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Subject-object asymmetries in Persian argument ellipsis and the anti-agreement theory

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We investigate the distribution of argument ellipsis in Persian in the context of the recent debate concerning the derivation of null arguments. Using sloppy/quantificational interpretations of elided arguments, we show that Persian exhibits subject-object elliptical asymmetries. We develop various arguments against the Verb-Stranding VP-ellipsis analysis of the subject-object asymmetry. We argue instead that the asymmetry in question is captured by the anti-agreement theory (Saito 2007). Our analysis predicts that the logical subject in Persian should be able to permit argument ellipsis when it is not in the position associated with φ -feature agreement. We show that this prediction is indeed borne out in several syntactic constructions whose inanimate plural subjects do not enter into an agreement relation with any functional head such as T. We also briefly explore one significant consequence of our analysis for the proper treatment of the so-called differential object marker *-râ* and conclude that this marker is the default morphological case in the technical sense of Marantz (1991).

Keywords: argument ellipsis; verb-stranding VP-ellipsis; sloppy/quantificational interpretation; LF-copy; φ -agreement; *-râ*

1 Introduction

There has been considerable debate in the last three decades or so over the nature of mechanism(s) responsible for the ellipsis of grammatically required arguments such as subjects and objects within the framework of generative grammar. The most authoritative hypothesis in the field until the 1980s had it that the missing arguments are not literally “empty” in the syntactic structure, but rather occupied by *pro*’s, the null counterpart to regular overt pronouns. The extensive research on null subjects in languages like Italian (Perlmutter 1971; Taraldsen 1978; Chomsky 1981; Jaeggli 1982; Rizzi 1982; 1986) has yielded the well-known generalization that the availability of the *pro*-subject in a language is conditioned by rich agreement under T because the latter, by hypothesis, recovers the φ -features of the missing subject, thereby circumventing the need for overt subjects, unlike in languages with relatively impoverished agreement inflections, such as Modern English. The general validity of this generalization – which later came to be known as *Taraldsen’s Generalization* – was soon called into question, however, by parallel investigations into the range and depth of permissible *pro*-drop patterns in Japanese, Korean and Chinese (Kuroda 1965; Ohso 1976; Huang 1982; 1984; Hoji 1985; Saito 1985), which showed that these languages allow *pro* drop even more freely than null-subject languages such as Italian even though they uniformly

lack any system of ϕ -agreement – a pattern now widely recognized as *radical pro drop*. A rather typologically conflicting generalization has thus emerged that *pro* occurs in the context of very rich agreement, as in Italian, or no agreement at all, as in Chinese, Korean and Japanese (see Huang 1982; 1984; Jaeggli and Safir 1989; Speas 2006 for more detailed discussion).

Alongside the debate concerning the licensing conditions on the distribution of null pronouns, some researchers such as Huang (1987; 1991) and Otani and Whitman (1991) had raised an important theoretical question whether *pro* is the only analytical possibility for null arguments in radical *pro drop* languages. They showed that there are certain instances of null arguments in the East Asian languages whose referential and interpretive properties cannot be wholly explained by the uniform *pro*-theory, but instead must be analyzed in terms of VP-ellipsis – now commonly named *Verb-Stranding VP-Ellipsis* (Goldberg 2005). This line of research has since been extended beyond the East Asian languages to many typologically different languages, including Irish (McCloskey 1991; 2007; 2010), Hebrew (Doron 1999), Swahili (Ngonyani 1996), Egyptian Arabic (Tucker 2011), European/Brazilian Portuguese (Cyrino and Matos 2002; Santos 2009), and Russian (Gribanova 2012; 2013). The new approach pursued by Huang and Otani and Whitman, of course, also sparked a renewed interest in the exact identity of elliptic arguments in the East Asian languages. Subsequent research, particularly, Oku (1998), Kim (1999), Saito (2007), and Takahashi (2008a; b; 2013a; b; 2014), amassed convincing arguments that Japanese, for example, possesses argument ellipsis as a distinct grammatical phenomenon responsible for the generation of elliptic arguments which exhibit sloppy/quantificational interpretations.

The most important research question in the current comparative syntax of elliptic arguments, thus, boils down to which languages employ which syntactic mechanism (e.g., *pro*, VP-ellipsis, or argument ellipsis) for which null argument (e.g., null subject or null object), as well as why a particular mixture of these combinations, not others, is attested. The objective of this article is to compare the competing theories of null arguments put forth in the literature from the perspective of Persian, a language which has heretofore never been studied with respect to the phenomenon of argument ellipsis. As we will see shortly, one of the most intriguing grammatical features of Persian is that it exhibits significant variability in the surface word order of syntactic constituents strictly governed by discourse-configurational notions such as specificity and topic/focus, thereby providing us with various testing grounds to empirically distinguish among the competing hypotheses regarding the origin of elliptic arguments in this language.

The present article is organized as follows. In section 2, using sloppy/quantificational interpretations of null arguments as diagnostic tests for argument ellipsis (Oku 1998; Takahashi 2008a; b), we show that Persian exhibits a curious subject-object asymmetry; null objects, but not null subjects, allow sloppy/quantificational interpretations. At first blush, this asymmetry may invite the Verb-Stranding VP-Ellipsis analysis, according to which a main verb undergoes V-to-T raising, followed by VP-ellipsis. However, we introduce a wide range of arguments, some based on the previous work and others based on language-specific properties of Persian, against this analysis. The arguments include the lack of verb-identity effects, the relative order of specific vs. non-specific direct objects vis-à-vis low adverbs, VP-internal trapping effects created by PP-scrambling and anaphor binding, and the fixed order between verbs and their nominal complements

(Karimi 2005). We also point out empirical problems which face other conceivable alternative analyses of elliptic arguments in Persian which do not resort to argument ellipsis, including Hoji's (1998) indefinite *pro*-analysis developed on Japanese null object constructions. In section 3, we propose that the core subject-object ellipsis asymmetry is correctly predicted by the anti-agreement theory (Saito 2007) to the effect that the application of LF-Copy underlying argument ellipsis is blocked by the presence of φ -feature agreement under functional heads (Ts and v's). The present analysis further predicts that the empty subject in principle should allow argument ellipsis as long as it stays in a position not associated with φ -feature agreement. We show that this prediction is indeed borne out in a number of constrictions in which inanimate plural subjects do not enter into an agreement relation with any functional head. Our analysis also allows us to narrow down the analytic search space for the identity of the so-called differential object marker *-râ*, which has been vigorously contested in the literature on Persian syntax. We put forth a new analysis of this marker as a default morphological case in the technical sense of Marantz (1991)/Bobaljik (2006), a new analysis which is consistent with the anti-agreement analysis of Persian argument ellipsis. Section 4 is the conclusion of the paper.

2 Subject-object asymmetries in Persian argument ellipsis

Persian is an Iranian language of the Indo-Iranian sub-branch of the Indo-European family. It is a head-initial language except for the VP-level at which verbs occur in the final position (Karimi 2005). Persian is widely known for its large, open-ended list of complex predicates, consisting of a non-verbal element within the complement of *v* and a semantically bleached light verb generated under *v* (Karimi 1997; Folli et al. 2005; Toosarvandani 2009; Megerdooimian 2012). The number of simplex verbs is extremely limited, with some estimated 120 verbs remaining in current use (Mohammad and Karimi 1992: 195), and most verbal concepts are expressed instead by increased reliance on complex predicates. Persian exhibits subject-verb agreement, but not object-agreement. For example, the verb *xun* 'to read' in Persian exhibits overt morphological agreement in person and number with the subject, not with the direct object, as attested by the following full conjugation paradigm associated with the verb.

- (1) Subject-verb agreement in number and person with the Persian verb *xun* 'to read'

	Singular			Plural		
First person	Man	ketâb	mi-xun- am .	Mâ	ketâb	mi-xun- im .
	I	book	ASP-read-1SG	we	book	ASP-read-1PL
	'I read books.'			'We read books.'		
Second person	To	ketâb	mi-xun- i .	shomâ	ketâb	mi-xun- in .
	you	book	ASP-read-2SG	you	book	ASP-read-2PL
	'You read books.'			'You read books.'		
Third person	Un	ketâb	mi-xun- e .	Unâ	ketâb	mi-xun- an .
	he/she	book	ASP-read-3SG	they	book	ASP-read-3PL
	'He/she reads books.'			'They read books.'		

Persian is also a radical *pro* drop language with frequent use of null arguments in both subject and object positions. In the rest of this section, we investigate the range of possible interpretations available to elliptic arguments in this language.

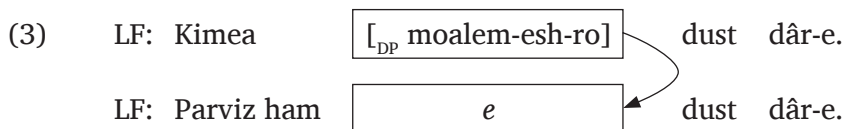
2.1 Subject-object elliptical asymmetry in Persian: evidence from sloppy interpretations

Let us first consider an example of the null object construction. (2b) is a case in point. The clitic pronoun *esh* in (2a) is a gender-neutral pronoun. The particle *ham* in (2b-c) has two different functions: it can be used either as a focus particle meaning ‘also’ or as a topic particle meaning ‘as for’. We will simply gloss *-râ* as *RÂ* until section 3.3 when the precise identity of this marker becomes relevant to our discussion.

- (2) a. Kimea moalem-esh-ro dust dâr-e.
 Kimea teacher-her-RÂ friend have-3SG
 ‘Kimea loves her teacher.’
- b. Parviz ham e dust dâr-e.
 Parviz also friend have-3SG
 ‘Lit. Parviz also loves *e*.’
- c. Parviz ham un-o dust dâr-e.
 Parviz also him-RÂ friend have-3SG
 ‘Parviz also loves him.’

In (2b), the direct object, designated here as *e*, goes missing due to the fact that the null object is more or less anaphoric to the overt direct object *moalem-esh-ro* ‘her/his teacher’ in (2a). The missing argument here allows both strict and sloppy interpretations. In other words, the sentence in (2b) means either that Parviz also loves Kimea’s teacher (the strict interpretation) or that Parviz also loves Parviz’s own teacher (the sloppy interpretation). Suppose that the identity of the null object here is *pro*. Given the plausible heuristic assumption that the syntactic and semantic properties of empty pronouns closely mirror those of their overt counterparts, the sloppy interpretation for the null object would be mysterious under the uniform *pro*-theory. This is because the example in (2c), with the overt pronominal *un-o* ‘him’ in direct object position, can only yield the strict interpretation.

