

Semantics of Differential Object Marking in Persian *

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1 Introduction

Differential Object Marking (DOM) is a prevalent phenomenon in the world’s languages in which the case marking of the object NP is determined by certain semantic factors. Notions such as “animacy”, “definiteness”, “specificity”, and “topicality” are often invoked to explain the semantic contribution of the case marker in languages with DOM. In this paper, I investigate the semantic contribution of the accusative marker $r\bar{a}$ in Persian.

I propose that when $r\bar{a}$ appears on an NP object, it triggers an existential presupposition. In other words, a construction such as “book- $r\bar{a}$ ” in Persian, presupposes that the set denoted by “book” is non-empty ($\exists x$ book(x)). This explains why $r\bar{a}$ appears on all definite NPs. Definite NPs carry both existential and uniqueness presuppositions. This proposal further predicts that an indefinite NP marked by $r\bar{a}$ carries an existential presup-

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position. However, an indefinite NP like “a book” introduces an existential quantifier to the asserted content as well ($\exists x \text{ book}(x) \wedge Q(x)$). If $r\bar{a}$ triggers an existential presupposition on the same NP which carries an existential quantifier, how do we tease these two existence claims apart? How are asserted existence and presupposed existence different?

In order to answer this question, I investigate the scope relations of Persian indefinite NPs with negation. If the semantic contribution of $r\bar{a}$ is presuppositional, then it should project when it is embedded under negation. However, the existential quantifier introduced by the indefinite determiner is predicted to participate in the scope relations with negation, and when taking narrow scope, be cancelled by it. As a result, it must be possible to assert that the intersection of the sets denoted by P and Q are empty, while the set P which is marked by the object marker is non-empty.

Let’s further elaborate this point with an example. A sentence such as “I didn’t do any work” can be expressed in set theoretic terms as “the intersection of the set denoted by “work” and the set denoted by “do” (things done) is empty”: $\llbracket \text{work} \rrbracket \cap \llbracket \text{do} \rrbracket = \emptyset$. However, the intersection of these two sets could be empty because one of the sets is empty. For example, I can say that “I didn’t do any work today because I didn’t have any work to do”: $\llbracket \text{work} \rrbracket \cap \llbracket \text{do} \rrbracket = \emptyset$ and $\llbracket \text{work} \rrbracket = \emptyset$. On the other hand it could be the case that I was actually very busy and had a lot to do but I didn’t do what I was supposed to do. In this scenario, I didn’t do any work but this was not because I didn’t have anything to do: $\llbracket \text{work} \rrbracket \cap \llbracket \text{do} \rrbracket = \emptyset$ and $\llbracket \text{work} \rrbracket \neq \emptyset$. Persian differentiates between these two scenarios. If the NP “work” is marked by $r\bar{a}$ in “I didn’t do any work”, then we are talking about the

scenario where I have things to do but I just didn't do them. Therefore, in the scope of negation, we can see that the existential quantifier and the existential presupposition do not make the same semantic contribution.

Since the above analysis depends very much on the scope relations of indefinites and negation, I need to briefly explore some properties of two indefinite markers in Persian, namely *ye* and *i* which introduce an existential quantifier. Therefore, section 4 is dedicated to the structure of Persian NPs with respect to definiteness and indefiniteness. I propose that Persian *ye* behaves very much like the English indefinite determiner $a(n)$. I also propose that the indefinite marker *i* shows properties commonly associated with *any* in English. However, unlike English, which can not have both $a(n)$ and *any* on the same NP, Persian can mark an NP with *ye* and *i* simultaneously. In section 6.3, I show that an NP marked with these two morphemes takes wide scope with respect to negation. This is important for the scope analysis which seeks to tease the asserted and presupposed existential claims apart.

The case-marked indefinites in Persian and other languages such as Turkish are often analysed as specific indefinites (Karimi, 1996, 2003; Enc, 1991). What I explained above is very different from the notion of specificity. However, as Farkas (2002) points out: “the notion of specificity in linguistics is notoriously non-specific”. There are many definitions of specificity and it is often not clear which definition is being used. In this paper I investigate three definitions as discussed by Farkas (1994): (i) scopal specificity, (ii) epistemic specificity, and (iii) partitive specificity.

In section 5, I present the definitions of scopal, epistemic, and partitive specificity. In section 6, I argue that Persian accusative does not mark any

of these three types. Nevertheless, partitive specificity is close to what I propose for the semantic contribution of $r\bar{a}$. In 6.2, I argue that at least in Persian, we can see that the partitive reading is the result of an existential presupposition contributed by $r\bar{a}$ and Gricean pragmatics. I show that the partitive reading is not always available when an indefinite is marked by the object marker. I also show that if the partitive reading is present, we can explain it through simple Gricean reasoning. Partitive specificity was first proposed to account for DOM in Turkish. It is possible that a reanalysis of Turkish data based on the tests applied in this paper to Persian DOM would obviate the need for a separate category of specificity. In other words, it might be possible to account for partitive specificity as a by-product of existential indefinites.

2 Background

2.1 Differential Object Marking (DOM)

A lot of languages do not mark grammatical objects uniformly. In such languages, marking the object can be obligatory, optional or ungrammatical, depending on the semantic features of the NP object. George Bossong referred to this phenomenon as Differential Object Marking (Bossong, 1985, 1991). For example, it has been suggested that in Spanish, direct objects which are [+human, +def] must be marked with the preposition *a* as in (1a). Object NPs that are [+human, – def] can optionally be marked as in

(1b), and marking [−human] objects is ungrammatical as in (1c)¹:

- (1) a. Juan besó $\boxed{*(a)}$ [María]_[+hum,+def]
 John kissed A Mary
 John kissed Mary.
- b. Juan quiere $\boxed{(a)}$ [un abogado]_[+hum,-def]
 John wants A a lawyer
 John wants **(a certain)** lawyer.
- c. Juan destruyó $\boxed{*(a)}$ [la ciudad]_[-hum]
 John destroyed A the city
 John destroyed the city. Rodríguez-Mondoñedo (2007)

In (1b), we see that appearance of the object marker on an indefinite NP creates a specific interpretation: “John wants a certain lawyer”. The notion of “specificity” plays an important role in the discussions of differential object marking in a lot of languages including Turkish and Persian. I present three types of specificity in section 5. I should add that the issue of the exact semantic or pragmatic conditions which constrain object marking in Spanish is far from resolved. See Leonetti (2004), Rodríguez-Mondoñedo (2007), von Heusinger et al. (2007) for more discussion on the semantics of Spanish DOM.

2.2 Persian

Genealogy Persian is an Iranian language in the Indo-Iranian branch of the Indo-European language family. Farsi, Dari, and Tajik are the three

¹In all examples of this paper, an asterisk inside parentheses such as $*(a)$ means a is not grammatical, an asterisk before parentheses such as $*(a)$ means a is not optional, and parentheses with no asterisk such as (a) means a is optional.

main variants of Persian spoken in Iran, Afghanistan, and Tajikistan respectively (Karimi 2005). In this paper, I investigate the dialect of Farsi spoken in Tehran, although many of the facts and generalisations hold in other varieties as well. It is common practice in the literature to refer to this dialect as Persian. Following this tradition, every time I use “Persian” in this paper, I am referring to Tehrani Farsi.

Word Order and Case The basic word order of Persian is argued to be SOV (Karimi 1994). It is a Nominative-Accusative language where the subject is zero-marked and the direct object may or may not be marked with the accusative marker *rā*. Internal arguments other than the direct object (DO), such as the indirect object (IO) appear in prepositional phrases. In (2) below, the subject *Amir* receives nominative case (\emptyset), the direct object *keik* (cake) is marked with the case marker *rā*, and the indirect object follows the preposition *be* (to):

- (2) [Amir]_S [keik]_{DO} *rā* *be* [barādar-ash]_{IO} [dād- \emptyset]_V
 Amir cake ACC to brother-his gave-3.SG
 “Amir gave the cake to his brother.”

Diglossia Two varieties of Persian are spoken in Iran: colloquial (informal) Persian and formal Persian. The formal variety is used for writing, news, education, formal speech, or generally formal interactions. It is also the language of literature and is much closer to the variety used by poets such as Rumi, Sa’adi, and Hafiz who lived around 14th century CE. On the other hand, the informal variety is the language of everyday and colloquial speech today.

