Bare nouns in Persian:

Interpretation, Grammar and Prosody

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Abstract

This thesis explores the variable behavior of bare nouns in Persian. Bare singular nouns realize different grammatical functions, including subject, object and indirect object. They receive different interpretations, including generic, definite and existential readings. However, the task of understanding the reasons for, and limits on, this variation cannot be achieved without understanding a number of pivotal features of Persian sentential architecture, including Information Structure, prosody, word order, and the functions of various morphological markers in Persian.

After a brief introduction, chapters 2-3 deal with bare noun objects, firstly comparing them with nominals marked with indefinite morpheme -*i* suffixed to the noun, and the determiner *yek*. A bare noun object differs from morphologically marked nominals as it shows properties associated with noun incorporation in the literature (chapter 2). Of particular interest are the discourse properties of these 'quasi-incorporated' nominals. With respect to the discourse transparency of Incorporated Nominals, Persian belongs to the class of discourse opaque languages within Mithun's classification (1984). However, under certain circumstances, Persian bare nouns show discourse transparency. These circumstances are examined in chapter 3, and it is proposed that bare nouns do introduce a number neutral discourse referent. There are no overt anaphoric expressions that could match such number-neutral antecedents in Persian. But covert anaphora lack number features, and hence can serve as means to pick up a number-neutral discourse referent. Also, in case world knowledge tells us that the number-neutral discourse referent is anchored to an atomic entity or to a collection, then an overt singular pronoun or an overt plural pronoun might fit the combined linguistic and conceptual requirements, and may be used to pick up the number-neutral discourse referent. This proposal is phrased within

Discourse Representation Theory.

In the second half of the dissertation, the interpretation of bare nouns in different positions and with different grammatical functions are discussed. Under the independently supported hypothesis of position>interpretation mapping developed by Diesing (1992), we will see the role of the suffix *-ra* in indicating that an object has been moved out of VP. Following Diesing, I assume that VP-internal variables are subject to an operation of Existential Closure. In many cases, VP-external *–ra*-marked objects have a different interpretation to their VP-internal, non-*ra*-marked, counterparts, because of escaping Existential Closure. For subjects, there is no morphological marking corresponding to *–ra* on objects, and we have to rely on prosody and word order to determine how a VP is interpreted using theories of the interaction of accent and syntactic structure. We assume that VP-internal subjects exist, under two independent but converging assumptions. The first is prosodic in nature: Subjects can be accented without being narrowly focused; theories of Persian prosody predict then that there is a maximal constituent that contains both the subject and the verb as its head. The second is semantic in nature: Bare nouns require an external existential closure operation to be interpreted existentially, and we have to assume existential closure over the VP for our analysis of the interpretation of objects. So, this existential closure would provide the necessary quantificational force for bare noun subjects as well. It is proposed that both subject and object originate within the VP, and can move out to the VP-external domain. The motivation for these movements are informational-structural in nature, relating in particular to the distinctions between given and new information, and default and non-default information structure.

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Victor Manfredi in Boston read parts of the dissertation with constructive

Table of Contents

List of Abbreviations

1sg	1st Person Singular	ez	Ezafe Particle
2sg	2nd Person Singular	SLP	Stage Level Predicate
3sg	3rd Person Singular	ILP	Individual Level Predicate
1pl	1st Person Plural	neg	Negation
2pl	2nd Person Plural	objm	Object Marker
3pl	3rd Person Plural	dur	Durative
IS	Information Structure	subj	Subjunctive
NI	Noun Incorporation	BN	bare noun
IN	Incorporated Noun	prog	Progessive
Gen	Generic operator	perf	Perfective
PL	Plural	imp	Imperative
NRC	Non-restrictive Relative Clause	CG	Common Ground
VP	Verb Phrase	DP	Determiner Phrase
MH	Mapping Hypothesis	LF	Logical Form
DRT	Discourse Representation Theory	CF	Contrastive Focus
EC	Existential Closure		
DRS	Discourse Representation Structures		
DR	Discourse		Referent

Chapter 1:
Introduction

This dissertation explores the nature of variable behaviour of bare nouns in Persian. However, this task cannot be achieved without understanding a number of pivotal features of Persian sentential architecture, such as Information Structure, prosody, word order, and the semantics and syntactic functions of various morphological markers in Persian. As such this dissertation can ultimately contribute to a better understanding of clause-level syntax, semantics and prosody in Persian.

This opening chapter offers a brief summary of the relevant puzzles and how they are analysed.

Bare singular nouns realize different grammatical functions, including subject, object and indirect object. They receive different interpretations, including generic, definite and existential readings. However, in many examples, bare singulars do not allow all these different readings.

In order to find out the factors governing the distribution of the various readings of bare nouns we need to discuss a range of nominal morphological markers such as –*ra* (usually referred to as a direct object marker), indefinite markers *yek*, and *-i*, and the plural marker *-ha* as well. There is a rich literature on some of these morphemes, in particular the object marker *-ra* (Ghomeshi, 2003; Karimi, 2003a; Ganjavi, 2007 among others, mainly referring to it as a marker of specificity and definiteness).

I first start my investigation by comparing bare nouns in different positions with nominals that are marked with various morphemes.

In object position, a Persian bare singular noun (not marked with any morpheme) has an indefinite reading[1]. At the same time there are two other morphological indefinite markers in Persian: *-i* suffixed to the noun, and the determiner *yek*. Either may or may not occur independently of the other, giving a total of four basic indefinite forms.

Examples of the indefinite paradigm are given in (1).

(1)   a. ketab khærid.æm.
         book bought.1sg
         'I book-bought', 'I bought books.'

    b. ketab-i   khærid.æm.
        book-i   bought.1sg
        'I bought a book.'

    c. yek   ketab khærid.æm.
        one   book bought.1sg
        'I bought a book'

    d. yek   ketab-i khærid.æm.
        one   book-i bought.1sg
        'I bought a book'

In (1)a, I used a plural, *books*, to render the Persian *ketab*, which is formally singular. This is the best idiomatic way to express the meaning in English. But the reader should be aware here and in the following that the sentence would also be true if the speaker bought only one book. In fact, it can be argued that plural nouns in English apply to single entities as well, cf. e.g. *Do you have children? – Yes, one.*

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[1] Except for a limited number of emotional experiencer predicates (Individual Level Predicates) such as *parastidan* 'worship' or *doost-dashtan* 'love' that can take a bare noun as an argument in certain contexts, receiving generic interpretation (see chapter 4).

The existence of two indefinite markers and bare nouns at first sight may seem to be inconsistent with principles of economy, however, we will show that the nature of the indefiniteness of bare nouns and nouns marked with *yek* and *i-* actually differ[2].

Morphologically marked indefinites (*yek-*and *i-*marked indefinite nouns) behave as if they are varieties of existential quantifier, whereas Persian bare nouns in the direct object position demonstrate properties associated with Noun Incorporation (NI) in the literature (Baker 1988, Borer 1999, among others; see also Modarresi & Simonenko 2007). Thus a Persian bare noun obtains its existential interpretation through other means and in this way is different from nominals marked with indefinite morphemes.

This is in spite of the fact that bare nouns in Persian are not incorporated in the morphological sense; they do not form a word together with the verbal predicate. For example, strict syntactic adjacency may be violated.[3]

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[2] Traditional grammarians state that *yek* and *-i* are equivalent and can replace each other as well. Ghomeshi (2003) proposes that *yek* should be considered as pronominal counterpart to *–i*. However while *yek* and *-i* can replace each other in some contexts their distribution varies and context can favor one form of marking over another (see chapter 2, section 3.2 examples (11) and (12), and section 3.3 example. They are different from bare nouns in so far as they are two kinds of indefinite articles with obvious differences as their distribution demonstrates (see chapter 2). But bare noun objects obtain their existential readings from the predicate or rather VP-level Existential Closure (EC).

[3] The phenomenon of Noun Incorporation (NI) was initially attributed to constructions with tight syntactic adjacency but has been extended to include cases where incorporated nominals have more syntactic freedom. Such cases where BNs are semantically incorporated

Example (2) shows that BNs can move higher in a non-default composition for contrastive focus reasons, however this movement has no interpretive effects beyond marking of contrastive focus: a focused BN object still receives the same existential interpretation, taking narrow scope with respect to other operators. For example, *film* in (2)a and (2)b must take scope below VP-external operators like the subject quantifier *hæmeh* 'all'.

We will show that constituents, moved due to non-default IS reasons, such as narrow focus or contrastive focus are always reconstructed in their base position. There is connectivity between their new surface position and their base syntactic position. Such movements happen on the surface for prominence or focus effects, and are separate from default sentential position, prosody and semantics.

(2)   a. hæmeh   too   khooneh   **film** mi.bin. ænd.
          everybody in   house   film dur.watch.3pl.
          'everybody watches movie⁴ at home.'

      b. **film** Hæmeh   too   khooneh   mi.bin. ænd.
          film everybody   in   house   dur.watch.3pl.
          'It is movie that everybody watches at home.'

In chapter 2 we will compare bare noun objects with *–i* and *yek* marked indefinites and demonstrate some of the most prominent NI properties of Persian bare

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are referred to as pseudo-NI (Massam 2001, Farkas & de Swart 2003, Espinal & McNally 2011, Dayal 2011) or Quasi-NI.

4 Bare singular Nouns in Persian are often translated with bare singular noun (with a reading similar to bare plurals in English) in the glosses, even though this is not idiomatic (or even grammatical), because there's no good way in English to capture the range of meanings we are describing for Persian bare nouns.

nouns such as, highlighting the action rather than the object, narrow scope, inability to be modified by certain adjectives, number neutrality, inability to pick up a salient referent, and apparent inability to introduce a discourse referent.

In chapter 3 we will investigate issues relating to the discourse transparency of bare nominals. One of the most prominent debates in the literature on Noun Incorporation has been whether an Incorporated Nominal (IN) introduces a discourse referent or not (see Farkas and de Swart, 2003; Mithun, 1984). The test for this is whether they can be picked up in subsequent discourse by anaphors. Mithun (1984) has classified Incorporating languages based on this property, i.e. whether they allow an incorporated nominal (IN) to introduce new discourse referents or not. For instance, incorporated nouns in Mohawk introduce a discourse referent that is familiar or novel (see Baker 1996: 287-291), which can be referred back to by a pronoun in a subsequent sentence.

In Hindi and Hungarian, on the other hand, incorporated bare singular nouns do not introduce discourse referents (see Dayal, 2004; Farkas and de Swart, 2003). Such incorporated nominals are referred to as discourse opaque.

Persian quasi-incorporated nominals seem to belong to the class of discourse opaque INs languages. However this does not seem to hold invariably as under certain circumstances Persian bare nouns show discourse transparency. In chapter 3 we investigate under which circumstances BNs allow discourse transparency and why.

Farkas and de Swart (2003) have identified similar cases in Hungarian, where singular incorporated nouns, despite being discourse opaque at first sight, may be referred back to, even though not by overt pronouns, but by expressions that arguably

show covert anaphoric reference. They refer to such cases as "discourse translucent"[5] as shown in example (3).

(3) János$_i$ beteget$_j$ vizsgált   a   rendelőben.
     Janos$_i$ patient.Acc$_j$ examine.Past   the   office.in
     'Janos   patient-examined in the office.'

     pro$_i$ Túl sulyosnak találta **pro$_j$** és beutaltatta pro$_j$ a korh'azba.
     pro$_i$ too severe.Dat find.Past pro$_j$ and intern.Cause.Past pro$_j$ the hospital.in
     'He found him too sick and sent him to hospital.'

Persian appears to be similar to Hungarian as illustrated in (4). As can be seen below covert pronoun in the second clause refers back to the bare boun *ketab* 'in the first clause.

(4) man ketab khærid.æm ke   emrooz be.khoon. æm-∅/*-*esh-*/*-*eshoon*
     I   book bought   that today subj-read.1sg-∅/*-it/*-them
     'I buy books in order that I read (them) today'

Thus it seems we need a more fined-grained analysis than a binary distinction that does not seem to capture a wider range of cross linguistics data.

Farkas and de Swart explain the problem of anaphoric reference to an incorporated antecedent by assuming that they do not introduce any discourse referent at all. Rather, if there is an anaphoric device that should be related to the bare noun, a

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[5] According to Farkas & de Swart (2003), singular Incorporated Nominals in Hungarian are not fully transparent like fully-fledged DPs as they are invisible to overt pronouns (cannot antecede overt pronouns), but they are not fully opaque either as they are seen by covert pronouns (antecede covert pronouns), at least for some speakers.

suitable referent has to be created from the argument position of the verb of the antecedent clause. It is unclear why this can be achieved with a non-overt anaphoric device, but not with an overt pronoun. One would expect that the overt pronoun would have an easier time to force this change in the interpretation of a past clause.

In chapter 3, we propose as an alternative to the account of Farkas and de Swart that bare nouns actually do introduce a discourse referent. But in contrast to other nominal expressions like singular *yek*-marked nouns or plural *ha*-marked nouns, the number feature of bare nouns is neutral (they introduce a number-neutral discourse referent). There are no overt anaphoric expressions that could match such number-neutral antecedents in Persian. But **covert** anaphora lack number features, and hence can serve as means to pick up a number-neutral discourse referent. Also, in case world knowledge tells us that the number-neutral discourse referent is anchored to an atomic entity or to a collection, then an overt singular pronoun or an overt plural pronoun might fit the combined linguistic and conceptual requirements, and may be used to pick up the number-neutral discourse referent.

The theoretical impact of the alternative account sketched in chapter 3 can be easily compared with Farkas and de Swart (2003), as both accounts are phrased within Discourse Representation Theory. Chapter 3 presents various kinds of cases in which anaphoric reference is possible – the "translucent" cases – in the light of the theory proposed.

In the second half of the dissertation, the interpretation of bare nouns in different positions and with different grammatical functions will be discussed.

Chapter 4 focuses on bare noun objects. We intend to provide a straight comparison between bare nouns as considered 'true bare nouns', i.e. not marked with any morpheme and compare them with circumstances when they appear with the morpheme *-ra.* The differences between simple bare nouns and bare nouns marked with *–ra* has nothing to do with a particular semantics of the morpheme *–ra*. I will argue that *-ra* rather marks that a bare noun or other non-bare nominals is interpreted not in its VP-internal position, but has moved to a VP-external domain. It is a

morphological indicator for scrambled objects. That is, it is a clause level syntactic morpheme.

Bare noun objects marked with the morpheme *–ra* receive definite or generic readings as can be seen in (5), i.e. the typical interpretation of bare nominal subjects without any formal marking.

(5) a. Atæsh kaghæz ra soozand.
   Fire paper ra burned.3sg
   'The fire burned the paper.'

  b. Atæsh kaghæz ra mi-soozanæd.
   Fire paper ra dur-burn.3sg
   (i) 'Fire is burning the paper'
   (ii) 'Fire burns paper'

As we will see in chapter 5, while bare noun subjects typically occur outside of the VP, they also may occur inside VP, leading to an existential reading. Hence subjects and objects have similar interpretational possibilities (inside or outside the VP), but the position of an object outside of VP has to be explicitly marked.

Persian *-ra*-marking has also been seen as a classical example of so-called "differential object marking", the phenomenon that many languages apply object marking relative to semantic criteria like definiteness, specificity and animacy (cf. e.g. Bossong 1985). Many analyses of *–ra* capture some important aspects of the interpretation of sentences with *–ra*-marked objects. Nevertheless, all these proposals fall short of full generality, hence the need for a more abstract analysis, which yields the particular interpretations of *-ra* as side effects. Accordingly I propose here that *-ra* does not mark anything semantic directly and has no particular meaning but rather it marks directly something syntactic and its presence diagnoses an internal argument in VP-external position, and the consequences of this for interpretation are obtained from independent and general principles.

The structure observed, can be analysed further using Diesing's Mapping Hypothesis (MH), which postulates a difference between the interpretation of NPs,

which are VP-external and VP-internal at LF. According to Diesing (1992), VP-level existential closure at LF binds VP-internal free variables; VP-external variables are mapped onto the restrictive clause of a quantificational structure. In this way, Diesing maps the syntactic structure to a logical representation. Although Diesing's MH was formulated mainly to account for LF interpretation, and although many details of linguistic theory have changed in the intervening decades, we draw out some further consequences of the MH for the prosody and morphosyntax of the Persian clause.

