, *hichjaa* ‘nowhere’, *hichvaqt* ‘never (lit. no time)’).⁶

(17) A: ki injaa bud?
 who here was
 ‘Who was here?’

B: hichkas
 ‘No one.’

We conclude from the above discussion that the possibility of placing *hich*-words in subject (and object) positions cannot be taken as evidence for a high Negation, contra Taleghani’s claim.

Farudi (2013) adds one argument for the high position of Negation having to do with the morphological realization of negation with respect to the modal auxiliary *baayad* ‘must’. She points out that this modal auxiliary is high in the clause, either in T (as Taleghani 2008 suggests), or even higher, in ModP above TP, which is the position she adopts. When negated, the negative marker is prefixed to *baayad*: *nabaayad*. She takes this as evidence for negation being at least above TP. Some examples are given in (18).

(18) a. Ali baayad be-raqs-e
 Ali must SUBJ-dance-3SG
 ‘Ali must dance.’

b. Ali na-baayad be-raqs-e
 Ali NEG-must SUBJ-dance-3SG
 ‘Ali mustn’t dance.’

⁶ The example in (16) and the English translation for the *hich*-words may give the impression that they are equivalents of English negative quantifiers such as *nobody*, *nothing*, etc. While negative quantifiers and n-words can both appear as fragment answers, they have a different distribution. Unlike n-words, negative quantifiers can appear in contexts where there is no sentential negation (e.g. Nobody came.). Also, when negative quantifiers (as opposed to n-words) appear in the context of sentential negation (e.g. John didn’t see nobody.), they lead to a double negative reading.

The problem with Farudi's argument is that the Neg on *baayad* is independent from the negation that appears on the verb. While the examples in (18) only show the appearance of negation on the modal *baayad*, in (19) we can see that the verb can be negated independently from the presence or absence of negation on the modal.

- (19) a. Ali baayad na-raqs-e
 Ali must NEG-dance-3SG
 'Ali must not dance.'
- b. Ali na-baayad na-raqs-e
 Ali NEG-must NEG-dance-3SG
 'Ali mustn't not dance.'

In order to have a better understanding of the modal auxiliary *baayad*, we need to have a cursory look at other auxiliaries in Persian. Other auxiliaries in Persian are independent verbs showing agreement. This point is illustrated in (20) for *tunestan* 'can'. As shown in (20a), this modal auxiliary shows agreement with the subject, while the main verb receives its own separate agreement marking. (20b-d) show that negation can appear on either agreeing modal/verb or both.

- (20) a. man mi-tun-am keyk be-xor-am
 I DUR-can-1SG cake SUBJ-eat-1SG
 'I can eat cake.'
- b. man ne-mi-tun-am keyk be-xor-am
 I NEG-DUR-can-1SG cake SUBJ-eat-1SG
 'I can't eat cake.'
- c. man mi-tun-am keyk na-xor-am
 I DUR-can-1SG cake NEG-eat-1SG
 'I cannot eat cake.'
- d. man ne-mi-tun-am keyk na-xor-am
 I NEG-can-1SG cake NEG-eat-1SG
 'I can't not eat cake.'

I take the double agreement in the sentences in (20) to show that we are dealing with bi-clausal constructions, with the embedded clause being reduced and each clause allowing for its own agreement and negation.⁷

The situation with *baayad* 'must' is somewhat different, as it does not show agreement with the subject, unlike *tunestan* 'can'. It is worth noting, however, that the form *baayad* does in fact carry a fixed 3rd person singular agreement –*ad*. It is therefore

⁷ The exact structure of these clauses involving modal auxiliaries and in particular how reduced the embedded clause is are questions I abstract away from here as they are tangential to the issue at hand (see Ghomeshi 2001, Bejar and Kahnemuyipour 2014).

possible to treat it as an impersonal form which can in turn carry a negative marker (akin to the French *Il faut que ... / Il ne faut pas que ...*).⁸ The crucial point is that, here too, we appear to be dealing with a bi-clausal structure.

It should be noted that in sentences involving the modal *baayad* ‘must’ the subject can follow the modal and additionally a complementizer *ke* can optionally be added, providing further support for the bi-clausal nature of the construction.^{9,10} Under this view, the clause-initial subject in the above examples can be seen as a case of the topicalization of the subject. An example with the post-auxiliary subject and the optional complementizer is given in (21). In (21), *Ali* can be topicalized to the clause-initial position as well.

- (21) *baayad* (ke) *Ali* *baa* *Maryam* *be-raqs-e*
 must that *Ali* with *Maryam* SUBJ-dance-3SG
 ‘*Ali* must dance with *Maryam*.’

The above discussion illustrates that the appearance of negation on the modal *baayad* cannot be taken as evidence for the high position of sentential negation, as Farudi has suggested.

Additional support for the vP-internal position of negation comes from vP-fronting in Persian. As has been shown in Kahnemuyipour (2009), this productive operation fronts the verb, nonspecific object and the manner adverb, and as such can be best described as the fronting of vP. The example in (22) shows that negation is included in the fronted vP underlining its vP-internal position.¹¹

- (22) [_{vP} *sariʔ qazaa* *ne-mi-xor-e*] *Ali* *t_{vP}*
 fast food NEG-DUR-eat-3SG *Ali*
 ‘*Ali* doesn’t eat food fast.’

To conclude this section, there are no strong arguments for a high negation in Persian. Meanwhile, we have strong evidence from nominalization showing that negation is in fact low in the structure. In the following section, we will consider how the proposed low negation may fare with some scope of negation facts in Persian.

⁸ Persian is a null subject language and does not have an expletive pronoun.