In some sense, the formal variety of Modern Persian bridges the gap between the colloquial Modern Persian and the Persian literary tradition. The Formal and Colloquial varieties of Modern Persian are closely and systematically related but obey different rules and must be considered two separate systems. (3) shows the same sentence in Literary Persian (3a), Formal Modern Persian (3b), and Colloquial Modern Persian (3c). The literary example in (3a) and formal example in (3b) are almost identical. The main difference between them is that the former was uttered around 700 years before the latter. However, the Modern colloquial example in (3c) is very different from these two. I have shown the differences between (3b) and (3c) with numbered boxes:

(3) a. Literary (1300-1371 CE): SOV

chon [(u)]_S [be xāne]_{PP} [raft-∅]_V
 when (he) to home went-3.SG

When (he) went home.

(Ubayd Zākāni²)

b. Modern Formal: SOV¹

[Rezā]_S [be³ xāne²]_{PP} [raft-∅⁴]_V
 Reza to home went-3.SG

“Reza went home”

c. Modern Colloquial: SVO¹

[Rezā]_S [raft-esh⁴]_V □³ [xune²]_{NP}
 Reza went-3.SG.CLC home

²Resāle-ye Delgoshā: Ārmān Dozdi

“Reza went home.”

First, as (3c) shows, in colloquial Persian it is more natural to use the SVO word order for the sentence “Reza went home”. However, in formal Persian it is more acceptable to use the SOV word order as in (3b). Second, the phonological form of “home” changes from /xune/ to /xane/ when we switch to formal Persian. Third, “home” can appear as an NP without a preposition, next to the verb “go” in colloquial Persian. This is ungrammatical in formal Persian. As (3b) shows, we need “home” to be preceded by the preposition “to” in formal Persian. Fourth, it is possible to use the third person singular clitic (*esh*) on the verb in colloquial Persian to show agreement with the subject of the sentence. This is totally ungrammatical in formal Persian. Instead the verb should bear the third person subject-agreement suffix, which is zero.

Such observations lead some linguists to classify Persian as a diglossic language. Ferguson (1959) mentioned Persian as an instance of a diglossic language and Jeremias (1984) argues that the differences between formal and colloquial Persian are comparable to the differences between two independent languages. However, Perry (2003) contends that Persian is not diglossic at all in comparison to prototypical examples of diglossia such as Arabic. He enumerates 77 phonological, morphological, syntactic/semantic, and lexical features which distinguish colloquial Persian from formal Persian and compares this number to the number of features distinguishing classical Arabic and colloquial Egyptian Arabic, which is 256. Among these features

are the ones discussed in example (3). He concludes that the differences between colloquial Persian and formal Persian are not extensive enough to count as an instance of diglossia.

In this paper, I take a rather moderate position regarding the two varieties of Persian:

Proposal 1. Modern Colloquial Persian and Modern Formal Persian are two varieties of Persian with separate but related grammars.

The proposal above can be easily motivated by the discussions of both Jeremias (1984) and Perry (2003). Whether the contrast between the grammars of colloquial Persian and formal Persian are extensive enough to count as an instance of diglossia is a separate issue. All I am arguing for here is the position that when investigating Persian, we should keep in mind that we are dealing with two separate systems and we should make it clear which system is being investigated.

More importantly, we should be wary of mixing the examples of the two varieties as we are arguing for linguistic generalisations or hypotheses. While this proposal sounds simple and obvious, it is very easy to miss the distinction due to common usage of both systems by native speakers. For example, Ghomeshi (2003) offers the following sentences to show the distribution of the indefinite marker *i* on subjects and objects of prepositions:

- (4) a. mard-i āmad.
man-INDEF came
“A man came.”
- b. ketāb-o be pesar-i dād-am
book-ACC to boy-INDEF gave-1.SG

“I gave the book to a boy.” (Ghameshi (2003): 60)

However, (4a) and (4b) are from two different varieties. (4b) is intended to be a sentence of colloquial Persian since the form of the object marker (*ro*) is consistent with the colloquial use and not the formal one which is *rā*. (4a), on the other hand, is intended to be a sentence of formal Persian because the formal variant of the verb “came” *āmad* is used and not the informal one which is *umad*. The informal counterpart of (4a) would be ungrammatical in colloquial Persian as shown in (5a). In order to make it grammatical, the numeral *ye* must appear before “man” as well as in (5b).

- (5) a. * mard-i umad.
man-INDEF came
“A man came.”
- b. ye mard-i umad.
one man-INDEF came
“A man came.”

These examples suggest that *i* has different syntactic distribution and semantic roles in formal and colloquial Persian. The different behaviour of *i* in formal and colloquial Persian has not been noted before to my knowledge (for example it is not included in Perry’s syntactic/semantic features) and it has been assumed so far that *i* behaves uniformly in both varieties. Proposal 1 intends to call attention to such differences which affect the current discussions on diglossia in Persian. It also helps us make more accurate generalisations of the facts in the Persian varieties. In this paper, I exclusively investigate Modern Colloquial Persian. The examples in this paper are my own unless stated otherwise. The acceptability of these sentences

were judged by 10 native speakers in several fieldwork sessions in Tehran as well. All informants were asked to focus on judging the acceptability of the sentences in informal contexts.

Accusative Case The Persian accusative case marker, formally known as $r\bar{a}$, is pronounced in colloquial Persian as ro or simply o . ro is used in the phonological environment where the preceding phoneme is a vowel and o is used if the preceding phoneme is a consonant:

Persian Object Marker	V__	C__
Formal Persian	$r\bar{a}$	$r\bar{a}$
Colloquial Persian	ro	o

Since I investigate colloquial Persian here, in my examples you see $r\bar{a}$ as either o or ro and glossed as ACC. I refer to this morpheme as accusative case, object marker, or $r\bar{a}$ throughout this paper to conform with the descriptive literature on the phenomenon.

The distribution of the object marker $r\bar{a}$ in Persian is determined by the interaction of syntactic and semantic factors. Syntax provides the environment where appearance of $r\bar{a}$ is possible and semantics determines the conditions which make the occurrence of this marker necessary. In the next section, I present the distribution of $r\bar{a}$ in colloquial Modern Persian.

3 Distribution of Persian Accusative Case

The distribution of $r\bar{a}$ is determined by a combination of both syntactic and semantic factors. I will first explain where it is allowed syntactically

and then I will describe where the semantics of the nominal renders the occurrence of *rā* obligatory.

Syntax The object marker *rā* (glossed as ACC) appears only on nominals. It is ungrammatical on subjects (6a) and PP arguments of the verb (6b). It is grammatical on direct objects (6c) and certain nominal adverbials (6d). It can also participate in constructions such as (6e) which are called Clitic-Binder Constructions by Karimi (1990).

(6) a. on subjects³:

[Maryam]_S [**(*o)**] [keik]_{DO} [xord-∅]_V
 Maryam ACC cake ate-3.SG
 “Maryam ate cake.”

b. on PP arguments of the verb:

[Maryam]_S be [barādar-esh]_{IO} [**(*o)**] [keik]_{DO} [dād-∅]_V
 Maryam to brother-3.SG ACC cake gave-3.SG
 “Maryam gave cake to his brother”

c. on direct objects:

[Maryam]_S [keik]_{DO} [(o)] [xord-∅]_V
 Maryam cake ACC ate-3.SG
 “Maryam ate (the) cake.”

³I should note here that this sentence receives an interpretation but the one in which *Maryam* is the object: “The cake ate Maryam.”

d. on nominal adverbs denoting duration or path:

[Fardâ]_{Adv} [ro] [Maryam]_S [keik]_{DO} [mi-xor-e]_V
 Tomorrow ACC Maryam cake IMP-eat-3.SG

“Tomorrow (all day), Maryam eats cake.”

e. On extracted or left-dislocated objects:

Maryam_i *(o) [[keik e shi]_{DO} *(o) [xord-i]_V]_{CP}?
 Maryam ACC cake of him ACC ate-2.SG

“As of Maryam, you ate his cake?”