The Mapping Hypothesis itself is similar to Chomsky's phase theory (2000, 2001) in that there is a similar split in the structure represented by phases. But the Mapping Hypothesis goes beyond phase theory in at least one respect (the postulation of closure operations and a particular syntactic template for a particular kind of quantification).

In chapter 5 we discuss the variable behaviour of subject bare nouns. As subjects do not have a morphological marking (parallel to the object marker *-ra*) that indicates when they have been moved out of the VP, the main evidence for this will come from a consideration of stress assignment and word order in sentences uttered in particular contexts, such as wide focus.

We need to carefully separate accent caused by stress shift when we are narrowly focusing an item in a non-default Information structure versus the accent that reflects syntactic position in a default Information Structure. We assume that VP-internal subjects exist, under two independent but converging assumptions. The first is prosodic in nature: Subjects can be accented without being narrowly focused; theories of Persian prosody then predict that there is a maximal constituent that contains both the subject and the verb as its head. The second is semantic in nature: Bare nouns require an external existential closure operation to be interpreted existentially, and we have to assume existential closure over the VP for our analysis of the interpretation of objects. So, this existential closure would provide the necessary quantificational force for bare noun subjects as well. It is proposed that both subject and object originate within the VP, and can move out to the VP-external

domain. The parallelism between bare noun objects and subjects was not observed in the literature so far.

The resulting picture reveals a three-way mapping between prosody, syntax and semantics. As such the investigation of bare noun subjects teaches us about architecture of grammar in Persian touching on prosody, phrase structure and the formal semantics of nominals.

The research methodology employed in this dissertation consists of native speaker judgements or mere introspection, which has been commonly used in generative linguistics. Occasionally corpus examples have been provided, but many of the sentences are rare cases that are hard to find in the rather limited corpora available for Persian, for instance discourse transclucent bare nouns in chapter 3, existential bare subjects in chapter 5 or pluralized bare noun objects discussed in chapter 2. For such cases I used my own native speaker intuitions and confirmed it with other native speakers.

Chapter 2:
Persian Quasi-Incorporation

1 Introduction

In this chapter I discuss the status of Persian object bare nouns (BNs) unmarked for number, which has an indefinite reading. As mentioned in chapter 1, there are two other morphological indefinite markers in Persian: *-i* suffixed to the noun, and the determiner *yek*. Either may or may not occur independently of the other, giving a total of four basic indefinite forms, illustrated in (6).

(6)　a. mæn roobah   did. æm.
　　　　I　　fox　　　saw.1sg
　　　　'I saw fox/foxes.'

　　　b. mæn roobah-i did.æm.
　　　　I　　fox-i　　saw.1sg
　　　　'I saw a fox.'

　　　c. mæn yek   roobah did.æm.
　　　　I　　one　fox　　　saw.1sg
　　　　'I saw a fox.'

　　　d. mæn yek   roobah-i did.æm.
　　　　I　　one　fox-i　　saw.1sg
　　　　'I saw a fox.'

The three marked forms just like the bare noun all give rise to existential readings in object position[6]. Traditional grammarians state that *yek* and *-i* are equivalent and can replace each other as well.

This chapter investigates the differences existing among the function of bare nouns and morphologically marked indefinites *(i*-marked and *yek*-marked indefinites). As for *–i* and *yek* marked nouns, while they can replace each other in some contexts, their distribution varies and context can favor one form of marking over another. We start our discussion with bare noun objects. We will show that Persian bare nouns with no morphological marking in the direct object position demonstrate properties associated with Noun Incorporation (NI) in the literature (Baker 1988, Borer 1999, among others). This is in spite of the fact that bare nouns in Persian are not incorporated in the morphological sense; they do not form a word together with the verbal predicate. For example, strict syntactic adjacency may be violated.

This is illustrated in (7), where an object bare noun is contrastively focused and therefore has moved from its default position to the sentence-initial position. This sentence order has the effect to highlight the entity the bare noun is referring to and

[6] The existence of two indefinite markers and bare nouns at first sight may seem to be inconsistent with principle of economy, such as Chierchia's blocking principle (1998). Chierchia (1998) predicts the existence of an overt indefinite article such as *yek* and *–i* in Persian, is expected to block the appearance of BN in argument position with existential reading. The blocking principle would not apply, however, if the nature of the indefiniteness of bare nouns and *yek* and *i*-marked nouns differ. However, as documented by work on Wolof (Tamba et al.2012) and Maori (Chung & Ladusaw, 2004), the coexistence of different indefinite markers and bare nouns seem to be the norm rather than exception. Thus one should note that the Persian data is not unexpected in this cross-linguistic context.

make it more prominent (often resulting in contrastive focus readings) which fits to what is expected in terms of focus and left periphery. In this contrastive focus position a bare noun is strongly accented. The accent is shown by bold face. However, even when it is fronted, a bare noun must be interpreted within the scope of the verb, as if it were in its base position.

(7) **ketab** mæn diruz   khærid.æm.
     book   I   yesterday bought.1sg
     'I bought books yesterday as opposed to other things.'

This is typical of pseudo-incorporation (Massam 2001, Farkas & de Swart 2003, Espinal & McNally 2011, Dayal 2011) as opposed to full incorporation, which leads to the formation of a morphological word (cf. Mithun 1984, Baker 1988, van Geenhoven 1998, Chung & Ladusaw 2004). Below in section 2 some of the relevant properties of BNs are listed.

Bare noun objects differ from those marked by *yek* or *–i*, but also by those that have a plural marker *–ha* and those that have the non-obligatory object marker *–ra*. In this dissertation, particular attention will be given to the difference between bare noun objects and *–ra* marked objects. We will see that the latter are interpreted as specific, definite, or generic, and evidently are not incorporated into the verb.

Bare nouns differ from *ra*-marked nouns, as they do not have the same movement options, and never take wide scope over other operators. They appear to be underspecified as to number (see section 3.4. 'Number neutrality' for more details), they lack referentiality and show an apparent discourse opacity as described in chapter 1 (also called "translucency") (see section 3.5 for examples). Therefore, they demand to be incorporated into a larger constituent. It is thus no surprise that the Information Structural status of BN objects with or without *–ra* marking is different. A *ra*-marked object in contrast is informationally saturated in a sense that it has received a referential status and introduces a discourse referent that is already identified or pre-supposed to exist.

This chapter is structured as follows. Section 2 describes the main hypothesis

about BN objects in Persian particularly considering the existence of nominals that are marked with the two markers indefiniteness *yek* or *–i*. In section 3 we discuss the properties of bare nouns as compared to morphologically marked indefinite nouns. The phenomenon of Quasi Noun Incorporation (henceforth Quasi-NI, also see Modarresi & Simonenko, 2007) is discussed in section 4. Section 5 presents a particular case of pluralization of bare nouns. In section 6 a brief comparison between Quasi-NI and Complex Predicates will be presented. Section 7 is the summary of main analyses in this chapter.

2 BNs and the indefinite markers *-i* and *yek*

As mentioned in the introduction, BNs with no marker and nouns marked by *–i*, *yek*, or both can occur in direct object positions. All these varieties allow for an existential reading.

Example from chapter 1 repeated here:

(8) a. ketab khærid.æm.
      book bought.1sg
      'I bought books.'

    b. ketab-i   khærid.æm.
      book-i   bought.1sg
      'I bought a book.'

    c. yek   ketab khærid.æam.
      one   book bought.1sg
      'I bought a book.'

    d. yek   ketab.i   khærid.æm.
      one   book.i   bought.1sg
      'I bought a book.'

We analyze the *–i* marker in (8)b as an existential quantifier in line with the standard treatment of indefinite articles. As a BN seems to function as argument in (8)a we might be tempted to conclude that there is a covert type-shifting operation of the type ∃ creating an existential generalized quantifier out of a property (Chierchia

1998). That is, the type shifter would change a property meaning π to $\lambda P \exists x[\pi(x) \land P(x)]$. Then the function of $-i$ would be the same as that of null morphology on BNs: in both cases the application of $\exists$ is enforced.

Chierchia's 1998 Blocking Principle restricts the class of available type shifters in a language: if an overt type shifter exists, then the language must prefer it to a non-overt one.

(9) Blocking Principle ('Type Shifting as Last Resort'):
For any type shifting operation SHIFT and any X: *SHIFT(X)
if there is a determiner D such that for any X in its domain, D(X) = SHIFT(X)

As can be observed in Persian, we find *-i* and *yek* as an overt type-shifter of the type $\exists$ on the one hand, and a covert type-shifting operation in the case of BNs, again of the type $\exists$, on the other hand. This should be ruled out by the blocking principle, except if the forms that are compared have a different meaning. Thus, the semantic paradigm introduced by Chierchia (1998) predicts that BN and indefinite-marked nouns should have different meanings and functions. We will show that a bare noun is different from a morphologically-marked noun by analyzing its properties.

3   Properties of BNs in Persian

3.1   Indefinite-marked nouns are not the same as BN: Quasi Noun Incorporation

We claim that Persian BNs are semantically different from *-i*-marked and *yek*-marked nouns. We argue that they are not type-shifted to become generalized quantifiers like those marked nouns by means of some covert type shifting operation. Rather, they are semantically incorporated into the verb, and achieve their indefinite status in other ways than by type-shift.

Properties of Noun Incorporation have been observed in various languages, such as Niuean, Hindi, Hungarian, Spanish, Catalan, Brazilian Portuguese, and others.

The phenomenon of Noun Incorporation (NI) share some properties with a similar but separate phenomenon, where the incorporated nouns have more syntactic freedom but share semantic properties similar to syntactic incorporation, which is also referred to as pseudo-incorporation (Massam 2001, Farkas & de Swart 2003, Espinal & McNally 2011, Dayal 2011). The Incorporation phenomenon involves a fusion between a BN with its predicate as shown with the Mohawk example (Baker 1996, p. 279):

(10) Wa'-ke-nákt-a-hnínu-'
      Fact-1sS-bed- ∅-buy-PUNC1
      I bought the/a bed. [Mohawk example (1), Baker 1996 p. 279]

In Mohawk, the object is expressed by a morpheme within the verb, whereas the positional constraints on quasi-NI are quite liberal. What NI and quasi-NI share is a particular interpretation by attaching to the verb, modifying or restricting the predicate interpretation and becoming part of the event the predicate is denoting. Other properties such as apparent inability to introduce discourse referents will be discussed throughout this chapter. Thus, Quasi-NI has the semantics of NI, in quite a fine-grained sense, but not the tight surface syntax of NI.

Below we are considering the most prominent NI properties of Persian bare nouns such as, highlighting the action rather than the object, narrow scope, inability to be modified by certain adjectives, number neutrality, inability to pick up a salient referent, and apparent inability to introduce a discourse referent (see also Baker 1988, Borer 1999, among others for the discussion of NI properties).

3.2 Highlighting the action rather than the object

A construction with a bare noun would be most felicitous as an answer to a question that asks for an action, as in (11)a. This is also the case for a *yek*-marked noun, as in (11)b. A sentence with an -*i*-marked noun, on the other hand, would be appropriate as an answer to a question that asks for extra information about the object, as (11)c illustrates. A bare noun would not be an appropriate response to such

a question, and neither would be a *yek*-marked noun.

(11)   a. Q: Sæm dirooz   chi   kar.kærd?
                Sæm yesterday   what work did.3sg
                'What did Sam do yesterday?'
        A: Sæm dirooz   **ketab**   khærid
                Sæm yesterday   book   bought.3sg
                'Sam book-bought yesterday.'

      b. Q: Sæm dirooz   chi   kar.kærd?
               Sæm yesterday what work-did.3sg
               'What did Sam do yesterday?'
        A: Sæm dirooz   yek-**ketab** khærid
               Sæm yesterday yek-book bought.3sg
               'Sam book-bought yesterday.'

Example (11)c below shows that a construction with an *i*-marked noun as in (A) would be appropriate as an answer to a question that asks for extra information about the object as in (Q). Sentence (A') below shows that neither a bare noun nor *yek*-marked noun would be a felicitous response to a question as (Q).

(11) c. Q: Sæm dirooz   che   ketab-i khærid?
               Sæm yesterday   what book-i   bought.3sg
               'What kind of book did Sam buy yesterday?'
        A: Sæm ketab-i   fælsæfi   khærid.
               Sæm book-i   philosophical buy.bought.3sg
               'Sam bought a philosophical book.'

        A':   #Sæm   yek-ketab/ketab-e-fælsæfi   khærid.
               Sæm   yek-book/book-ez[7]-philosophical   bought.3sg
               'Sam bought a philosophical book.'

---

[7] '*ez*' stands for *Ezafe*, which is a type of linker indicated by an unstressed vowel -e (-ye after vowels) which appears between a noun and its subsequent adjective: e.g. *zan-e ziba*

As (11)d illustrates, a bare noun can also be used to answer an object constituent question.

(11) d. Q: Sæm dirooz   chi   khærid?
              Sam yesterday   what bought.3sg
              'What did Sam buy yesterday'
     A: Sæm diruz   **ketab**   khærid.
              Sam yesterday book   bought.3sg
              'Sam bought books yesterday.'

The question in (11)d can also be used in a contrastive context such is in (11)e, where referents exist in the context being contrasted with object constituent. A BN can be used to answer such a question as well, especially if the bare noun is moved to the front (cf. introduction for an example of this option).

(11) e. Q: Sam dirooz   chi   khærid,   ketab ya dæftær?
              Sam yesterday   what bought.3sg book or notebook?
              'What did Sam buy yesterday, books or note books?
     A: Sam diruz   **ketab**   khærid.
              Sam yesterday book   bought.3sg
              'Sam bought books yesterday.'

     A':   **ketab**   Sam diruz   khærid.
              book   Sam yesterday bought.3sg
              'Sam bought books yesterday.'

Note that the answers (A) in all the above examples can answer several focus questions: *1*) wide-focus 'what happened?' *2*) VP-focus 'what did Sam do?' *3*) narrow-focus 'what did Sam buy?', in which case the object in the answer is narrowly focused in situ or fronted as in (11)d. In other words, *-i*-marked and *yek*-marked

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'beautiful woman' (for a review of literature on Ezafe see Kahnemuyipour 2006, Ghomeshi 1997; Samvelian 2008, Samiian 1983, Larson and Yamakido 2005).

nouns can also answer a question focusing the whole sentence clause or VP. However, the difference is that –*i*-marked nouns can give an answer to a question that describes a certain quality of a nominal, whereas BN and *yek*-marked nouns cannot be an appropriate answer to such a question.

We see the function of these indefinite markers differ from each other and from the bare noun. There are yet further differences. A *yek*-marked noun can answer a question about the number of the items involved. –*i*-marked noun is also number-marked (singular) but it cannot be a felicitous answer to the question about the number of items involved.

(12) Q: Sam dirooz   chænd-ta   ketab   khærid?
         Sam yesterday   how many-CL   book   bought.3sg
         'how many books did Sam buy yesterday?'

     A: Sam yek-ketab   khærid.
         Sam yek-book   bought.3sg
         'Sam bought a book.'

     A': #Sam ketab-i   khærid.
          Sam book-i   bought.3sg
          'Sam bought a book.'

     A'': #Sam ketab khærid.
           Sam book   bought.3sg
           'Sam bought a book.'

 Bare nouns are not felicitous to such a question either. An -*i*-marked noun triggers a further question or yields further description about a certain quality of the noun, such as 'what kind of book?'.

Dabir-Moghaddam (1997) in his paper on compound verbs also says that a bare object with the verb forms a "conceptual whole" referring to an activity described by the noun-verb combination, in contrast to an event consisting of a reference to an entity and a claim that this entity is involved in an event denoted by the verb.

