

The Semantics of the Persian Object Marker –râ

by

Maryam Hosseini Fatemi

A thesis submitted to the Faculty of Graduate and Postdoctoral
Affairs in partial fulfillment of the requirements for the degree of

Master of Cognitive Science

in

The Institute of Cognitive Science

Carleton University

Ottawa, Ontario

© 2013, Maryam Hosseini Fatemi

Abstract

This study presents an analysis of the semantics of the Persian object marker $-r\hat{a}$. Semantically, $-r\hat{a}$ has been identified with definiteness marking (Sadeghi, 1970; Vazinpour, 1977), specificity marking (Browne, 1970; Karimi, 1989, 1990, 1996, 2003a, and 2005) and presupposition marking (Ghomeshi, 1996; Ganjavi, 2007). In this study, I challenge the assumptions presented in previous works and argue that while definiteness, specificity and presupposition capture important aspects of the meaning of $-r\hat{a}$, none of them adequately characterize its semantics. Specifically, I argue that a unified account can be given if we assume that $-r\hat{a}$ is a maximality operator which picks out the maximal member of the denotation of its argument following Link (1983) and Beck and Rullmann (1999). The maximality proposal can account for the appearance of $-r\hat{a}$ on question words, contrastive topics, donkey sentences, plurals and indefinites which have remained unexplained in previous accounts of $-r\hat{a}$.

Acknowledgement

I would like to express my deepest appreciation to my supervisor Professor Raj Singh for his help, guidance and insightful advice. This work would have not been completed without his support and generous help. I am also indebted to my committee members Professor Ida Toivonen, Professor Maria Biezma and Professor Andrés Pablo Salanova for their thoughtful comments and questions.

I would also like to thank my fellow graduate friends Pegah Nikravan, Amir Ahmad Anvari and Ehsan Amjadian for their helpful comments and the discussion of data. I am also so grateful to the staff of the Cognitive Science Institute at Carleton University specially Professor Deepthi Kamawar and Lianne Dubreuil for their help in many ways.

I would also like to thank my mother Malih Yazdanian, my father Ali Hosseini Fatemi and my brother Farhad Hosseini Fatemi for their love and support. I would also like to greatly appreciate my husband Farzad Daliri for his love, patience and support.

Table of Contents

Abstract	ii
Acknowledgement	iii
List of Abbreviations	vi
1 Chapter: Introduction	2
1.1 Overview	2
1.2 Introduction	3
1.3 The language under study: Modern Persian	4
1.4 A Brief Overview of Persian Grammar.....	5
1.4.1 Objects.....	5
1.4.2 The indefinite article.....	7
1.4.3 The colloquial definite marker.....	9
2 Chapter: The differential object marker <i>-râ</i>	11
2.1 Introduction	11
2.2 Some properties of <i>-râ</i>	11
2.3 Direct objects that are obligatory marked with <i>-râ</i>	12
2.4 The syntactic behavior of <i>-râ</i>	14
2.5 <i>-râ</i> following adverbial noun phrases.....	16
2.6 The semantics of <i>-râ</i>	17
2.6.1 Specificity/Definiteness.....	17
2.6.2 <i>-râ</i> as a specificity marker	18
2.6.3 <i>-râ</i> as a presupposition marker.....	24

3 Chapter: Difficulties with the specificity analysis	26
4 Chapter: Analysis	31
4.1 Râ as a maximality operator.....	31
4.2 Maximality and Exhaustiveness in <i>Wh</i> -phrases	34
4.3 Exhaustiveness in Contrastive Topics.....	38
4.4 A Compositionality Problem.....	39
4.5 A New Prediction: $-r\hat{a}$ and Indefinites	41
4.6 Can MAX_{INF} alone do the work?.....	43
5 Chapter: Conclusion	45
References	46

List of Abbreviations

Abbreviations used to gloss the examples in Persian are as follows:

EZ	the Ezafe marker (-e)
CONT	the continuous prefix (<i>mi-</i>)
IND	the “indefinite” marker (-i)
NEG	the negative prefix (<i>na-</i>)
DEF	(colloquial) definite marker
RES	restrictive
1SG, 2SG, 3SG, 1PL, 2PL, 3PL	the subject agreement affixes
SBJ	the subjunctive prefix (<i>be-</i>)
PART	participle
CL	classifier (<i>tâ</i>)
PL	the plural marker (<i>-hâ</i>)
COMP	the comparative suffix (<i>-tar</i>)

1 Chapter: Introduction

1.1 Overview

The Persian Object Marker *-râ* has received considerable attention from linguists, grammarians and language teachers for several decades. Traditionally, *-râ* has been described as a marker of (definite) direct objects in Modern Persian (Phyllott, 1919; Sadeqi, 1970; Khanlari, 1976 & Vazinpour, 1977). While considering *-râ* as a definite accusative case marker can account for a group of examples such as (2) below, it faces difficulties where *-râ* cooccurs with indefinites as observed by Browne (1970). This observation has led Browne to argue that *-râ* has the feature [+specific] instead of [+definite]. In line with Browne, Karimi (1989) assumes that *-râ* is a specificity marker and defines specificity as the selection of a particular individual from a set of individuals. Specificity marking is the most prominent semantic proposal; however, the fact that *-râ* can appear on generic NPs (where there is no specific referent in the mind of the speaker) complicates the picture. To further complicate matters; *-râ* can also appear in donkey sentences, contrastive topics, nominalized adverbs, plurals, and *wh*-phrases, environments in which specificity interpretation seems to be inadequate. In response to this, there is a heterogeneous set of proposals for the meaning of *-râ*. The goal of this study is to propose a unified semantics of *-râ* with a core maximality operator which has variation over two types, namely Max_{IND} and Max_{INF} .

1.2 Introduction

This study presents an analysis of the Persian Differential Object Marker¹ (DOM) *-râ*. The goal of this study is to provide a unified account for the semantics of this morpheme. The morpheme *-râ* optionally follows direct object noun phrases and gives rise to a different meaning. Examples (1) and (2) illustrate two simple Persian sentences with the direct object in its canonical order near the verb.

- (1) *Sârâ ketâb xarid.*
Sara book bought-3SG
'Sara bought books.'

- (2) *Sârâ ketâb-râ xarid.*
Sara book-râ bought-3SG
'Sara bought the book.'

As indicated in (1) and (2), the appearance of *-râ* on the direct object results in a different meaning. In (1), *ketâb*, 'book' does not refer to any particular book but only refers to a class of items which are books. However, *ketâb+râ* in (2) refers to a particular book known to both the speaker and the hearer.

¹Differential object marking is common in languages where some but not all direct objects are overtly case-marked depending on semantic and pragmatic features of the objects. (Aissen, 2003) It has been assumed that the function of DOM is to disambiguate objects from subjects; however, this is not always the case. DOM has also been characterized with the degree of prominence of the direct object. Direct objects which are high in prominence are more likely to be overtly case-marked (Aissen, 2003, 436.2). The prominence is assessed based on definiteness and animacy. For a detailed discussion of DOM, see (Aissen, 2003).

This difference has inspired researchers to appeal to a variety of syntactic and semantic notions to characterize the meaning of *-râ* among which are definiteness marking (Sadeghi, 1970; Vazinpour, 1977), topic marking (Peterson, 1974; Windfuhr, 1987), presupposition marking (Ghomeshi, 1996; Ganjanvi, 2007) and specificity marking (Browne, 1970; Karimi, 1989, 1990, 1996, 2003a and 2005).

In this study, I will argue that while definiteness, specificity and presupposition capture important aspects of the meaning of *-râ*, none of them adequately characterize its semantics. In fact, previous proposals could not account for occurrences of *-râ* in question words, contrastive topics, donkey sentences, plurals and interactions with indefinites. I argue that a unified analysis can be given if we assume that *-râ* has the semantic property of picking out the maximal member of the denotation of its argument. To my knowledge, this is the first work in which a formal and unified characterization of the semantics of *-râ* has been proposed.

1.3 The language under study: Modern Persian

The language under discussion here is Modern Persian. Modern Persian belongs to the Indo-Iranian branch of the Indo-European languages, particularly to the South-Western branch of the Iranian languages (Payne, 1987; Windfuhr, 1987).