Semantics The occurrence of *rā* is obligatory on proper nouns (7a), personal and demonstrative pronouns (7b), reflexive pronouns (7c), reciprocal pronouns (7d), demonstrative nouns (7e), superlatives (7f), question-words *which* (7g) and *who* (7m), strong quantifiers such as *each* (7h), *all* (7i), *most* (7j), *both* (7k), and plurals with the plural marker *hā* (7l). I should add that *rā* also seems to be obligatory on *kas* which means “person”.

(7) a. on proper nouns:

[Amir]_S [Barack Obama]_{DO} [ro] [mi-shnās-e]_V
 Amir Barack Obama ACC IMP-know-3.SG

“Amir knows Barack Obama.”

b. on personal/demonstrative pronouns:

[Amir]_S [un]_{DO} [o] [mi-shenās-e]_V
 Amir that ACC IMP-know-3.SG

“Amir knows him.”

c. on reflexive pronouns:

[Amir]_S [xod-esh]_{DO} [o] [mi-shnās-e]_V
Amir self-3.SG ACC IMP-know-3.SG

“Amir knows himself.”

d. on reciprocal pronouns:

[dāneshju-hā]_S [hamdige]_{DO} [ro] [mi-shnās-an]_V
students-PL eachother ACC IMP-know-3.PL

“The students know each other”

e. on demonstrative nouns:

[Tāhā]_S [un keik]_{DO} [ro] [did-ø]_V
Taha that cake ACC saw-3.SG

“Taha saw that cake.”

f. on superlatives :

[Amir]_S [behtarin ketāb]_{DO} [ro] [xar-id]_V
Amin best book ACC bought-3.SG

“Amin wants to read the best book.”

g. on *kodum* “which”:

[Sara]_S [kodum keik]_{DO} [ro] [xord-ø]_V?
Sara which cake ACC ate-3.SG

“Which cake did Sara eat?”

h. on *har* “each”:

[Niloofar]_S [har ketāb]_{DO} [o] be ye-ki [dād-∅]_V?
Niloofar each book ACC to one-person gave-3.SG
“Niloofar gave each book to someone.”

i. on *hame* “all”:

[Ali]_S [hame ye ketāb]_{DO} [o] [xund-∅]_V
Ali all IZAFE book ACC read-3.SG
“Ali read all the book.”

j. on *bishtar* “most”:

[Ali]_S [bishtar e ketāb]_{DO} [o] [xund-∅]_V
Ali more IZAFE book ACC read-3.SG
“Ali read most of the book.”

k. on *har do* “both”:

[Ali]_S [har do ketāb]_{DO} [ro] [xund-∅]_V
Ali each two book ACC read-3.SG
“Ali read both books.”

l. on plurals with the plural marker *hā*:

[Sara]_S [keik-hā]_{DO} [ro] [xord-∅]_V
Sara cake-PL ACC ate-3.SG
“Sara ate the cakes.”

m. on *who*:

[Ahmad]_S [ki]_{DO} [ro] [did- \emptyset]_V?
Ahmad who ACC saw-3.SG
“Who did Ahmad see?”

n. on *kas* “person”:

i. Mortezā ye kas-i [ro] dust dār-e.
Mortezā one person-*i* ACC friend have.PRES-3.SG
Mortezā likes someone.

ii. Mortezā hich kas-i [ro] dust na-dār-e.
Mortezā no person-*i* ACC friend NEG-have.PRES-3.SG
Mortezā doesn’t like anyone.

Rā can also occur obligatorily or optionally on generics as the following examples show:

(8) a. [Serke]_S [shir]_{DO} [o] [mi-bor-e]_V
vinegar milk ACC IMP-curdle-3.SG
“Vinegar curdles milk.”

b. [oqāb]_S [mush]_{DO} [(o)] [shekār mi-kon-e]_V
eagle mouse ACC hunt IMP-do-3.SG
“Eagles hunt mice.”

In (8a) above, *rā* is obligatory while in (8b) it is optional. These sentences have a non-generic reading as well. As far as I can see, examples such as (8a) where *rā* is obligatory with a generic reading are rather rare. It is often the case that when the object NP has a generic reading, *rā* is optional.

In the next section, I investigate how Persian marks definiteness and indefiniteness on its object NPs and present my proposal for the semantic contribution of *rā*. The explanation of four of the generalisations about the distribution of *rā* presented above fall beyond the scope of this paper, namely superlatives, generics, *ki* “who”, and *kas* “person”. It is possible to say that the requirement for existential presupposition on *ki* and *kas* is peculiar to these lexical items in Persian. While this is quite feasible, I will leave the investigation of these items for future work. Considering case marked generics, I see them as highly compatible with the account I propose here and hope to fully investigate their semantic properties in the near future. Finally, why case marking is obligatory on the superlative in Persian depends on the semantics of superlatives in general and in Persian. This is another area that I wish to investigate in the future. The rest of the generalisations presented in this section follow straightforwardly from the account that I present in the following section.

4 Definiteness and Indefiniteness in Persian NPs

In this section, I investigate the structure of Persian NPs with respect to marking definiteness and indefiniteness. Since this paper focuses on the semantics of the object marker *rā*, I only explore NPs in the direct object position but my analysis can be easily extended to non-direct-object NPs as well. This section has three subsections. In 4.1, I explain how Persian marks singular definites and indefinites. I propose that the numeral morpheme *ye* meaning “one” is the indefinite determiner in Persian and introduces an ex-

istential quantifier. In 4.2, I expand my analysis to plural NPs and show that NPs marked by the plural marker *hā* are definite. In 4.3, I address the status of the indefinite morpheme *i* in Persian which is commonly regarded as the counterpart of the English indefinite determiner “a” (Ghomeshi, 2003). I present evidence and arguments against such an account and I argue that *i* is closer to English *any*.

In addition to singular and plural forms, Persian NPs can also appear as bare nominals with no additional morphological markings on them as in (9):

- (9) Shāheen keik xord- \emptyset
Shaheen cake ate-3.SG
“Shaheen ate cake.”

In this example, “cake” is neither singular nor plural. All we know is that Shaheen has consumed cake but the quantity is not specified. Ghomeshi (2003) maintains that the bare nominal in Persian receives a mass interpretation in English. I do not explore the properties of this structure in this paper.

4.1 Singular NPs

I start this subsection with the following proposal:

Proposal 2. In Colloquial Persian, the numeral *ye* (one) is the indefinite determiner which introduces an existential quantifier, similar to “a” in English.

Suppose that my Iranian friends and I went to a cafe one night. The following day, I am talking to my friend Ahmad who did not go out with us

and he asks me what Amir ate at the cafe. I can say:

- (10) Amir [ye keik] xord- \emptyset
 Amir one cake ate-3.SG
 “Amir ate a cake.”

In (10), “cake” is discourse new. It is possible that none of us actually know anything about the cake Amir ate. Ahmad was not there and I was not paying attention. All I know is that there was a cake and Amir ate it. The sentence in (10) shows how *ye* contributes an indefinite reading. We can represent this sentence formally as: $\exists x \text{ cake}(x) \wedge \text{ate}(a, x)$.

Now suppose that Ahmad was out with us but left early. He knew that we ordered a cake, a pizza, and a lamb Kebab and he saw them as they arrived at our table. In this context, both Ahmad and I know that a cake was ordered and that only one cake was ordered. He might ask the next day “who ate the cake?” I can answer:

- (11) Amir [keik] o xord- \emptyset
 Amir NUM cake ACC ate-3.SG
 “Amir ate the cake.”

In order to mark definiteness, I need to leave the numeral position empty and add the object marker $r\bar{a}$ as shown in (11). To represent this formally I use the iota operator which takes a singleton set and returns its sole member: $\text{ate}(a, \iota x.\text{cake}(x))$. Iota is only defined if “cake” denotes a singleton set.

One might maintain at this point that it is only the accusative case marker that contributes the definite reading (Phillott, 1919; Sadeghi, 1970; Vazirpoor, 1977; Mahootian, 1997). However, we do not get a definite reading if the numeral *ye* is present with $r\bar{a}$ as in (12):

- (12) Amir [$\boxed{\text{ye}}$ keik] $\boxed{\text{o}}$ xord- \emptyset
 Amir one cake ACC ate-3.SG
 “Amir ate a cake.”