The argument ellipsis theory, on the other hand, provides a straightforward account for the sloppy interpretation obtained in the null object construction. Here and throughout this paper, we follow Oku’s (1998) technical execution of this phenomenon in terms of LF-Copy; see section 2.5 for a detailed discussion of Oku’s theory, which relates the availability of argument ellipsis to the availability of Japanese-style scrambling. Oku essentially proposes that in Japanese, an empty argument with sloppy interpretations arises when the argument in question is recovered at LF by copying the overt argument into the ellipsis site. Transporting this LF-Copy analysis to Persian, the null object construction in (2b) is analyzed as shown in (3).



In this representation, the overt object *moalem-esh-ro* ‘her/his teacher’ in (2a) is copied at LF onto the corresponding empty object position in (2b) to yield the sloppy interpretation for the null object. Indeed, the example in (4), with the direct object from (2a) repeated in direct object position in (2b), does exhibit the sloppy interpretation.

- (4) Parviz ham **moalem-esh-ro** dust dâr-e.
 Parviz also teacher-his-RÂ friend have-3SG
 ‘Parviz also loves his teacher.’

We assume throughout this paper that the strict interpretation is derived uniformly by the *pro*, following the traditional *pro*-theory, and focus instead on the availability of the sloppy interpretation, which is the relevant diagnostic test for argument ellipsis.

Turning now to elliptic subjects, the example in (5b) illustrates a null subject construction in which the embedded empty subject is somehow anaphoric to the overt subject in the full-fledged antecedent clause in (5a). Unlike null objects, however, null subjects disallow the sloppy interpretation; (5b) can mean that Parviz said that Kimea's friend knows French, but cannot mean that Parviz said that Parviz's own friend knows French.

- (5) a. Kimea goft [_{CP} ke dust-esh farsi balad-e].
Kimea said COMP friend-her Farsi know-3SG
'Kimea said that her friend knows Farsi.'
- b. Parviz goft [_{CP} ke e farânse balad-e].
Parviz said COMP French know-3SG
'Lit. Parviz said that *e* knows French.'
- c. Parviz goft [_{CP} ke un farânse balad-e].
Parviz said COMP he French know-3SG
'Lit. Parviz said that he knows French.'

In this regard, it is conceivable that the null subject in Persian must be realized as *pro*, for the overt third-person pronoun *un* only allows the strict interpretation, as shown in (5c).

As our current concern lies in the availability of argument ellipsis in Persian as an independently available grammatical process, it is important to check whether Persian allows other non-nominal arguments such as PPs and CPs to manifest this phenomenon.¹ The answer is positive, as shown in (6) and (7).

- (6) Parviz be xâhar-esh ye ketâb dâd va Azita ham e_{pp} ye ghalam dâd.
Parviz to sister-his a book gave.3SG and Azita also a pen gave.3SG
'Parviz gave a book to his sister, and Azita also gave a pen (to her sister).'
- (7) Parviz fekr mi-kon-e ke xâhar-esh bâhushtar az xod-esh-e
Parviz thought ASP-do-3SG COMP sister-his smarter of self-his-is
ammâ Kimea fekr ne-mi-kon-e e_{CP}.
but Kimea thought NEG-ASP-do-3SG
'Parviz thinks that his sister is smarter than him. But Kimea doesn't think that his/her (= Parviz's/Kimea's) sister is smarter than Parviz/Kimea.'

The example in (6) involves the argument ellipsis of the goal argument of the ditransitive verb *dâd* 'give', as attested by the fact that the elliptical clause allows for the sloppy interpretation that Azita also gave a pen to Azita's sister. Similarly, the example in (7) involves the ellipsis of the CP complement of the verb *fekr* 'to think'. Again, the elided CP permits the sloppy interpretation that Kimea does not think that Kimea's sister is smarter than Kimea. Furthermore, if the phenomenon under our investigation is argument ellipsis, we further expect that adjunct expressions, being a non-argument, should not be able to undergo this process. Example (8) shows that this expectation is indeed borne out.

- (8) Kimea mâshin-esh-o bâ degghat shost, va Arezu e xoshk kard.
Kimea car-her-RÂ with precision washed.3SG and Arezu dry did.3SG
'Kimea washed her car carefully, and Arezu dried (her car).'

¹ We would like to thank an anonymous reviewer for encouraging us to check whether Persian allows ellipsis of selected PPs/CPs as well as ellipsis of adjuncts.

The elliptical clause in (8) allows for the sloppy interpretation where Arezu dried her own car. Importantly, however, the second clause cannot include the adverbial to be interpreted together with the elliptical object. That is, it cannot mean that Arezu dried her own car carefully; it is just that Arezu dried it. The inability of the adverbial to be included in the interpretation of the ellipsis site thus further proves the availability of argument ellipsis in Persian as an independently available grammatical phenomenon.

2.2 Further evidence for the subject-object asymmetry: quantificational interpretations

We introduce further evidence for the subject-object asymmetry in Persian argument ellipsis from the E-type/quantificational ambiguity exhibited by empty arguments in Persian. Takahashi (2008a) proposes the availability of quantificational interpretations as another diagnostic test for argument ellipsis together with sloppy interpretations. Consider first the null object construction in (9b) to illustrate how this test plays out in Persian.

- (9) a. Kimea se-tâ mo'alem-ro davat kard.
 Kimea three-CL teacher-RÂ invitation did.3SG
 'Kimea invited three teachers.'
- b. Parviz ham e davat kard.
 Parviz also invitation did.3SG
 'Lit. Parviz also invited e.'
- c. Parviz ham un-â-ro davat kard.
 Parviz also him/her-PL-RÂ invitation did.3SG
 'Lit. Parviz also invited them.'

The null object in (9b) allows two interpretations. One interpretation – the *E-type* interpretation (Evans 1980) – is that the set of three teachers that Parviz invited is identical to the set of three teachers that Kimea invited. The other interpretation – the *quantificational* interpretation – is that the set of three teachers that Parviz invited may be different from the set of three teachers that Kimea invited. The latter interpretation cannot be explained by the *pro*-theory, for the example in (9c) with the overt plural pronoun *unâ* 'them' blocks the quantificational interpretation. Again, this interpretation is correctly accounted for under the argument ellipsis theory, according to which the LF-representation for (9b) will be as in (10).

- (10) LF: Kimea [_{DP} se-tâ mo'alem-ro] davat kard.
 LF: Parviz ham e davat kard.
-

In this representation, the quantified object *se-tâ mo'alem-ro* 'three teachers' is copied from the preceding clause onto the empty object position in the elliptical clause. The quantificational interpretation obtains because the copied object then can behave independently of its antecedent in terms of quantification.

Example (11b) illustrates a null subject construction. Interestingly, the null subject here only permits E-type interpretations, on a par with overt pronouns, suggesting again that Persian employs the *pro*-strategy uniformly for the null subject argument.

- (11) a. Kimea goft [_{CP} ke se-tâ dâneshtu mi-tun-an ingilisi harf be-zan-an].
 Kimea said COMP three-CL student ASP-can-3PL English talk SUBJ-hit-3PL
 'Kimea said that three students can speak English.'
- b. Parviz goft [_{CP} ke e mi-tun-an farânse harf be-zan-an].
 Parviz said COMP ASP-can-3PL French talk SUBJ-hit-3PL
 'Lit. Parviz said that e can speak French.'

- c. Parviz goft [_{CP} ke unâ mi-tun-an farânse harf be-zan-an].
 Parviz said COMP they ASP-can-3PL French talk SUBJ-hit-3PL
 ‘Lit. Parviz said that they can speak French.’

One may suggest that the interpretive restriction imposed on the null subject in Persian can be attributed to the definiteness restriction observed in other languages such as Chinese. More specifically, the obligatory E-type interpretation in (11b) may well be attributed to this restriction so that the antecedent argument in (11a) must be interpreted as definite (i.e., *the three students*) rather than indefinite (i.e., *three students*).² We believe that this alternative analysis is easy to dismiss, for the subject position in Persian is not subject to the relevant restriction in the first place. Thus, in (12), the subject can be interpreted as a non-specific (and hence indefinite) DP without any loss of grammaticality.

- (12) tu un otâgh ye doxtar dâr-e mi-raghs-e.
 in that room a girl have-3SG ASP-dance-3SG
 ‘In that room, a girl is dancing.’

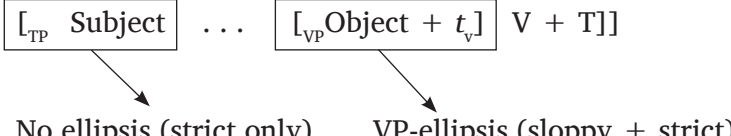
The empirical question that we would like to address in the rest of this section, then, is what lies behind the interpretive asymmetry between null subjects and null objects in Persian. We discuss one influential analysis of such an asymmetry in the following subsection.

2.3 The verb-stranding VP-ellipsis theory of null arguments in Persian

The V-Stranding VP-Ellipsis (henceforth VVPE) Theory, originally proposed for Japanese/Chinese elliptic arguments by Huang (1987; 1991) and Otani and Whitman (1991), maintains that the empty argument in direct object position arises when the main verb is left as a remnant due to overt V-to-T raising, followed by VP-ellipsis, thereby giving the surface appearance of elliptic objects. It is well known (Sag 1976; Williams 1977) that in languages with VP-ellipsis such as English, sloppy interpretation for the missing direct object can arise as the result of VP-ellipsis, as shown in (13).

- (13) David scratched his arm, and Bob did [_{VP} Ø], too.
 a. David [_{VP} λx(x scratch his arm)], and Bob did [_{VP} λx(x scratch his arm)] → strict
 b. David [_{VP} λx(x scratch x’s arm)], and Bob did [_{VP} λx(x scratch x’s arm)] → sloppy

Within William’s (1977) system of LF-reconstruction, the strict reading for (13) (i.e., Bob scratched David’s arm too.) obtains when the antecedent VP shown in (13a) is copied onto the empty VP, where *his* is taken as a referential pronoun referring to *David*. The sloppy reading for (13) is derived, on the other hand, by copying the antecedent VP shown in (13b) onto the VP-ellipsis site, where *his* is taken as a variable bound by a lambda operator so that *his* can be bound instead by *Bob*. The point here, of course, is that the ambiguity between sloppy and strict readings is contingent on the prior application of VP-ellipsis. Consequently, then, it may well be that the subject-object asymmetry in Persian could be similarly explained away through VVPE; that is to say, in Persian, the null object, but not the null subject, allows sloppy readings because only the former is within the VP, as schematically illustrated in (14).