The dialect of Persian under study here is Standard Modern Persian, spoken in and around Tehran and the official language of Iran. This study is based on the colloquial, spoken variation used among native speakers in their everyday lives. There are some differences between the colloquial and the formal written language. For example, the morpheme *-râ* is pronounced as [râ] in formal contexts, while it appears as [ro] or [o] in colloquial language.

As my source of data, I mostly use data from previous works on Persian, and also data from native speakers' everyday interactions.

1.4 A Brief Overview of Persian Grammar

Persian is a verb final language with SOV (Subject-Object-Verb) word order. It is a pro-drop language in which the number and the person of the subject are identified with the inflection on the verb as in (3) (Mahootian 1997; Hashemipour 1989).

- (3) *(man) ketâb xarid-am.*
(I) book bought-1SG
'I bought books.'

1.4.1 Objects

Direct object noun phrases are marked with the postposition *-râ* if some syntactic/semantic/pragmatic conditions are satisfied. Objects other than the direct object are mostly accompanied by a preposition, i.e., *be* 'to' as in (4).

- (4) *Ketâb -o be Tinâ dâd-am.*
book -râ to Tina gave-1SG
'I gave the book to Tina'. (I gave Tina the book.)

Ganjavi (2007) provides a list of nominal expressions that can appear in the direct object position:

- (i) bare nouns, i.e., nouns with no modification,
- (ii) nouns modified by adjectives,
- (iii) nouns modified by numerals and classifiers and
- (iv) DPs (which she assumes can be marked with *-râ*).

(Ganjavi, 2007: 11)

Bare singular and plural noun phrases in object position have different interpretations. While bare singulars usually receive a kind-referring interpretation as in (5), bare plurals in object position have a very limited usage and bear a particular connotation (Hamedani, 2011). According to Ghomeshi (2008), plural marking on a kind-referring bare singular generates a taxonomic reading which means more than one kind/sort, as in (6).

(5) a. *Ali ketâb xunde.*

Ali book read.PART-3SG

‘Ali has read books.’

(6) *Ali ketâb-hâ² xunde.*

Ali book-PL read.PART-3SG

‘Ali has read all sorts of books.’ or ‘Ali has read a lot.’

(Ghomeshi, 2008, 94-95)

² It should be noted that *-hâ* is the default plural marker on nouns. However, it is not the only way to mark plurality in Persian.

1.4.2 The indefinite article

Indefiniteness in Persian is marked with the indefinite marker *-i* which can appear on subjects (7), the direct object (8), and the object of a preposition (9).

(7) *doxtar-i âmad.*

girl-IND came-3SG

‘A girl came.’

(8) *ketâb-i xarid-am.*

book-IND bought-1SG

‘I bought a book.’

(9) *Sara -ro be pesar-i moarefi kard-am.*

Sara-râ to boy-IND introduce did-1SG

‘I introduced Sara to a boy.’

According to Thackston (1983), *-i* means ‘a certain, a particular’ thing, or ‘one of a class’. However, the indefinite enclitic *-i* has another usage in addition to marking indefiniteness. It obligatorily appears in restrictive relative clauses. Mahootian (1997) argues for the presence of two morphemes *-i*: (a) marking indefiniteness, as shown in example (7-9) above, and (b) marking the head of the restrictive relative clause, modifying the noun, as in (10b).

(10) a. *ahmad, ke diruz âmad, injâ-st*

Ahmad that yesterday came-3SG here-3SG

‘Ahmad, who came yesterday, is here.’

b. *ahmad-i ke diruz âmad, injâ-st*

Ahmad-RES that yesterday came-3SG here-3SG

‘The Ahmad who came yesterday is here.’ (as opposed to the one who came today, e.g.)

(Ghomeshi, 1996, 23 from Thackston, 1983)

However, Samiian (1983), Windfhr (1979) and Ghomeshi (2003) propose that the two uses of *-i* can be united. Nevertheless, further research is required to determine the exact nature of the indefinite enclitic *-i*. In this study, I will consider these two as instances of the same morpheme marking indefiniteness. My proposal also makes an interesting prediction about this puzzle where *-i* marked nouns and relative clauses appear with *-râ*. (see Chapter.4, 4.5).

In addition to *-i*, Persian has another indefinite marker *ye(k)* ‘one’. The indefinite marker *ye(k)* can either accompany *-i* (11a) or replace it (11b) entirely.

(11) a. *ye doxtar-i did-am*

a girl-IND saw-1SG

‘I saw a girl.’

b. *ye doxtar did-am*

a girl saw-1SG

‘I saw a girl.’

Although both *-i* and *ye(k)* mark indefiniteness, a number of differences have been noted. For example, the indefinite marker *ye(k)* unlike *-i* does not appear on nouns modified by restrictive relative clauses. In this study, I will only provide examples of the enclitic *-i* as a marker of indefiniteness in Persian.

1.4.3 The colloquial definite determiner

The stressed suffix *-e* (non-word finally stressed *-a*), used only in spoken language is assumed to mark noun phrases for definiteness³ (Samiian, 1983). This suffix cannot follow items that are already specified as definite, like proper names and pronouns. However, the presence of *-e* (*-a*) forces the presence of *-râ*. This suffix can appear on noun phrases of any syntactic position as shown in (12 a-c) (Ghomeshi, 2003).

(12) a. *ketâb-e oftâd.* Subject

book-DEF fell-3SG

‘The book fell.’

b. *ketâb -a -ro xarid-am* Direct Object

book-DEF-râ bought-1SG

³ Karimi (1989) assumes that *-e* is a specificity maker since she argues that a language can have either specificity or definiteness markers. However, the properties of *-e* is not compatible with her definition of ‘specificity’. Here, I follow Samiian (1983) and Ghomeshi (1996) and assume that *-e* is a colloquial definite marker.

‘I bought the book.’

c. *ketâb-o be pesar-e dâd-am*

Object of Preposition

book-râ to boy-DEF gave-1SG

‘I gave the book to the boy.’

Samiian (1983) argues that the definite marker *-e* has the following properties:

- i. It cannot appear on proper names, pronouns and noun phrases containing a possessor.
- ii. It can never cooccur with the indefinite enclitic *-i*. (neither the relative nor the indefinite usage)

(Samiian, 1983: 99-101)

2 Chapter: The differential object marker *-râ*

2.1 Introduction

The source of *-râ* is proposed to be the Old Persian *râdiy* and the Middle Persian relational postposition *rây* meaning ‘for, on behalf of, on account of’ (Karimi, 1989, 1990). According to Karimi (1990), in Middle Persian *rây* also ‘appears as an illustration of purpose, reference, beneficiary, or indirect object’. However, it does not follow direct objects in Middle Persian. In contemporary modern Persian, *-râ* is assumed to be a direct object marker.

2.2 Some properties of *-râ*

The object marker *-râ* has been widely addressed in the literature. The syntax and the semantics of this morpheme have presented a puzzle for linguists and grammarians for decades. Primarily, *-râ* has been considered as a direct object marker with the secondary function of marking for definiteness (Sadeghi, 1970; Vazinpour, 1977). However, as noticed in Browne (1970) and Karimi (1989) it can cooccur with indefinites and also follow other nominal expressions such as adverbial noun phrases modifying intransitive verbs (13), questions (14), and sentence-initial nominal constructions that are linked with a clitic pronoun and are usually interpreted as topics as in (15).

- (13) *Haftē-ye âyanda (-ro) esterâhat mi-kon-am*
week-EZ coming-râ relax CONT-do-1SG

‘As for next week, I will relax.’

(Karimi, 1990, 143)

(14) *Ki -o diruz tu mehmuni did-i?*
Who -râ yesterday at party saw-2SG
'Who did you see at the party yesterday?'

(15) *Sara -ro be-h-sh goft -am.*
Sara -râ to her told-1SG
'As for Sara, I told her.'

(Karimi, 1990, 161)

2.3 Direct objects that are obligatory marked with *-râ*

The morpheme *-râ* optionally appears on some object noun phrases and is associated with some semantic effects. The appearance of *-râ* is obligatory on some direct objects such as proper names (16), pronouns (17) and nouns modified by a demonstrative (18).

(16) *Tinâ -ro tu dâneshgâh did-am.*
Tina -râ in school saw-1SG
'I saw Tina in the school.'

(17) *Ali un -ha -ro be man moarefi kard.*
Ali them -PL -râ to me introduce did-3SG
'Ali introduced them to me.'