⁹ Alternatively, *baayad* can be treated as an adverbial element with modal content, with *nabaayad* as its negated form. There may be a change in place toward such an analysis as the use of the complementizer *ke* is dispreferred. The use of *ke* improves with longer sentences.

¹⁰ Another modal *shaayad* ‘may, maybe’ has a very similar status to *baayad*, but it does not have a negated form in modern day Persian. In Classical Persian, *shaayad* had a deontic reading and a negated form *nashaayad* was also available. In modern Persian, *shaayad* has an epistemic reading only.

¹¹ If the appearance of negation on the verb is taken to be the morphological realization of some Agree relation between a high Neg and the verb (a la Taleghani 2008, Kwak 2010, Farudi 2013), the vP-fronting facts may be captured by ordering it after this Agree relation is established.

4. Scope of Negation

I have argued that sentential negation is in a low vP-internal position in Persian. This may raise questions about the scope of negation in the language. If we have elements like negation that appear low in the structure, can we ever expect them to scope high? Is a language like Persian with low sentential negation radically different from languages with high negation with respect to its scope properties?

Let us investigate the above questions with reference to the relative scope of adverbs and negation and start with the nominalized context, the main focus of this paper. Recall that only manner adverbs are allowed in the context of nominalization. When negated, negation takes scope over the whole vP including the manner adverb, as in (23).

- (23) sariʔ qazaa na-xordan-e Ali Neg > Manner Adverb
 fast food NEG-eating-EZ Ali
 ‘Ali’s not eating food fast’

In the context of a full finite clause, negation maintains scope over a manner adverb, as shown in (24).

- (24) Ali sariʔ qazaa na-xord Neg > Manner Adverb
 Ali fast food NEG-ate
 ‘Ali didn’t eat food fast.’

With speaker-oriented adverbs, only a narrow scope of negation is available, as shown in (25).

- (25) xoshbaxtaane Ali bastani na-xord Speaker-oriented Adverb > Neg
 fortunately Ali ice-cream NEG-ate
 ‘Fortunately, Ali didn’t eat ice-cream.’
 (It was fortunate that Ali didn’t eat ice-cream.
 # It was unfortunate that Ali ate ice-cream.)

With subject-oriented adverbs, both wide and narrow scope of negation are possible.¹²

- (26) Ali aaqelaane bastani na-xord
 Ali wisely ice-cream NEG-ate
 ‘It was wise of Ali not to eat ice-cream.’ Subject-oriented Adverb > Neg
 ‘It wasn’t the case that it was wise of Ali to eat ice-cream.’
 Neg > Subject-oriented Adverb

¹² Narrow scope of negation may be more salient in the context of a subject-oriented adverb, but wide scope of negation is possible if the right pragmatic context is set up. I am abstracting away from the manner adverb reading of (26): *Ali didn’t eat ice-cream wisely* (for instance, he might have eaten too much). Negation has wide scope over this manner reading as discussed above.

Let us see how we may be able to account for the above scope facts. I follow Moscati (2006) who suggests that the PF position of negation should be separated from its scope, as negation might appear very low but scope high. Moscati provides arguments for an operation akin to Quantifier Raising (QR), which he calls Neg-Raising (NR). According to Moscati, NR comes in two flavours (in line with similar suggestions for QR by Fox 2000). *Obligatory NR* raises negation to the edge of vP, whenever sentential negation is inserted in a position where it fails to take scope over the whole predicate. *Optional NR* raises negation to the CP domain (ForceP for Moscati) and takes place whenever there are other scope taking elements in the clause, leading to negation taking scope over such elements.¹³

We can now assess how this state of affairs may fare with the data in (23)-(26). The obligatory NR leads to the wide scope of negation over all vP-internal elements, e.g. the manner adverb, accounting for the facts in (23) and (24). The availability of two scope readings in (26) can be captured by using both obligatory and optional NR. The narrow scope reading is achieved when negation is interpreted in its low position, as with the obligatory NR, Neg is still lower than the adverb. Meanwhile, the additional optional NR gives us the wide scope reading of negation over subject-oriented adverbs. Crucially, the unavailability of a wide scope reading of negation over speaker-oriented adverbs shown in (25) indicates that the landing position for the optional NR is lower than speaker-oriented adverbs, while it is higher than subject-oriented ones.

We conclude that with a low syntactic position for negation, wide scope readings, if necessary, can be obtained via an operation like Neg Raising. Therefore, the scope of negation in languages with low negation like Persian is not necessarily all that different from other languages with higher negation.¹⁴

5. Conclusion

We started the paper by reviewing a range of nominalization facts and argued that the domain of nominalization in Persian is vP. We then used the fact that sentential negation can be included in this domain to argue for a vP-internal position for negation in the language. This claim stood in sharp contrast to previous accounts of negation in Persian which took it to be in a position above TP. We illustrated that the arguments provided for a high position of sentential negation in Persian are not strong. Therefore, the low position of negation strongly supported by the nominalization facts (and highlighted by vP-fronting in Persian) cannot be undermined.

We then looked at the scope of negation with respect to adverbs and suggested a way of capturing wide scope of negation when needed, despite its low syntactic position. Much more work is needed to verify the range of possibilities with respect to the scope of negation when interacting with other scope bearing elements in Persian.

¹³ Covert movement can be understood as an Agree relation between negation and a head in the CP domain. This reinterpretation of NR has no bearing on the discussions in this paper.

¹⁴ The findings in this section are consistent with Shafiei and Storoshenko's (2017) claim that negation in Persian can sometimes take wide scope over quantifiers in object or subject positions.

The proposed low vP-internal position for Negation has serious implications for the phrase structure of Persian. It also provides further support for the parallelism between the structures of vP and CP, as more cases of elements typically attributed to the CP domain (e.g. wh-elements, focus, and here negation) are found in the domain of vP.

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