- (14) $[\text{TP Subject}] \dots [\text{VP Object} + t_v] \text{ V} + \text{T}]$

 No ellipsis (strict only) VP-ellipsis (sloppy + strict)

² We thank an anonymous reviewer for suggesting this alternative possibility.

At first blush, then, the VVPE might look quite feasible for the ellipsis of arguments in Persian. This expectation is further reinforced by Toosarvandani (2009), who shows that Persian independently possesses what he calls *v*-Stranding VP-Ellipsis, where the non-verbal element of a complex predicate (as well as its internal arguments) is deleted, leaving behind just the light verb under *v* head. One example of *v*-Stranding VP-Ellipsis is given in (15).

- (15) *Persian* (Toosarvandani 2009: 61)
 Sohrâb piranâ-ro otuout na-zad vali Rostam $\{_{NP} \text{piranâ-ro otu}\}$
 Sohrab shirt.PL-RÂ iron NEG-hit.PAST.3SG but Rostam shirt.PL-RÂ iron
 zad.
 hit.PAST.3SG
 ‘Sohrab didn’t iron the shirts, but Rostam did.’

Toosarvandani proposes that this ellipsis be analyzed as deletion of the complement of the stranded *v*, a pattern strongly reminiscent of the VVPE approach introduced above.

Tempting as the VVPE analysis might be, we introduce below four arguments showing that this analysis cannot be transported to argument ellipsis in Persian. Our first argument against the VVPE analysis concerns the (lack of) verbal-identity requirement imposed on the application of VP-ellipsis. McCloskey (1991; 2007; 2010), Doron (1999), and Goldberg (2005) observe that, for VP-ellipsis to occur, the main verb within the VP-ellipsis site must be identical to the main verb of the full-fledged antecedent clause. This verbal-identity requirement is illustrated in Irish in (16a; b). See also Doron (1999) and Goldberg (2005) for examples in Hebrew and Swahili illustrating the same requirement.

- (16) *Irish* ((16a) from McCloskey 1991: 274; (16b) from McCloskey 2007: 22)
 a. Ar **cheannaigh** siad teach? -Creidim gur **cheannaigh**.
 COMP.INTERR buy.PAST they house believe.PRES.1SG COMP buy.PAST
 ‘Did they buy a house?’ ‘I believe they did.’
 b. *Níor **cheannaigh** siad ariamh teach ach **dhíol**.
 NEG buy.PAST they ever house but sell.PAST
 ‘Intended: They never bought a house, but they sold (a house).’

(16a) is fine because the verbs in the antecedent and elliptical clauses are identical. (16b) is ill-formed, on the other hand, because the stranded verb is not identical to its correlate. Bearing this verbal-identity requirement in mind, if the VP-ellipsis is indeed responsible for the origin of a null object with sloppy readings in Persian, then we predict that the null object construction in this language should exhibit the verbal-identity requirement, just like Irish. The grammaticality of the example in (17b) shows, however, that this prediction is incorrect. Here, the verbs in the two otherwise parallel sentences are different – *nevesht* ‘wrote’ vs. *xund* ‘read’ – but nonetheless the null object can still exhibit the sloppy (as well as strict) interpretation.

- (17) a. Kimea nâma-sh-ro **xund**.
 Kimea letter-her-RÂ read.3SG
 ‘Kimea read her letter.’
 b. Parviz ham *e* **nevesht**.
 Parviz as for wrote.3SG
 ‘Lit. Parviz wrote *e*.’

Our second argument against the VVPE analysis comes from the relative order of specific/non-specific direct objects vis-à-vis low/VP-level adverbials. Consider (18–19).

- (18) Kimea [_{DP} *mâshin-esh-o*] [_{PP} *bâ deghghat*] *mi-shost* *amma Ali* *e_{DP}*
 Kimea car-her-RÂ with precision ASP-washed.3SG but Ali
 [_{PP} *bâ bideghghati*] *khoshk mi-kard.*
 with imprecision dry ASP-did.3SG
 ‘Kimea washed her car carefully, but Ali dried (her car) carelessly.’
- (19) Kimea [_{PP} *bâ deghghat*] [_{NP} *mâshin*] *mi-shost* *amma Ali*
 Kimea with precision car ASP-washed.3SG but Ali
 [_{PP} *bâ bideghghati*] *e_{NP} khoshk mi-kard.*
 with imprecision dry ASP-did.3SG
 ‘Kimea washed cars carefully, but Ali dried cars carelessly.’

Here, we assume, following Cinque’s (1999) universal hierarchy of adverbs, that manner adverbs are attached to the left edge of VP: see Karimi (2005: 124–126) for a further discussion of high and lower adverbials in Persian within Cinque’s framework. The example in (18) illustrates that the specific object *mâshin-esh-o* ‘her car’ precedes the VP-level manner adverb *bâ deghghat* ‘carefully’. The example in (19), on the other hand, illustrates that this order is reversed when the object is non-specific. Let us assume then, following Karimi (2003a; b; 2005), that the specific object is outside the VP and moves into the [Spec, *vP*] whereas its non-specific variant remains within the VP. Under this assumption, the only structural position for the manner adverbials in (18) and (19) would be within the VP. The VVPE analysis, then, could not derive the elliptical patterns exhibited in (18) and (19), for it would have no way of deleting the specific or non-specific objects without also deleting *bâ bideghghati* ‘carelessly’ contained within the VP domain.³ Note, further, that the ellipsis pattern in these examples cannot be accommodated by the *pro*-analysis, for the elliptical objects there permit the sloppy interpretation and thereby independently exclude such an analysis (see also section 2.4 for independent evidence against the indefinite *pro*-analysis of Persian argument ellipsis).

Our third argument against the VVPE analysis is based on what we might call trapping effects created by scrambling in Persian. The essence of this argument owes itself to Şener and Takahashi’s (2010) argument from Turkish, which is in turn constructed on the model of an argument originally developed by Oku (1998) for Japanese argument ellipsis. Consider first examples of PP-scrambling in Persian, shown in (20a, b).

- (20) a. Kimea_i [_{DP} *ketâb-esh_{i/j}-ro*] [_{PP} *bâ Arezu_j*] *xund.*
 Kimea book-her-RÂ with Arezu read.3SG
 ‘Kimea read her book with Arezu.’
- b. Kimea_i [_{PP} *bâ Arezu_j*]_k [_{DP} *ketâb-esh_{i/j}-ro*] *t_k xund.*
 Kimea with Arezu book-her-RÂ read.3SG
 ‘Kimea read her book with Arezu.’

In (20a), the anaphoric third-person pronoun *esh* can refer to *Kimea*, but not to *Arezu*. Once we scramble the PP across the direct object DP, however, the pronoun can refer

³ An anonymous reviewer points out that the present argument against the VVPE analysis is valid only if such adverbial PPs are stuck in some VP-internal position and cannot undergo scrambling further up in the structure in Persian. Note, first, that we are arguing against the analysis outlined in (14), which involves V-to-T raising and VP-ellipsis. Therefore, we believe that our current argument holds as long as the specific object in Persian is in [Spec, *vP*], a rather standard assumption in Persian syntax (Karimi 2005). This assumption thus ensures that the adverbial PPs in (18–19) are within the verbal projection, be it *vP* or VP. Second, it is true that adverbial PPs can scramble in Persian. However, it is to be noted that scrambling in this language is a discourse-sensitive operation so that such movement requires clear discourse-motivations such as contrastive focalization or topicalization, with special intonational contour. The point here is that the PPs in (18–19) cannot scramble in a neutral, out-of-the-blue context. See also note 17 for relevant discussion.

either to *Kimea* or *Arezu*. This effect brought about by scrambling is illustrated in (20b). For the sake of argument, we adopt the analysis proposed by Karimi (1999; 2003a; b; 2005), according to which scrambling in Persian is driven by topic or focus, and assume that the scrambling of the PP in (20b) targets [Spec, FocP] above the TP; the surface subject is then located in [Spec, TopP]. Bearing this observation in mind, let us now consider the example of an empty object construction shown in (21b).

- (21) a. Kimea_i [_{DP} ketâb-esh_{i/*j}-ro] [_{PP} bâ Arezu_j] xund.
 Kimea book-her-RÂ with Arezu read.3SG
 ‘Kimea read her book with Arezu.’
- b. . . . ammâ Parviz e_{DP} [_{PP} bâ Azita_j] na-xund.
 but Parviz with Azita NEG-read.3SG
 ‘Lit. . . . but Parviz didn’t read *e* with Azita.’

The example in (21b) allows the sloppy interpretation whereby Parviz didn’t read Parviz’s book with Azita. The crucial fact to note here is that in (21b), the anaphoric pronoun can refer to *Parviz*, but not to *Azita*. This means that the PP *bâ Azita* ‘from Azita’ has not undergone scrambling; recall the contrast between (20a) and (20b). The only structure for (21b), then, which captures this interpretive pattern under the VVPE ellipsis, would be something like (22). The element to be deleted is indicated by double strikethroughs.⁴

- (22) [_{TopP} Parviz_i . . . [_{vP} ~~t_{DP}~~ ketâb-es~~hi/*j~~-ro] [_{PP} bâ Azita_j] t_v] na-xund.
 Parviz book-his-RÂ with Azita NEG-read.3SG

Overt V-to-T Raising

As can be seen in (22), the VVPE analysis would not be able to delete just the specific direct object DP in [Spec, vP] without also deleting the following adjunct PP because both phrases are contained with the vP-ellipsis site. Accordingly, the sloppy interpretation in (21b) would remain mysterious under the VVPE theory.