(18) *Sârâ un ketâb -o xund.*

Sara that book -râ read-3SGs

‘Sara read that book.’

The examples in (16-18) would be unacceptable in the absence of *-râ*. Moreover, reciprocals, reflexives, *wh*-phrases (*ki* ‘who’ and *kodum* ‘which’), possessives and strong determiners, i.e., *hame*, ‘all’ have to appear with *-râ*, in the direct object position, as indicated in (19-23) (Ganjavi, 2007).

(19) *Sârâ o Amin hamdigar -o na- shenâxt -an.* Reciprocals

Sara and Amin each other-râ NEG-recognized-3PL

‘Sara and Amin didn’t recognize each other.’

(20) *Sârâ xod -esh -o kosht.* Reflexive

Sara self-her-râ killed-3SG

‘Sara killed herself.’

(21) *(to) ki -ro did - i?* Wh-phrases

you who -râ saw-2SG

‘Who did you see?’

(22) *Sârâ ketâb - hâ - ye rezâ -ro pâre: kard.* Possessives

Sara book-PL-EZ⁴ Reza-râ torn: did-3SG

‘Sara tore Reza’s books.’

⁴*Ezafe* is a construction which links a head noun to its modifiers and complement with an unstressed morpheme *-e*. (See Samiiian 1983, Ghomeshi 1996, 1997a for a detailed discussion of the *Ezafe* Construction.)

(23) *Maryam hame –ye lebâs –hâ –ro baxshid.* Quantifiers

Maryam all-EZ dress –PL–râ gave away-3SG

‘Maryam gave away all the clothes.’

(Ganjavi, 2007, 110-11)

2.4 The syntactic behavior of –râ

Syntactically, –râ seems to be an accusative case marker since it prototypically marks direct objects and never appears on subjects (24). However, as mentioned earlier, –râ does not only mark direct objects it can also appear on adverbial noun phrases with intransitive verbs as in (13) repeated here as (25) as well as some nominal expressions that are clearly not the direct object of the verb as in (15) repeated below as (26) which should be problematic if –râ marks accusative case (Karimi, 1990)⁵.

(24) a. *ketâb oftâd.*

book fell-3SG

⁵ While Karimi (1990) argues that the appearance of –râ following adverbial NPs, twice in a single clause and following some noun phrase arguments poses difficulties for the accusative case marking proposal, it seems that accusative case markers show the same behavior in other languages. For example, it has been argued that non-argument adverbials can bear structural case (accusative and nominative) in several languages such as Finnish (Maling, 1993, 2004; Kiparsky, 2001) and Korean (Wechsler & Lee, 1996; Maling, 2004; Kim & Sells, 2006), among others.

For example, in (i) below from Finnish, the accusative case appears on the temporal adjunct with an intransitive verb:

- (i) Esa nukku-i tunni-n.
 Esa.nom sleep-past hour.ACC
 ‘Esa slept an hour.’

(Anttila & Kim, 2007)

In addition, the double occurrence of accusative case is also allowed in transitive contexts:

- (ii) Esa luk-i kirja-n kerra-n.
 Esa.nom read-past book-ACC once-ACC
 Esa read the book once.

(Anttila & Kim, 2007)

The data from Finnish and other languages show it is cross-linguistically possible for accusative case to occur on phrases other than direct objects. The fact that –râ can appear on non-objects can therefore not be taken as evidence against its potential status as an accusative case marker.

‘The book fell’

b. # *ketâb-o oftâd.*

book-râ fell-3SG

(25) *hafte-ye âyanda (-ro) esterâhat mi-kon-am*
week-EZ coming -râ relax CONT-do-1SG

‘As for next week, I will relax.’

(Karimi, 1990, 143.13)

(26) *Sara -ro be-h-sh goft -am.*

Sara -râ to her told-1SG

‘As for Sara, I told her.’

Ghameshi (1996, 1997b, 2008) identifies *-râ* as a case marker. She assumes that *-râ* is the head of a Kase Phrase, which ‘case-marks any DPs that adjoined to VP, as long as that DP is thematically licensed’ (Ghameshi, 1997b: 144). According to Ghameshi (1996), *-râ* marked phrases appear structurally higher than other objects. In unmarked word order, *-râ* marked objects appear to the left of the indirect objects (27) while the non *-râ* marked ones follow the indirect objects (28) and tend to stay adjacent to the verb.

(27) *Un ketâb-o be Ali dâd-am.*

that book-râ to Ali gave-1SG

‘I gave that book to Ali.’

(28) *Be Ali ketâb dâd-am.*

to Ali book gave-1SG

‘I gave books to Ali.’

2.5 *-râ* following adverbial noun phrases

The appearance of *-râ* is optional on adverbials; however, its presence makes a difference in meaning. According to Karimi (1990), only the adverbials which are interpreted as nouns can cooccur with *-râ*. Adverbials that are followed with *-râ* delimit the event described by the verb (Ghameshi & Massam 1994). Building on the assumption that *-râ* marks definite DPs, Ghameshi (1997b) assumes that a null definite determiner is present in the meaning of these *-râ* marked adverbials. She also brings similar examples from English in (29) below as a support for the presence of a DP where the definite article ‘the’ appears on the adverbial in English.

(29) a. I slept last night.

b. I slept *the* night.

(I slept the whole of last night.)

(Ghameshi, 1997b, 151.19)

Morovere, in the absence of *-râ*, these nominalized adverbs are interpreted as simply adverbial as in (30b).

(30) a. *Shab-e pish-o aslan na-xabid-am.*
night-EZ last-râ at all NEG-slept-1SG
'As for last night, I didn't sleep at all.'

b. *Sheb-e pish aslan na-xabid-am.*
Night-EZ last at all NEG-slept-1SG
'I didn't sleep at all last night.'

(Karimi, 1990, 167.29)

2.6 The semantics of *-râ*

The co-occurrence of *-râ* and indefinites as in (31) presents a problem for the semantic analysis of this morpheme.

(31) *man ketâb -i -ro xarid-am.*
I book-IND-râ bought-1SG
'I bought a (certain/particular) book.'

(Ghameshi, 1997b, 138.6)

Several semantic proposals have been proposed in order to account for the meaning of *-râ* marked indefinites among which are specificity and presupposition marking.

2.6.1 Specificity/Definiteness

Specificity and definiteness are marked diversely in different languages. Several approaches have been taken toward the concept of specificity in the literature. For example, Kripke (1977) refers to specificity as a matter of pragmatics, while others such as Donnellan (1966), Diesing (1992) and Karimi (1989, 1990, 2003a and 2005) consider it as a semantic concept. Karimi (1990) defines specificity as the selection of a particular individual member from a set of individuals rather than the class as a whole.

Definiteness is defined in relation to both the speaker and the hearer. It expresses uniqueness and familiarity of an item in the discourse. In definite noun phrases both the speaker and the hearer presuppose the existence of a unique individual in a set, while indefinite noun phrases lack the uniqueness feature. On the other hand, specificity is defined in relation to the speaker. It shows the speaker's intention to refer to an item with a remarkable characteristic.

2.6.2 *-râ* as a specificity marker

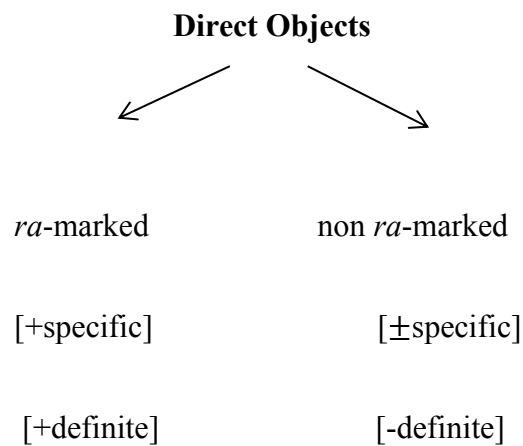
The semantics of the direct object marker *-râ* has been commonly identified with specificity marking (Karimi, 1989, 1990, 1996, 2003a and 2005). Karimi assumes that a noun phrase is specific if the speaker has a particular referent in mind. She divides direct object NPs into specific (definite/indefinite) and non-specific (indefinite/generic), where only the specific ones can be marked with *-râ*. Karimi applies the following test to show the difference between indefinite specific and indefinite nonspecific use of a noun phrase.