3.3 Modificatin of BNs by adjectives

A bare noun in object position cannot be modified by an adjective[8]. For instance, in (13)a, *khoob* 'good/well' is ambiguous between adjectival and adverbial uses, but if it precedes a BN object, the adjectival interpretation is unavailable, and *khoob* receives the adverbial interpretation 'well' instead. This indicates that BN here resists taking adjectival modification. Thus, *khoob* is modifying [BN+V], just as with intransitive verbs (13)c. In contrast, nouns marked with *-i* are readily modified by adjectives as in (13)b. The sentence (13)d is not acceptable, as the adjective cannot modify a *yek*-marked nominal without using a connective (linker) between the indefinite and adjective, such as Ezafe '*ez*' as in (13)e.

(13) a. Sara khoob   [ketab khærid].
Sara good/well   book bought.3sg
'Sara successfully bought books.'

  b. Sara [[khoob] [ketab-i]]   [khærid].[9]
Sara good   book-i   bought.3sg
'Sara bought a good book.'

---

[8] It should be noted that incorporation does not prevent modification in general (for instance in Niuean, Mohawk etc.). But when an incorporated noun is modified, the modifying expression typically remains external to the noun-verb combination. I will not investigate the issue here whether some languages allow for such (external) modification of incorporated nouns, and some, like Persian, don't.

[9] In (8b) in the text, the adjective *khoob* 'good' can come before or after the noun. In Persian the adjective often follows the noun, especially in written Persian. Certain adjectives may come before the noun (This happens in French too). If the adjective appears before the – *i*-marked noun, it is usually underscored in terms of its interpretation.

c. Sara khoob   dævid.
   Sara well   ran.3sg
   'Sara ran well.'

d. *Sara khoob   **yek** ketab khærid.
    Sara good   **yek** book bought.3sg
   'Sara bought a good book.'

e. Sara **yek** [ketab-e-khoob] khærid.
   Sara **yek** [book-ez-good] buy.PAST.3SG
   'Sara bought a good book.'

f. ?Sara [ketab-e-khoob] khærid.
    Sara [book-ez-good] buy.PAST.3SG
   'Sara bought a good book.'

This means that the position that the bare noun occupies in syntax is not a phrasal category. It is specialized for lexical expressions of category N^0, and does not undergo syntactically recursive rules, as illustrated in (14).

In sentence (14) the modifier *ziba* 'beautiful' permits both adjectival and adverbial readings. Example (14)a demonstrates the adjectival reading is available. Sentence (14)b shows that adverbial reading of *ziba* 'beautifully' is disallowed.

(14) a. [ketab-i ziba]   neveshtæm.[10]
         book-i   beautiful   wrote.1sg
         'I wrote a beautiful book.'

Sara [ketab-ikhoob]   [khærid].
Sara [book-i good]   bought.3sg
'Sara bought a good book.'

[10] It is possible to have the form (a), which is equivalent to (b) below: The new modified noun can be part of lexical meaning, appearing in a position reserved for bare nouns.

b. *ketab-i [ziba   neveshtæm] .
    book-i beautiful wrote.1sg]

However, if we add a ra-marking to (14)a, which also affects word order possibilities, an adverbial reading would be allowed as in (15).

(15) a. [ketab.i]-ra   [ziba   neveshtæm].
        book.i-ra   beautiful wrote.1sg]
        'I wrote a certain book (known to speaker) beautifully.'

    b. yek [ketab-e-ziba]   neveshtæm.
       yek [book-ez-beautiful] wrote.1sg
       'I wrote a beautiful book.'

    c. *[ketab-e-ziba]   neveshtæm.[11]
        [book-ez-beautiful]   wrote.1sg
        'I wrote a beautiful book.'

_____

    a. [Ketab-ez-jaleb]-i
        [book-ez-interesting]-i
        'an interesting book'

    b. [Ketab-i] jaleb
        [book-i] interesting
        'an interesting book'

    I believe that a) means 'a particular interesting book' and b) means 'a book that is interesting'.

[11]It is notable that modification of bare noun is possible when Ezafe 'ez' is present with certain modifiers that refer to the type of the noun rather than quality of the noun. Sentence (a) is referring to the type of book 'story book'. In sentence (b) the modifier refers to the type of nominal (here type of meat)'Pelican's meat'. Example (c) is odd without indefinite morphemes. Here the modifier is an adjective that describes the quality of the

3.4 Number neutrality

Indefinites marked by *yek* and the singular *-i* refer to an atomic object, whereas BN can refer to either atomic or sum objects.

The sentence in (16)a can be interpreted as being about several pencils or just one. In (16)b the bare noun *ketab* 'book' is referring to more than one book, as the sentence is followed by additional information about the number of 'books' that were bought.

(16) a. Bæra-t   medad   avord.æm.
      for-you   pencil   brought.1sg
      'I brought you (one or more) pencils.'

nominal. However the construction in (c) would be fine with durative aspect, which creates an unbounded event or an institutionalized activity as in (d).

a. mæn   ketab-e-ghesseh   mi.khær.æm.
   I   book-ez-story   dur.buy.1sg
   'I buy story books.'

b. mæn   goosht-e-pelikan   khor.d.æm.
   I   meat-ez-pelican ate.1sg
   'I ate pelican's meat.'

c. #mæn khooneh-ye-bozorg   khærid.æm.
   I   house-ez-big   bought.1sg
   'I bought big house.'

d. mæn   khooneh-ye-ghædimi   mi.khær.æm væ   baz.saz.i   mi.kon.æm.
   I   house-ez-old   dur.buy.1sg and   renovation   dur.do.PRES.1sg
   'I buy and renovate old houses.'

b. mæn Ketab khærid.æm,yek-i bæraye khod.æm va do-ta   bæraye
   Leila.
   I   book   bought.1sg, one.i for   self.1sg and two-CL for
     Leila
   'I bought books, one for myself and two for Leila.'

The *yek*-marked noun in (17)a or the *–i*-marked (17)b is referring to exactly one pencil.

(17) a. Bara-t   yek-medad avord.æm.
         for-you yek-pencil brought.1sg
         'I brought you a pencil.'

      b. Bara-t   medad-i avord.æm.
         for-you pencil-i brought.1sg
         'I brought you a certain pencil.'

3.5 Reluctance to introduce a discourse referent

In this section we show that nominals marked with *–i* as well as those marked with *yek* may both act as antecedent of personal pronouns; that is, they both easily introduce a discourse referent corresponding to an individual. This contrasts with the behavior of BNs, which at first sight do not seem to antecede personal pronouns and so are taken not to introduce discourse referents.

Nominals marked with *yek* differ from bare nouns insofar as *yek*-marked nouns introduce a discourse referent that survives the scope of operators like modals or propositional attitude verbs (see section 3.6 for a detailed discussion of scope), whereas bare nouns appear to fail to do so. This is illustrated with the following examples in (18). However, discourse anaphora seems to be possible in some contexts for bare noun objects[12].

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[12] A closer look will reveal that there are cases in which pronominal expressions can corefer with a preceding bare noun, as in the following example (this dubious character of

24

(18) a. Mæn sib   khær.id. æm. *kheily khoshmæzeh æst.
        I   apple bought.1sg   very   tasty   is.pres.3sg

    'I bought apples. ?It is tasty.'

In contrast, nominals marked with *yek* or *i* introduce new discourse referents that can be picked up by referring anaphora later, as illustrated in the following examples:

   b. Man **yek** /sib/**-i**   khar.id.am.   kheily   khoshmazeh   ast.
        I   **yek** /apple/**-i** bought.1sg.   very   tasty   is.pres.3sg

    'I bought an apple. It is very tasty.'

The same point is made by the following examples:

(19)   a. Ali   ketab kharid   va   #oon-o khoond.
          Ali   book bought.3sg   and #that-ra read.3sg
          'Ali bought book and read it'

       b. Ali   **yek**/ketab/**-i**   kharid   va   khoond-esh.
          Ali   **yek**/book/**i**   bought.3sg and   read.3sg-it
          'Ali bought a book and read it.'

---

bare nouns in terms of discourse transparency will be investigated in Chapter 3 in great detail).

        Man belakhareh aparteman peida.kardam va   dirooz   kharid.am.esh.
        I   finally   apartment find.did.1sg   and yesterday bought-1sg-it
        'I finally found an apartment and yesterday I bought it.'

3.6   Scope

3.6.1   Scope for non-bare indefinites and previous accounts

Former works on Persian indefinites do not arrive at a consensus on the variability of morphologically marked indefinites with regards to their semantic scope. Karimi (2003, 2005) treats the semantics of bare nouns and *yek*-marked DPs under the same category, as non-specific indefinites (the first as a DP without determiner; "kind-level" and the latter as a DP modified by a numeral; "Existential"). According to Karimi, these nominals form a unit with a predicate denoting an event and take a narrow scope with respect to quantifiers and negation. In contrast to Karimi's analysis, we will show that *yek*-marked nouns may have a variable scope; they can have a wide scope, but also a narrow scope like bare nouns. Our data supports scope variability for both *yek*-marked and –*i*-marked nouns as demonstrated in (21) and (22).

Ghomeshi (2003) suggests that the indefinite marker *-i* will yield a referential reading for a noun by specifying that an actual member of the set is being referred to. According to Ghomeshi (2003, p:63), "the presence of *-i* entails that the noun must be referential, this account for the fact that the resulting NP is often construed as specific."…."while it maybe difficult to identify which of these properties, 'referentiality', 'topicality' or 'specificity' an –*i*-marked noun phrase in Persian takes on (and it maybe all three, depending on the context), what is certain is that a bare noun has non of these properties" (Ghomeshi, 2003, p:63) .The problem with her account is that –*i*-marked nouns may be interpreted as 'one or another ' (such as

26

irgendein in German)', which can be non-referential in this case with narrow scope[13]. Sentence (20) illustrates the non-referential reading of the –*i*-marked nominal with narrow scope.

(20) Mæn donbal-e   khaneh-i   bæra-ye-zendegi mi.gærd.æm.
     I   search-ez home-i   for-ez-living   dur-search-1sg
     'I am looking for a house to live in.'

As for *yek*-marked and –*i*-marked nouns, they both seem to show scope variability. Example (21)a shows scope variability with respect to a subject quantifier. The sentence can either mean that everyone listened to some song or other or that there was one song such that everyone listened to it. Similarly –*i*-marked noun also shows the same scope variability in sentence (21)b.

(21) a. Hæmeh yek   ahæng goosh.mi.dænd.
        all   one   song   ear.dur.give.3sg
        'Everybody listens to a/same song.'

     b. Hæmeh ahæng-i goosh.mi.dænd.
        all   song-i   ear.dur.give.3sg
        'Everybody listens to a song.'

The example (22), with two sentences following each other, is another case of scope taking, now with respect to a propositional attitude verb.

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[13] Notice that -*i* does not mark a noun as specific, in the sense of having wide scope over other quantifiers, as illustrated in the example below (from a weblog online)

     hær   adæm-i   raz-i   daræd.
     any   human-i secret-i has.pres.3sg
     'every human has a secret.'

(22) Man mi.kha.m   bæra-t yek/ghese/-i   tarif.kon.æm.
     I   dur.want.1sg for-you yek/story/-i   tell.do.1sg
     In   ghese ro amoo.m   bara.m tariff-kardeh.
     this story ra uncle.poss.1sg   for.me explain.do.perf.3sg
     'I want to tell you a story. My uncle has narrated this story for me.'

If the object is marked with –*i*, it may take either narrow or wide scope, as shown in (23) and (24), where it should be noticed that the wide scope reading is harder to obtain. With respect to the subject quantifier, the wide scope reading in (23) can be forced by adding the second sentence:

(23) Hæmeh   dar.ænd film-i   mi.bin.ænd.   In   film kar-e-Beyzaiee.st.
     Everybody prog.3pl film-i   dur.watch.3pl. This film work-ez- Beyzaiee.is
     'Everybody is watching a movie now. This movie is a work by Beyzaiee.'

(24) Hæmeh   film-i   didænd,   Film-ha-i   motefavet.
     everybody movie-i   watched.3pl. Film-pl.i   different.
     'Everybody watched a   movie, different movies.'

In (23) the first sentence could be interpreted in the following way: 'there is a specific movie that everybody is watching', whereas (24) indicates that 'everybody watched a different movie'. Thus, for –*i*-marked nominals both wide and narrow scope readings seem to be possible. Example (24) shows that –*i*-marking in general shows modification and not specificity (a restrictive indefinite marker). Example (27) that an –*i*-marked nominal can have narrow scope reading even without modification.

Below in (25) we see a wide scope reading of the –*i* marked noun with respect to a propositional attitude verb.

(25) Mæn mikham dastan-i tærif.kon.æm. in   dastan   behtærin   dastane-e-saal-
     e.
     I   want   story-i tell.do.1sg. This story   best   story-ez-year-
     is
     'I want to tell a story. This story is the best story of the year.'

In (26) The wide scope reading of the –*i*-marked noun *ketab-i* 'book-i' is obvious.

(26) mæn farda   mikham ketab-i biar.æm. be-he.toon. in ketab-ro
      mi.d.æm
     ke   be.khoon.id.
     I   tomorrow want   book-i   bring.1sg to.ez-you this book-ro
     dur.give.1sg that subj.read.2pl.
     'I want to bring a book tomorrow. I will give you this book to read.'

Below are examples of scope variability when *yek* and *-i* co-occur. In (27) and (28) we manipulate the context in the second clauses in each example. We see both narrow and wide scope readings are available in this context. In (27) we have narrow scope reading, in (28) a wide scope reading.

(27) mæn mikham ketab-i be.khoon.æm. mohem   n-ist   che-ketab-i,
      ye-ketab-i, hær.chi.
     I   want   book-i subj.read.1sg. important neg.is.3sg what.book-i, yek-
     book-i, every.what
     'I want to read a book. It does not matter what book, a book, whatever.'

(28) mæn mi.kh.am   yek-film-i be.bin.æm.   hamoon-i ke   bæradær.æm
     dær-mored-esh hærf-zæd.
     I   dur.want.1sg yek-film-i subj.see.1sg. the one-i   that
      brother.poss.1sg
     in-about-it   word.hit.3sg
     'I want to see a movie. The one that my brother spoke about.'

It is notable that the morpheme *–ra* changes the scope. While a detailed discussion of morpheme *–ra* will be available in chapter 4, I just provide example of the effect of *–ra* to confirm the existence of scope variability. Previous accounts that consider *–i* marked nominal as referential or specific have used examples of *–i*-marked nominals that were also *–ra*-marked. One should note that one of the effects of morpheme *–ra* is changing the scope.

In (29)a the object is marked with indefinite morpheme *-i*, it may take either narrow or wide scope. Either there is a movie that everybody watched or everybody watched a different movie. However, in (29)b when we add *–ra* the scope will be shifted and narrow scope reading will be eliminated, hence no scope variability:

(29) a. Hæmeh   film-i   did.ænd.   (narrow or wide scope reading).
        Everybody movie-i watched.3pl
        'Everybody watched a movie.'

    b. Hæmeh   film-i-ra   did.ænd.   (wide scope reading)
        Everybody movie-i-ra watched.3pl
        'Everybody watched a particular movie.'

3.6.2   Scope for Bare Nouns

Bare singulars show narrow scope with respect to negation and other operators. In (30) the BN *film* has narrow scope with respect to the quantifier *hameh* 'everybody'. It is not possible to refer back to the movie, as the first sentence invokes different movies.

(30) Hæmeh   film   did.ænd.   #jaleb bood.
    everybody movie   watched.3pl.   Interesting was.3g
    'Everybody watched movie. *It was interesting.'

With respect to the negation operator *ne* the BN takes narrow scope as well, as (31) illustrates:

(31) Ali   film   ne-mikhæræd.
    Ali   movie   neg-buys.3sg
    'Ali does not buy movie.'

The sentence means 'it is not the case that Ali buys movies'; the interpretation 'there is a movie which Ali does not buy' is prohibited.

With respect to propositional attitude verbs (modals), BN takes narrow scope as demonstrated in the following example:

(32) Ali   mikhad ketab   be-khæreh.   #poshte shishey-e-mæghazeh æst.
    Ali   wants   book   subj-buy.3sg. #behind window-ez-shop   is.3sg
    'Ali wants to buy book.' *'It is behind the shop window.'