An anonymous reviewer points out that the VVPE analysis may be able to accommodate the fact noted in (21b) in the following way. Suppose that the PP in (21b) does undergo scrambling to [Spec, FocP] to yield a potentially ambiguous structure, but its actual interpretation is disambiguated by some sort of parallelism constraint so that the pronoun *esh* (within the elided vP) can only refer back to *Parviz*. Specifically, the reviewer suggests that the elliptical clause in (21b) only allows the reading where Parviz didn’t read her own book, but not Azita’s book, simply because its antecedent sentence in (21a) allows the reading where Kimea read her own book, but not Arezu’s book. We believe, however, that this alternative treatment of the example in (21b) in terms of parallelism constraints is inherently problematic on conceptual grounds. There has been a growing number of evidence, particularly well-documented in works such as Reinhart (1995; 2006) and Fox (2000), for the general interface economy principle, expressed in Chomsky (2001: 34), namely, that “an optional rule can apply only when necessary to yield a new outcome.” The case of PP-scrambling involved in (20b) is clearly an optional movement which meets this economy principle in the sense defined above because it gives rise to a new interpretation which otherwise won’t be available, as shown by the interpretive contrast between

⁴ Below, we will provide independent evidence against overt V-to-T raising in Persian, which the VVPE analysis resorts to for the derivation of the null object construction, based on the relative order of a verb with respect to its nominal complement. Hence, the representation shown in (22) should be taken to simply illustrate the derivation of the example in (21b) under the VVPE-analysis.

(20a) and (20b). We have seen that the null object example in (21b) does not allow the reading where Parviz didn't read Azita's book with Azita; it only has the reading where Parviz didn't read her own book with Azita. Given the scope economy principle outlined above, this interpretive outcome dictates then that the PP *bâ Azita* 'with Azita' must not undergo scrambling but stay in situ, for the hypothetical application of scrambling is semantically vacuous and hence is blocked. Therefore, to the extent that ellipsis is subject to the interface economy principle, the actual interpretation in (20b), upon closer inspection, indicates that PP-scrambling could not have occurred, in the first place, contrary to what the reviewer has suggested.

Finally, we would like to note that the VVPE analysis for null arguments in Persian has an empirical problem independently of the ellipsis paradigms discussed so far. Recall that this analysis presupposes that main verbs in Persian undergo overt head movement to Ts so that only the internal arguments of the verbs are subject to ellipsis due to subsequent application of VP-ellipsis. However, there is reason to believe that Persian has no overt V-to-T raising. It is true that, as we have mentioned at the beginning of section 2, Persian is a verb-final language like Japanese. As such, it is difficult to tell whether there is overt V-to-T raising in Persian since the word order effects of such movement are string-vacuous. However, we can develop a solid empirical argument against V-to-T raising in Persian based on the relative order of main verbs with respect to their nominal complements.⁵ Let us follow Karimi (2005: 7–9) and assume that VP/*v*Ps are head-final whereas TP is head-initial. The crucial assumption used here that T precedes *v*P in Persian, a strictly verb-final language, is supported by the relative order of verbs with their clausal arguments. In Persian, all types of verbal dependents (e.g., nominal, prepositional, adjectival phrases) precede the verb which selects them, except for sentential arguments, which exceptionally follow the verb. This point is illustrated in (23).

- (23) *Persian* (Karimi 2005: 8)
 Kimea goft [_{CP} ke Parviz xune nist].
 Kimea said COMP Parviz home NEG.be
 'Kimea said that Parviz is not home.'

If T in Persian were in a final position, we would expect that the sentential argument of a verb should precede it, whether the verb undergoes V-to-T raising or not, as Persian is head-final for the *v*P/VP-level. The fact, however, is that such an argument must follow the verb, as shown by the contrast in grammaticality between (24) and (25).

- (24) *Persian* (Karimi 2005: 8)
 *man *t_v* [_{CP} ke Kimea in kêro-ro mi-gir-e] [_T [_v goft]-am]].
 I COMP Kimea this job-RÂ DUR-get-3SG said-3SG
 'Intended: I said that Kimea will get this job.'
- (25) man goft-am [_{CP} ke Kimea in kêro-ro mi-gir-e].
 I said-3SG COMP Kimea this job-RÂ DUR-get-3SG
 'I said that Kimea will get this job.'

Now, given the independently motivated assumption that T is head-initial in Persian, we can show that Persian has no V-to-T raising. Note that such a head movement operation

⁵ See also Toosarvandani (2009: 74-78) for another potential argument against overt V-to-T raising in Persian based on the availability of the so-called repetitive/restitutive readings induced by the modifier *dobâre* 'again' under *v*-Stranding VP-Ellipsis (von Stechow 1996; Rapp and von Stechow 1999; Johnson 2004). We won't discuss Toosarvandani's argument here since his analysis is founded on a different set of assumptions from ours regarding the structural position of specific vs. non-specific objects in Persian whose justifications would go far beyond the scope of this paper.

would end up creating an SVO order shown in (26a), since the T position, which would host the verb, should precede the direct object (both specific and non-specific); as such, the grammatical SOV order shown in (26b) would be underivable as long as we assume overt V-to-T movement in Persian.⁶

- (26) a. *Kimea [_T [_V xund]] ketâb-ro/ketâb t_v.
 Kimea read.3SG book-RÂ/book
 ‘Kimea read the book/book.’
- b. Kimea ketâb-ro/ketâb xund.
 Kimea book-RÂ/book read.3SG
 ‘Kimea read the book/book.’

The grammatical order shown in (26b) is correctly predicted, on the other hand, if Persian does not have V-to-T movement. The lack of V-to-T movement, therefore, poses an independent empirical challenge to the VVPE approach to Persian argument ellipsis which must resort to such movement as its central analytical premise.

To conclude our arguments against the VVPE theory discussed in this subsection, let us make sure that the argument ellipsis theory can accommodate all the examples we presented in this subsection as problematic for the theory. Firstly, the lack of the verbal identity requirement is correctly predicted by this theory because the null object there is simply the by-product of copying the overt direct object onto the corresponding null object slot, in the manner already shown in (3). Secondly, the deletion of the specific/non-specific object to the exclusion of the VP-internal PP-adverbs also makes sense since argument ellipsis, by hypothesis, applies directly to arguments themselves. Thirdly, the examples illustrating VP-internal trapping effects created by PP-scrambling and anaphor binding are accommodated in the same way. Finally, the evidence against V-to-T raising in Persian is consistent with the argument ellipsis theory, for the application of LF-Copy is independent of such a process, unlike in the VVPE theory.

2.4 Hoji’s (1998) indefinite pro-theory

There is an interesting alternative theory of null arguments developed extensively in Hoji (1998), who suggests that the sloppy interpretation of the null object in Japanese has nothing to do with whether or not it undergoes ellipsis, be it argument ellipsis or VP-ellipsis. Hoji argues instead that what null objects exhibit is merely “sloppy-like” readings which are derived by the indefinite use of *pro* (i.e., *pro*_{NP}) on a par with indefinite bare nominals. This indefinite *pro* theory is illustrated in Japanese examples below.

- (27) *Japanese* (Hoji 1998: 141)
- a. Subete-no itinensei_i-ga soitu_i-no booru-o ketta.
 all-GEN first-year student-NOM that guy-GEN ball-ACC kicked
 ‘Every first-year student kicked his/her ball.’
- b. Subete-no ninensei-mo e ketta.
 all-GEN second-year student-NOM kicked
 ‘Lit. Every second-year student also kicked e.’
- c. Subete-no ninensei-mo booru-o ketta.
 all-GEN second-year student-also ball-ACC kicked
 ‘Every second-year student also kicked a ball.’

⁶ The specific object can follow the verb in Persian. However, in such a marked order, the verb must bear focal stress, indicating that the verb has moved into the head of FocP.

The null object in (27b) allows the sloppy interpretation that every second-year student kicked his/her own ball. Hoji observes that the real-world situation described by this interpretation can be truthfully expressed by the sentence in (27c), which has the bare indefinite nominal argument *booru* ‘ball’ in direct object position. Accordingly, he concludes that the sloppy interpretation can be accommodated by the null variant of the indefinite bare noun, namely, *pro*_{NP}.

It is clear that this analysis works nicely for the derivation of the sloppy interpretation for null objects, but it makes wrong empirical predictions when it is tested against sentences within quantificational contexts, another diagnostic we have introduced in section 2.2 for argument ellipsis. Examples (28) are a case in point.

- (28) a. Kimea bishtar az panj mehmun davat kard.
Kimea more than five guest invitation did.3SG
‘Kimea invited more than five guests.’
- b. Parviz ham *e* davat kard.
Parviz also invitation did.3SG
‘Lit. Parviz also invited *e*.’
- c. Parviz ham *mehmun* davat kard.
Parviz also guest invitation did.3SG
‘Parviz also invited guests.’

The example in (28b) permits both E-type and quantificational interpretations according to which the set of five guests Kimea invited are identical to, or may be different from, the set of five guests that Parviz invited. We have shown in section 2.2 that the quantificational interpretation results from argument ellipsis/LF-Copy. The interesting point about (28b) is that these two interpretations are the only interpretations available for the null object. Importantly, our native speaker consultants of Persian unanimously agree that this example cannot mean that Parviz invited (an indefinite number of) guests. Hoji’s analysis predicts, however, that this interpretation should be available in (28b), because the overt counterpart of the indefinite *pro*, *mehmun* ‘guest’, allows this interpretation in (28c).

The Persian examples in (29), which we constructed on the model of the Japanese examples developed by Saito (2007) against Hoji’s analysis, also make the same point.

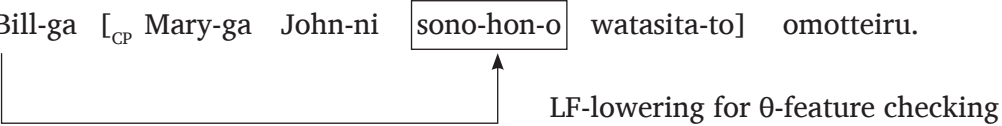
- (29) a. Kimea gozâsht [_{CP} ke kelâs avvali-yâ ketâb-e xod-eshun-o be-xun-an].
Kimea let COMP class first-PL book-EZ self-their-RÂ SUBJ-read-3PL
‘Kimea let the first graders read their own book.’
- b. ammâ *e* na-zâsht [_{CP} ke kelâs dovvomi-yâ *e* be-xun-an].
but NEG-let COMP class second-PL SUBJ-read-3PL
‘Lit. . . but (she) didn’t let the second graders read *e*.’
- c. ammâ *e* na-zâsht [_{CP} ke kelâs dovvomi-yâ *ketâb* be-xun-an].
but NEG-let COMP class second-PL book SUBJ-read-3PL
‘. . . but (she) didn’t let the second graders read books.’