- (32) Mary was looking for *a pen*, and
she found one. (Nonspecific)

she found it. (Specific)

Under her definition, a specific definite has a referent that is known to the speaker and presupposed to be known to the hearer. A specific indefinite on the other hand, denotes a referent that is known to the speaker but presupposed not to be known to the hearer. The referent of a non-specific NP is unfamiliar to both speaker and hearer.

This dichotomy is illustrated below:



Karimi (1990) presents ten arguments proposing that *-râ* is a specificity marker, which are as follows:

Argument 1: Any relative clause modifying an NP adds to its descriptive content. So the NP is presented to favor a specific reading, forcing the presence of *-râ*.

- (33) *Ketâb -i -ro ke diruz darbâr-ash harf mi-zad-im xarid-am*
book -IND -râ that yesterday about-3SG talk CONT-hit-1PL bought-1SG

‘I bought the book we were talking about yesterday.’

Argument 2: *-râ* is obligatory when the direct object is a proper noun.

(34) *Farzâd -o did-am.*

Farzad *-râ* saw-1SG

‘I saw Farzad.’

Argument 3: *-râ* is obligatory when the direct object is a pronoun.

(35) *To -ro did-am.*

You *-râ* saw-1SG

‘I saw you.’

Karimi (1990) assumes that proper names and pronouns require the presence of *-râ* because they are specific.

Argument 4: The pronoun *un* ‘it’ substitutes for a phrase followed by *-râ*, whereas *yeki* ‘one’ substitutes for a generic noun phrase.

(36) *i. râmin pirhan xarid man ham yeki/*un-o xarid-am.*

Ramin shirt bought-3SG I also one/*that-*râ* bought-1SG

‘Ramin bought a shirt, I bought one too.’

ii. *man mi-xâst -am pirhan-e sabz-o be-xar-am.*

I CONT-wanted-1SG shirt-EZ green-râ SBJ-buy-1SG

*ammâ râmin un-o/*yeki zud-tar xarid.*

but Ramin that-râ/*one soon-COMP bought-3SG

‘I wanted to buy the green shirt, but Ramin bought it first.’

(Karimi, 1990, 148.25)

Argument 5: *-râ* is obligatory when the noun phrase is headed by a demonstrative determiner.

(37) *in ketâb-o xund-am*

this book-râ read-1SG

‘I read this book.’

Argument 6: *-râ* is obligatory when the noun is modified by words indicating a ‘certain’ or ‘particular’ reading

(38) *kâr-e mored-e nazar-o peydâ kard-am*

work-EZ case-EZ sight-râ found did-1SG

‘I found the job (I had) in mind.’

(Karimi, 1990, 148.25)

Argument 7: An NP+*râ* may be co-referential with a clitic pronoun in the same simple clause whereas the same noun phrase without *-râ* may not be.

(39) *Ketâb-o xarid -am -esh*

book-râ bought-1SG-it

‘As for the book, I bought it.’

Argument 8: The interrogative element *chi* ‘what’ may or may not cooccur with *-râ*. When it does, it receives a specific reading.

(40) i. *emruz ketâb xarid-am.*

today book bought-1SG

‘I bought books today.’

ii. *chi (*-ro) xarid-i*

what bought-2SG

‘What did you buy?’

- (41) i. *ketâb -i -ro ke be to gofte bud-am xarid-am*
book-IND-râ that to you told was-1SG bought-1SG

‘I bought the book that I had told you (about).’

- ii. *chi-ro xarid-i*
what-râ bought-2SG

‘What did you buy?’

(Karimi, 1990, 149.30)

Argument 9: The plural marker *-hâ* is not obligatory unless a specific reading is intended.

The presence of this suffix forces the presence of *-râ*.

- (42) *Ketâb -hâ -ro xarid-am*
book -PL -râ read-1SG

‘I read the books.’

Argument 10: The suffix *-a* (*-e* word-finally), used only in spoken language, marks noun phrases for specificity. The presence of this marker forces the presence of *-râ*.

(43) *Ketâb -a -ro xund-am*

book-DEF-râ read-1SG

‘I read that book.’

2.6.3 *-râ* as a presupposition marker

In order to account for the cooccurrence of *-râ* and the indefinite marker *-i*, Ghomeshi (1996, 1997b) argues that presupposition is the best notion to capture the semantic contribution of *-râ*. Following Prince (1992), Ghomeshi assumes three types of old/new information. On the one hand, information (i.e. an entity or referent) ‘may be old/new with respect to (the speaker's beliefs about) the hearer’s beliefs (Prince, 1992: 301). On the other hand, an entity or referent can be either old/new with respect to the discourse model being constructed between a speaker and hearer. Therefore, a noun phrase can refer to an entity that is (a) Hearer-new and Discourse-new, (b) Hearer-old and Discourse-old, or (c) Hearer-old and Discourse-new.

According to Ghomeshi (1997b), a definite noun phrase is Hearer-old and Discourse-old whereas a noun phrase marked with *-i*, is Hearer-new and Discourse-new. A noun phrase marked with both *-i* and *-râ* introduces a referent that is Discourse-new but Hearer-old. Considering Hearer-old information as presupposition, Ghomeshi concludes that *-râ* marks noun phrases are presupposed. She considers the familiarity of the referent to the hearer as the reason why noun phrases marked with both *-i* and *-râ* are more felicitous when

accompanied by a relative clause. According to Ghomeshi, the relative clause makes the referent familiar to the hearer. So, when *-râ* cooccurs with the indefinite enclitic, the noun phrase is Hearer-old but Discourse-new.

3 Chapter: Difficulties with the specificity analysis

As mentioned earlier, semantically $-r\hat{a}$ appears to be a definite direct object marker but its cooccurrence with indefinite markers makes the semantic accounts of $-r\hat{a}$ complicated and poses problems for several theories in the literature. For example, as noted earlier, $-r\hat{a}$ has been proposed to mark topics (Peterson, 1974; Windfuhr, 1987). Given that topics are assumed to mark old information (Givon, 1976; Chafe, 1976), the appearance of $-r\hat{a}$ following the indefinite enclitic $-i$ (which is presumed to introduce a new referent to the discourse) presents difficulties for the topic marking proposal. The same problem also holds for the idea that $-r\hat{a}$ marks presupposed information (Diesing, 1992) since it is not possible for a noun phrase to have both new and old information (Ghomeshi, 1997b, 141).

Karimi (1989) argues that $-r\hat{a}$ marks specific oblique case. Her proposal is the inspiration and the source of most of the subsequent works in Persian literature. However, while Karimi's proposal offers valuable insights, it seems to face some difficulties arising from the observations that some specific noun phrase do not appear with $-r\hat{a}$ and that 'N- $-r\hat{a}$ ' does not refer to a specific N. The difficulties with the specificity analysis will be discussed in detail in this section; similar issues arise with other analyses of the semantics of $-r\hat{a}$.

Ghomeshi (1997b) examines the relation between the presence of $-r\hat{a}$ and the scope readings of $-r\hat{a}$ marked indefinites (i.e. referential and quantificational scope readings which correspond to the specific and non-specific interpretation of indefinites, respectively). She concludes that there is not a direct relation between the presence of $-r\hat{a}$ and the wide or narrow scope readings of indefinites. Rather, other factors such as animacy plays a role in the appearance of $-r\hat{a}$ as shown in (44) and (45).

(44) a. *?hame-ye moallem-ha ye shâgerd-i moarefi kard-and*
all-EZ teacher-PL one student-IND introduce did-3PL

b. *hame-ye moallem-ha ye shâgerd-i –ro moarefi kard-and*
all-EZ teacher-PL one student-IND–râ introduce did-3PL

‘Every teacher introduced a student.’

(Ghomeshi, 1997, 139)

(45) a. *hame-ye moallem-ha ye ketâb-i entexab kard-and*
all-EZ teacher-PL one book-IND choose did-3PL

‘Every teacher chose a book.’

b. *?hame-ye moallem-ha ye ketâb-i –ro entexab kard-and*
all-EZ teacher-PL one book-IND–râ choose did-3PL

‘Every teacher chose a book.’

(Ghomeshi, 1997b, 140)

In (44), *ye shâgerd-i* ‘a student’ can have both a specific and a non-specific interpretation (narrow and wide scope reading) though (44b) sounds much better to native speakers. On the other hand, (45b) sounds odd when used in isolation and the meaning is improved when accompanied by a relative clause providing more information about the book.