The subtle difference between bare nouns and the *yek*-marked nouns in this and the previous section concerns only number marking. Bare nouns have a non-specific interpretation, but so do *yek*-marked nouns most often as we have seen. Hence the

question is, where is the difference? In spite of the fact that both *yek*-marked and bare nouns are regarded as non-specific indefinites, the latter point also demonstrated in Karimi (2003)[14], in fact they are different.

The examples in section 3.6.1 suggest that the *yek*-marked object is related to an object that is cognitively accessible. In formal terms, a *yek*-marked object nouns is related to a discourse referent that can be picked up by pronominal expressions later, whereas this is not so with bare nouns. It seems that this is the number function that allows for wide scope reading of *yek*-marked nouns as well[15].

The narrow scope phenomenon is a stable property of incorporated nominals cross-linguistically. The fact that Persian BN objects show narrow scope is in favor of an incorporation analysis of them.

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[14] Although data provided by Karimi (2003) and Ganjavi (2007) show narrow scope reading for yek-marked nouns, our data as demonstrated provides contexts in which yek-marked nouns survive the scope of operators like modals and obtain wide scope readings.

[15] Due to the number specification, a specific reading becomes more likely, but that specificity is not really part of what –*i* and *yek* actually means. This is reminiscent of a paper by Saul Kripke (1979), a famous language philosopher, who claimed that indefinites with a more narrowly defined nominal meaning invite more easily a specific interpretation.

3.7 Telicity / Atelicity induced by yek/i-marked nouns and bare nouns

In this section we will discuss the influence of the noun type of the aspectual class of the verbal expression, that is, on its telicity. According to Ghomeshi and Massam (1994), and Karimi (2003) sentences with BNs are atelic or unbounded[16].

There are several properties identifying telic verbal expressions: They are enforced by time-frame adverbials like *in an hour*, and they give rise to the imperfective paradox in cases like *John was crossing the street (when he was hit by a truck)* (Rothstein, 2004). Therefore, achievement verbs, e.g., *recognize*, and accomplishment verbs, e.g., *build*, fall into this category (Vendler, 1967). Atelic predicates are compatible with durative adverbs (Vendler, 1967, Dowty, 1979) such as *for an hour,* and the progressive does not give rise to the imperfective paradox, as in *John was walking when he was hit by a truck.* The other aspectual classes, states and activities, are considered to be atelic or unbounded, e.g., *being good* or *run*. In contrast to telic predicates, these kinds of verbs have no natural endpoints.

Now, the choice of an object noun with transitive verbs may determine whether the verbal predicate is telic or atelic. A bare noun object yields an atelic expression, as seen in the following example (here and in the following, we will use the *in an hour / for an hour* test):

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[16] As mentioned, Karimi (2003) divides the nouns in two specific DPs versus non specific DPs. Bare nouns and yek-marked nouns according to her are considered as non specific DPs as opposed to –ra-marked nouns which are regarded as specific. According to Karimi (2003) DP+ra is only compatible with time frame adverbial dar yek saat 'in an hour', while "the bare DP" is only compatible with the durative adverbial baraye yek saat 'for an hour'.

(33) Oo   bæraye do sa'æt   ketab khoonnd/* dar do sa'æt
      He/she for   two hours   book read.3sg/*in two hours
      'he/she read books for two hours'/ *in two hours

Indefinite nouns marked by *yek* and -*i*, however, are not compatible with the durative adverbials and allow for time-frame adverbials; hence they trigger a telic interpretation of the verbal expression. .

(34) Oo   dar do   sa'æt (yek)ketab –i khoond/ * bæraye do sa'æt
      He/she   in two   hours (yek) book-i   read.3sg/ *for two hours
      'He/she read a book in two hours"/* for two hours'

The influence of the object nominal on the telicity of the verbal expression has been explained by Krifka (1989) by a transfer of quantiziation properties of the object to the verbal expression. The bare noun may refer to single entities or a plurality of entities, e.g. *ketab* 'book' may refer to a single book or a multitude of books. That is, *ketab* 'book' is cumulative, and transfers this cumulativity property to the verbal expression, *ketab khand* 'book read'. In contrast, *yek ketab* refers to a single book, and *ketab-i* refers to a particular book. This translates into a non-cumulative, telic interpretation when combined with the verb *khoond* 'read'[17].

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[17] There are cases in which bare nouns are compatible with frame adverbial. These cases are expected to relate to a possible non-cumulative reading of bare nouns in certain contexts, which will be discussed in full detail in chapter 3.

   Leila dar   yek   cheshm-be-ham-zadan   aparteman   kharid.
   Leila in   an   eye-to-each-other-hitting apartment   bought.3sg
   'Leila bought an apartment in a blink of an eye.'

It appears that the context should allow for an atelic reading in order to license a BN in object position. However, in the following sentence (35) the *ra*-marked direct object is compatible with durative adverb but BN is not allowed.

In example (35) the durative adverb is actually an argument and not an adverb any more. Leaving alone happens once (with an end point) and can't be repeated even if it seems as if it shows up with a durative adverb *for α time*. So in nature it is telic; therefore, a bare noun is not compatible with this construction.

(35) Oo   koodak(an) (*ra) bæray-e-do-sa'at tænha gozasht .
     He/she   child/children ra for-ez-two-hours alone-left.3sg
     'He/she left the child/children alone for two hours'   (*–ra is obligatory here*)

The non-referentiality and number neutrality of bare nouns seems to be the reason for giving rise to atelic event description as there is no quantized object or individual to mark the end point of an event.

3.8   Instutionalized activity and telicity

Mithun (1984) describes incorporation as "an intransitive predicate denoting a unitary concept". The incorporated BN "loses its individual salience both semantically and syntactically". It no longer refers to a specific entity and is used to specify the type of activity more closely. We can illustrate this with the difference between *He picked (a few) apples* and *He did some apple-picking* in English. In the latter case, *apple-picking* denotes a kind of regular, well-recognizable, "institutionalized" activity. This means that if there is no adequately institutionalized activity, a quasi-incorporated noun should sound strange. This is indeed the case. Example (36) sounds pragmatically odd, as it is difficult to conceive of an institutionalized activity of door closing.

(36) #Mæn   dær   mi.bænd.æm.
      I   door dur.close-1sg
     'I close doors.'

34

In a context of where it is possible to do an activity repeatedly, such a sentence would be fine, for instance when someone is stating it is his/her job to close doors. For instance (37) would be fine in a context where after a lackluster performance of a politician (speaker), the unhappy audience start throwing tomatoes.

(37) Mærdom   gojeh   pært.kærdænd be.h.esh.
      people   tomato   throw.did.1sg to-ez.him
       'people threw tomato at him.'

Sentence (38) is not acceptable; the predicate seems to need picking a referring argument. However, if we use durative aspect of the verb *mi.keshid.am* 'dur.pulled.1sg' the sentence would be fine as illustrated in (38). This will refer to a repeated activity. If we add durative adverbial, for α time such as 'during the whole day' to the construction in (38), the sentence would be acceptable too as in (38).

(38) a. *Mæn   dirooz   jæbeh   keshidæm.
         I   yesterday   box   pulled.1sg
        'I pulled boxes yeterday.'

      b. Mæn dirooz   jæbeh   mi.keshidæm.
         I   yesterday   box   dur.pulled.1sg
         'I was pulling boxes yeterday.'

      c. diruz   æz   sobh   ta   shæb   jæbeh keshidæm.
         Yesterday from morning till   night   box.pulled.1sg
         ' yesterday from morning till night I pulled boxes.'

Thus, either the quasi-NI happens with atelic verbs or it happens with a telic verb that describes a job or an institutionalized activity or state.

4 What is Quasi-NI, and why is it 'quasi'?

4.1 Incorporated nouns vs. quantificational nouns

We claim that a BN in the direct object position gets incorporated as a property (as proposed by van Geenhoven 1998). Nouns marked by -*i*, being generalized

quantifiers, are quantifier that are raised out of VP, leaving a trace of type e, and are interpreted higher up in the structure.

The different interpretation of bare nouns and *yek/-i* marked nouns is due to their differences in type. The latter are of the type of quantifiers $<<e,t>,t>$, that take a verbal predicate of type $<e,t>$ and bind the argument position (Similarly, they can take a transitive verb of type $<e,<e,t>>$ and bind the object argument). Bare nouns, in contrast, are of type $<e,t>$. Then, we have to explain how a bare noun and a verb, e.g. a transitive verb, can be semantically combined.

One way we could resolve it is by means of a type-shifting operation that applies to the verb (this is the type of semantic NI proposed in van Geenhoven 1998[18] and Cohen & Erteschik-Shir 2002). I adopt the mechanism proposed by Chung und Ladusaw (2004) (it fares better with the upcoming chapters when we need VP-level Existential Closure (EC).

To avoid type-shifting of specific lexical categories, we argue that in the case of a type-mismatch involving a BN the BN moves to V to adjoin to the verb. The verb meaning and the noun meaning are combined by a function RESTRICT that restricts the verb argument by the meaning of the noun (Chung and Ladusaw 2004).

(39)   RESTRICT($\lambda y \lambda x$[buy'(y)(x)], book') = $\lambda y \lambda x$[buy'(y)(x) $\wedge$ book(y)]

The resulting predicate expresses the notion of buying restricted to books. This kind of incorporation is present in languages like Mohawk, where a verb with an

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[18] Below is the semantic NI in line with Van Geenhoven (1998):

     'Buy: $\lambda P \lambda x \exists y$ [P(y)) $\wedge$ buy(y) (x)]

     Book: λy[book (y)]

     Buy (book): $\lambda x \exists y$ [book(y) $\wedge$ buy(y) (x)]

incorporated noun can still be applied to an object. As for Persian, I will argue that there is a general operation of Existential Closure that applies at the level of the VP that existentially binds the object argument, making it unavailable for additional object DPs.

(40)   EC (RESTRICT ($\lambda y \lambda x$ [buy' (y)(x)], book')) = $\lambda x \exists y$ [buy'(y)(x) & book'(y)].

The function RESTRICT involves no type shifting operation and hence does not violate Chierchias's blocking principle. Rather, it is a way to combine two meanings, in addition to the better-known functional application. Also, existential closure EC is not a type-shifting operation either, but a general operation that we can assume at the level of the VP. Hence, the bare noun is never shifted to any other meaning. As a consequence, there is no violation of Chierchia's Blocking Principle, as there is no covert (or overt) type-shifting operation taking place. The predicate is restricted by the property argument (restrictive modifier) but the argument slot of the predicate is not filled. It is bound by EC after being restricted by the syntactic argument of the predicate. This is the essence of Quasi-NI.

Application of EC is the mechanism by which the argumental position gets closed off. The adoption of the RESTRICT function has the advantage of leaving the argument position unsaturated which lets the verb take another argument. This is an important point for our analysis since in Persian there are predicates that can combine with two bare nouns as well. This will be discussed in section 6.

The motivation for quasi-NI is the looser syntactic adjacency requirement, which was mentioned earlier in the introduction. In non-default information structure it is possible to move bare noun for contrastive focus reading for instance. In (41) the movement of bare noun creates a narrow focus effect and stronger accent on the object film.

(41)   Diruz   mæn **film** too   khooneh did.æm.
        yesterday I   film   in   home   saw1sg
        'yesterday I saw movies at home' as opposed to other things.'

A moved BN, however, is interpreted under verb scope as earlier mentioned and always takes narrow scope as illustrated in (42). This shows that in a non-default Information Structure (IS), a bare noun that has moved to the sentence initial position is reconstructed in its base syntactic position for interpretation. There is connectivity between the base position and the surface position in a non-default IS. This movement is due to prominency and is quite free on the surface as shown in the examples below. In these examples 'film' takes a narrow scope with respect to subject quantifier and other operators in both word orders.

(42) a. Hæmeh   **film** too   khooneh   mi.bin.ænd.
          everybody film in   house   dur.watch.3pl.
          'every body watches movies at home'

      b. **film** Hæmeh   too   khooneh   mi.bin.ænd.
          film everybody   in   house   dur.watch.3pl.
          'It is movies that everybody watches at home.'

5   Plural marking of BNs

5.1   Plural marking and specificity

Nouns can be marked as plural, by the suffix –*ha*. Interestingly, such plural-marked nouns typically require the morphological accusative marker –*ra*, which in turn indicates that a discourse referent is introduced that can be picked up by pronominal elements later in the discourse. .

(43) gorbeh-(h)a-ro   did.æm. kheily ziba   boodænd.
       cat.PL-ra   saw.1sg. very pretty   were.3pl
       'I saw the cats. They were very pretty.'

As the gloss suggests, such nominals are typically interpreted necessarily as definite. Ghomeshi (2003), among others, observes that plural marking on the object noun results in a definite reading for the NP, which in turn requires the obligatory presence of object marker –*ra*.

Why should plural marking have this effect of enforcing a specific interpretation, that then has to be explicitly expressed by *ra*-marking? Notice that a simple bare noun is number neutral; a sentence like *gorbeh didam 'I saw cat'* is true if I saw one or more cats. In contrast, the plural form *gorbeh-(ha/a)* applies to two or more cats. We can assume that this additional semantic specificity concerning the number of entities is applied when the speaker has a clearer cognitive conception of the entity, which forces a specific reading. This would be a purely cognitive motivation.

Another line of argument is to assume that existential closure EC can only apply over a verbal predicate that has the property of cumulativity and divisivity. That is, EC requires that if the verbal predicate applies to two events e, e', then it also applies to the sum of e and e'. And it states that if it applies to e, and e' is a proper part of e, then it normally applies to e' as well. Now, this latter property would not hold for a predicate meaning 'see P', where P is specified as 'two or more cats': a part of a seeing of two or more cats may fail to be a seeing of two or more cats. As a consequence, the VP-internal interpretation of a plural-marked nominal is ruled out.

At this point I will not follow up this issue further and decide between the three options outlined. Rather, I will turn to cases in which plural-marked nominals appear to be in the scope of existential closure after all.

5.2 Plural marking without specificity

There are certain constructions in which -*ha*-marking appears without -*ra*, and do not get a definite or specific interpretation. In such cases plurality seems to apply to the noun+verb combination. Interestingly, the plural-marked noun expresses a pluractional interpretation in such cases, which is different from an interpretation that involves a plurality of entities, as indicated by cases in which the plural object is also *ra*-marked. This is indicated with the following example:

(44)   Mæn ketab-ha   khand.æm.
        I   book-PL   read.1sg
        'I read books.' (many different books at many different occasions)

As the gloss indicates, this does not simply express that the speaker read many books; the event of *ketab-khandæn* 'book-reading' must also be scattered over different occasions. With a stative predicate that does not allow to be specified for different occasions, the plural marked bare nouns is interpreted as expressing different varieties:

(45)   Mæn ketab-ha   dar.æm.
        I   book-PL   have.1sg
        'I have many different varieties of books.'

How can this effect of number marking be explained? We propose that *ha*-marking does not just lead to the formation of sum individuals, but rather to the formation of **collections**, where the parts are visible, non-overlapping and separated (cf. Lasersohn 1995 for pluractional events). If such a collection-denoting nominal is combined with a verb via RESTRICT, there is an additional condition that the distinct parts of the collection in the meaning of the nominal correspond to the distinct parts of the event denoted by the verb. In this way, we receive the pluractional meaning, as the parts of the complete reading, the event must be as scattered as the scattered parts of the collection.

Stative verbs do not imply events, hence the distributional meaning must be solely interpreted within the nominal domain. One option here is to assume that the different parts refer to different subkinds.

There is another possible take on the pluractional interpretation. The *ha*-marker, even though it appears syntactically as part of the noun, is to be interpreted as an operator with scope over the meaning of noun + verb. As the *ha*-marker expresses a collection with different parts, we have, as a result, a meaning, which refers to events whose parts are different. This is quite similar to the interpretation of superlative markers, as in the following example from German:

(46) John hat [$_{VP}$ [$_{DP}$ die meisten Äpfel] gegessen].
'John ate the most apples.'
i.e. John ate more apples than other people.

Even though the superlative marker is within the DP, it has scope over the object nominal and the VP; the resulting meaning is that the property of having eaten apples applies to John to the highest degree.