The null object example in (29b) permits the sloppy interpretation that the second graders were not allowed to read their own books. Interestingly, this sentence can be used in a situation where they were allowed to read some books, say, books owned by first graders or their teachers; it is just that Kimea did not let them read their own books. This reading should not be possible under Hoji’s indefinite *pro* analysis, however, because the example in (29c), which has the overt indefinite bare noun *ketâb* ‘book’ in direct object position, cannot be used to describe the context alluded to above; that is, (29c) means that the

second graders were not allowed to read any books in the first place. We conclude then that Persian possesses argument ellipsis as a distinct grammatical option.

2.5 Oku’s (1998) scrambling hypothesis and Persian argument ellipsis

One of the most intriguing questions in the comparative study of argument ellipsis is what grammatical property enables the option of argument ellipsis in a particular language. In his pioneering work on this topic, Oku (1998) puts forth an explicit hypothesis which links the availability of argument ellipsis to the availability of Japanese-style scrambling. This hypothesis builds on Bošković and Takahashi’s (1998) theory of Japanese scrambling. Bošković and Takahashi (1998: 349) assume that θ -roles are formal features capable of driving syntactic movement (see also Hornstein 1999). Based on this theoretical assumption, they propose that so-called “scrambled” phrases in Japanese are base-generated at their surface position and undergo obligatory LF-lowering to a θ -position to check a θ -feature of the predicate. To illustrate this theory, *sono-hon* ‘that book’ in (30a) is directly merged at its surface position in overt syntax and later lowers to the θ -position of the embedded verb *watasita* ‘handed’ to check its undischarged internal θ -feature at LF, as shown in (30b).

- (30) a. Sono hon-o Bill-ga [_{CP} Mary-ga John-ni watasita-to] omotteiru.
 that book-ACC Bill-NOM Mary-NOM John-DAT handed-COMP think
 ‘That book, Bill thinks that Mary handed to John.’
 b. Bill-ga [_{CP} Mary-ga John-ni sono-hon-o watasita-to] omotteiru.


Bošković and Takahashi argue that this base-generation approach to scrambling is possible in Japanese because θ -features in this language are weak in the sense of Chomsky (1995). According to Chomsky (1995), weak features must be checked before the syntactic derivation reaches LF and hence can be tolerated in overt syntax whereas strong features must be checked in overt syntax before they reach PF. A “lowering” derivation like the one shown in (30b) is legitimate in Japanese as long as the “scrambled” phrase checks the θ -feature of the embedded predicate by means of lowering before the derivation reaches LF. Bošković and Takahashi suggest that such a derivation is illegitimate in English, on the other hand, because θ -features are strong in this language.

Oku (1998) proposes that this weakness of θ -features in Japanese also makes it possible for LF-Copy of an overt argument in the antecedent clause onto the corresponding elliptic site in the target clause. To illustrate this theory using a null object construction, a transitive verb in Japanese may occur without its direct object argument in overt syntax, as shown in (31a), since its θ -feature is weak and hence does not have to be checked until LF. An overt argument is then counter-cyclically merged at LF with the verb to check the weak θ -feature of the verb for the derivation to converge, as shown in (31b). Since LF-objects, by definition, lack phonetic content, we get the null object construction.

- (31) a. Overt Syntax: [_{VP} V]
 b. LF: [_{VP} V DP]

Oku’s hypothesis straightforwardly derives the observation that Japanese allows argument ellipsis in any grammatical position, including subjects and objects, as shown in (32-35).

- (32) *Japanese* (Otani and Whitman 1991: 346-347)
 a. John-wa zibun-no tegami-o sute-ta.
 John-TOP self-GEN letter-ACC discard-PAST
 ‘John threw out his letter.’

- b. Mary-mo *e* sute-ta.
 Mary-also discard-PAST
 ‘Lit. Mary also threw *e* out.’
- (33) *Japanese* (Oku 1998: 165)
- a. Mary-wa [_{CP} zibun-no teian-ga saiyou-sare-ru-to] omotteiru.
 Mary-TOP self-GEN proposal-NOM accept-PASS-PRES-COMP think
 ‘Mary thinks that her proposal will be accepted.’
- b. John-mo [_{CP} *e* saiyou-sare-ru-to] omotteiru.
 John-also accept-PASS-PRES-COMP think
 ‘Lit. John also thinks that *e* will be accepted.’
- (34) *Japanese* (Şener and Takahashi 2010: 81–82)
- a. Taro-wa sannin-no sensei-o sonkesiteiru.
 Taro-TOP three-GEN teacher-ACC respect
 ‘Taro respects three teachers.’
- b. Hanako-mo *e* sonkesiteiru.
 Hanako-also respect
 ‘Lit. Hanako also respects *e*.’
- (35) *Japanese* (Şener and Takahashi 2010: 84)
- a. Sannin-no onnanoko-ga Taro-ni ai-ni kita.
 three-GEN girl-TOP Taro-DAT see-to came
 ‘Three girls came to see Taro.’
- b. *e* Ken-ni-mo ai-ni kita.
 Ken-TOP-also see-to came
 ‘Lit. *e* also came to see Ken.’

The examples in (32b) and (34b) show that the null object argument permits sloppy/quantificational interpretations. The examples in (33b) and (35b) show that the same interpretations are available for the null subject arguments. The symmetric argument ellipsis pattern is available in Japanese because these positions can be reconstructed by countercyclic LF-merger thanks to the weak specification of θ -features in this language.

It is important to check whether Oku’s (1998) scrambling hypothesis correctly circumscribes the behavior of Persian with respect to scrambling and argument ellipsis because Persian allows scrambling and argument ellipsis alike. Two considerations, however, reveal that the answer is negative. Firstly, Oku’s hypothesis makes the typological prediction that the availability of argument ellipsis in a language correlates with the availability of Japanese-style scrambling and vice versa (see also Bošković 2004). This prediction is shown in (36a, b).⁷

- (36) Oku’s (1998) Scrambling Hypothesis and its predictions
- a. If a language *L* has Japanese-style scrambling, then *L* has argument ellipsis.
 b. If a language *L* has argument ellipsis, then *L* has Japanese-style scrambling.

⁷ An anonymous reviewer points out that, under Oku’s hypothesis, the presence of scrambling is merely a necessary condition for the availability of argument ellipsis. We have a different interpretation of the implications of Oku’s hypothesis than the reviewer’s. Under Oku’s theory, Japanese scrambling and argument ellipsis are nothing but two different surface manifestations of countercyclic merger, a syntactic option made available by the weak specification of θ -features. Accordingly, the presence/absence of one phenomenon must entail the presence/absence of the other. For this reason, we continue to assume that Oku’s theory makes the predictions shown in (36a, b).

Specifically, Oku's hypothesis predicts that Persian, being an argument ellipsis language, should have Japanese-style scrambling. A large body of works on Japanese scrambling (Saito 1989; 1992; Fukui 1993; Saito and Fukui 1998) takes the defining characteristic of Japanese-style scrambling to be its undoing property, or *radical reconstruction* in Saito's (1989) terms. This property manifests itself in the obligatory narrow scope of the scrambled phrase, as illustrated in (37).

- (37) *Japanese* (Bošković and Takahashi 1998: 354: $\exists > \forall; * \forall > \exists$)
 Daremo-ni dareka-ga [_{CP} Mary-ga e atta-to] omotteiru.
 everyone-DAT someone-NOM Mary-NOM met-COMP think
 'Lit. Everyone, someone thinks that Mary met.'

The reason that the scrambled quantifier *daremo-ni* 'everyone-DAT' cannot take scope over the existential quantifier *dareka-ga* 'someone-NOM' in its surface position is that the former must undergo obligatory reconstruction, or LF lowering in Bošković and Takahashi's terms, to the complement position of the embedded verb to check the undischarged θ -feature of the verb. Turning to the corresponding case in Persian, Example (38) shows that the "scrambling" of the universally quantified DP to the sentence-initial position yields the wide scope reading with respect to the existentially quantified matrix subject. Note that the derived scope is not available when the universally quantified DP stays in its base-generated thematic position, as shown in (39).

- (38) *Persian* ($\forall > \exists; \exists > \forall$)
 [_{DP} Har pesar-i-ro]_i ye dāneshju-yi tu in kelās fekr mi-kon-e
 every boy-IND-RÂ one student-IND in this class thought ASP-do-3SG
 [_{CP} ke Kimea t_i dust dār-e].
 COMP Kimea friend have-3SG
 'One student in this class thinks that Kimea loves every boy.'

- (39) *Persian* ($* \forall > \exists; \exists > \forall$)
 ye dāneshju-yi tu in kelās fekr mi-kon-e [_{CP} ke Kimea
 one student-IND in this class thought ASP-do-3SG COMP Kimea
 [_{DP} har pesar-i-ro] dust dār-e].
 every boy-IND-RÂ friend have-3SG
 'One student in this class thinks that Kimea loves every boy.'

In this regard, then, the long-distance "scrambling" in Persian behaves on a par with topicalization in English, illustrated in the examples in (40a, b), which show that the topicalized DP *everyone* can have wide scope only in its derived position.

- (40) *English* ((40a) adopted from Bošković 2004: 618)
 a. Everyone, someone thinks that Mary met. ($\exists > \forall; \forall > \exists$)
 b. Someone thinks that Mary met everyone. ($\exists > \forall; * \forall > \exists$)

The above discussion, thus, disproves the second prediction of Oku's hypothesis in (36b) because Persian exhibits argument ellipsis, but lacks Japanese-style scrambling as defined by radical reconstruction. See also Li (2007), Aoun and Li (2008), and Cheng (2012) for supporting arguments that Mandarin is another argument ellipsis language which does not possess Japanese-style scrambling; see Stjepanović (1999) and Bošković (2009), for the observation that the other prediction of Oku's theory in (36a) is disproved by Serbo-Croatian, which has Japanese-style scrambling, but lacks argument ellipsis entirely.

Secondly, recall that Oku's hypothesis derives the fact that Japanese allows argument ellipsis in both subject and object positions by the assumption that θ -features are weak in this language. The possibility of object argument ellipsis in Persian, then, means that θ -features are weak in this language as well. Obviously, this result contradicts with our earlier observation that Persian exhibits the robust asymmetric distribution between subject and object positions with respect to argument ellipsis.