Another problem with the specificity analysis is Dabir-Moghaddam’s (1992) and Ghomeshi’s (2003) observation that generics in direct object position can appear with *–râ* as indicated in (46), (47) and (48).

- (46) *Sirka shir –râ mi-burrad.*
vinegar milk –râ CONT-curdle-3SG
‘Vinegar curdles milk.’

(Dabir-Moghaddam, 1992, 557)⁶

- (47) *mi – dân –id chi-tawr gusfand –râ mi-kush-and?*
CONT-know-2PL how sheep –râ CONT-kill-3PL
‘Do you know how a sheep is killed?’

(Dabir-Moghaddam, 1992, 557)

- (48) *xod-at ke mard –ha –ro mi –shenas –i.*
self-2SG that man –PL–râ CONT-know-2SG
‘You yourself know men.’

(*Like Water for Chocolate*, p. 130, by Laura Esquivel, translated by Maryam Bayat, from Ghomeshi, 2003, 51)

While the direct objects in (46), (47), and (48) are followed with *–râ*, they do not receive a specific reading. In fact, there is no particular entity that is being referred to or that the speaker has in mind.

Another problem for the specificity analysis, previously unnoticed in the literature, is that *–râ* can anaphorically pick up indefinite antecedents in ‘*donkey*’ sentences. For instance, in (49) below, the *–râ* marked *ketâb* ‘book’ doesn’t refer to a specific book; in fact, it doesn’t

⁶ Dabir-Moghaddam (1992) quotes these examples from Phillott (1919, 455-459). The pronunciations of the sentences in (46) and (47) are slightly different from that of standard Modern Persian.

refer to anything at all (there is no book in the world that is the referent of the *-râ* marked *ketâb*).

- (49) *Agar Sârâ ketâb dâsht, ketâb -a -ro (un-o) mi-xund.*
If Sara book had-3SG, book-DEF-râ (it-râ) CONT-read-3SG
'If Sara had a book, she would read the book (it).'

The donkey anaphora usage in (49) can be accounted for following from a situation-semantics approach where the antecedent introduces a minimal situation with a book in it (e.g., Heim, 1990; Elbourne, 2005); *ketâb-râ* then denotes this unique book. However, under the specificity definition this meaning cannot be derived.

Finally, *-râ* obligatorily appears on some *wh*-phrases, such as *which* and *who*:

- (50) *Târâ kodum ketâb-ha-ro xund?*
Tara which book-PL-râ read-3SG?
'Which books did Sara read?'

- (51) *Ki -ro diruz tu mehmuni did-i?*
Who-râ yesterday at party saw-2SG?
'Who did you see at the party yesterday?'

Browne (1970) and Karimi (1990) have proposed that *wh*-phrases *ki* (who) and *kodum* (which) are specific in nature. Support for this conclusion comes from distributional evidence

specially cooccurrence of these *wh*-phrases with $-r\hat{a}$. However, in (51), again, there is no particular referent that the speaker has in mind here.

In sum, if by specificity we mean that there is a particular referent that the speaker has in mind, then the data in (44)-(51) remain unexplained. One approach to resolving these difficulties might be to formulate an alternative analysis of ‘specificity’ that accounts for its non-referential use.

In order to capture the meaning of $-r\hat{a}$:

- (i) on direct objects where it generates **definite/ specific interpretations**
- (ii) with plurals where it functions as a **universal quantifier**
- (iii) with questions and contrastive topics where it acts as an **exhaustive operator**

I assume that the meanings in (i)-(iii) boil down to maximality. The motivation for “maximality” here is that specificity is hard to reconcile with the conjunction of (i)-(iii), while “max” has been used in all three. Hence, I propose that a unified semantics can be given if we assume that $-r\hat{a}$ is a maximality operator following Link (1983), Rullmann (1995), Beck & Rullmann (1999) and Fox & Hackl (2006). I will start my proposal in the next chapter with Link’s analysis for the meaning of the definite determiner ‘the’.

4 Chapter: Analysis

In previous chapters we saw that while the specificity proposal captures important aspects of the meaning and the distribution of $-r\hat{a}$, it fails to account for occurrences of $-r\hat{a}$ in question words, donkey sentences and generics. In this chapter, I will take a different perspective, one that helps us unify the semantics of $-r\hat{a}$ and provides us with a tool to make predictions about the meaning of $-r\hat{a}$ marked constructions. Specifically, I argue that $-r\hat{a}$ is a maximality operator in the sense of Link (1983) that picks out the maximal member of the denotation of its argument.

4.1 $R\hat{a}$ as a maximality operator

Link (1983) argues for a unified semantics of the definite determiner ‘the’ which accounts for both aspects of the meaning of the determiner; namely, *uniqueness* and *universality*. When ‘the’ appears with singular count nouns, it expresses the uniqueness of the referent of the NP and when used with plural count nouns it functions as a universal quantifier.

Link’s semantics is based on an ontologically rich model structure. This model includes not only *atomic objects* but also plural *non-atomic objects*, which are the *sums* of the atomic objects. Atomic and non-atomic objects in Link’s model are ordered by the *part-of-relation*. To take a concrete example, suppose there are three books in the domain of discourse: *Blue book*, *Green book* and *Red book*, b , g and r say. Then, the denotation of the singular noun *book* will be the set $\{b, g, r\}$, and the plural noun *books* will denote $\{b+g, g+r, b+r, b+g+r\}$. In this example, the denotation of *the books* in Link’s terminology is the maximal element of the set $[[\text{books}]]$, which is the unique element of the set which includes all the other elements as its parts, $b+g+r$.

In the case of singular definite NPs, consider the singular NP *the book* in ‘I bought the book.’ The noun *book* denotes the set of atoms which are books and contains no non-atomic objects. Since all the elements of the set are atomic and there is no part-of-relation, then $\max([[book]])$ is defined if and only if there is exactly one book in the domain of discourse. For example, in the above context where $[[book]] = \{b, g, r\}$, $\max([[book]])$ will be undefined, since there is no maximal element of the set (the objects *b*, *g*, and *r* are not ordered by the part-of relation). The only way to get \max to be defined with atomic objects is if there is one object, and only one object, say $[[book]] = \{g\}$, in which case $\max([[book]]) = g$. In the case of plurals, where $[[books]] = \{b+g, g+r, b+r, b+g+r\}$. $\max([[books]]) = b+g+r$ (the maximal element in the ordering). Link’s proposal identifies *the* with \max .

Returning to Persian, in the case of singular NPs as in (2), repeated below as (52), the noun *ketab* ‘book’ denotes the set of atoms which are books. As you note above, one can have atomic books but many: $\{k_1, k_2, k_3\}$. However, as I pointed out, \max will be defined only if there is a single book, for example when $[[ketab]] = \{k_1\}$, and the maximality operator $-r\hat{a}$ picks out k_1 . Since all the elements of the set are atomic and there is no part-of-relation, $\max ([[ketab]])$ is defined iff there is exactly one book in the domain of discourse.

(52) *Sara ketâb-o xarid.*

Sara book-râ bought-3SG

‘Sara bought the book.

(53) *Sara ketâb-hâ-ro xarid.*

Sara book-PL-râ bought-3SG

‘Sara bought the books.

Unlike previous analyses, the maximality approach correctly predicts that when *ketab* is plural-marked, *ketâb-hâ*, as in (53), appending *-râ* to this will pick out all the books in the context. Thus, the morpheme *-râ* on the plural noun *ketâb-hâ* ‘books’, collects the unique non-atomic element of the set which is the sum of all the books. Following Link, I assume that *-râ* has the same semantic property of picking out the maximal member of the denotation of its argument.

(54) *-râ* as a **Max Operator** (revised in (55), (63)): $[[N-râ]] = \text{Max}([[N]])$

By identifying the semantics of ‘N-*râ*’ in Persian with the semantics of ‘the-N’ in English, the account readily extends to donkey-sentences, as in (49), and to generics, as in (46-48). Under the maximality approach the meaning of the donkey sentence in (49) would be analysed like the corresponding English paraphrase: *If Sara had a book, she would read the book*. The donkey anaphora usage in (49) can be accounted for following from a situation semantics approach where the antecedent introduces a minimal situation with a book in it (e.g., Heim, 1990; Elbourne, 2005); *ketâb-râ* then denotes this unique book. However, under the specificity definition this meaning cannot be derived. The maximality approach to *-râ*, while not directly predicting that *-râ* should appear with generics, becomes unified with the observation that generics cross-linguistically appear with the definite article (Krifka et al. (1995); e.g., *The potato was first cultivated in South America*).