I can utter (12) felicitously if we ordered more than one cake and Ahmad ate one of them. I will explain more about this partitive reading in 6.2.

Proposal 3. Persian does not have an overt definite determiner. Definiteness is marked by zero-numeral marking.

Now a reasonable question is: what is the difference between NUM + NP in (10) and NUM + NP + ACC in (12)? This is in fact the central question in the discussions of the semantic contribution of $r\bar{a}$ in Persian. The raw intuition is that in (12), the cake mentioned is in some sense more familiar than the one in (10) without $r\bar{a}$. This notion of familiarity has been explained in various ways: sometimes as the speaker having a specific referent in mind; sometimes as the referent being part of a familiar set of objects; and sometimes as the referent being discourse prominent.

I propose that the reason for this “familiarity intuition” is that $r\bar{a}$ ’s semantic contribution is presuppositional. As we saw in (11), the definite meaning arises when the NUM slot is empty and $r\bar{a}$ is present in the ACC slot. In other words, Persian definites in the direct object position have the following structure: $\emptyset + \text{NP} + r\bar{a}$.

I propose that this empty morpheme is nothing but the type-shifter *iota*, which competes with the quantifier *ye* in the pre-nominal position. Let’s see how this works for (12). *Cake* is type $\langle e, t \rangle$. *Ra* is an identity function of the type $\langle \langle e, t \rangle, \langle e, t \rangle \rangle$, which triggers an existential presupposition⁴:

⁴In order to account for the presence of $r\bar{a}$ on proper nouns we have two options: 1.

Proposal 4. Lexical meaning for the Persian Accusative Marker:

$$\llbracket r\bar{a} \rrbracket = \lambda P : \exists x P(x). P$$

Now, *cake-rā* can be represented as the following $\langle e, t \rangle$ function:

“ $\lambda x: \exists x \text{ cake}(x). \text{ cake}(x)$ ”. The verb “eat” on the other hand is type $\langle e, \langle e, t \rangle \rangle$. Therefore, the verb and the direct object cannot combine to form a VP at this point.

Persian can solve this type conflict in two ways. First, it is possible to combine an object marked NP such as *cake-rā*, with the quantifier *ye* to form a generalised quantifier. At this point we apply quantifier raising and the verb can easily combine with a trace of type e . Second, in contexts where uniqueness of the NP object is met, since the NP marked by the object marker is carrying the presupposition of existence, it is possible to type shift the object marked NP using the iota operator. Then we can apply the verb “ate” to $\iota x.\text{cake}(x)$ which is type e and the composition proceeds.

The analysis sketched above predicts that *rā* will occur wherever there is a presupposition of existence. This implies that *rā* will occur on both definites (which additionally presuppose uniqueness) and presuppositional indefinites (which do not presuppose uniqueness). This explains several generalisations about the distribution of *rā* in the previous section including the obligatory appearance of *rā* on the restriction of strong quantifiers such as *each* and *all*.

We can assume that proper nouns are $\langle e, t \rangle$ in Persian. This can be supported by the fact that they appear as restriction of quantifiers as in “every John”. 2. We can assume that *rā* has an identical lexical entry of type $\langle e, e \rangle$. I do not further investigate this matter here and leave it for future research.

One generalisation that remains unexplained by this account is the presence of *rā* on plurals made by the plural morpheme *hā*. In the next section, I present an account of plural NPs in Persian which explains the presence of *rā* on such plurals.

4.2 Plural NPs

Persian has two mechanisms for pluralising an NP. The first mechanism is the plural morpheme *hā* as in (13a) and the second a plural numeral such as *do* “two” or *chand*⁵ “some” as in (13b). These two mechanisms differ in their definiteness:

(13) a. N + Plural Suffix:

[zabān-shenās]_N-[hā] injā neshast-an
 language-expert-PL.DEF here sit-3.PL
 “The linguists are sitting here.”

b. Some + N:

[chand tā] [zabān-shenās]_N injā neshast-an
 Some CL language-expert here sit-3.PL
 “Some linguists are sitting here.”

c. * Some + N + Plural Suffix:

* [chand tā] [zabān-shenās]_N-[hā] injā neshast-an
 Some CL language-expert-PL.DEF here sit-3.PL

In (13a), “linguist” bears the plural suffix *hā*. Therefore, it is interpreted as “the linguists”. On the other hand, in (13b), “linguist” is only modified

⁵The literal meaning of *chand* seems to be “plural but unknown number”. If a sentence that contains *chand* is given a rising question intonation, *chand* acts like a question word such as “how many”.

by *chand* which I gloss as “some” and the resulting interpretation is the plural indefinite “some linguists”. Finally, (13c) shows that both the plural suffix *hā* and the indefinite determiner *chand* cannot appear on the noun “linguist” at the same time. Based on such examples and further arguments by Ghomeshi (2003) and Gebhardt (2009), I assume that an NP marked by *hā* is both plural and definite:

Assumption 1. Persian NP suffix *hā* bears the following features: [+Def, +PL]. (Ghomeshi, 2003; Gebhardt, 2009)

This explains why *rā* is obligatory on plural NPs marked by *hā* as explained in section 3. Now let’s analyse the semantic behaviour of the plural suffix *hā* using the logic developed in Link (1983). Let’s say in (13a) above:

$$\llbracket \text{linguist} \rrbracket = \{\text{John, Mary, Bob}\}$$

Then to derive the plural meaning we can use Link’s *-operator:

$$\begin{aligned} \llbracket \text{linguist-PL} \rrbracket &= * \llbracket \text{linguist} \rrbracket \\ &= \{\text{John, Mary, Bob, John} \oplus \text{Mary, Mary} \oplus \text{Bob, John} \oplus \text{Bob, John} \oplus \text{Mary} \oplus \text{Bob}\} \end{aligned}$$

However, this is still not what “linguist-*hā*” means in Persian. As we can see in (13a), the plural suffix in Persian does what the English plural marker “s” and the definite determiner “the” do together. Therefore, I propose that *hā* in Persian corresponds to Link’s maximality operator σ^* which picks the maximal element of a set of pluralities:

Proposal 5. Lexical Entry for the Definite Plural Marker in Persian:

$$\llbracket \text{hā} \rrbracket = \lambda P[\sigma^* x.P(x)]$$

4.3 Indefinite marker *i*

The Indefinite marker *i* in Persian is traditionally analysed as an indefinite determiner similar to English *a(n)* (Mahootian, 1997; Ghomeshi, 2003). I argue that this is not the correct characterisation of this morpheme for two main reasons.

First, in colloquial Persian, which is the focus of this paper, *i* cannot appear by itself to mark indefiniteness if the numeral *ye* is not present as in (14a). However, the numeral can by itself make the NP indefinite as in (14b) and (14c):

- (14) a. * māshin-i xarid-am
car-*i* bought-1.SG
“I bought a car.”⁶
- b. ye māshin xarid-am
one car bought-1.SG
“I bought a car.”
- c. ye māshin-i xarid-am
one car-*i* bought-1.SG
“I bought a car.”

Second, *i* appears on NPs which are clearly definite as in (15) below:

- (15) a. ketāb-i ke be-hem dād-i (o) xund-am
book-*i* that to-1.SG gave-2.SG ACC read-1.SG
“I read the book you gave me.”
- b. in Obama-i ke man be-sh ray dād-am n-ist-∅
this Obama-*i* that I to-3.SG vote give-1.SG NEG-be-3.SG

⁶This example sounds completely grammatical in Formal or older varieties of Persian. However, in colloquial speech, my informants agreed with me that this construction is ungrammatical and they require the indefinite determiner *ye* (one) as well.

“This is not the Obama I voted for.”