3 The agreement-based analysis of the subject-object ellipsis asymmetry in Persian

The central question of our ongoing quest into argument ellipsis in Persian is how the subject-object asymmetry is derived. We argue in this section that LF-Copy is blocked in the subject position in Persian by ϕ -feature agreement, adopting the Anti-Agreement Hypothesis originally developed by Saito (2007), as further extended to other languages such as Chinese and Malayalam by subsequent work by Şener and Takahashi (2010) and Takahashi (2013a; b; 2014) and Miyagawa (2013).

3.1 Saito's (2007) anti-agreement hypothesis

Adopting Oku's (1998) LF-Copy theory of argument ellipsis without its θ -theoretic implementation, Saito (2007) proposes that this process can only apply to the syntactic positions which do not enter into ϕ -feature agreement with functional heads – Ts and v 's – and derives this restriction from Chomsky's (2000) *Activation Condition*. Within the Probe-Goal-Agree system of Chomsky (2000), the uninterpretable/unvalued ϕ -features of the probe T or v search for a goal DP with the matching interpretable ϕ -features. The matching of the ϕ -feature sets induces the deletion/valuation of the uninterpretable ϕ -features of the probe through the mechanism of Agree. The crucial assumption Chomsky adopts in this system is that the Agree operation is triggered by an uninterpretable/unvalued Case feature of the goal. The Case feature is hypothesized to be deleted together with the uninterpretable ϕ -feature of the probe as the reflex of the Agree relation that takes place between the probe and goal. In this system, no Case checking/valuation on a DP would exist without it entering in an agreement relationship with an appropriate functional head; the Case feature on the DP will be realized/valued as nominative if it Agrees with the T head but as accusative if it Agrees with the transitive v head.

Saito shows that this system effectively blocks LF-Copy from targeting the syntactic positions associated with Ts or v 's with uninterpretable ϕ -features. To see how this is so, consider the following steps of the syntactic derivation required for argument ellipsis under the LF-Copy analysis, where Ts or v 's have the uninterpretable ϕ -features and e stands for an empty argument position.

- (41)
- | | | | | |
|----|-------|----------------------------------|--------|---|
| a. | F_1 | $\{\phi\text{-features}\} \dots$ | DP_1 | $\{\phi\text{-features}, \text{Case}\}$ |
| b. | F_2 | $\{\phi\text{-features}\} \dots$ | e | \dots |
| c. | F_2 | $\{\phi\text{-features}\} \dots$ | DP_1 | $\{\phi\text{-features}, \text{Case}\} \dots$ |

In (41a), the probe F_1 with the uninterpretable/unvalued ϕ -features searches for the goal DP_1 with the matching interpretable ϕ -features. Agree then results in the deletion of the uninterpretable ϕ -features of the probe and of the uninterpretable Case feature of the goal. Suppose now that we copy the DP_1 from (41a) onto the empty argument position designated as e in (41b). The result of this copying operation is shown in (41c). Recall that the Agree operation can only be triggered by the presence of an uninterpretable/unvalued Case feature of the goal. Note that the uninterpretable Case feature of the goal DP_1 has already been checked and erased before it undergoes LF-copying. Hence, the goal cannot participate in Agree with any other probe. Consequently, the uninterpretable/unvalued

ϕ -features of the new probe F_2 in (41c) remain unchecked, causing the syntactic derivation to crash.⁸

This Anti-Agreement Hypothesis correctly predicts that English, for example, does not allow argument ellipsis in subject or object position, as illustrated in (42a, b).

- (42) a. *John brought his wife to the party. He also brought *e* to the concert.
b. *John thinks his son speaks English. Bill thinks that *e* speaks French.

Under Chomsky's (2000) system, which links Case invariably to ϕ -feature agreement, English exhibits ϕ -agreement both under T and v heads, as evident from Case inflections in both subject and object positions (though they only manifest themselves in pronouns). The LF-Copy process then is blocked in both subject and object positions by ϕ -agreement. To put it differently, LF-Copy can target the empty argument position in (41b) *as long as* there is no uninterpretable ϕ -agreement associated with Ts or v 's. Saito (2007) argues that this situation is precisely what happens in Japanese, which has been standardly assumed to lack any system of agreement (Fukui 1986; Kuroda 1988). Indeed, we have already seen in section 2.5 (see the examples in (32–35)) that this language allows sloppy/quantificational interpretations for both empty subject and empty objects.

Şener and Takahashi (2010) show that the anti-agreement hypothesis is further confirmed by the range of permissible ellipsis patterns in Turkish; see also Takahashi (2013a; b; 2014) and Miyagawa (2013) for further extensions of the same hypothesis to Chinese, Malayalam and Portuguese, which allow the same asymmetric distribution of argument ellipsis as Turkish. Şener and Takahashi observe that Turkish allows null subjects and null objects, but only null objects allow sloppy/quantificational interpretations. This observation is shown in (43–46).

(43) *Turkish* (Şener and Takahashi 2010: 87)

- a. Can [pro anne-si]-ni eleştir-di.
John his mother-3SG-ACC criticize-PAST
'John criticized his mother.'
b. Mete-yse e öv-dü.
Mete-however praise-PAST
'Lit. Meter, however, praised *e*.'

(44) *Turkish* (Şener and Takahashi 2010: 91)

- a. Can [[pro oğl-u] İngilizce öğren-iyor diye] bil-iyor.
John his son-3SG English learn-PRES COMP know-PRES
'John knows that his son learns English.'
b. Filiz-se [e Fransızca öğren-iyor diye] bil-iyor.
Phylis-however French learn-PRES COMP know-PRES
'Lit. Phylis, however, knows that *e* learns French.'

⁸ An anonymous reviewer raises two theoretical questions regarding Saito's (2007) agreement analysis of argument ellipsis illustrated in (41). One question is how this analysis ensures that the feature checking in the antecedent clause precedes LF-copying of a DP onto the elliptic clause. The other question is whether LF-copying is possible at all in the more recent single cycle syntax (Chomsky 2000; 2001; 2004; 2007; 2008). The answer to the first question falls out from the nature of LF-copying. Saito proposes that LF-Copy may only target LF-interpretable objects as its input. It is commonly assumed since Chomsky (1995) that the Case feature of the goal DP is an uninterpretable at LF so that it must be eliminated before it reaches the component. It follows then that the required ordering between feature checking and LF-copying is intrinsically motivated. As for the second question, LF-copying can be maintained even within the single cycle model if we adopt the proposal (see Bobaljik 1995 and Nissenbaum 2000) that so-called overt and covert operations are interwoven, boiling down to whether the head or tail of a chain is pronounced. Under this view, the DP_i in (41a) can be merged "covertly" in the empty argument position in (41b), leaving its phonetic feature in the antecedent clause, without incurring any ordering issue.

- (45) *Turkish* (Şener and Takahashi 2010: 88)
- a. Can üç hırsız yakala-dı.
John three burglars catch-PAST
'John caught three burglars.'
- b. Filiz-se e sorgula-dı.
Phylis-however interrogate-PAST
'Lit. Phylis, however, interrogated e.'
- (46) *Turkish* (Şener and Takahashi 2010: 91)
- a. Üç öğretmen Can-ı eleştir-di.
three teacher John-ACC criticize-PAST
'Three teachers criticized John.'
- b. e Filiz-i-yse öv-dü.
Phylis-ACC-however praise-PAST
'Lit. e praised Phylis, however.'

Şener and Takahashi propose that the subject-object asymmetry in (43–46) follows from the agreement-based theory because Turkish exhibits subject-verb agreement, not object-verb agreement, as shown in (47).

- (47) *Turkish* (Şener and Takahashi 2010: 91)
- a. (Ben) bu makale-yi yavaşyavaş oku-yacağ-ım.
(I) this article-ACC slowly read-FUT-1SG
'I will read this article slowly.'
- b. (Biz) her hafta sinema-ya gid-er-iz.
(we) every week movie-DAT go-AOR-1PL
'We go to the movies every week.'

Building on the empirical success of the anti-agreement theory established in other languages such as Japanese, Turkish, Chinese, and Malayalam, we propose that the Anti-Agreement hypothesis be extended to derive the subject-object asymmetry in Persian as well. As we saw in the beginning of section 2 (see (1)), Persian exhibits subject-verb agreement, but not object-verb agreement, in number and person. It follows then that null objects, not null subjects, allow argument ellipsis because LF-copy of the empty subject in Persian is blocked by the presence of the uninterpretable ϕ -features on Ts.

3.2 New predictions of the anti-agreement theory of Persian argument ellipsis

In this section, we explore one important prediction of the anti-agreement theory of argument ellipsis in Persian which can be tested due to its language-specific restriction imposed on ϕ -feature agreement. As we saw in the beginning of section 1, in Persian, only person and number have morphological exponents in subject-verb agreement. It is well-known, however, that plural inanimate subjects may appear exceptionally with singular agreement morphology (Karimi 2005; Sedighi 2005). In the examples in (48a, b), the subjects are plural, but the verb can be optionally marked as singular or plural.

- (48) *Persian* ((48b) from Karimi 2005: 97)
- a. ketâb-â ru miz bud/bud-an.
book-PL on table be.3SG/be.3PL
'The books was/were on the table.'

- b. *deraxt-â sabz shod-e/an.*
 tree-PL green became-3SG/3PL
 ‘The trees has/have become green.’

We take the pattern of agreement exhibited in (48) to indicate the absence of φ -feature agreement, an exceptional property of inanimate plural subjects in Persian.

It is necessary here to exclude the possibility that the subjects in this construction stay within VP and the subject positions are occupied instead by a null expletive.⁹ Under this analysis, plural agreement is attributed to the agreement between T and the subjects whereas singular agreement is accounted by the agreement between T and the expletive. This analysis is hard to maintain. First, it is well-known that languages with expletives (overt or covert) exhibit the definiteness effect, which requires that the nominal associates linked to the expletive be indefinite, as witnessed by the contrast in grammaticality between (49a) and (49b) in English.

- (49) a. There is a man in the room.
 b. *There is John in the room.

Now, if the subjects in (48) stayed within VP, as suggested by the null expletive analysis, then we would expect them to be indefinite. However, in Persian, any subject argument marked with the plural suffix *-â* is obligatorily interpreted as definite. Karimi (2005: 94) makes the same argument against the null expletive analysis on the basis of (50).