The definition in (54) does not however extend in any obvious way to questions. In the next section I propose that if we allow *-râ* some flexibility in the semantic types that it

can assume, while constraining it to be a max operator, we can appeal to maximality approaches to the semantics of questions (most directly, Rullmann, 1995 and Beck & Rullmann, 1999) to capture its appearance on *wh*-phrases. That is, I suggest that *-râ* has the following property:

- (55) ***-râ* is a type-flexible max-operator** (revised in (63)): The Persian object marker *-râ* has the semantics of maximality across semantic types and syntactic categories.

4.2 Maximality and Exhaustiveness in *Wh*-phrases

After identifying the semantics of *-râ* in Persian with the definite determiner ‘the’ in English following Link (1983), I will now address the appearance of *-râ* following *wh*-phrases (i.e., *ki* ‘who’, *kodum* ‘which’ and *degree questions*).

In Karttunen’s (1977) theory, a question denotes the set of all its true propositions as the answer. Rullmann (1995) adds maximality to Karttunen’s theory of questions. In Rullmann’s analysis, all questions denote singleton sets which contain exactly one proposition, the strongest true answer to the question. For example, suppose that (56) is asked in a situation in which *Tara* read *Moby Dick* and *Anna Karenina*.

- (56) Which books did Tara read?

Then, the Karttunen semantics for (56) selects all the true answers of the form ‘*Târâ* read *x*,’ and maximality selects from these true answers the maximally informative (logically strongest) one. So if *Tara* read *Moby Dick* and *Anna Karenina*, the Karttunen answers will be {*Tara* read *Moby Dick*, *Tara* read *Anna Karenina*, *Tara* read *Moby Dick* and *Anna*

Karenina}, and the maximally informative member of this set is the proposition that Tara read *Moby Dick* and *Anna Karenina*. A semantics for (56), following Rullmann, is given in (57) (see also Groenendijk & Stokhof, 1982, 1984):

$$(57) \quad \text{ip}\exists x[[p(w) \wedge p = \lambda w[[x = \max (\lambda y[[\text{read}(w)(t,y)]])]]]]]$$

Note that the maximality requirement here differs from the nominal domain in that it selects maximally informative propositions (from a set of alternatives) instead of maximal individuals ordered by a part-of relation. The reason for this modification is to provide a unified account for both minimality and maximality effects in questions. It also gives rise to exhaustivity effects in question-answer pairs.

This modification follows from Beck and Rullmann (1999) observation that degree questions often seeks an answer picking out the minimal degree from a certain set. For example, the correct answer to a degree question such as (58) below would specify the minimal number of eggs sufficient to bake a cake, rather than the maximal. Hence, they argue that a degree question should be answered by the most informative degree rather than the maximal degree.

(58) How many eggs are sufficient to bake a cake?

(Beck and Rullmann, 1999, 256)

Returning to Persian, as mentioned earlier, the appearance of $-r\hat{a}$ is obligatory on *ki* ‘who’ and *kodum* ‘which’. All other questions; however, seems to allow for the optional presence of $-r\hat{a}$.

Following Rullmann’s discussion of the semantics of questions, I propose that $-r\hat{a}$ is an overt reflection of this maximality. In addition to maximality, I assume that $-r\hat{a}$ has the domain

restriction effect (cf. George, 2013). This knowledge about the domain then gives rise to strong exhaustivity effect in *-râ* marked questions.

To see this, let's first look at *kodum* 'which' as in (50) and *ki* 'who' as in (51), repeated here as (59) and (60).

(59) *Târâ kodum ketâb-hâ-ro xund?*
Tara which book-PL-râ read-3SG?
'Which books did Sara read?'

(60) *Ki-o diruz tu mehmuni did-i?*
Who-râ yesterday at party saw-2SG?
'Who did you see at the party yesterday?'

I assume that since the *wh*-word 'which' requires the identification of an element from a restricted set, it always appears with *-râ*. In the case of 'who', if we assume the meaning of 'who' to be paraphrased as 'which of these people' then again having a restricted set in mind seems to be the driving force for the obligatory appearance of *-râ* on these *wh*-words⁷. The oddness of 'who-questions' when the speaker doesn't know the domain further supports the presence of a specified restricted set. For example, (60) is not appropriate in a context where the speaker has no idea who might be at the party.

⁷ It has to be noted that the nature of the domain restriction requirement in "who-questions" is not quite clear. For example, it is difficult to define the domain restriction effect in questions like (i) below when asked by a group of marketers analyzing the viewers of a show:

(i) Who would watch this show?

I will now turn to degree questions which often require the presence of *-râ* in certain contexts. Here again I show how the presence of *-râ* incorporates the domain restriction effect on degree questions.

(61) a. *chand ta ketâb xund-i?*
how many CL book read- 2SG
'How many books did you read?'

b. *se ta ketâb xund-am.*
three CL book read-1SG
'I read three books.'

(62) a. *chand ta ketâb -o xund-i?*
how many CL book *-râ* read- 2SG
'How many books did you read?'
(How many of the books did you read?)

b. *se ta ketâb -o xund-am.*
three CL book *-râ* read-1SG
'I read three books.'
(I read three of the books.)

As illustrated in (61) and (62) above, the presence of *-râ* is dependent on the semantic properties of the question predicate. That is, a question like (61) requires reference to the maximally informative answer specifying the number of books; whereas, its *-râ* marked

counterpart in (62) requires reference to the maximally informative degree but from a restricted set. I assume it is the presence of $-r\hat{a}$ that gives rise to this knowledge about the domain (set). Therefore, (62) is only felicitous in a context where both interlocutors share the knowledge about the total number of books, the question then asks for a certain degree form that restricted set.

In the next section, it will be shown that an entry for $-r\hat{a}$ that selects maximally informative true propositions, instead of merely maximal individuals, also captures exhaustivity effects in contrastive topics in Persian, which have remained unexplained in previous approaches to the semantics of $-r\hat{a}$.

4.3 Exhaustiveness in Contrastive Topics

It has been observed that when $r\hat{a}$ -marked phrases are contrastively focused, they have an exhaustified meaning (Karimi 1990). However, to my knowledge, a formal derivation of exhaustivity has not been derived for these cases. The maximality analysis directly predicts the exhaustified meaning of contrastive topics. In (63) below, for example, I assume that focus-marking generates a set of alternatives of the form ‘I danced with x ’ (Rooth, 1992), and that $-r\hat{a}$ marking generates the meaning that Ali is the maximal individual x that the speaker danced with.

Another way to say this is that ‘I danced with Ali’ is the maximally informative true proposition in the set of focus-alternatives {I danced with x : x a salient individual}; in (63) it is the presence of $-r\hat{a}$ that gives rise to the exhaustivity effect.

(63) *ALI -ro b\hat{a}-h-\hat{a}sh raghsid-am.*

Ali $-r\hat{a}$ with-him danced-1SG

‘ALI, I danced with him’ (It was ALI I danced with (not John or others))

4.4 A Compositionality Problem

The semantic entry in (54) has a clear compositional interpretation: $-r\hat{a}$ appears adjacent to the head noun, and picks the maximal element in the set denoted by the noun. However, when $-r\hat{a}$ is extended to a max operator over propositions, as in *questions* and *contrastive topics*, $-r\hat{a}$ appears adjacent to an embedded noun but applies maximality over the entire sentence:

Morphosyntax: [_S...[_{DP} N- $r\hat{a}$]...]

Semantics: S is the maximally informative true propositions in some set of alternatives to S.

In other words, $-r\hat{a}$ appears within a sentence, but its semantics seems to require access to the meaning of the entire sentence containing it (as well as a set of alternatives to the sentence). Compositionality thus appears to break down, making it difficult to see how the meanings in questions and contrastive topics discussed above can be derived. In response to this difficulty I suggest that $-r\hat{a}$ itself has no meaning, but instead merely signals that it is within the scope of (is c-commanded by) a *covert* maximality operator, either the one over individuals or the one over propositions:

- (64) **$-r\hat{a}$ signals the presence of a higher max:** The presence of $-r\hat{a}$ attached to a noun, N- $r\hat{a}$, signals that there is a maximality operator that c-commands this constituent.