We can have a similar proposal for Persian: By proposing that Plural applies to VP in a similar way as below. In other words, PL has scope over VP and is thus similar to superlatives in German:

(47) John ketab-ha   khand.
John book-PL   read.3sg
John PL[$_{VP}$ book read]

Applying the plural operator to the VP meaning would result in the representation PL({e | ∃y[book(y) ∧ e:[x read y]}), which applies to sums of events e that have the property that there is a book such that e is a reading of y by the subject x (here, John). The fact that multiple events are invoked (instead of one event with multiple objects) results in an interpretation in which an event is scattered over different occasions.

(48) Mæn ketab-ha   khand.æm ta   professor   shævæm.
 I   book-s   read.1sg to   professor   become.1sg.
'I read books.' (many different books at many different occasions)

6 Complex Predicates

Quasi Noun Incorporation has to be distinguished from a closely related construction, the formation of complex predicates. Complex predicate formation consists of a non-verbal element plus light verb. Complex predicates tend to have idiomatic, non compositional meanings. The non-verbal component cannot be questioned. Elements in complex predicates have a tighter syntactically adjacency

41

conditions, which is not the case with Quasi-NI. Complex Predicate resembles Double Incorporation construction, in which two verbal arguments, the object and the indirect object, appear incorporated.

In fact, in such constructions, the adjacency requirement for the object BN is tight, and the verbal predicate is typically a light verb.

Often, the resulting expression is idiomatized, as in *chaneh-zadan*, literally 'chin-hitting', meaning 'to negotiate'. This corresponds to the observation above that quasi-incorporated BNs tend to express an institutionalized activity with the verb. As an example of a case of double incorporation, consider the following:

(49) gol   ab   dadæm.
     flower   water   gave.1sg
     'I watered flowers.'

Both *ab* 'water' and *gol* 'flower' are BNs. This construction is more frequent in Middle Persian or in older history and literary texts. The following sentence is perfectly fine in a middle-Persian context.

(50)   zæmin   daneh   pashidæm.
        Earth   seed   spread.1sg
        'I spread seeds on the ground.'

In (49) [*ab+dadæn*/water+giving] forms a newly modified verb (via application of RESTRICT) that can take another BN as an argument.

In chapter 4 we will see that BNs can be marked with morpheme *–ra* and move out of VP domain receiving definite and generic interpretation. Non-verbal element of the complex predicate cannot be marked with morpheme *–ra* in this way. In (51), the idiomatic expression *kolah-gozashtæn* 'putting hat' can be a complex predicate meaning 'deceive, cheat'. It can also be a combination of BN+V, which means 'putting hat'.

In (51)a there is an ambiguity between the two readings mentioned below. In (51)b only the ((BN+ra) Verb) reading is available. But such a freedom is not available for the complex predicate version of the same verb, which is lexicalized and

has an idiomatic reading.

(51) a. Oo   sær-e-mæn   kolah gozasht.
       he   head-ez-me   hat.put.3sg
       'He/she deceived me.' (it can also mean he put hat on my head, though
    ambiguity makes it funny.)

    b. Oo   kolah-ra sær-e-mæn gozasht.
       he/she   hat-ra   head-ez-i   put.3sg
       'he put the hat on my head.'

Similarly in (52) the non-verbal element of complex predicate cannot scramble
with –ra-marking.

(52) a. mæn æz   didæn-e-to shad.shod.æm.
       I   from see-ez-you happy.became .1sg
       'I got happy seeing you.'

    b. a.*mæn æz   didæn-e-to shad-ra   shod.æm.
         I   from see-ez-you happy-ra   became.1sg

In (53) væræq + mizæn.æd 'page-thumbing' constitutes a complex predicate
with a strong requirement of syntactic adjacency: it cannot be split by the adverb
da'em ('always') which otherwise enjoys a high degree of syntactic freedom.

(53)   ? (oo) in ketab-ra   væræq da'em mi.zæn.æd.
       he this book-objm   page always dur.hit.3sg
       'He always thumbs the pages of this book.'

The predicate zædæn 'hit' as a thematic verb usually requires a –ra-marked
object but as a light verb in the complex predicate chaneh-zædæn 'chin-hitting'
meaning "negotiate", blocks –ra-marking. This is compatible with the function of –ra
as will be discussed in chapter 4 marking a nominal that is not adjacent to the verb.

(54) *chaneh-ra   zædæn[19]
    chin-ra   hitting

This accounts for the fact that in both types of construction the verb can take a direct object or sometimes incorporate another bare noun depending on the predicate as illustrated in (55)-(56). We tentatively propose that in the latter case the function Restrict applies once again.

(55)   Mæn gol   ab   pashid.æm.
        I   flower   water sprayed.1sg
        'I watered (the) flowers.' (double-NI)

(56)   Mæn gol-ha ro ab-pashi-kærd.æm.
        I flower.PL ra water-spraying-did.1sg
        'I watered the flowers.' (Complex Predicate)

    (ab-pashi) nominalized BN plus verb:

In (55) a regular or 'heavy' verb 'to spray' incorporates another bare noun or allows for appearance of a direct object marked by –ra. In (56) there are the same two options: a complex predicate consisting of the light verb *kardan* ('to do') plus another

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[19] Interestingly if I add pronominal it would be possible to mark it with –ra. Although a full discussion of complex predicate is beyond the scope of this dissertation. I suggest that in light of the analysis of –ra in chapter 4, the example below suggests that the complex predicate has a referential element in it and –ra points to this element.

Færib-e-sh-ro   khord.æm.
cheat-ez-him/her/it-ra ate.1sg
'I was deceived by her/him.'

choon-a-sh-ro   bara.t   zad-am.
chin-ez-it/her-ra   for.you   hit.1sg
'I negotiated it for you.'

verbal form incorporating a nominal *ab* 'water' (a compound verb) then takes a direct object marked by *-ro* or another bare noun. This proposal favors lexical rules that allow predicates to productively accept BN objects and a composition rule that treats them as restrictors of the predicate. Complex predicates are highly productive in Persian. Doubling is very limited though. There is a rich literature on complex predicate in Persian, which is beyond the scope of this dissertation as the focus of this chapter was the phenomenon of incorporation, here quasi-NI (for a detailed discussion of complex predicates see (Karimi-Doostan 1997, Megerdoomian 2012, Mueller, 2101, Karimi 1997, Samvelian 2012, Harley and Karimi 2003, among others).

7 Summary

In this chapter we showed bare nouns are different from nominals marked with indefinite determiners *yek* and *–i*. Persian bare nouns are number neutral, whereas morphologically marked indefinites are singular. BNs show properties associated with noun incorporation20. We proposed that there is a special mechanism of semantic composition involved, Restrict, rather than some covert type-shifting operation. We also compared Quasi-NI with constructions demonstrating a higher degree of syntactic unity referred to as complex predicate in Persian. An interesting question arises in which dimensions besides syntactic adjacency Quasi-NI is different from complex predicate, which is a very productive process in Persian. We mentioned some significant similarities and differences. Complex predicates seem to have turned

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20 We discussed some of the differences between *yek* and *–i* although the full analysis of both markers are beyond the scope of this dissertation

into idiomatic expressions, while Quasi-Incorporated nominals obviously do not exhibit such character.

The properties with respect to discourse properties of bare nouns discussed in this chapter, raise a central question: which types of indefinites introduce discourse referents and under what circumstances? Do bare nouns have the ability to set up discourse referents at all? This section has demonstrated that morphologically marked indefinites differ from BN objects in this regard. They introduce discourse referents that can be picked up in subsequent discourse, whereas bare nouns appear as not being able to introduce discourse referents at first sight. The behavior of bare nouns with respect to their discourse referents will be discussed more closely in the next chapter.

Chapter 3:
Discourse properties of Bare Noun objects

1 Introduction

There has been much debate in the literature on noun incorporation with respect to the issue of whether an Incorporated Nominal (IN) can be referred back to in later discourse or not (see Farkas and de Swart, 2003; Mithun, 1984). However, there has been little work on the question of discourse referents and anaphora in Persian. This chapter focuses on the discourse properties of bare nouns, unmarked for number, which are argued to be quasi-incorporated (for an earlier discussion of Quasi-Noun-Incorporation in Persian see Modarresi & Simonenko, 2007).

According to Mithun (1984), languages differ in whether they allow an incorporated nominal to introduce new discourse referents or not. For instance, incorporated nouns in Mohawk introduce a discourse referent that is familiar or novel (see Baker 1996: 287-291), which can be referred back to by a pronoun in a subsequent sentence. In Hindi and Hungarian, on the other hand, incorporated bare singular nouns do not introduce discourse referents (see Dayal, 2004; Farkas and de Swart, 2003). Incorporated nominals that introduce discourse referents which can antecede pronouns in the subsequent discourse are called "discourse transparent" in the literature, and those that do not introduce new discourse referents of their own are called "discourse opaque" (Mithun 1984, Farkas and de Swart, 2003). As Farkas & de Swart (2003) point out, the question whether INs in different languages are discourse transparent or discourse opaque has been crucial since the earliest discussion of noun incorporation in the literature.

In Mithun's typology and many subsequent studies on noun incorporation, discourse transparency is assumed to consist of a binary distinction, that is, an item is either discourse transparent or discourse opaque. We will demonstrate that Persian

bare singulars at first sight seem to be discourse opaque, but show discourse transparency under certain circumstances. This seems to be the case for some other discourse opaques languages as Hungarian and Hindi as well. We discuss these cases and the conditions under which such violations of discourse opacity is observed. The test for this is whether they can be picked up in subsequent discourse by anaphors, i.e. pronominal elements, or not. In other words, bare nouns in Persian can show discourse transparency and as such don't fit neatly into Mithun's typology of NI where such semi-transparent behavior is not predicted.

Farkas and de Swart (2003) have identified similar cases in Hungarian, where singular incorporated nouns, despite being discourse opaque at first sight, may be referred back to, even though not by overt pronouns, but by expressions that arguably show covert anaphoric reference. They refer to such cases as "discourse translucent"[21]. Farkas and de Swart (2003) construct a representation format within Discourse Representation Theory (DRT) to account for the semi-transparent behavior of bare nominals intra-linguistically and cross-linguistically. This semi-transparent behavior of bare nouns calls for a more fine-grained analysis of the discourse properties of incorporated nominals.

We will proceed as follows. In section 2 we summarize the relevant discourse properties of bare noun objects in contrast with morphologically marked indefinites.

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[21] According to Farkas & de Swart (2003), singular INs in Hungarian are not fully transparent like full-fledged DPs as they are invisible to overt pronouns (cannot antecede overt pronouns), but they are not fully opaque either as they are seen by covert pronouns (antecede covert pronouns), at least for some speakers. Farkas & de Swart refer to the latter cases as discourse translucent cases.

In section 3 we start with examples of Mithun's (1984) typological classification of Noun Incorporating languages based on discourse transparency. These examples present cross-linguistic data with regard to discourse properties of bare nouns for a better understanding of the status of Pseudo Incorporation in Persian within Mithun's classification. The rest of section 3 focuses on the analysis by Farkas and de Swart (2003). We describe problems encountered in their account and introduce an alternative analysis based on Kamp and Reyle (1993) to account for translucent cases in Persian, which may shed new light on the semi-transparent behavior of bare nouns. This alternative proposal will be presented in section 5. Section 6 discusses transluscent cases in Persian within the proposed theory. A brief summary of the chapter is presented in section 7.

2 BN objects and morphologically marked indefinites in discourse

2.1 Anaphoric potential of BN and marked indefinites: A first impression

There are various ways of expressing indefiniteness in Persian, depending on whether the nominal is morphologically marked by indefinite markers in Persian (*yek* and/or -*i*) or not marked (bare nouns). As demonstrated, there are four ways of obtaining indefinite readings for object nominals:

1. bare noun,
2. suffix –*i* on the noun (indefinite marker),
3. separate determiner *yek/ ye* (spoken form) 'one/a' preceding the noun or
4. the co-occurrence of suffix –*i* and determiner *yek*.

Examples of the indefinite paradigm are illustrated below in (1). They all give rise to existential readings of the nominals in object position.

(1)   a. mæn roobah did.æm.
         I   fox   saw.1sg
         'I saw fox/foxes.'

b. mæn roobah-i did.æm.
   I   fox-*i*   saw.1sg
   'I saw a fox.'

c. mæn yek roobah did.æm.
   I   one fox   saw.1sg
   'I saw a fox.'

d. mæn yek roobah-i didæm.
   I   one fox-i   saw.1sg
   'I saw a fox.'

Despite this superficial resemblance, the functions and distribution of each morphological indefinite marker are different from the other and from the bare noun. A detailed discussion on differences between indefinite markers *yek* and *–i* is beyond the scope of this chapter[22]. In this chapter, I focus on discourse properties of bare nouns as opposed to non-bare indefinites. We classify indefinites based on whether they introduce discourse referents or not. We will observe that nominals marked with *–i* as well as those marked with *yek* both introduce a discourse referent corresponding to an individual. Bare nouns, on the other hand, appear to fail to do so. The test for this distinction is whether or not they can be picked up in subsequent discourse by anaphors, i.e. pronominal elements such as pronominal clitics (such as *–esh* '3sg') or pronouns.

This is illustrated with the following examples.

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[22] Traditional grammarians state that *yek* and *-i* are equivalent and can replace each other as well. Ghomeshi (2003) proposes that *yek* should be considered as a pronominal counterpart to *–i*. However while *yek* and *-i* can replace each other in some contexts their distribution varies and context can favor one form of marking over another.

(2) mæn hævij khærid.æm   væ khord. æm/.?esh.
     I   carrot bought.1sg and ate.1sg/?it (3sg)
      'I bought carrots and ate.'

The grammaticality status of the second sentence is questionable, indicated by "?". The example is perfectly acceptable when the nominal is marked with *yek* or *-i*.

(3) mæn *yek*/hævij/*-i* khærid.am   væ khord. æm/-esh.
     I   *yek*/carrot/*-i* bought.1sg and ate.1sg/.it
     'I bought a carrot and ate it.'

Generally, it appears that morphologically marked indefinites differ from BN objects with respect to introducing discourse referents as shown in the above examples and argued by previous researchers, in particular, Megerdoomian (2012), Modarresi & Simonenko (2007), Ganjavi (2007).

However, a closer look reveals that there are actually many cases in which pronominal expressions can corefer with a preceding bare noun, as illustrated in (4), which is in contrast with (2). This raises a central question: Under what circumstances do bare nouns have the ability to introduce discourse referents?

(4) a. mæn mashin khærid.æm.   gheimæt.**esh**/*∅ monsabe bood.
        I   car   bought.1sg. price-its/*∅ good   was.3sg.
        'I bought a car. Its price was good.'

     b. mæn mæshin khæridam.   Mi.toon.i sævar-e*sh*/∅ be.shi.
        I   car   bought.1sg.dur. can.you   ride-it/∅   become.
        'I bought a car. You can ride (it).'

In (4)(a), reference to the car, which is introduced by a bare noun, is possible only via an overt pronominal expression, the pronominal clitic *–esh*. In (b), reference to the car is optionally by this clitic *–esh*. The obligatoriness of *–esh* in (a) might be due to the fact that this is a case of associative anaphora. For the point to be made here it is important that this kind of pronominal reference is possible to begin with.

The general consensus in the literature is that discourse opaque BNs cannot introduce discourse referents, but so far we have seen that they seem to be able to do so in at least certain contexts, which will be described in more detail in section 4. *Yek-*

marked and *-i*-marked nominals seem to always introduce discourse referents.

2.2 BNs and marked indefinites with relative clauses

In this subsection we will consider bare nouns and morphologically marked indefinites with respect to their abilities to host relative clauses, as such clauses can be seen as requiring the presence of discourse referents. We find that BNs can neither host restrictive nor non-restrictive relative clauses, whereas *yek*-marked nouns allow for non-restrictive relative clauses and *-i*-marked nouns license both types of restrictive and non-restrictive relative clauses

The following examples show that bare nouns are incapable of hosting relative clauses adjacent to the noun or extraposed:

(5) *mæn   *ketab*[ke dær-morede   venezuela st]   peida.kærd.æm.
      I   book that about   Venezuela is.3sg   find.did.1sg
      'I found books about Venezuela.'