Furthermore, as Ghomeshi (2003) has noticed, *i* behaves very much like English *any*. I present two prominent similarities here. First, *i* is mainly licensed in downward monotone environments, as (16) shows:

(16) a. Negation:

māshin- \boxed{i} \boxed{na} -xarid-am.
car-*i* NEG-bought-1.SG

“I didn’t buy any car.”

b. Conditionals:

age Maziar donbāl e [\square xodkār \boxed{i}] mi-gard-e
if Maziar after EZ NUM pen INDEF PRES-search-3.SG
peydā-sh mi-kon-e
find-3.SG PRES-do-3.SG

“If Maziar is looking for a pen, he will find it.”

c. Questions:

ketāb- \boxed{i} xund-i?
book-*i* read-2.SG

“Did you read any book?”

d. Restriction of “no”:

emruz hich ketāb-*(\boxed{i}) na-xund-am.
today no book-*i* read-2.SG

“Today, I did not read any book.”

e. Restriction of the universal quantifier:

har ketāb-(\boxed{i}) ye nevisande dār-e.
each book-*i* one author have-3.SG

“Today, every book has an author.”

Second, *i* shows the “subtriggering” phenomenon of “any” in upward monotone environments (LeGrand, 1975). In such environments, *i* is only licensed if there is a modifying relative clause:

- (17) a. ketāb-i ke be-hem dād-i (ro) xund-am
 book-*i* that to-1.SG gave-2.SG ACC read-1.SG
 “I read the book you gave me.”
- b. * ketāb-i (ro) xund-am
 book-*i* ACC read-1.SG
 “I read a book.”
- c. in Obama-i ke man be-sh ray dād-am n-ist-∅?
 this Obama-*i* that I to-3.SG vote give-1.SG NEG-be-3.SG
 “This is not the Obama I voted for.”
- d. * in Obama-i n-ist-∅
 this Obama-*i* NEG-be-3.SG

As (17b) and (17d) show, similar to the subtriggering phenomenon, dropping the relative clause makes the sentences above ungrammatical.

Based on such examples, I argue that *i* is not an indefinite determiner like the English “a”. As I proposed, this role is played by the numeral *ye* meaning “one”. I think it is better to analyse the Persian *i* as a morpheme that is ambiguous between a negative polarity item (NPI) and a free choice item (FCI) close to *any* in English.

Proposal 6. The morpheme *i* in Persian is ambiguous between a negative polarity item and a free choice item similar to English *any*.

In the next section, I introduce three types of specificity interpretation for an indefinite NP. In the section after that I explain the semantic ambiguity of Persian singular indefinites with regard to specificity.

5 Three types of Specificity

Farkas (1994) differentiates between three types of specificity: (i) Scopal Specificity, (ii) Epistemic Specificity, and (iii) Partitive Specificity. In this section I introduce these three types briefly. In section 6, I present a more detailed consideration of these types in light of data from Persian.

Scopal Specificity An indefinite NP is considered to be scopally specific if it takes the widest scope in relation to other operators and non-specific if it takes narrow scope.

Definition 1. An indefinite is scopally specific if it takes the widest scope.

In the following example, the continuations (18a) and (18b) clarify the specific and nonspecific readings of the indefinite NP “a girl” respectively:

- (18) Mr. Darcy didn’t like a girl at the party.
- a. Although he liked some other girls. (Scopally Specific)
 - b. He thought all the girls were utterly intolerable. (Scopally Non-specific)

In (19) below, we see the logical representations of the scopally specific and scopally nonspecific readings:

- (19) Mr. Darcy didn’t like a girl at the party.
- a. $\exists x [\text{girl}(x) \ \& \ \neg \text{like}(\text{DARCY}, x)]$ (Scopally Specific)
 - b. $\neg [\exists x \text{girl}(x) \ \& \ \text{like}(\text{DARCY}, x)]$ (Scopally Nonspecific)

In the scopally specific reading, the existential scopes above negation while in the nonspecific reading, the existential scopes below negation⁷.

Epistemic Specificity Fodor and Sag (1982) argue that (weak) indefinites are lexically ambiguous between a referential (specific) and a non-referential (nonspecific) meaning. In their referential use, the speaker has a specific individual in mind.

Definition 2. An indefinite is epistemically specific if the speaker has a specific referent in mind.

In (20) below, the continuations (20a) and (20b) clarify the epistemically specific and nonspecific readings respectively:

- (20) Mr. Darcy didn't like a girl at the party.
- a. Her name is Elizabeth. (Epistemically Specific)
 - b. We are all trying to figure out who she is. (Epistemically Non-specific)

Farkas (1994) formalises epistemic specificity in terms of rigidity of reference across the worlds in the epistemic modal base of the speaker. (21a) and (21b) show the formal representations of the epistemically specific and nonspecific readings in (21) respectively:

- (21) $\text{girl}(x) \ \& \ \neg \text{like}(\text{DARCY}, x)$:

⁷Scopal specificity is often explained using intentional predicates. For example, in “Jane wants to marry a Frenchman” the indefinite NP “a Frenchman” can have wide or narrow scope with regards to the intentional predicate “want”. I have used negation here because later in the paper I test the scope relation of Persian indefinites with negation to show the presuppositional effects of the object marker.

- a. $\forall w' \in \cap f(w): \llbracket x \rrbracket^{M,g,w'} = \text{LIZZY}$
- b. $\llbracket x \rrbracket^{M,g,w_1} = \text{LIZZY}, \llbracket x \rrbracket^{M,g,w_2} = \text{JANE}, \llbracket x \rrbracket^{M,g,w_3} = \text{LYDIA}, \dots$

Epistemically specific indefinites have fixed reference across the worlds in the modal base of the speaker as depicted formally in (21a) while the referent of epistemically nonspecific NPs varies from world to world as in (21b). In this analysis, assertions have a primary and a secondary effect. The primary effect is updating the common ground and the secondary effect is affecting information related to speaker’s epistemic state. Therefore, epistemic specificity does not affect the truth conditions of the utterance. It only affects the information relevant to speaker’s cognitive state.

Partitive Specificity Consider the following sentences in (22):

- (22) a. SOME girls danced with Mr. Bingley. (Partitively Specific)
- b. There are some gentlemen in this party. (Partitively Nonspecific)

In (22a), “some girls” has a partitive reading (such as “some of the girls”) in which the mentioned girls are part of a larger group of girls. Therefore we can continue this sentence with “other girls didn’t dance at all”. Such a sentence fits a discourse in which the previous utterance introduced the relevant group of girls. (22b) on the other hand does not have such a partitive reading. It merely asserts the existence of “gentlemen” in the party.

Definition 3. An indefinite is partitively specific if it is interpreted as part of a set introduced in previous discourse.

Enc (1991) claims that Turkish object NPs are unambiguous with regard to partitive specificity. In Turkish, partitively specific objects are marked

with the accusative case i while the nonspecific NPs remain unmarked. Enc offers the following example from Turkish:

- (23) Several children entered my room ...
- a. Iki kız-i taniyordum
two girl-ACC I-knew.
“I knew two girls.” (Partitively Specific)
 - b. Iki kız taniyordum
two girl-ACC I-knew.
“I knew two girls.” (Partitively Non-Specific)

(23a) is interpreted as “two of the girls” from the set of “children” introduced by the previous utterance “Several children entered my room”. (23b) on the other hand is interpreted as “two girls” not in the set of “children”. Enc (1991) formalises this notion of partitive specificity using a modification on the Heimian dynamic framework. Enc proposes that each NP introduces two variables i and j . The first variable introduces the referent of the NP while the second variable introduces the superset of which the referent is a part:

- (24) Every $\text{NP}_{\langle i,j \rangle}$ is interpreted as $\text{NP}(x_i)$ and: (Enc, 1991)
- a. $X_i \subseteq X_j$ if $\text{NP}_{\langle i,j \rangle}$ is plural.
 - b. $\{x_i\} \subseteq X_j$ if $\text{NP}_{\langle i,j \rangle}$ is singular.

In (23a) for example, X_j is the set “children” and x_i is the girl known by the speaker and $\{x_i\} \subseteq X_j$. In the next section, I investigate how Persian expresses these three types of specificity introduced in this section.

6 Specificity in Persian

An indefinite NP marked by the indefinite determiner *ye* is ambiguous between a specific and a nonspecific reading. Depending on the context, the specific or nonspecific interpretation may be more dominant.⁸ In the example below, the sentences are identical except for the boxed elements:

(25) a. Specific Reading dominant:

Maziar *ye* aks mi-xād
Maziar one picture PRES-want.3.SG
“Maziar wants (a certain) picture.”

b. Non-Specific Reading dominant:

Maziar *ye* xodkār mi-xād
Maziar one pen PRES-want.3.SG
“Maziar wants a pen (any pen).”