We have identified two max operators whose presence $-r\hat{a}$ seems to signal: one over *individuals*, which I will here call MAX_{IND}, and one over *propositions*, which (following

Beck & Rullmann, 1999 and Fox & Hackl, 2006) I will call MAX_{INF} . Given the focus-sensitivity of both questions and contrastive topics in Persian, I will also assume that the alternative propositions needed in the entry for MAX_{INF} are the focus-alternatives of the sentence (Rooth, 1992). Here I give the lexical entries for MAX_{IND} and MAX_{INF} , and discuss below how they account for the meanings in both noun phrases and in propositions.

(65) **Maximality over individuals:** $MAX_{IND}([[X]])$ = the maximal element in the set denoted by X, where $[[X]]$ is of type $\langle e,t \rangle$ and is ordered by the *part-of-relation* (Link, 1983).

(66) **Maximality over propositions:**

(66a) $MAX_{INF}(ALT(S))(S)$ asserts that S is the maximally informative true sentence in the set of alternatives to S

(66b) X is the maximally informative sentence in a set Z if for all Y in Z, X entails Y

(66c) $ALT(S)$ is the set of focus-alternatives to S, derived by replacing focus-marked constituents in S with other elements of the same semantic type (Rooth, 1992).

When *-râ* functions as MAX_{IND} , as in (52), I propose that there is a null definite determiner \emptyset with the meaning of MAX_{IND} occupying D⁸:

(67a) Morphosyntax: $[_{DP} [_{D} \emptyset] [_{NP} \dots [_{N} \textit{ketab-râ}]]]$

(67b) Semantics of the DP: $MAX_{IND}([[ketab]])$

⁸ The presence of a null definite determiner has also been discussed in Ghomeshi (1996, 115). The absence of any overt definite marking on subjects further supports the presence of a null definite determiner since definite readings are distinguished on subjects.

When $-râ$ functions as MAX_{INF} , as in (63), I argue that the presence of $-râ$ signals that there is a null operator higher in the structure with the meaning of MAX_{INF} :

(68a) Morphosyntax of (63): $MAX_{INF}(ALT(63))([_S [_{DP} \text{Ali-râ}] [_{VP} \text{bâhâsh raghsid-am}]])$

(68b) Semantics of (68a): $MAX_{INF}(ALT(63))(63) =$ the maximally informative true proposition in $ALT(63)$ is that I (the speaker) danced with Ali

(68c) $ALT(63) = \{I \text{ danced with Ali, I danced with Sara, I danced with Ehsan, ...}\}$ (some contextually restricted subset of all sentences of the form ‘I danced with x ’)

4.5 A New Prediction: $-râ$ and Indefinites

I have argued that the compositionality problem can be overcome by assuming that $-râ$ signals the presence of either MAX_{IND} or MAX_{INF} higher in the structure. Here I show that this approach can solve a puzzle concerning the co-occurrence of $-râ$ with the indefinite enclitic $-i$. Consider (69):

(69) *man ketab -i -ro xarid-am.*

I book-IND- $râ$ bought-1SG

‘I bought a (certain/particular) book.’

The cooccurrence of $-râ$ with the indefinite enclitic $-i$ has been argued to often require a relative clause to be felicitous (Karimi, 1990; Dabir Moghaddam, 1992). For example, there is a strong intuition that (69) is infelicitous unless it is modified by a relative clause as in (70):

(70) *man ketab -i -ro xarid-am ke ghermez bud.*

I book-IND-râ bought-1SG that red was

‘I bought the book that was red.’

However, this requirement is not strict; it has been noted that (69) is acceptable in some contexts (e.g., Ghomeshi 2003).

I propose to explain (69) and (70) in terms of the semantics of $-râ$. Specifically, I suggest that the complementary distribution might mirror the two Max operators whose presence $-râ$ signals. To see how, note that my proposal predicts that when $-râ$ is in the scope of MAX_{IND} , there is a uniqueness requirement imposed on the head noun (recall our discussion in section 4.1). I suggest that when (69) is felt to be odd unless modified by a relative clause, this happens only in those contexts in which the uniqueness requirement would not be satisfied without the relative clause, but does get satisfied with it. For example, if there are multiple books in the context, (69) cannot be used because it would fail to satisfy the uniqueness requirement imposed by MAX_{IND} ; to satisfy this, a relative clause is needed to pick out a unique book, say the one that is *red*, as in (70). The predicted meaning of sentences like (70) then is thus paraphrasable as ‘I bought book x out of the set of books {x,y,z...},’ and the relative clause (e.g., the book that is red) helps us uniquely identify x. To my knowledge, neither a statement of this generalization nor or a formal account of it have previously been offered.

When a relative clause is not required to make (69) felicitous, my proposal suggests that it must be MAX_{INF} that $-râ$ is signalling (for otherwise the uniqueness requirement of MAX_{IND} would fail). Therefore, my proposal predicts that sentence (69) without a relative

clause must be interpreted exhaustively, as ‘I only bought a book,’ or ‘a book is the only thing I bought’. This is because the parse of the sentence is actually as in (71):

(71a) Predicted parse of (69) when felicitous: $\text{MAX}_{\text{INF}}(\text{ALT}(69))(69)$

(71b) Predicted meaning of (71a): (69) is the strongest true proposition in $\text{ALT}(69)$, where $\text{ALT}(69)$ is a set of propositions of the form ‘I bought x ’

Evidence supporting this analysis comes from the observation that (72) is odd:

(72) # *man ketab -i -ro xarid-am va hamchenin jakat -i -ro xarid-am.*

I bought book-IND-râ , and I also bought jacket-IND-râ

Thus, the possibility of (69) and (70) both being felicitous, and the corresponding meanings under each (partitive in the case of (70), exhaustive in the case of (69)) follow from my analysis. To my knowledge, these predictions are not made by any previous account of *-râ*.

4.6 Can MAX_{INF} alone do the work?

It has recently been argued that the semantic entry for *the* given by Link (1983) should be modified in favour of a MAX_{INF} type entry (von Stechow, Fox, & Iatridou, 2005/2012; Schlenker, 2012). According von Stechow, et al. (2005), the definite article ‘the’ picks out the maximally informative proposition among the alternative true propositions. For example, in the case of plurals like ‘the books’ in (53), the most informative plurality of the books is picked out ($b+g+r$ in our example) and any smaller plurality would be less informative.

Link's model; however, picks out the unique maximal element in the ordering which is the sum of all the books (recall our discussion in section 4.1).

Nevertheless, Link's model seems to face the same problem with *wh*-phrases in downward monotone situations where a minimal degree/individual is more informative than as in (73).

(73) I have the amount of flour sufficient to bake a cake.

(Fox & Hackl, 2006, 549.14)

The definite description in (73) results in a presupposition failure since there could be no maximal amount of flour sufficient to bake a cake. If this is true, the entry for $-r\hat{a}$ in (64) might be again revised to say that it signals the presence of a higher covert MAX_{INF} operator (see Fox & Hackl, 2006 for a typology of MAX_{INF} operators).

5 Chapter: Conclusion

This study explores the semantics of the Persian object marker $-r\hat{a}$. I propose that a unified semantics can be given if we assume that $-r\hat{a}$ is a maximality operator in the sense of Link (1983), Beck and Rullmann (1999) and Fox and Hackl (2006). In fact, I argue that $-r\hat{a}$ is a vacuous element that signals the presence of maximality operators higher in the structure namely, Max_{IND} and Max_{INF} . However, I leave to future research to explore the exact position of these Max operators. Much research also remains to be done to specify the relation between $-r\hat{a}$ and maximality operators in general.

Persian seems to have different ways of marking definiteness. The colloquial definite marker ($-e$) seems to be used when there is a strong anaphoric relation. It does not only mark definiteness but also it marks anaphoricity.

If we follow Schwarz (2013) in assuming two types of definites then, $-r\hat{a}$ can be considered as a weak article that has the uniqueness feature and the colloquial definite marker ($-e$) as the strong article which involves an anaphoric link. In a fuller study, I hope to explore the relation between anaphoricity and maximality in detail.