(6) *mæn   *ketab* peida.kærd.æm [ke dær-morede   venezuela æst]
      I   book find.did.1sg   [that about   venezuela is.3sg]
      'I found books that are about Venezuela.'

This is in contrast with *yek-* and *-i*-marked nouns, which both license non-restrictive relative clauses:

(7) mæn *yek/ketab/i* [ke dær morede venezuela st]peida.kærd.æm.
      I   yek/book/i [that about   venezuela is]   find.did.1sg.
      'I found a (some or other) book, which is about Venezuela.'

The fact that bare nouns are incapable of hosting relative clauses in (5) also demonstrates that bare nouns are different from indefinites that introduce new discourse referents as in (7). Bare nouns neither introduce token individuals nor discourse referents corresponding to such individuals. We observed that all morphologically marked indefinites license non-restrictive relative clauses, which require their head NP/DP to set up a discourse referent of the kind that a non-restrictive relative clause can modify as shown in (7).

However, there is a certain construction, where a bare noun seems to appear

52

with a relative clause. This appears to be contradictory to what I said before at first sight but in fact this type of construction is rather different. I refer to it as a purpose construction, which encodes a relation between events.

(8)　mæn　ketab khærid.æm ke　　bekhoon.æm.
　　　I　　book bought.1sg that　read.1sg
　　　'I bought books (in order) to read them.'

(9)　man　ræft.æm ke　　bekhær.æm.
　　　I　　went　　that　buy.1sg
　　　'I left in order to buy.'

In this construction, it is expressed that the main event in the main clause is performed to obtain the result in the purpose clause, or dependent event. While the clause marked by *ke* 'that' looks like a relative clause, it is semantically a "false friend", as it acts as a purpose clause, specifying the whole verbal construction.

3　Varieties of Discourse Transparency.

3.1　Introduction

The discourse characteristics of bare nouns have been mostly viewed in a binary fashion, that is, INs are either transparent or not.

In this section I will first give examples of the well-known classification of incorporation types in Mithun (1984), and then go on to investigate the discourse properties of Persian bare object nouns in greater detail. Presenting Mithun's classification can be useful as we can later see if those conditions that lead to discourse transparency for Persian bare nouns can be seen in other languages.

3.2　Incorporation Classification and Discourse Transparency

Mithun's influential typology has classified noun-incorporating languages into four types, some of which, such as Chamorro, do introduce discourse referents for number-neutral incorporated nouns and many others do not. Based on Mithun (1984), type I, type II, and type III are discourse opaque and IV shows discourse

transparency.

Incorporated nominals generally are supposed to form a complex predicate with the verb (e.g., cherry-picking). The verb and its direct object are juxtaposed to form an especially tight bond. The N loses its argument status and the VN unit acts like an intransitive predicate, denoting a habitual or institutionalized unitary activity (Mithun, 1984). According to Mithun (1984), in terms of discourse referents, since the IN has lost its individual saliency, it is incapable of referring to an entity and thus the patient of the incorporating verb is not identifiable (Mithun, 1984), This is exemplified by Mokilese (Micronesian, Austronesian; Harrison 1976). In (b), there is no reference to individual coconuts, as the gloss suggests.

(10) a. Ngoah   kohkoa oaring-kai   (not incorporated)
        I   grind   coconut-these
        'I am grinding these coconuts.'

     b. Ngoah   ko   oaring.   (incorporated)
        I   grind coconut
        'I am coconut-grinding.'

Most accounts of Noun Incorporation propose that the object either modifies (Van Geenhoven) or restricts (Chung and Ludusaw, 2003; Dayal;) the verbal predicate. Thus the incorporated noun is different from a full fledged DP that introduces a new discourse referent.

Compounding in English, as in *cherry-picking*, should belong to this class as well. The question now is whether we can have anaphoric expressions referring back to potential discourse referents introduced by the noun. Let us consider this with English compounds, as in the following example:

(11) a. We picked some cherries yesterday. They were delicious.
     b. We went cherry-picking yesterday. ?They were delicious.

The pronoun, *they*, seems somewhat degraded in (11)(b) but is by no means ungrammatical with reference to cherries. So, at least for English, incorporated nouns appear to be discourse transparent. A full DP, *the cherries*, appears to be a better

variant here in (11)(b) instead of 'they', whereas it is the less optimal variant in (11)(a). There is a clearer difference between indefinite DPs and incorporated BNs in the following example:

(12)   a. *We picked some cherries yesterday, but there weren't any.
       b. We went cherry-picking yesterday, but there weren't any.

We see in (12)(a) that indefinite DPs introduce discourse referents that are anchored to entities in the world described (except of course if they are in the scope of operators like negation that block this, as in *if he picked some cherries, then he will have eaten them. But I think here weren't any*). This is different for incorporated BNs. This shows that in (11)a, part of the meaning of the first clause is the introduction of a discourse referent for cherries that subsequently is taken up by the second clause. In contrast, in (11)b, the anaphoric expression in the second clause must accommodate a discourse referent in the first clause. Normally, if we hear that someone went cherry-picking, we can easily assume that there are indeed cherries that were picked. The slight difference in acceptability between a pronoun and a definite DP can be explained, as the antecedents of definite DPs which have more descriptive content can be accommodated more easily than the anteceding discourse referents of the pronouns, which have less descriptive content (or in which this descriptive part is not overt, as in the proposal of Elbourne, 2001).

Although INs are often expected to be discourse opaque as exhhibited in type I, II and type III in Mithun's classification (1984) due to the Incorporation combination, there are however languages such as West Greenlandic and Chamorro, in which INs which are not marked for number introduce new discourse referents, such discourse transparent are classified as type IV Noun Incorporation (I refer the reader for more details of each NI type to Mithun's paper (1984)).

Baker (2006, p.18) gives examples from Mapudungun in which the incorporated nouns are discourse transparent (type IV, which can be later referred back to by the pronoun in the subsequent clause as in (13) and (14). This is in contrast

with discourse opaque INs that do not introduce a referent as expected.

(13) Nicassio ngilla-pulku-pe-y. Inche küme-ntu-ñma-fi-n.
     Nicassio buy-wine-PAST-3sS I good-FCT-APPL-OM-1sS
     'Nicassio bought (some) wine. I like it (the wine that he bought).'

(14) Ngilla-waka-n. Fei elu-fi-n Pedro.
     buy-cow-1sS then give-OM-1sS Pedro
     'I bought a cow. Then I gave it to Pedro.'

Within Mithun's classification, Persian BNs do not belong to discourse transparent class of noun incorporating languages (type IV). Persian Quasi-INs belong to discourse opaque categories as shown in (15)a. They cannot introduce identifiable entities and as such are invisible to anaphora. In contrast indefinite nominals marked by –i or *yek* as shown earlier introduce novel referents into the discourse and can easily antecede a subsequent pronoun as in (15)b.

(15) a. John roobah did.   *dom.esh deraz   bood.
        John fox   sawng3sg. Tail.its   long   was.3sg
        'John saw fox/foxes.   *Its tail was long.'

     b. John yek/roobah/-i did.   dom.esh deraz bood.
        John yek/fox/-i   saw.1sg.   Tail.its long was.3sg
         'John saw a fox. Its tail was long.'

However, looking at Persian data more closely, we have identified cases where the BNs may be referred back to by subsequent anaphora, such as example (4) from section 2 repeated below.

(16) a. mæn mashin khærid.æm.   gheimæt.**e-sh** monsabe bood.
        I   car   bought.1sg.   price-ez-its   good   was.3sg
        'I bought car. Its price was good.'

Such phenomena, as we discussed, have also been noted before with some languages that allow for incorporation. Farkas & de Swart (2003) in their seminal work on this issue show incorporated nouns in Hungarian sometimes can be picked up anaphorically and provide a detailed analysis. In the following section, we will discuss the observation by Farkas and de Swart as well as their proposal accounting

for such cases.

3.3 Discourse Translucency in Hungarian

Farkas and de Swart (2003) have discussed cases in Hungarian where incorporated nouns can sometimes support anaphoric reference. Hungarian has both overt and covert pronouns. While morphologically singular INs are opaque with respect to overt pronouns, for some speakers anaphoric reference with a covert pronominal element is judged as acceptable. Example (17) demonstrates that a singular incorporated nominal in Hungarian does not allow for anaphoric reference with an overt pronoun. Sentence (17)b is unacceptable as a continuation of (17)a (i.e., the overt anaphora *ot* in (17)b cannot be anaphoric on the incorporated noun in sentence (17)a). However, binding with covert pronouns seems to be acceptable for some speakers.

(17) a. János$_i$ beteget$_j$ vizsgált a   rendelo˝ben.
     J$_i$ patient.Acc$_j$ examine.Past the office.in
     'Janos$_i$ patient$_j$-examined in the office.'

   b. ?? pro$_i$ Túl súlyosnak találta o˝t$_j$ és beutaltatta   pro$_j$ a
        korházba.
        pro$_i$ too   severe.Dat found   he$_j$.Acc and intern.Cause.Past pro$_j$ the
        hospital.in.
        'He$_i$ found him$_j$ too sick and sent him$_j$ to hospital.'

According to Farkas and de Swart, 2003) the nature of the anaphoric element seems to affect discourse transparency, depending on whether it is covert or overt.

Example 188 of Farkas and de Swart (2003) copied here as (17)b́, shows that a covert pronominal element is acceptable for some speakers to refer back to an incorporated nominal.

(22) b́. pro$_i$ Túl   sulyosnak találta   pro$_j$ és
        pro$_i$ too   severe.Dat find.Past   pro$_j$ and
        beutaltatta   pro$_j$ a korh'azba.
        intern.Cause.Past   pro$_j$ the   hospital.in
        'He found him too sick and sent him to hospital.'

57

Farkas and de Swart (2003) thus conclude that singular INs in Hungarian are neither fully transparent (like full-fledged DPs or plural INs) nor fully opaque, but are discourse translucent. They point out that neither analyses that predict full discourse transparency for INs nor those that predict full opacity can deal with the existing cross-linguistic and intra-linguistic variation, hence a more fine-grained analysis is warranted. In the next sections, we discuss their proposal.

3.4   Modeling Incorporated Nouns by Farkas & de Swart (2003)

3.4.1   The representation of incorporated nouns in DRT

Farkas and de Swart use Discourse Representation Theory (DRT) to model discourse translucency of incorporated nouns in Hungarian. The key proposal concerns a distinction between discourse referents and "thematic arguments" of predicates. In addition to regular discourse referents for those entities that can be picked up by pronouns, there are thematic arguments that are introduced by the argument places of predicates, like verbs, that do not introduce discourse referents. These are the argument slots of a predicate, and are thus introduced by predicative expressions (nouns, verbs, certain prepositions). Therefore, two types of variables are required for their analysis; they use x, y, z for thematic arguments and u, v, t for normal discourse referents. For instance, the noun *fox* contributes the Discourse Representation Structure (DRS) condition **fox (x),** and the verb *see* carries a condition **see (x, y).** Basically, the lexical information that comes with a predicate coming from the lexicon stipulates the number of thematic arguments of the predicate. Incorporated Nominals thus introduce thematic arguments.

Discourse referents (entities explicitly introduced in the discourse) are introduced by full-fledged argumental DPs, pronouns and proper names. At the level of DRS, thematic arguments only make the argument structure of a predicate visible for discourse referents and they do not appear in the discourse universe.

The connection between thematic arguments and discourse referents is carried

out via a process referred to as "Instantiation" by Farkas and de Swart (whereby thematic arguments are replaced by discourse referents). For nominals, the instantiation takes place via determiners (D-Instantiation), replacing the thematic argument of NP with the discourse referents contributed by D. For predicates, the thematic arguments are replaced by discourse referents introduced by DP syntactic arguments via linking theory (for a more detailed explanation, please see Farkas and de Swart, 2003). In this way, all argument slots of a predicate can be filled by discourse referents during the construction of the sentence. However, implicit arguments and bare nouns that are incorporated do not have a determiner that introduces a discourse referent. They can be related directly to thematic arguments of the predicate. Thus, implicit arguments and incorporated nominals restrict thematic arguments, but do not introduce discourse referents.

As an example, we first consider the sentence *A woman arrived* and how Farkas and de Swart would treat such sentences. We represent discourse representation structures (DRSs) in the form [discourse referents | conditions], where the first part lists the accessible discourse referents, and the second specifies the conditions on these discourse referents. To distinguish these brackets from brackets indicating syntactic structures, I will use bigger brackets. Following the treatment in Kamp and Reyle (1993), we assume that a syntactic structure is put in a DRS, and then it is successively transformed into a DRS-condition, while introducing discourse referents at various stages of the process.

(18)   a. Syntactic Representation, within a DRS
$$\Big[\ \Big|\ [\ [_{DP}\ a\ [_{NP}\ woman]]\ [_{VP}\ arrived]]\ \Big]$$

b. The DP is processed: The indefinite article introduces a new
   discourse referent and "binds" the thematic argument of the nominal
woman(x)
$$\Big[\ \mathbf{u}\ \Big|\ [\ [_{DP}\ \mathbf{u}\ [NP\ \mathbf{woman(u)}]\ [_{VP}\ arrived]]]\ \Big]$$

c. The verb is processed:
$$\Big[\ \mathbf{u}\ \Big|\ [\ [_{DP}\ \mathbf{u}\ [NP\ \mathbf{woman(u)}]\ [_{VP}\ \mathbf{arrived(x)}]]]\ \Big]$$

    d. Argument Instantiation: the argument of the verb combines with the
      discourse referent of its DP.
     $[$ **u** $|$ $[$ $[_{DP}$ **u** $[$NP **woman(u)**$]$ $[_{VP}$ **arrived(u)**$]]]$ $]$

Farkas and de Swart introduce the rule of Argument Instantiation for combining DPs with the verb as the above example illustrates, substituting the thematic argument of the verb with the corresponding discourse referent.

Implicit arguments and incorporated nominals have in common that they entail the existence of an object, but they have limited discourse transparency. Farkas and de Swart introduce a rule called Unification for combining the INs with the predicate.

(19) Unification from Farkas and de Swart's 2003 (83), p. 65:
      Replace the relevant thematic argument y of a verbal predicate with the
      thematic argument z contributed by a nominal argument of the verb.

Unification follows the view by Chung and Ladusaw (2003) that INs restrict but do not instantiate the relevant argument of the verb, resulting in a complex predicate. "Unification involves combining a predicative condition contributed by a nominal with the predicative condition contributed by the main verb of the sentence by substituting a particular thematic argument of the latter with the thematic argument of the former". Incorporated nominals are arguments of a predicate that combine with it by Unification. As a result, incorporated nominals restrict one of the thematic argument of their predicate without instantiating it. Restrict could apply recursively as mentioned in chapter 2. There is a good reason for Unification to only apply once as it involves unifying specifically the variable from N with the variable from V, so there's an implicit syntactic restriction.

Below you see the DRS of Unification for the Hungarian data. Here u is the discourse referent introduced by the subject *Janos* and x is the uninstantiated thematic argument introduced by the BN oject *beteget*.

(20)   János beteget vizsgált.
     Janos patient- examined.
     [u | Janos(u), patient(x), examined(x,u)]

Both uninstantiated thematic arguments and discourse referents may show up as arguments in predicative conditions. Therefore, Farkas and de Swart introduce the following verification rule for predicative conditions (Farkas and de Swart's 2003, p. 63):

(21) A function **f** verifies a condition of the form **P(a₁, …, aₙ)** relative to a model M
iff there is a sequence $<e_1, …, e_n> \in E_n$, such that $<e_1, …,e_n> \in I(P)$, and if $\mathbf{a_i}$ is
a discourse referent, $e_i = \mathbf{f(a_i)}$, and if $\mathbf{a_i}$ is a thematic argument, e_i is some
element in E.

The idea of this rule can be carried out in a more transparent way by using embedded boxes with an operator ∃ (explicit existential quantification) that binds the discourse referents of this box and makes them inaccessible to be picked up later. While such explicit quantification is not assumed in standard discourse representation theory, it makes the basic idea of Farkas and de Swart more straightforward, and it can easily be expressed within DRT. The resulting representation is similar to embedded DRSs with a negation as an operator, but of course in this case there is no negation. The interpretation of such boxes is straightforward: It must be possible to extend the current variable assignment so that the embedded box is true with respect to the model of interpretation. In this way, the discourse referent introduced by the local box, here x, cannot be taken up in the following discourse. Incorporated NPs have this existential closure (EC) but are not discourse transparent.