- (50) *Persian* (Karimi 2005: 94)
ma'mulan Kimea tu ketâbxune dars mi-xun-e.
 usually Kimea in library lesson DUR-read-3SG
 ‘Kimea usually studies in the library.’

Karimi assumes that sentential adverbials such as *ma'mulan* ‘usually’ mark the left edge of vP in Persian. Under this assumption, the surface subject *Kimea* stays within vP . The null expletive analysis, however, would wrongly predict this example as ill-formed because the subject, being linked to the null expletive, should be indefinite in reference.

The Persian-specific property illustrated above is of critical importance for our current investigation of the argument ellipsis in Persian. If inanimate plural subjects have an option not to enter into an agreement relationship with a functional head, the anti-agreement approach advocated here predicts that the syntactic position occupied by such subjects should be able to undergo argument ellipsis. We provide three sets of examples below to prove that this prediction is indeed borne out. Consider first example (51).

- (51) a. *Tu in bâgh_i [_{DP} derxt-â-sh_i] hamishe xub roshd mi-kon-e/an.*
 in this garden, tree-PL-its always well grow ASP-do-3SG/3PL
 ‘In this garden, its trees grow well.’
 b. *Tu un bâgh, e_{DP} hamishe xub roshd ne-mi-kon-e/an.*
 in that garden, always well grow NEG-ASP-do-3SG/3PL
 ‘In that garden, its (= that garden’s) trees don’t grow well.’

The examples in (51) are structurally parallel to the examples in (48) in that the logical subject of the sentence, *derxt-â-sh* ‘its trees’, represents an inanimate plural DP, which, by hypothesis, does not need to enter into an agreement relation with a functional head. Notably, the null subject in the example in (51b) allows the sloppy interpretation. This way, our current analysis correctly predicts the rather “exceptional” availability of argument ellipsis manifested with the null variant of the inanimate plural subject.

⁹ We thank an anonymous reviewer for suggesting this alternative analysis.

The examples in (52) support the same conclusion. In these examples, the logical subject of the sentence, *kâr-â-sh* ‘her works’, is a plural inanimate DP. As a result, the null subject in (52b) permits the sloppy interpretation, just as predicted by our theory.

- (52) a. Kimea_i goft [_{CP} ke [_{DP} kâr-â-sh_i] hamishe natije mi-d-e/an].
 Kimea said COMP work-PL-her always result ASP-give-3SG/3PL
 ‘Kimea said that her works always provide results.’
- b. ammâ Sepide goft [_{CP} ke e_{DP} hamishe natije ne-mi-d-e//an].
 but Sepide said COMP always result NEG-ASP-give-3SG/3PL
 ‘... but Sepide said that her (= Sepide’s) works always provide no results.’

Finally, it has been a matter of considerable controversy whether Persian has the passive construction akin to English. Some linguists such as Palmer (1971), Soheil-Isfahani (1976), Hajatti (1977), and Dabir-Moghaddam (1985) argue that there is a structural passive construction of the English kind whereas other linguists such as Moyne (1974) suggest that there is no such construction in Modern Persian. Independently of this debate, we may note that, under the analysis of the complex predicate put forth by Folli et al. (2005) (see section 2), the “passive construction” like the ones in (53a, b) can be characterized as nothing but an ordinary complex predicate consisting of the adjectival particle use of the non-verbal predicate *dâde* ‘given’ followed by the light verb *shodan* ‘to become’.

- (53) *Persian* (Karimi 2005: 74)
- a. be Parviz gol dâde shod.
 to Parviz flower given became
 ‘Flowers were given to Parviz.’
- b. un gol-â be Parviz dâde shod.
 that flower-PL to Parviz given was
 ‘Those flowers were given to Parviz.’

In (53a), the underlying theme argument of the adjectival predicate follows the PP because it remains within the VP when it is non-specific. In (53b), on the other hand, the argument in question precedes the PP because it vacates the domain when it is specific. The agreement-based theory of argument ellipsis, thus, leads us to predict that the inanimate plural subject of the passive construction, when elided, should allow argument ellipsis, as it does not need to enter into a ϕ -agreement relation with a functional probe. Again, this prediction is indeed verified. Suppose that two advanced graduate students of theoretical syntax are talking about the journal outlets for the latest papers written by Chomsky and Lasnik. Under this context, the null subject in the passive construction in (54b) readily allows the sloppy interpretation that Lasnik’s articles will be published in NLLT.¹⁰

- (54) a. Chomsky, [_{DP} maghâle-hâ-sh] tu LI châp mi-sh-e/an.
 Chomsky article-PL-his in LI publication ASP-become-3SG/3PL
 ‘As for Chomsky, his articles will be published in LI.’
- b. (?) Lasnik, e_{DP} tu NLLT châp mi-sh-e/an.
 Lasnik in NLLT publication ASP-become-3SG/3PL
 ‘As for Lasnik, his (= Lasnik’s) articles will be published in NLLT.’

¹⁰ We would like to add that we found significant variation on the acceptability of the null subject example in (54b) among our native speaker consultants. Some speakers, including the second author of the present paper, do not accept the example whereas other speakers, such as Arsalan Kahnemuyipour (personal communication, June 2015) and Safieh Moghaddam (personal communication, June 2015), find it completely acceptable. We leave a detailed investigation of this interesting intra-linguistic variation for another occasion.

An important question arises under our current agreement-based analysis of subject ellipsis in Persian. The examples in (51b), (52b), and (54b) illustrate that subject arguments can undergo argument ellipsis when the T head takes the third-person singular or plural agreement morphology. In other words, these examples indicate that singular/plural agreement with inanimate plural subjects is not a genuine instance of ϕ -feature agreement/Agree, but instead the default third-person morphology on T. What is necessary here, then, is to make sure that T cannot have this default value when an agreeing subject undergoes argument ellipsis so that only inanimate plural subjects have this special valuation option. We would like to implement this requirement as follows.¹¹ Chomsky (2000; 2001; 2004) proposes that Agree is a composite operation consisting of Match and Valuation; Match is featural identity between a probe-goal pair, namely, the identity of the choice of feature, not of value, whereas Valuation is to assign a particular value to the otherwise unvalued feature such as Case and ϕ -feature. Let us hypothesize that Match prevents the assignment of the default values to T heads and that inanimate plural subjects do not need to participate in Match, but all other DPs must. Since inanimate plural subjects do not Match and hence do not Agree, T can assume default singular/plural values only with this type of subject. The availability of subject ellipsis in this particular context thus obtains. In the case of all other DPs, on the other hand, T must have its ϕ -feature valued through Match/Agree with them so that the agreement morphology may appear on T as a genuine instance of ϕ -feature agreement. Consequently, the ϕ -feature agreement blocks argument ellipsis in this case, as desired.¹²

Of course, as pointed out by an anonymous reviewer, one might interpret the agreement pattern exhibited with inanimate plural subjects in the data discussed thus far in this section in a different way: while those subjects do not agree when the singular morphology shows up, they actually do when the plural morphology is obtained. Under this interpretation, the reviewer continues, the availability of argument ellipsis in (51, 52, 54) could be taken as actually undermining our agreement-based theory of subject ellipsis in Persian. We beg to differ from the reviewer in this regard. As stated in the previous paragraph, it is reasonable to hypothesize that syntactic ϕ -feature agreement or Agree uniformly results in the T and its associate bearing identical values for ϕ -features. Then, the very possibility of having singular agreement means that the inanimate plural subjects in (48) have not participated in Agree with a functional head such as T. We thus continue to maintain that there is no genuine subject agreement in this environment, with apparent singular agreement being simply spurious, accidental morphological agreement permitted in Persian.

3.3 Consequences of the *anti-agreement theory of Persian ellipsis for the nature of -râ*

Before concluding this paper, we shall point out one of the significant theoretical consequences of the anti-agreement theory of Persian argument ellipsis for the Persian morpheme *-râ*, whose grammatical identity we have been intentionally vague about thus far in this paper. This morpheme has attracted the attention of many linguists working on Persian, including Windfuhr (1979), Karimi (1989), Dabir-Moghaddam (1990), and Ghomeshi (1997). Karimi (1989) takes *-râ* as the accusative Case marker. Windfuhr (1979) and Ghomeshi (1997) suggests that this morpheme marks the DP it is attached to as VP-level topics whereas Dabir-Moghaddam (1990) analyzes it as a secondary topic marker.

¹¹ We thank an anonymous reviewer for suggesting this line of analysis to default agreement.

¹² An anonymous reviewer suggests that inanimate plural subjects do not have Case features or at least lack the unvalued Case feature. We agree that this is indeed a logical consequence of our analysis here, for it stands on Chomsky's (2000) Activation Condition which requires Case valuation to take place in tandem with ϕ -feature agreement. As far as we can see, this suggestion is consistent with our new analysis of *-râ* developed in section 3.3.

Our proposed analysis allows us to narrow down the analytical space to characterize this morpheme. We have included many examples in section 2 where the object argument, marked by *-râ*, may undergo argument ellipsis/LF-copy. The examples in (2a, b), repeated here as (55a, b), illustrate this pattern.

- (55) a. Kimea **moalem-esh-ro** dust dâr-e.
Kimea teacher-her-RÂ friend have-3SG
'Kimea loves her teacher.'
- b. Parviz ham *e* dust dâr-e.
Parviz also friend have-3SG
'Lit. Parviz also loves *e*.'

Our proposed analysis of the subject-object asymmetry in Persian ellipsis crucially builds on Chomsky's (2000) system which links checking/valuation of the Case feature of the goal DP with its ϕ -feature agreement with an appropriate functional probe (T/ ν). The grammaticality of the null object example in (55b) then shows that the specific direct object in Persian there does not have Case linked to ϕ -feature agreement. It follows then that *-râ* cannot be the morphological manifestation of Accusative Case in Persian, contrary to what has been suggested by Karimi (1989). In the rest of this section, we outline one plausible alternative analysis of the morpheme which is consistent with this consequence of the anti-agreement approach pursued here.

It is well-known in the Persian literature that the marker *-râ* appears attached to specific direct objects, but not to non-specific direct objects. This contrast is evidenced from the examples in (56–57). In (56), the direct object is non-specific and remains within the VP domain, as evidenced by its position after the indirect object PP. In (57), by contrast, the direct object is specific and precedes the same PP, showing that it vacates the VP domain.¹³

- (56) Kimea be man **ketâb** dâd.
Kimea to me book gave.3SG
'Kimea gave me a book.'
- (57) Kimea **in ketâb-*(ro)** be man dâd.
Kimea this book-RÂ to me gave.3SG
'Kimea gave me this book.'