References

- Aissen, J. (2003). Differential Object Marking: Iconicity vs. Economy. *Natural Language and Linguistic Theory* 21,435-483.
- Beck, S., & Rullmann, H. (1999). A flexible approach to exhaustivity in questions. *Natural Language Semantics*, 7(3), 249-297.
- Browne, W. (1970). More on Definiteness Markers: Interrogatives in Persian. *Linguistic Inquiry*, 1, 359-363.
- Chafe, W.L. (1976). Givenness, contractiveness, definiteness, subjects, topics and point of view. In *Subject and Topic*, ed. by C.N. Li. Academic Press: New York.
- Dabir-Moghaddam, M. (1992). *On the (In)dependence of Syntax and Pragmatics: Evidence from the Postposition -râ in Persian*. In *Cooperating with Written Texts: The Pragmatics and Comprehension of Written Texts*, 549-576. Dieter Stein (ed.). New York: Mouton de Gruyter.
- Diesing, M. (1992). *Indefinites*. Cambridge: The MIT Press.
- Donnellan, K. (1966). Reference and definite descriptions. *Philosophical Review*, 75, 281-304.
- Elbourne, PD. (2005). *Situations and Individuals*. MIT Press (Cambridge, Massachusetts).
- Folli, R., Harley, H., & Karimi, S. (2005). Determinants of event type in Persian complex predicates, *Lingua*, 115, 1365-1401.
- Fox, D., & Hackl, M. (2006). The universal density of measurement. *Linguistics and Philosophy*, 29,537-586.

- Ganjavi, S. (2007). *Direct Objects in Persian*. PhD Thesis, University of Southern California.
- George, B. (2013). Which judgments show weak exhaustivity? (And which don't?). *Natural Language Semantics*, DOI 10.1007/s11050-013-9098-5
- Ghomeshi, J. (1996). *Projection and Inflection: A Study of Persian Phrase Structure*. PhD Thesis, University of Toronto.
- Ghomeshi, J. (1997a). Non-Projecting Nouns and the Ezafe Construction in Persian. *Natural Language and Linguistic Theory*, 15, 729-788.
- Ghomeshi, J. (1997b). Topics in Persian VPs. *Lingua*, 102, 133-167.
- Ghomeshi, J. (2003). Plural Marking, Indefiniteness, and the Noun Phrase. *Studia Linguistica*, 57 (2), 47-74.
- Ghomeshi, J. (2008). Markedness and bare nouns in Persian. In Simin Karimi, Vida Samiian, & Donald Stilo (Eds.), *Aspects of Iranian Linguistics*, 85-112. Cambridge Scholars Publishing.
- Ghomeshi, J. & Massam, D. (1994). Lexical/Syntactic Relations Without Projection. *Linguistics Analysis*, 24: 175-212.
- Givon, T. (1976). Topic, pronoun and grammatical agreement. In *Subject and Topic*, ed. By C.N. Li. New York: Academic Press.
- Groenendijk, J., & Stokhof, M. (1982). 'Semantic Analysis of Wh-Complements', *Linguistics and Philosophy*, 5(2), 175–233.
- Groenendijk, J., & Stokhof, M. (1984). *Studies on the semantics of questions and the pragmatics of answers*. PhD Thesis, Amsterdam.
- Hamedani, L. (2011). *The Function of Number in Persian*. PhD Thesis: University of Ottawa.

- Hashemipour, M.M. (1989). *Pronominalization and Control in Modern Persian*. PhD Thesis: University of California, San Diego.
- Heim, I. (1990). E-type pronouns and donkey anaphora. *Linguistics and Philosophy*, 13, 137–177.
- Karimi, S. (1989). *Aspects of Persian Syntax, Specificity, and the Theory of Grammar*. PhD. Thesis, University of Washington.
- Karimi, S. (1990). Obliqueness, Specificity, and Discourse Functions: Râ in Persian. *Linguistic Analysis*, 20, 139-191.
- Karimi, S. (1996). Case and Specificity: Persian Râ Revisited. *Linguistic Analysis*, 26, 174-194.
- Karimi, S. (2003a). *On Object Positions, Specificity and Scrambling in Persian*. In *Word Order and Scrambling*. Simin Karimi (ed.). Oxford: Blackwell.
- Karttunen, L. (1976). Discourse referents. In McCawley, J., editor, *Syntax and Semantics: Notes from the Linguistic Underground*, volume 7, pages 363- 386. Academic Press, New York.
- Karttunen, L. (1977). “Syntax and Semantics of Questions”. *Linguistics and Philosophy*, 1,1. 3-44.
- Khalari, P. (1976). *Dastur-e Zabân-e Fârsi* (‘The grammar of the Persian language’). Tehran: Bonyad-e Farhang.
- Kiparsky, P. (2001). Structural Case in Finnish. *Lingua* 111, 315-376.
- Krifka, M. et al. (1995). *Genericity: An Introduction*. The Generic Book, ed. by G.N. Carlson and F.J. Pelletier, 1-124. Chicago and London: University of Chicago Press.

- Kripke, S. (1977). *Speaker's reference and semantic reference*. In P. French, T. Uehling, H. Wettstein (eds.), *Contemporary perspectives in the philosophy of language*, (pp 6-27). Minneapolis, Minn: University of Minnesota Press.
- Link, G. (1983). *The logical analysis of plurals and mass terms: A lattice-theoretical approach*. In *Meaning, use and the interpretation of language*, eds. R. Bäuerle, C. Schwarze and A. von Stechow, 303-323. Berlin, New York: Walter de Gruyter.
- Mahootian, S. (1997). *Persian*. New York: Routledge.
- Maling, J. (1993). *Of Nominative and Accusative: The Hierarchical Assignment of Grammatical Case in Finnish*. In Anders Holmberg and Urpo Nikanne (eds.), *Case and Other Functional Categories in Finnish Syntax*, 51-76. Dordrecht: Mouton de Gruyter.
- Payne, J.R. (1987). Iranian Languages. In *The World's Major Languages*. Comrie, Bernard (ed.). New York: Oxford University Press.
- Peterson, D. (1974). *Noun Phrase Specificity*. PhD Thesis, University of Michigan.
- Phillott, D. (1919) *A Higher Persian Grammar*, Calcutta.
- Prince, E. F. (1992) "The ZPG Letter: Subjects, Definiteness, and Information-status," in *Discourse Description, Diverse linguistic analyses of a fund-raising text*, William C. Mann and Sandra A. Thompson (eds), John Benjamins Publishing Company, Amsterdam, The Netherlands.
- Rooth, M. (1992a). A theory of focus interpretation. *Natural Language Semantics*, 1, 75–116.
- Rullmann, H. (1995). *Maximality in the Semantics of Wh-Constructions*. PhD Thesis, University of Massachusetts, Amherst.

- Sadeghi, A. A. (1970). *Ra dar Zaban-e- Farsi-e Emruz* ('Ra in the Persian language of today'). Tabriz: Tabriz University, Faculty of Literature and Humanities.
- Samiian, V. (1983). *Structure of Phrasal Categories in Persian: An X-Bar Analysis*. PhD Thesis: University of California, Los Angeles.
- Schlenker, P. (2012). *Informativity-based Maximality Conditions*. To appear in *Snippets*.
Institute Jean-Nicod, CNRS; New York University
- Schwarz, F. (2013). Two Kinds of Definites Cross-linguistically. *Language and Linguistics Compass* 7/10 (2013): 534–559, 10.1111/lnc3.12048
- Thackston, Jr., W. J. 1983. *An Introduction to Persian*. Cambridge, MA. Department of Near Eastern Languages and Civilizations, Harvard University.
- Vazinpour, N. (1977). *Dastur-e Zaban-e Farsi* ('The grammar of the Persian language').
Tehran: Sepahian-e Enghelab University.
- Von Stechow, P., Fox, D., & Iatridou, S. (2005/2012). *Definiteness and Maximal Informativeness*. Abstract, MIT. To be presented at GLOW 2012.
- Windfuhr, G.L. (1979). *Persian Grammar: History and State of Its Study*. Hague: Mouton de Gruyter.
- Windfuhr, G.L. (1987). Persian: In *The World's Major Languages*. Comrie, Bernard (ed.).
New York: Oxford University Press.