(22) [u | Janos(u), ∃ [x | patient(x), examined(x,u)]]

Farkas and de Swart propose that incorporated nominals cross-linguistically differ as to whether they introduce discourse referents (for instance West-Greenlandic, Mowhak) or involve uninstantiated thematic arguments (ex. Hindi, Hungarian).

3.4.2 Modeling discourse translucency

In this section we discuss the DRT framework adapted for incorporation in

Farkas and de Swart (2003) to capture translucent cases in Hungarian. In order to account for covert pronouns' ability to refer back to an accessible uninstantiated thematic argument, Farkas and de Swart (2003) introduce a relation by $\approx$ between a discourse referent and a thematic argument formulated as $\mathbf{v} \approx \mathbf{x}_i$:

(23) If an accessible and suitable discourse referent **u** cannot be found, add a condition of the form $\mathbf{v} \approx \mathbf{x}_i$, where $\mathbf{x}_i$ is an accessible and suitable thematic argument that is part of a condition $\mathbf{P(x_1, …, x_i, …, x_n)}$ in Con$K$ or ConK' of some K' that is superordinate to K. (Farkas and de Swart, 2003, p. 144).

The construction rules proposed by Farkas and de Swart force overt pronouns to bind to a discourse referent and allow a covert pronoun to bind an uninstantiated thematic argument, if it is the only available antecedent.

The verification clause for $\approx$ by Farkas and de Swart (2003) is formulated as below:

(24) A function **f** verifies a condition of the form $\mathbf{v} \approx \mathbf{x}_i$, where **v** is a discourse referent and $\mathbf{x}_i$ is an (un-instantiated) thematic argument that shows up in the i-th position of a predicative condition of the form $\mathbf{P(x_1, …, x_i, …, x_n)}$, iff **f** maps **v** onto the individual e_i that is the i-th element of the n-tuple $<e_1, …, e_n>$ that verifies the condition $\mathbf{P(x_1, …, x_i, …, x_n)}$. (Farkas and de Swart, 2003, p. 144)

The symbol $\approx$ guarantees that the uninstantiated thematic argument x and the discourse referent v anchor the same entity.

For instance, for the explanation of covert pronouns in Hungarian we start with the following DRS as the output of the first sentence and the input to the second sentence.

(25)   János₁   beteget₂   vizsgált a   rendel″oben.
          János₁   patient.Acc₂   examine.past   the office.in
          'Janos₁   patient₂-examined in the office.'

In the DRS for (25) below u is a discourse referent and x is an uninstantiated thematic argument.

(26) [u | Janos(u), patient(x), examined(u,x)]

The following sentence is interpreted with respect to this input DRS:

(27) pro₁ Túl sulyosnak találta pro₂ és
     pro₁ too severe.dat find.past *pro₂* and
     beutaltatta pro₂ a korh'azba.
     intern.Cause.Past *pro₂* the hospital.in
     'He found him too sick and sent him to hospital.'

The two covert pronouns in the second sentence introduce two new discourse referents v and w. The discourse referent w cannot find a discourse referent as an antecedent. But it can bind the anteceding thematic argument x, thus identifing it with a regular discourse referent.

(28) [u, v, w | Janos(u), patient(x), examined(u,x),
              v=u, w≈x, send-to-hospital(v,w)]

In sum, Farkas and de Swart propose that the choice of the pronoun (covert/overt) determines whether it can antecede a thematic argument (covert pronoun), or whether it must antecede a discourse referent (overt pronoun).

They mention the example below from ter Meulen (2003). The implicit argument in the passive construction (the person who washed the car) is considered similar to an uninstantiated thematic argument that lacks the status of a discourse referent, and thus cannot be referred back to by a pronoun as in (29)b.

(29) a. John had his car washed.
      b. *He did a good job.
      b'.The guy did a good job.

Farkas and de Swart (2003) follow the proposal by van der Sandt (1992) in explaining the above example, that full definite DPs can accommodate their antecedent in (29)b', but anaphoric pronouns cannot as in (29)b. According to Farkas and de Swart, (29)b' is not simply a case of accommodation, however. The discourse referent introduced by the definite DP is somehow linked to the uninstantiated thematic argument in (29)a. In other words, the full DP *the guy* introduces its own discourse referent and points that it should refer to the person who played a role in the

event in which the car was washed, where it occurs as a thematic argument. Farkas and de Swart maintain van der Sandt's view that pronouns cannot accommodate their antecedent.

One problem with this example is that if one uses *they*, or similarly in German, the impersonal pronoun *man*, the sentence would be fine. This shows that it is actually possible to have overt pronouns that relate to thematic arguments, in Farkas and de Swart's terms.

(30) John had his car washed. *He/They did a good job.

(31) Hans hat sein Auto waschen lassen. Man hat das sehr gut gemacht.
      Hans has his car   let   wash   MAN has that very well done

So why is a definite full DP preferred or even mandatory in cases like (29)? We might consider here other cases of such preferences, as in (34):

The problem here seems to be rather referential ambiguity; two or more competing discourse referents are active (for instance John and the person who washed the car in (34)) and a full DP can resolve this contrast by eliminating one of the competitors. For instance, in (32) *she* does not resolve the ambiguity but the proper name does. Sentence (33) unlike (34) may not deal with such ambiguity and is thus judged as fine:

(32) I saw Leila and Sara yesterday. *She/Leila was happy.

(33) I had my hair cut. He/the barber did a good job.

(34) He had his hair cut. *He/the barber did a good job.

The contrast in (32) (the choice of a proper name over a pronoun) and (34) (the choice of full DP over pronoun) is not because of the existence of a pronoun versus a full DP or proper name, since example (33) (where both pronoun and full DP are acceptable) does not show such a contrast. The contrast is due to the amount of descriptive content that is needed to resolve the referential ambiguity. It is a question of more versus less descriptive content. Similarly in example (29) we are not dealing with the choice of full DP over pronoun per se. The descriptive content of the full DP

or the pronoun *they* with respect to the sentential context can resolve such a referential ambiguity.

To account for Hungarian translucent cases, Farkas and de Swart (2003) follow van der Sandt's proposal and state that covert pronouns do the same: given an uninstantiated thematic argument in the prior context, they can introduce (accommodate) on their own a discourse referent that co-refers to that argument (Farkas & de Swart, 2003, p. 142). Their proposal is that covert pronouns have the capability to bring about the instantiation of a thematic argument. Overt pronouns, in their view, may only be anteceded by discourse referents while covert pronouns have a weaker saliency requirement allowing both discourse referents and thematic arguments as antecedent. This is also stated by Ariel (2001), who observes that pronouns can accommodate a discourse referent, but need a cognitively highly prominent "thematic argument" to do so (as provided with hair cutting and a person who is doing the cutting).

3.5   Discussion of the account by Farkas and de Swart

In the proposal by Farkas and de Swart (2003) it is not clear why covert pronouns allow for the promotion of a thematic argument to discourse referential status. If the anaphoric expression is a NP or a full DP, the additional required descriptive content may construct a new discourse referent. This should be less easily possible with pronominal expressions than with full DPs. But empty or covert pronouns have even less descriptive content (no phonetic material) than overt pronouns, in contrast to full DPs. Hence it is unexpected that they can accommodate discourse referents on their own. At any rate, to my knowledge there is no principled theory of the circumstances under which such promotions of thematic arguments to discourse referents are possible, and the forms which allow for this promotion.

It should be noticed that the creation of a new discourse referent by a pronoun is possible. For instance, in the famous 'marble' examples by Barbara Partee below, we can see two sentences with the same truth conditions but with different discourse

properties.

(35)　a.　I dropped ten marbles and found all of them, except for one.
　　　　　 It is probably under the sofa.

　　　　b. I dropped ten marbles and found only nine of them.
　　　　　 ??It is probably under the sofa.

But if in (35)(b) we replace the pronoun *it* with *the missing marble*, the discourse referent can be reconstructed. The first sentence in (35)b does not seem to be capable of promoting the salience of the tenth marble on its own so that it can be picked up by a subsequent pronoun later, neither can the pronoun *it* reconstruct an antecedent referring to the tenth marble. Reconstruction of discourse referents is possible but requires more linguistic material than what Farkas and de Swart propose.

The amount of material needed to promote an implicit entity to the status of a discourse referent depends on the context of use of such examples. For example, in the following turn-taking context, the pronoun *it* can do the job:

(36)　A: I lost ten marbles and found only nine of them.
　　　　B: It is probably under the sofa.

The reason is probably that (A) did not plan to talk about the missing marble, hence did not provide a regular discourse referent for it (for instance, A doesn't intend the missing marble to be a discourse topic). However, the way (how) the situation is described by (A) suffices for B's answer to refer to that entity by a pronoun. In other words, what A says entails that there is a single marble that A didn't find. So B can accommodate that DR and then refer to it like any other DR (i.e. once a DR has been accommodated it looks just like any other DR).

4　Discourse translucency in Persian

In this section I will give a different account of the phenomenon of anaphoric reference to entities that are implied in the discourse, but difficult to pick up by anaphoric expressions. I will argue that the problem is not so much that the

antecedent clause does not introduce a discourse referent, but rather, that it is difficult for pronominal expressions in the second clause to pick up this discourse referent, due to its nature as a number-neutral discourse referent. We will discuss mainly bare nouns in Persian.

4.1 What is discourse translucency?

In this section we will look at a range of situations where bare nouns in Persian show unusual discourse transparency effects as opposed to their usual non-referential behavior. As it turns out, Persian incorporated nouns are neither totally transparent for anaphoric processes, nor totally opaque.

First of all, similar to Hungarian, we find cases in which a non-overt anaphoric element can be anaphoric to a bare noun:

(37) mæn diruz   lebas   khærid.æm. emruz   pooshid.æm-∅/*esh-
    /*eshoon.
    I   yesterday clothes bought.1sg today   wear.past.1sg-∅/*it/*them.
    'I bought clothes yesterday. Today I am wearing (them/it).'

But there are also cases in which Persian allows overt pronouns to refer to entities that are introduced by incorporated nouns, contrary to Hungarian. These can be singular pronouns as the clitic pronoun in (38) or plural pronouns as the clitic pronoun in (39), depending on whether world knowledge evokes one or more entities as the antecedent (recall that bare nouns that are incorporated are neutral as to whether they apply to atomic entities, or to sums).

(38) mæn mobile   khærid. æm. Gozasht.æm-**esh** rooy-e-miz.
    I   mobile   bought.1sg. put.1sg.**it**   on-ez-table.
    'I bought a cell phone. I have put it on the table.'

(39) in aparteman soosk   dareh. ne.mi.doon.æm   chetor æz dæst.**eshoon**
       khælas be.sh.æm.
    this apartment cockroach has.   Neg.dur.know.1sg   how of hand.ez.**their**
       rid.1sg become.1sg.
    'This apartment has cockroaches. I don't know how to get rid of them.'

In cases in which the bare noun could either denote an atom or a sum, we find

that pronouns are avoided in favor of non-overt anaphoric means.

(40) mæn ketab khærid. æm ke bara.t bi.ar.æm.Ø/?esh./?eshoon.
I book bought.1sg that for.2sg subj.bring.1sg.Ø /?it/?them.
'I bought books to bring them for you'

In the following sections, we attempt to tease apart the variety of translucent cases where overt and covert pronouns may be used to refer back to a quasi-incorporated nominal.

4.2 Uniqueness

One kind of situation where anaphoric reference to incorporated nouns is possible is cases in which world knowledge suggests that the bare noun refers to one atomic entity. In such situations bare nouns obtain anaphoric visibility and allow for anaphoric reference with an overt singular pronoun, just like their morphologically marked counterparts; *yek*-marked nonspecific indefinites. In example (38) world knowledge predicts that one most likely buys a single mobile. If we replace 'mobile' with 'apartment', anaphoric reference is also possible, as one usually buys a single apartment unless the person is involved in the job of apartment buying. But in (42) the second sentence clearly indicates that the utterance is most likely about one case of apartment buying so is it the case for (38).

(41) mæn mobile khærid.æm. gozasht.æm-esh/Ø rooy-e-miz.
I mobile bought.1sg. put.1sg.**it/?Ø** on-ez-table
'I bought (a) cell phone. I have put it on the table.'

(42) mæn aparteman khærid.æm. gheimæt.esh/*Ø geroon bood.
I apartment bought.1sg. price.**its**/*Ø expensive was.3sg
'I bought (an) apartment. It was expensive.'

4.3 Anti-uniqueness

Anti-uniqueness refers to cases where the situation suggests that the bare noun refers to a plural entity. Such circumstances allow for anaphoric reference with an

68

overt **plural** pronoun or a covert pronoun. Consider the following examples:

(43) a. mæn havij   khærid.æm. mitoon.i khoord.*esh/eshoon)/ ∅.koni?.

    I   carrot   bought.1sg. can.2sg   cut.*it/**them** / ∅.do.2sg?
    'I bought carrots. Can you cut *it/ **them**/ ∅**?.**'

   b. in   aparteman soosk   dareh. mitoonid   bekoshid.e.**shoon/?∅.**
    this   apartment cockroach has.   can.2sg   subj.kill-ez.**them/?∅**
    'This apartment has cockroaches. You can kill them?'

   c. mæn rooy-e-miz   lubia rikht. æm. Sara jame.shoon/∅.kærd.
    I   on-ez-table   bean spilled.1sg. Sara collect.**them/∅.**did.3sg
    'I spilled beans on the table. Sara collected them/∅.'

This case is, in a sense, the mirror-image of the uniqueness cases described in the previous section: If the situation described by the first sentence strongly suggests that the entity related to the bare noun is unique, then it can be picked up by a singular anaphoric element; and if the situation strongly suggests that it is a sum individual referring to a collection, then it can be picked up by a plural anaphoric element.

4.4   Donkey sentences

Donkey sentences are linguistic structures that contain an indefinite NP inside an if-clause (or relative clause depending on a quantified NP), as well as a pronoun outside of that if-clause (or relative clause) which is anaphorically related to that indefinite NP. Notice that in donkey sentences, the antecedent does not stand in a relation of c-command to the pronoun and so does not bind the pronoun.

(44) If a man owns a donkey, he beats it.

Why do we talk about donkey sentences here? It turns out that they present yet another context where one finds anaphoric references to incorporated bare nouns in Persian, a fact that, to my knowledge, has not been observed before. Usually in Persian the if-clause or relative clause in a donkey sentence contains a bare nominal

and generally allows for anaphoric reference to the BN. This applies to the plural nominals as well as in (48).

(45)   ægær kæs-i   khooneh bekhæreh,   mi.toon.eh   befroushæd-**esh**/∅.
          If   someone   house   subj.buy.3sg,   dur.can.he   sells-it/∅
          'If someone buys (a) house, he can sell it.'

(46)   ægær kæs-i   ketab bekhæreh, ghalebæn   mi.khoonæd-**esh**/∅.
          if   someone   book buys,   often   dur.reads-ez-it/∅
          'If someone buys (a) book, he often reads it/∅.'

(47)   hær-ki khooneh be.khær.eh,   pool.e.**sh/*∅/ro**   hæm mi.de.h.
          anyone house   subj.buys.3sg, money.ez.**that/*∅**.ra   also dur.give.3sg.
          'anybody who buys (a) house, pays the price of it.'

(48)   ægær   særmayeh-gozaran khooneh bekhær.ænd, mitooon.ænd
          hafte-y -e-digær an-ha-ra   be.froush.ænd/∅/eshoon.
          If   investors   house   subj.buy.3sg,   dur.can.3pl
          week- ez-other that-PL-ra subj.sell-3pl . ∅ /them.
          'If investors buy houses, they can sell them next week.'

Notice that in (47), the use of a covert pronoun is actually strongly dispreferred. This contrasts with other sentences, in which a covert pronoun could be used but an overt pronoun is ruled out e.g.(49). As mentioned earlier, the ban on the covert pronoun in (47), seems to be due to the fact that this is a case of associative anaphora. The null pronoun would be in an ezafe construction and not in the same object position as the anteceding referent.