In (25a), a specific reading is more dominant because it is unlikely that someone is looking for just any picture. It is usually the case that people look for specific pictures. However, if we change “picture” to “pen”, as in (25b), the non-specific reading becomes more dominant since it is more common for people to use any pen for writing and they rarely look for a specific pen. These examples clearly show the ambiguity of Persian indefinite NPs with regard to specificity and that a lot of factors including non-linguistic ones can play a role in disambiguating them.

Notice that the NP in (25) has a minimal NUM + NP structure. We have seen that this structure can be further modified by *i* and the object marker

⁸Here I use the term “specificity” in a more general sense which covers the three types introduced in the previous section.

$r\bar{a}$. Now the important questions are the following:

1. How do these additional elements, particularly the object marker $r\bar{a}$, affect this ambiguity in indefinites?
2. If there is a specificity effect, what type of specificity (epistemic, scopal, or partitive) is signalled by $r\bar{a}$ (or perhaps i)?

In the next three subsections I try to find an answer to these two questions.

6.1 Epistemic Specificity

I start with epistemic specificity. Remember that this type of specificity is about the speaker having a specific referent in mind. I believe there are two main reasons to reject $r\bar{a}$ (or i) as a marker of epistemic specificity.

First, it can appear in contexts where no specific referent is in the speaker's (or anyone's) mind. I offer the following example to support this claim: suppose that my three-year-old cousin takes my phone and accidentally deletes a picture on my camera roll. When I open the camera app and look at the number of pictures written at the top, I notice it is one less than what it should be. In such a context I might tell my sister:

- (26) In sheytun ye aks (i) \square pāk kard-e
this Satan one picture i ACC clean did.PERF.3.SG
“This (little) rascal has deleted a picture.”

When I utter (26), I do not have a specific picture in mind. I only know that one has been deleted. The addressee, my sister, does not have a specific

referent in mind; neither does my three-year-old cousin who has done this mischief accidentally. So I cannot be signalling that someone knows the referent. Nevertheless, the object marker is present in (26). The marker *i* can also be present optionally. Therefore, whatever meanings these two morphemes contribute, they cannot be epistemic specificity.

The second reason is related to the general concept of “referentiality”. As Donnellan (1966) demonstrated, “having a referent in mind” is not restricted to indefinite noun phrases. Definite descriptions have a “referential” and an “attributive” use as well. Donnellan offers the following scenario to explain this distinction:

Suppose that lovely Mr. Smith is brutally murdered and you arrive at the crime scene. Considering the horrific nature of the crime, you exclaim: “Smith’s murderer is insane!” In this context, the definite description “Smith’s murderer” is not referring to any particular person. What you are saying is that considering the crime scene, Smith’s murderer, whoever it may be, is insane. Therefore, “Smith’s murderer” is used **attributively**. Now suppose that Jones is accused of murdering Mr. Smith and as you are sitting in the court, he is acting insane in the trial. Again, you might tell your friend next to you: “Smith’s murderer is insane!” In this context, you are referring to a particular person, namely Jones. Here “Smith’s murderer” is used **referentially**. You have a particular referent in mind when you use the definite NP “Smith’s murderer”.

If it is true that the Persian object marker (or *i*) signal that the speaker has a particular referent in mind, we expect to find them optionally on definite NPs as well. This is clearly not the case:

- (27) man [qātel e esmit]_{NP} (*i) *(o) mi-kosh-am
 1.SG murderer EZ Smith *i* ACC did.PERF.3.SG
 “I will kill Smith’s murderer.”

In (27) above, presence of *i* renders the sentence completely unacceptable while presence of the object marker is obligatory. I conclude that these two morphemes do not mark epistemic specificity in Persian. In the next subsection I investigate the role of these two morphemes with respect to partitive specificity.

6.2 Partitive Specificity

Karimi (2003) argues that an indefinite NP marked by *rā* in Persian does not necessarily receive a partitive interpretation. I agree with Karimi’s judgment and offer some examples in this section to further support her position. First, I consider an example in Persian below, very similar to Enc (1991)’s Turkish examples (16)-(18):

- (28) There were three cakes in the fridge⁹ ...
- a. man [ye keik]_{NP} (i) o tanhāyi xord-am
 1.SG one keik (*i*) ACC alone ate-1.SG
 “I ate a cake myself.”
- b. man [ye keik]_{NP} (i) tanhāyi xord-am
 1.SG one keik (*i*) ACC alone ate-1.SG
 “I ate a cake myself.”

In the context of the preceding utterance, (28a) is more likely to receive a partitive interpretation such as “I ate one of the cakes”. It is very marked

⁹Persian: *se tā keik tu yaxchāl bud ...*

pragmatically in this limited context to utter (28a) and mean, for example, that “I ate a cake that was on the table” and not one of the ones in the fridge which came up in the previous utterance. However, you can continue (28a) with “the cake that I ate was on the table”:

- (29) There were three cakes in the fridge ...
- a. man [ye keik]_{NP} (i) o tanhāyi xord-am
 1.SG one keik (i) ACC alone ate-1.SG
 “I ate a cake by myself.”
- b. (but) the cake that I ate was on the table¹⁰.

(29) is slightly incoherent but it sounds very natural if “but” is included in the follow-up utterance (29b) and we imagine a context in which the speaker is accused of eating a fridge-cake but defends himself by asserting that the cake he ate was a table-cake. Therefore, it seems that an NP that is marked by *rā* does not have to establish an inclusion relation to a previously introduced set.

Furthermore, (28b) can either have a partitive or a non-partitive reading as well. It can have a non-partitive meaning such as “I ate some other cake which was not among the fridge-cakes” but then this sounds irrelevant to the previous utterance “there were three cakes in the fridge”. On the other hand, if we give this sentence some special stress or intonation (such as stressing “one”), then it can easily have a partitive interpretation.

Finally, it is possible to have the object marker present and have no partitive reading at all:

¹⁰Persian: *vali keiki ke man xordam ru miz bud*

(30) Last night in the party ¹¹ ...

man [ye keik]_{NP} (i) o tanhāyi xord-am
1.SG one cake (i) ACC ate-1.SG

“I ate a cake myself.”

In (30) above, there is no salient partitive reading of the NP direct object marked by $r\bar{a}$. The examples in this subsection also show that i is optional and does not create much difference in the specificity readings. I conclude from the examples introduced in this subsection that $r\bar{a}$ and i do not signal partitive specificity in Persian.

However, given the analysis I presented in section 3, we can see how this partitive reading is generated. In that section, I proposed that an NP marked by $r\bar{a}$ presupposes that the set denoted by that NP is non-empty ($|NP| \geq 1$). On the other hand, a partitive reading is one in which the cardinality of the set denoted by the NP is more than one ($|NP| > 1$). In other words, the individual mentioned is part of a bigger set and therefore that set contains more than one individual. How is this reading derived from $r\bar{a}$ marking?

I offer an answer to this question based on Gricean pragmatics. I have already shown that when NP- $r\bar{a}$ is formed, we have the choice of applying the quantifier ye or the type-shifter $iota$. I propose that the partitive interpretation is a conversational implicature and is generated because of a conflict in the Maxims of Quality and Quantity based on the choice of either ye or $iota$. When the object marker $r\bar{a}$ appears with the indefinite determiner, the addressee starts the following Gricean reasoning:

¹¹Persian: *dishab tu mehmuni*

1. The speaker is presupposing that $|NP| \geq 1$ by using the object marker $r\bar{a}$ on the NP.
2. The speaker is also using the quantifier ye , instead of using *iota*.
3. By the Maxim of Quantity, the speaker should use *iota* because it is more informative.
4. Since the speaker didn't choose to type-shift using *iota*, it must be the case that uniqueness conflicts with the Maxim of Quality. ($|NP| \not\geq 1$)
5. Therefore it must be the case that $|NP| > 1$.