It is also well-known that this marker never appears attached to surface subjects even when they are specific, as shown by the ungrammaticality of the example in (58).

- (58) **Kimea-*(ro)** ketâb xund.
Kimea-RÂ book read.3SG
'Intended: Kimea read a book.'

Karimi and Smith (2015) draw on a wide range of examples from Modern Classical Persian and Modern Persian to show that there is no structurally circumscribed common thread within the environments in which *-râ* may appear on specific DPs. For example, *-râ* may appear with specific DPs to express oblique or possession relations, as shown in (59) and (60), respectively.

¹³ An anonymous reviewer asks whether the PP can precede the *râ*-marked object in (57). The PP can precede the object, but that order is derived by scrambling of the PP into a focus or topic position. The discussion in the text here assumes an out-of-the-blue neutral discourse context to control for the discourse-sensitive nature of Persian scrambling. See also note 7 for relevant discussion on Persian scrambling as a discourse-sensitive syntactic operation.

(59) *Classical Modern Persian* (Karimi and Smith 2015: 3)

amir-râ zakhm-i zad-am.
king-RÂ wound-IND hit-1SG
'As for the king, I wounded him.'

(60) *Classical Modern Persian* (Karimi and Smith 2015: 4)

xalgh-râ xun be-rixt-and.
people-RÂ blood SUBJ-shed-3PL
'As for people, they shed their blood.'

One might suspect, of course, that *-râ* simply marks the topic DP, along the lines of the analysis put forth by Windfuhr (1979), Dabir-Moghaddam (1990), and Ghomeshi (1997), because the DP it attaches to has the topic flavor to it, and the topic DP, by definition, is always a specific DP. This characterization, however, is hard to sustain, in light of the example in (61), which shows that the specific object receives *-râ* even when it may be interpreted as a contrastively focused expression instead of the topic of the sentence.

(61) ketâ-e Parviz-ro man dâr-am.
book-EZ Parviz-RÂ I have-3SG
'It is Parviz's book that I have.'

The topic-based analysis also misses the important observation that subject DPs can never be marked with *-râ* even when they are topicalized. Example (62) illustrates this observation; see Karimi (2005: ch. 4) for arguments that [Spec, TP] counts as a topic position hosting the background topic, which can be occupied by any element, regardless of its grammatical function.

(62) [_{TP} Kimea-(*ro)_i xoshbaxtâne [_{v_p t_i} ketâb-â-ro [_{PredP} be ketâbxune pas dâd-e]]]
Kimea-RÂ luckily book-PL-RÂ to library return gave-3SG
'As for Kimea, luckily (she) has returned the books to the library.'

Karimi and Smith (2015) propose instead that the apparently disparate contexts for *-râ* to appear attached to specific DPs can receive a unified characterization if this morpheme is the default morphological case in the technical sense of Marantz (1991) (see also Bobaljik 2006) which is inserted as the elsewhere form in the post-syntactic morphological component. Marantz (1991) argues that Case realization is subject to the disjunctive hierarchy governed by the Elsewhere principle to the effect that a more specific form blocks the more general forms. The specific hierarchy he proposes is shown in (63).

(63) Case Realization Disjunctive Hierarchy (Marantz 1991: 24)

- i. lexically governed case
- ii. "dependent case" (accusative and ergative case)
- iii. unmarked case (environment-sensitive)
- iv. default case

The Elsewhere Principle states that each type of case realization option is more specific than the option below it and takes preference. The lexically governed case represents the case assigned by specific verbs such as quirky case in Icelandic. The "dependent" case refers to cases whose realization hinges on the presence of some higher functional projection such as accusative Case for nominative-accusative languages or ergative Case for ergative-absolutive languages. The unmarked case option is exemplified by cases such as nominative Case and genitive Case that are assigned when a DP appears in a certain structural configuration such as within DPs or in [Spec, TP]. Finally, the default case is the case that is assigned only when no other case realization on the list is applicable.

The morpheme *-râ* clearly instantiates the default case realization in Persian, for 1) it is not lexically governed by any particular set of verb classes, 2) its appearance does not depend on any higher case such as nominative Case, 3) it never appears in a uniquely identified syntactic configuration such as [Spec, TP] or within nominative projections.

Note, furthermore, that this analysis correctly derives the generalization that subjects in Persian can never be marked with *-râ* as an automatic architectural consequence of the Elsewhere Principle. Since specific DPs enter into ϕ -feature agreement with a functional head and have their Case feature checked/evaluated as the unmarked nominative Case in Marantz's system, this case realization blocks the use of the default case realization *-râ* lower on the hierarchy shown in (63).

One question which we have left unresolved in this section is the relevance of specificity to the nature of *-râ* as the default morphological case; why does this marker appear on direct objects only when they are specific? There are several solutions to this problem, only one of which we will outline here. Suppose that non-specific objects receive an unmarked structural accusative Case from *v* along the lines of Marantz's Case Realization Disjunctive Hierarchy shown in (63). This assumption makes sense since such objects can only occur in a designated syntactic position such as the sister of transitive verbs and hence exhibit clear signs of structure-sensitive Case assignment. Since the unmarked case option preempts the default morphological case, it follows that non-specific objects cannot receive *-râ* marking as a corollary of the Elsewhere Principle as applied to the Disjunctive Hierarchy. On the other hand, specific objects receive *râ*-marking as the elsewhere default morphological case. Note that this analysis suggests that specificity is actually not a condition on *-râ* marking, as is commonly assumed, but rather a consequence of the grammatical competition between the default case option and other more specific modes of case assignment at the syntax-morphology interface.¹⁴

We would like to conclude this section by pointing out an important implication of our proposed analysis of *-râ*-marking for the cross-linguistic investigation of Case marking within the context of latest syntactic theorizing within the Minimalist Program. As stated in section 3.1, it has been commonly assumed since Chomsky (2000) that Case valuation goes in tandem with ϕ -feature agreement through the operation of Agree. Our case study on Persian argument ellipsis conducted thus far, however, indicates that the picture is much more complicated than meets the eye on two empirical grounds. First, direct objects in Persian must not be associated with ϕ -feature agreement, as attested by the availability of sloppy/quantificational interpretations. Second, non-agreeing inanimate plural subjects do not have ϕ -feature agreement, either. It is reasonable to assume, however, that both types of DPs must have some sort of Case. This observation, therefore, necessitates an alternative understanding of the Case-agreement relation where Case assignment could be entirely divorced from ϕ -feature agreement/Agree, contrary to Chomsky's latest conjecture.

Indeed, Chomsky's assumption that Case is invariably tied to ϕ -feature agreement has been questioned on independent grounds by Japanese linguists, based on the traditional consensus that Japanese lacks ϕ -agreement system altogether (Fukui 1986; Kuroda 1988). Thus, Kikuchi and Takahashi (1991) and Fukui and Takano (1998) propose that dative and accusative cases are inherent cases linked to the argument structure of verbs involved

¹⁴ An anonymous reviewer indicates an alternative analysis whereby *-râ* is a specificity marker that triggers movement of a specific object into the edge of *vP*. Under this analysis, s/he suggests that *-râ* may well be analyzed as a Case marker, default or not, which circumvents the need for specific objects to have their Case features valued through Agree, leading to the possibility of argument ellipsis with *râ*-marked objects. As far as we can see, this is a conceivable alternative to our analysis, but we wish to leave critical comparison of this alternative with ours for another occasion.

whereas Saito (1985) claims that nominative case is assigned to any element immediately dominated by TP. This line of research, thus, already indicates that the Case system in a language may have nothing to do with agreement system, contrary to Chomsky's (2000) theory of Agree/Case. Our study in this subsection on *-râ* marking in Persian, therefore, should be understood as an initial step toward resolving the issue of how Case valuation/assignment works without the accompanying system of ϕ -feature agreement, thereby further sharpening our understanding of the mechanism of Case in natural language syntax.

4 Conclusions

This paper has brought a wide range of examples from Persian to bear on the competing theories of elliptic arguments developed on the basis of other languages such as Japanese. Using the sloppy/quantificational interpretations of null arguments as diagnostic tools for argument ellipsis, we have first shown that Persian exhibits the asymmetric distribution of argument ellipsis. We have then presented various arguments based on scrambling, binding, verb-identity effects, and specificity-driven object placement against the VVPE-analysis (Huang 1987; 1991; Otani and Whitman 1991) of the subject-object asymmetry as well as for the indefinite *pro* analysis of sloppy interpretations which do not resort to ellipsis (Hoji 1998). We have proposed that the asymmetry in question is best captured by the anti-agreement hypothesis originally put forth by Saito (2007) and further extended and elaborated in recent years by Şener and Takahashi (2010), Takahashi (2013a; b; 2014) and Miyagawa (2013) for Chinese, Malayalam and Turkish. Our analysis predicts that the subject argument, in principle, should be able to undergo argument ellipsis as long as it does not need to possess ϕ -feature agreement. We have shown that this prediction is indeed borne out by the sloppy interpretation exhibited by the ellipsis of inanimate plural subjects in the locative/experiencer construction and the passive construction, wherein they do not participate in any agreement relation with any functional head such as T. One of the important theoretical consequences of our proposed analysis of Persian ellipsis is that *-râ* cannot be the instantiation of the structural accusative Case; otherwise, the specific object should not be able to undergo argument ellipsis. Finally, we have suggested preliminary evidence drawing on data from Modern Classical Persian in favor of the new analysis of this marker as the default case realization in the post-syntactic morphological component in the sense of Marantz (1991).

Abbreviations

The following abbreviations are used in the data section of this paper: ACC, accusative; AOR, aorist; ASP, aspect; CL, classifier; COMP, complementizer; DAT, dative; DUR, duration; EZ, ezafe; FUT, future; GEN, genitive; IND, indicative; INTERR, interrogative; NEG, negation; NOM, nominative; PASS, passive; PAST, past tense; PL, plural; PRES, present tense; SG, singular; SUBJ, subjunctive; TOP, topic; 1/2/3, first/second/third persons.

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Competing Interests

The authors declare that they have no competing interests.

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