If my proposal for the lexical meaning of the object marker in Persian is correct, then the above Gricean account holds straightforwardly. There are two advantages of a Gricean account for partitive specificity. First, it explains why the partitive reading is sometimes absent as I explained in this section. Second, it obviates the need for modifying the Heimian dynamic framework with extra indices on indefinites for specificity as Enc (1991) proposes. The Gricean maxims and presuppositional indefinites which are needed for separate reasons naturally account for such partitive readings.

6.3 Scopal Specificity

Scope with Negation In this section, I explore the scope interaction of negation and the NP direct object. Negation is marked by *na* (glossed as NEG) on the verb. The direct object can be modified by different combinations of NUM, *i*, and ACC. As we will see, there is a subtle interaction between

these modifiers which creates different scope relations. In the examples below, I start with the bare nominal form that does not carry any of these three morphemes. Then I add the morphemes one by one and observe the scope behaviour of the resulting constructions with regard to negation.

- (31) man emruz [\square kār $\square \square$] anjām na-dād-am
 I today NUM work *i* ACC finish NEG-give-1.SG
 “I didn’t do work today.”

In (31) above, none of the numeral, *i*, or object marker are present. Negation scopes high and the sentence is interpreted as “I did not do work today”. In the next example I modify the NP only with *i*:

- (32) man emruz [\square kār \boxed{i} \square] anjām na-dād-am
 I today NUM work *i* ACC finish NEG-give-1.SG
 “I didn’t do any work today.” ($\neg > \exists$)

The interpretation of this construction amounts to wide scope negation and narrow scope existential ($\neg > \exists$). Now, if the NP bears only the numeral as in (33), then two different scope relations are available:

- (33) man emruz [\boxed{ye} kār $\square \square$] anjām na-dād-am
 I today NUM work *i* ACC finish NEG-give-1.SG
- i. “There is a task I did not do today.” ($\exists > \neg$) (Scopally Specific)
 - ii. “I did not do any work today.” ($\neg > \exists$) (Scopally Non-specific)

With a normal intonation, reading (i) in which the existential scopes over negation is dominant. This is the scopally specific reading. However, if the numeral “*ye*” is stressed, then reading (ii) with the opposite scope relation becomes prominent. This is the scopally non-specific reading. Here, the

ambiguity of Persian indefinites discussed earlier manifests itself in light of the scope relation with negation. As you can see, the scopally specific reading is available without the object marker *rā* being present.

Now, if we add *i*, only the scopally specific reading remains available:

- (34) man emruz [ye kār i □] anjām na-dād-am
 I today NUM work *i* ACC finish NEG-give-1.SG
 “There is a task I did not do today.” ($\exists > \neg$)

The NUM + NP + *i* structure scopes higher than negation in Persian. One way of analysing this example is to conclude that the presence of both the numeral and *i* results in the scopally specific (wide scope existential) reading. Another way of looking at the phenomenon in (34) is that when *i* is added to *ye*, we can no longer use the stress on the numeral to get the narrow scope for the indefinite NP. Therefore we are left with the wide scope existential as the only available meaning. We will see in the next subsection that this second analysis is more plausible given the scope interaction of NUM + NP + *i* with the universal quantifier. (34) also shows that a scopally specific reading is not restricted to NPs marked with the object marker. In (34), *rā* is absent but the only available reading is wide scope existential. In the next example, I remove the numeral and add the object marker:

- (35) man emruz [□ kār i rō] anjām na-dād-am
 I today NUM work INDEF ACC finish NEG-give-1.SG
 “I didn’t do any work today.” ($\neg > \exists$) (and there was some work I was supposed to do)

In (35), negation takes wide scope and the interpretation of the sentence is that “I didn’t do any work today but there was some work to be done”.

The main difference between the interpretation of this sentence and (32) where *rā* was absent is that in (35), it is implied that “there was some work to be done”. This is in line with the proposal for the lexical semantics of *rā* presented in this paper. I have argued that the semantic contribution of *rā* is presuppositional. Therefore, we expect its meaning to project even under the scope of negation. This is exactly what we see in (35).

I have also argued that *rā* presupposes that the set denoted by the NP is non-empty. Again (35) presupposes that the set “work” is non-empty or more informally “there was some work to be done”. We can further test this intuition by continuing (35) with “because there was nothing to do”. If my analysis is correct, such a continuation should result in a presupposition failure. This is what I do in the next example:

- (36) a. man emruz [kār] anjām na-dād-am
 I today NUM work INDEF ACC finish NEG-give-1.SG
 chon kār i na-bud-∅ ke anjām be-da-m
 because work *i* NEG-was-3.SG that finish NEG-give-1.SG
 “I didn’t do any work today because there was nothing to do.”
- b. # man emruz [kār] anjām na-dād-am
 I today NUM work INDEF ACC finish NEG-give-1.SG
 chon kār i na-bud-∅ ke anjām be-da-m
 because work *i* NEG-was-3.SG that finish NEG-give-1.SG
 “I didn’t do any work today because there was nothing to do.”

The only difference between the sentences in (36) is that one bears the object marker on NP + *i* while the other doesn’t. Both sentences are continued with a sentence which asserts that the set “work” is empty. While (36a) is completely natural and acceptable, (36b) shows a clear effect of presupposition failure. In the first part of the sentence it is implied that there

is some work to be done which the interlocutors probably know about but the continuation negates such an implication.

Now if it is correct that scopal specificity is expressed independent of *rā* via the presence of the indefinite determiner *ye* as in (34), then we expect to see a clear contradiction when we continue (34) with “because there was nothing to do”. This prediction is borne out:

- (37) a. man emruz [kār i] anjām na-dād-am chon
 I today NUM work INDEF ACC finish
 kār i na-bud-∅ ke anjām be-da-m
 NEG-give-1.SG because work i NEG-was-3.SG that finish
 NEG-give-1.SG
 “There was a task I didn’t do today because there was no task to do.”
- b. ## man emruz [ye kār i □] anjām na-dād-am
 I today NUM work INDEF ACC finish NEG-give-1.SG
 chon kār i na-bud-∅ ke anjām be-da-m
 because work i NEG-was-3.SG that finish NEG-give-1.SG
 “There was a task I didn’t do today because there was no task to do.”

In (37), the two sentences differ only with regard to the absence or presence of the numeral *ye*. As we have seen before, the absence of *ye* results in narrow scope for the NP and wide scope for negation. Therefore, it is not contradictory to assert that the set NP (work) is also empty in addition to its intersection with “things done”. This is what we see in (37a). On the other hand, (37b) is completely nonsensical. The presence of *ye* introduces an existential quantifier and the presence of *i* results in a

wide scope existential reading. Therefore the fact that the set “work” is nonempty is already asserted. Any continuation asserting that the same set is empty results in a contradiction. This is exactly what we expect to get from scopally specific NPs.

In the next example, we can test the numeral and object marker combination:

- (38) man emruz [ye kār □ ro] anjām na-dād-am
 I today NUM work *i* ACC finish NEG-give-1.SG
1. There is a task I did not do. ($\exists > \neg$) (Scopally Specific)
 2. I did not do a (single) task. ($\neg > \exists$) (Scopally Nonspecific)(with focus on “one”)

The assertive content of (38) is very much like (33) in which *rā* was absent. The scopally specific reading is available with a normal intonation and if we stress the numeral “one”, then we get the scopally nonspecific reading. As far as I can see, the only difference between (33) and (38) is that in (38), it is odd to continue the sentence with “because there was nothing to do” when the numeral is stressed and we get the narrow scope existential reading.

Finally, we can have all three morphemes present on the NP. We can expect from the pattern we have seen in (34) that when both the numeral and *i* are present, the only available reading is the scopally specific one. This is indeed true:

- (39) man emurz [ye kār i ro] anjām na-kard-am
 I today NUM work *i* ACC finish NEG-do-1.SG
- “There is a task I did not do today.” ($\exists > \neg$)

Now, we might ask: what is the difference between (39) where $rā$ is present and (34) where we leave the object marker out? What is the extra presupposition of existence contributing to the wide scope existential assertion when the set denote by “work” being non-empty is already entailed by the assertion? I think the answer to this question goes back to the intuition that what is marked by $rā$ is familiar to the addressee. (39) is more appropriate in a context where my addressee is familiar with the set denoted by “work”. Suppose that I am talking to my friend and he knows that I was supposed to write a paper and design an experiment. Then uttering (39) signals that I did not do a task that we both know I was supposed to do. On the other hand if I use (34) which does not carry the object marker, then I imply that I did not do some other task that he is unaware of. This is basically the same intuition reported in (23a) and (23b) from Enc (1991).

In (40) below, I present the summary of different types of indefinites and their scope interaction with negation in Persian as discussed in this subsection:

(40) Scope Interaction of Persian Indefinites with Negation:

a. Bare Nominal:

man emruz [kār] anjām na-dād-am
 I today work finish NEG-give-1.SG
 “I didn’t work today .”

b. Indefinite: NP + i

man emruz [kār i] anjām na-dād-am
 I today work i finish NEG-give-1.SG
 “I didn’t do any work today.” ($\neg > \exists$)

c. Indefinite: NUM + NP

man emruz [ye kār] anjām na-dād-am
 I today one work finish NEG-give-1.SG

1. “There is a task I didn’t do today.” ($\exists > \neg$)
2. “I didn’t do any work today.” ($\neg > \exists$) (with stress on “one”)

d. Indefinite: NUM + NP + *i*

man [ye kār i] anjām na-dād-am
 I one work *i* finish NEG-give-1.SG

“There is a task I didn’t do.” ($\exists > \neg$)¹²

e. Indefinite: NP + *i* + ACC

man [kār i ro] anjām na-dād-am
 I work *i* ACC finish NEG-give-1.SG

“I didn’t do any work (#because there was nothing to do).”

($\neg > \exists$)¹³

f. Indefinite: NUM + NP + ACC

man [ye kār ro] anjām na-dād-am
 I one work ACC finish NEG-give-1.SG

1. “There is a task I didn’t do.” ($\exists > \neg$)
2. “I didn’t do a (single) task (#because there was nothing to do.)”. ($\neg > \exists$) (with focus on “one”)

g. Indefinite: NUM + NP + *i* + ACC

man [ye kār i ro] anjām na-dād-am
 I one work *i* ACC finish NEG-give-1.SG

“There is a task I didn’t do.” ($\exists > \neg$)

¹²Native speakers prefer the sentence with the object marker *rā*

¹³Available in the formal variety: There is a task I didn’t do. ($\exists > \neg$)

Scope with Universal Quantification In this section, I investigate the scope interaction of Persian indefinite NPs and universal quantifier *hame* (all). Persian does not have a quantifier equivalent to the English “every”. In order to express universal quantification, Persian uses *hame* which seems to be equivalent to the English “all” and *har* which is very much like “each”. *Har* (each) always takes wide scope. *Hame* (all), on the other hand, can take wide or narrow scope but the narrow scope is preferred. When *hame* is used for a wide scope interpretation, most native speakers object that it is better to use *har* (each). Nevertheless, both narrow and wide scope readings are available with *hame* (all).

I have summarised the facts below in (41):

(41) Scope Interaction of Persian Indefinites and Universal Quantifier
hame “All”

a. Bare Nominal:

Hame ye mard-ā [film] tamāshā kard-an
All of man-PL film watch do-3.PL
“All men watched films.”

b. Indefinite: NP + *i*

* Hame ye mard-ā [film i] tamāshā kard-an
All of man-PL film INDEF watch do-3.PL

c. Indefinite: NUM + NP

Hame ye mard-ā [ye film] tamāshā kard-an
All of man-PL one film watch do-3.PL

1. Every man watched a (possibly different) film. ($\forall > \exists$)
2. There is a film that all men watched it. ($\exists > \forall$) (Focus on

“one”)

d. Indefinite: NUM + NP + *i*

Hame ye mard-ā [ye film] i tamāshā kard-an
All of man-PL one film INDEF watch do-3.PL

“Every man watched a (possibly different) film.” ($\forall > \exists$)

e. Indefinite: NP + *i* + ACC ¹⁴

* Hame ye mard-ā [film i ro] tamāshā kard-an
All of man-PL film INDEF ACC watch do-3.PL

f. Indefinite: NUM + NP + ACC

Hame ye mard-ā [ye film ro] tamāshā kard-an
All of man-PL one film ACC watch do-3.PL

1. Every man watched a (possibly different) film. ($\forall > \exists$)

2. There is a film that every man watched it. ($\exists > \forall$) (Focus on “one”)

g. Indefinite: NUM + NP + *i* + ACC

Hame ye mard-ā [ye film i ro] tamāshā kard-an
All of man-PL one film INDEF ACC watch do-3.PL

“Every man watched a (possibly different) film.” ($\forall > \exists$)

(41b) and (41e) show that *i* by itself and without the numeral in an upward monotone environment makes the sentence ungrammatical. This supports my analysis of this morpheme in subsection 4.3.

As expected, in (41c) and (41f), when the numeral is present and *i* is absent, we get scope ambiguity which can be resolved by stressing the numeral. As we have seen with negation, adding the *i* always results in resolving this

¹⁴This is grammatical in the formal variety.

ambiguity. This is evident in (41d) and (41g) compared to (41c) and (41f), which are not marked by *i*. Unlike negation, where adding this morpheme resulted in a wide scope interpretation of the indefinite NP, in universal quantification with *hame* we end up with the narrow scope existential. This might seem arbitrary at first, but if we consider which meaning is derived through the extra stress, we'll see that there is an interesting pattern.

With negation, extra stress on the numeral when *i* was absent resulted in the narrow scope existential interpretation. This is the interpretation that is not available when we add the indefiniteness marker. With universal quantification, extra stress on the numeral results in wide scope existential interpretation when *i* is not present. Again, this is the interpretation that is not available when we add *i*. From these facts, I think it can be reasonably concluded that the presence of *i* renders the special stress on the numeral which creates the scope relations no longer available.

7 Discussion

The proposals made in this paper are important in two separate areas: Persian linguistics and Semantics of (in)definites. Considering Persian linguistics, I argue that indefinites are marked differently in formal and colloquial Persian. If we focus on the grammar of Modern Colloquial Persian, the numeral *ye* is a singular definite determiner which introduces an existential quantifier similar to *a* and *i* is an NPI/FCI item similar to *any*. I proposed that Persian marks definiteness through zero marking of the numeral position. I explained that Persian expresses indefinite and definite

plurals differently. Definite plurals bear the definite plural morpheme *hā*. I proposed that this morpheme acts like a maximality operator in Persian. Indefinite plurals on the other hand are expressed via the combination of the numeral or “some” with the NP. I also proposed that the accusative marker *rā* contributes the presupposition of existence. This proposal explains most generalisations on its distribution presented in this paper including its obligatory presence on the restrictor of strong indefinites.

Considering the semantics of (in)definites, I argued that the object marker in Persian does not mark any of the three types of specificity described by Farkas (1994). I argued that while NPs marked by *rā* can receive a partitive reading, this is not necessarily the case. I offered examples in which the partitive reading was present or absent depending on the physical context of utterance. I argued that if we adopt the proposal that the object marker contributes an existential presupposition, we can explain the presence of a partitive reading through Gricean principles. This obviates the need for a dynamic framework in which indefinite NPs have two indices as Enc (1991) proposes. Since the facts in Turkish DOM are very similar to Persian DOM as far as I can see, it would not be surprising if the same arguments hold for Turkish as well. If so, it should be possible to analyse partitive specificity as an epiphenomenon of presuppositional indefinites.

The analysis presented in this paper suggests that “definiteness”, instead of “specificity” is the main semantic factor in Persian DOM. It is possible to see definiteness as a scale. On one end of the scale, we have semantically definite NPs. Such NPs presuppose both uniqueness and existence while they do not introduce an existential quantifier. On the other end of the scale,

we have indefinite NPs which introduce an existential quantifier but trigger no presuppositions. Presuppositional indefinites fall in-between these two extremes. They introduce an existential quantifier and trigger an existential presupposition at the same time. The examples of Persian DOM show that the presuppositional contribution of such indefinite NPs are best noticeable when the existential quantifier falls under the scope of negation. In such occasions, the presupposed existence is not affected by negation as expected.

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