(49) mæn diruz   ketab khærid.æm. Emruz bord.æm. ∅ /*e-sh/*e-shoon
      mædreseh.
      I   yesterday book bought.1sg. Today   took.1sg. ∅/***it/*them**
      school.
      'I bought book yesterday. I took to school today.'

4.5 **Turn-taking effects**

We have seen with example (36) that the anaphoric options may increase with intersentential pronouns across two sentences between which there is a change of

speakers. The same is true in Persian, as illustrated in the following examples. In (50)a, the speaker introduces the bare noun *sib* 'apple', without specifying number. The second speaker (the addressee) refers to that entity as in (50)b.

(50) a. Speaker: mæn sib   khærid.æm.
                    I   apple bought.1sg
                    'I bought apples.'

     b. Addressee: resideh   hæst.ænd. Ø/anha?.
                    ripe   are.3pl. Ø/ they?
                    'Are they ripe?.'

This type of anaphoric reference is not good in situations that do not involve turn taking:

(51) Mæn ketab   khærid.æm. *geroon   bood.ænd. Ø
        I   book   bought.1sg. *expensive   was.3pl. Ø
        'I bought books. *They were expensive. '

As indicated above, the reason for this difference is that in case a speaker intends to refer back to an entity, the preferred option is to provide linguistic structure for it by using an expression that introduces a discourse referent. If the speaker does not make use of an expression that provides for this linguistic structure, e.g. a *yek*-marked noun, then the overall structure will be degraded. In contrast, in the turn-taking case the first speaker presumably does not intend to refer back to the entity related to the bare noun, and hence has no reason to use a *yek*-marked noun. But the communicative goals of the second speaker might necessitate reference to that entity, and then using an overt or covert anaphoric expression is possible in this case[23].

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[23] Another context not mentioned so far, which reference to a discourse referent introduced by a bare noun can occur is when the entity in question is a discourse topic, that is, has been talked about before. Discourse anaphora may be possible with covert and overt pronouns

4.6 Summarizing Translucency

As seen before, bare nouns do not make as good an antecedent as *yek*-marked nouns (or other non-bare nominal forms). But, as we have observed in this section, there are a number of cases where anaphoric reference to a bare noun is possible after all. We have identified the following cases: If the antecedent clause strongly suggests that a unique entity is involved, it can be picked up by a singular anaphoric element. If the antecedent clause strongly suggests that a collection of entities is involved, it can be picked up by a plural anaphoric element. In donkey sentences, referring back to an antecedent in the if-clause appears to be generally easier. And finally, we have seen that after turn taking, it is easier to anaphorically refer back to an entity related to a bare noun used by the other speaker.

These are puzzling data. One way to explain them is to follow the account of Farkas and de Swart (2003) for Hungarian for covert anaphoric elements that, in their view are related to incorporated nouns. The basic idea there can be stated as follows: The antecedent clause did not introduce any discourse referent, but describes a situation in which we can infer from the arguments of the predicate that there is a

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when the BN object that is referred to is sufficiently topical or given, and thus more accessible or retrievable in memory for discourse processing as their corresponding background information must already be available. This happens in exceptional contexts, where a given BN object is topical enough for instance by using topic-triggering words such as belakhareh 'finally' or rasti 'by the way'.

mæn	belækhæreh	aparteman	peida.kærdæm.	dirooz	khærid.æm.	∅/esh.
I	finally	apartment	find.did.1sg .	yesterday	bought.1sg.	∅/it

'I finally found apartment and yesterday I bought it.'

certain entity. There is no babysitting without a baby, and there is no book-buying without books. The covert anaphoric element then is in need of interpretation, and is able to create in hindsight the required discourse referent.

In the next section, I will propose a new account, which says that the antecedent clause introduced a discourse referent all along, but the anaphoric means to pick up that discourse referent in the consequent clause may be lacking.

5 An Alternative Proposal

5.1 Motivation

As discussed in section 3.5 Farkas and de Swart (2003) do not explain why there is an effect of contextual uniqueness on anaphoric potential. Their theory also does not seem to capture why donkey sentences seem natural with overt or covert pronouns. Also, their account is not convincing as to why there should be a difference between overt and covert pronouns in the first place. Normally, constructing a discourse referent requires effort, so it is not plausible that covert pronouns should do a better job.

I would like to propose as an alternative to the account of Farkas and de Swart, namely that bare nouns do introduce a discourse referent. But in contrast to other nominal expressions like singular *yek*-marked nouns or plural-marked nouns, the number feature of bare nouns is neutral. There are no overt anaphoric expressions that could match such number-neutral antecedents in Persian. But **covert** anaphora lack number features, and hence can serve as means to pick up a number-neutral discourse referent. Also, in case world knowledge tells us that the number-neutral discourse referent is anchored to an atomic entity or to a collection, then an overt singular pronoun or an overt plural pronoun might fit the combined linguistic and conceptual requirements, and may be used to pick up the number-neutral discourse referent.

5.2   An implementation in DRT

5.2.1   Number-neutral discourse referents

When we want to model this line of thought in Discourse Representation Theory, we have to assume three kinds of discourse referents: a singular kind referring to atomic entities (at least in the domain of count nouns), a plural kind referring to sums or collections of two or more such entities, and finally a number-neutral kind that does not care about this distinction and fits atomic entities and sum entities equally well.

In fact, the classic work of Kamp and Reyle (1993) already distinguishes between atomic discourse referents, sum discourse referents, and number-neutral discourse referents. We need atomic discourse referents and plural discourse referents to account for the number agreement in cases like the following:

(52)   a. The (female) lawyer hired a secretary whom she liked.

b. The lawyers hired a secretary whom they liked.

In (52)(a) the singular DP *the lawyer* introduces an atomic discourse referent that is picked up by the pronoun *she* in the relative clause (which adds the information that the lawyer is female). Example (52)(b) has a reading in which the plural DP *the lawyers* introduces a plural discourse referent that is anchored to two or more lawyers, and picked up by a plural pronoun, *they*. Kamp and Reyle distinguish between atomic discourse referents and plural discourse referents, giving the following representations:

(53)   a. [u v | the.lawyer(u), secretary(v), u hires v, u likes v]
       b. [U, v | the.lawyers(U), secretary(v), U hires v, U likes v]

Here, the condition the lawyer(u) is satisfied if u is the unique lawyer, and the.lawyers(U) is satisfied if U is the sum of all lawyers. But in addition to this collective reading, (52)(b) has another reading, the distributive reading, which can be paraphrased as follows:

(54) Each of the lawyers hired a secretary that he or she likes.
    [[u | lawyer(u)] $\Rightarrow$ [v | secretary(v), u hires v, u likes v]]

The intended reading is straightforward, and can be given in the DRS above. However, Kamp and Reyle have to provide new construction rules for this case. They propose that sentence (52)(b) expresses a universal quantification over the atomic parts of the sum of all lawyers. But this means that the pronoun *they* must be able to pick up atomic discourse referents as well. So Kamp and Reyle propose a special type of discourse referent in this case which is semantically atomic, but morphologically plural, and hence can be picked up by *they*. They write such discourse referents with the superscript 'pl'. This also shows up in the distributive reading of the following example, in which the quantifier requires a plural noun phrase.

(55) All lawyers hired a secretary whom they liked.
    [[u^{pl} | lawyers(u^{pl})] $\Rightarrow$ [v | secretary(v), u^{pl} hires v, u^{pl} likes v]]

Discourse referents like u^{pl} are a type of discourse referent that is semantically singular (atomic), but morphologically plural. There are also discourse referents that are semantically undecided between atomic reference and sum reference, as in the following case:

(56) All lawyers hired secretaries who they liked and paid them well.

In the distributive reading, this sentence is true iff each lawyer hired one or more secretaries, and paid that secretary or secretaries well. For purposes like that, Kamp and Reyle (1993) introduce the notion of a number-neutral discourse referent that can be anchored to an atomic individual or a sum individual. They use Greek letters for this kind of discourse referent. The sentence (56) then has the following interpretation:

(57) [[u^{pl} | lawyers(u^{pl})] $\Rightarrow$ [δ | secretary(δ), u^{pl} hires δ, u^{pl} likes δ, u^{pl} pays δ well]]

The discourse referent δ is anchored to atomic or sum individuals. As we see with the example, it is introduced by a plural NP *secretaries*, and picked up by a plural pronoun *them*.

5.2.2   The discourse referents of quasi-incorporated nouns

Let us now come to bare nouns, or quasi-incorporated nouns in Persian. We have seen that in the case of bare nouns in Persian, the entity the bare noun evokes can be atomic or a sum entity. If we want to consider a theory in which bare nouns introduce a discourse referent, then it has to be a number-neutral one. This means that the bare noun itself is number-neutral, which is compatible with the fact that such sentences may involve atomic individuals or sum individuals. We then have the following analysis:

(58)   John roobah   did.
      John fox   saw.3sg
      'John saw fox/foxes.'

[u, δ | John(u), fox(δ), saw(u, δ)]

We have seen above that it is not impossible, but somewhat harder to pick up such number-neutral discourse referents δ than discourse referents that are introduced by a *yek*-marked noun (which would be specified as atomic) or by a plural-marked noun (which would be specified as denoting a sum individual). There are two reasons for this.

As we have argued, the bare noun itself is number neutral, neither singular nor plural. This is different from the case of English sentences like (56), in which a plural pronoun can pick up a number-neutral discourse referent, because the antecedent itself was plural. In the case of bare nouns, I would like to argue; the morphological form neither suggests a singular nor a plural feature. So, the form of the bare noun antecedent does not suggest either a singular or a plural pronoun. It is often undetermined whether the entity the bare noun denotes is an atomic individual or a sum individual. Hence it is often not clear from semantic reasons either whether the discourse referent that the bare noun introduces should be picked up by a singular pronoun or a plural pronoun.

It is true that a singular pronoun or a plural pronoun would be semantically

compatible with a number-neutral discourse referent. But then the pronoun would give additional semantic information, which should be avoided if that information can already be specified with the antecedent, by simple grammatical means, like by using a *yek*-marked noun or a plural-marked noun. When I say it should be avoided, this does not mean that it is impossible. We find a case in point in English in sentences like (52), *A lawyer hired a secretary that she liked*, where the pronoun she adds the information that the lawyer is female. Similarly, it is possible to pick up a neutral discourse referent by a pronoun, as we have seen above, and will explain below again. But in any case, this is a marked option, as normally a pronominal expression does not add additional information to the referent.

We have seen that in English, the plural pronoun *they* is actually compatible with reference to atomic entities, cf. example (55) and (56). It should be pointed out that Persian is different in this respect. The plural pronoun must be anchored to non-atomic entities, as shown in the following example:

(59) Hæmeh bacheh.ha asbab-bazi-i ro entekhab.kardand ke *anha/∅
      doost.dasht.and
      all   child.PL toy-i   ra pick.did.3pl   that they/∅ like.did.3pl
      'all the children picked a toy that *they/∅ liked.

As we see, Persian avoids using the overt plural pronoun to pick up an atomic discourse referent. Instead, a covert pronoun is used, which is compatible with atomic and non-atomic discourse referents.

I have mentioned two reasons why it is difficult to pick up the discourse referent that is introduced by a bare noun with a pronoun: The bare noun is neither singular nor plural, and the discourse referent is neither restricted to atomic individuals nor to sum individuals. Of course, if there were a pronoun that is neither singular nor plural, and is not semantically restricted to atomic individuals or to sum individuals, then we predict that such pronouns would be able to pick up the discourse referents introduced by bare nouns without problem. Does Persian have such anaphoric devices? Not as overt pronouns, but I would like to argue that they

exist as covert anaphoric devices that have no formal number feature. And this is the reason why covert anaphoric elements allow for picking up discourse referents introduced by bare nouns (or rather more specifically, by incorporated nouns), at least in Persian.

5.2.3 A comparison with Farkas and de Swart (2003)

Above I have sketched an alternative account of the anaphoric potential of bare nouns (or incorporated nouns). Its theoretical impact can be easily compared with Farkas and de Swart (2003), as both accounts are phrased within Discourse Representation Theory.

Farkas and de Swart explain the problem of anaphoric reference to an incorporated antecedent by assuming that they do not introduce any discourse referent at all. Rather, if there is an anaphoric device that should be related to the bare noun, a suitable referent has to be created from the argument position of the verb of the antecedent clause. The problem with their analysis is that it is unclear why this can be achieved with a non-overt anaphoric device, but not with an overt pronoun. One would expect that the overt pronoun would have an easier time to force this change in the interpretation of a past clause.

In the proposal developed here, incorporated nouns do introduce discourse referents right away, but their discourse referents are number-neutral, and the nouns are formally number neutral as well. This explains why overt pronouns are not very well suited to pick up these discourse referents, as they are specified for number, and for atomic or sum individuals. But it explains why covert anaphoric elements can pick up these discourse referents easily, as they lack number specification, and they do not impose atomicity or non-atomicity on their referents.

In the next section, I will discuss the various kinds of cases in which anaphoric reference is possible – the "translucent" cases – in the light of the theory proposed here.

6 Explanation of translucent cases in Persian

6.1 Explaining Non-Overt reference

We have proposed that incorporated nouns in Persian introduce number-neutral DRs. Overt pronouns have a singular or plural feature, presuppose reference to an atomic or non-atomic entity, and therefore cannot easily pick up number-neutral discourse referents. In contrast covert pronouns have no number feature and can pick up number neutral discourse referents. Hence, we have the following analysis:

(60) John porteghal   mi.khæreh   Ali poost.mi-kænd/?esh/?eshoon.
      John orange   dur.buy.3sg.   Ali skin.dur.cut.3sg ∅/?it/?them
      'John buys oranges Ali skins them.'
      [u, δ | John(u), orange(s)(δ), u buys δ]   [u, δ, v | …, Ali(v), v skins δ]

We have to assume that argument positions that are not filled overtly are related to a number-neutral discourse referent that can be identified with a discourse referent that has already been introduced before. I write here "orange" in the DRT representation, to indicate that the noun may refer to atomic individuals or sum individuals. As it is well-known, non-realized arguments can be understood indefinitely (as in *John ate*), or definitely (as in *Bill coughed. John noticed.*). In cases like (60), the argument position of the verb *poost.kand* 'skinned' has to be interpreted as definite.

6.2 Explaining Uniqueness and Anti-Uniqueness effects

If the situation strongly suggests that the bare noun refers to an atomic entity or a non-atomic (sum) entity), then a singular or a plural pronoun is possible. While the discourse referent is number neutral, competent speakers can infer from world knowledge that the discourse referent is most likely anchored to an atomic individual or to a sum individual. This allows for the use of a singular or a plural pronoun, which presupposes that the discourse referent they pick up, is restricted in this way.

On the semantic side, this phenomenon is similar to the use of gender pronouns

if the antecedent expression suggests a referent of a particular sex, by stereotypes or expectations rooted in world knowledge. In the following examples, grammar leaves it open whether the antecedent is male or female, but such knowledge suggests one or the other, leading to a continuation with *he* in the first case, and *she* in the second.

(61) a. The general came in. He / She smiled.

b. The nurse came in. He / She smiled.

In a language with grammatical gender like German, semantic considerations can even override grammatical agreement, as in the following examples:

(62) Das Mädchen kam herein. Sie trug ein weißes Kleidchen.
the.NEUT girl came in. she.FEM wore a white dress
'The girl came in. She was wearing a white dress.'

(63) Der Vamp kam herein. Sie trug eine schwarze Robe.
the.MASC vamp came in. she.FEM wore a black robe
'The vamp came in. She was wearing a black robe.'

We have seen that in Persian, singular pronouns can pick up a discourse referent if it is very likely that a unique entity is involved. This then suggests the following analysis:

(64) mæn mobile khærid.æm. gozasht.æm-**esh** rooy-e-miz.
I mobile bought.1sg. put.1sg.**it** on-ez-table
'I bought mobile. I have put it on the table.'

[u δ v | Ali(u), mobile(s)(δ), u buy δ, v=δ, u put v on table]

The bare noun *mobile* introduces a number-neutral discourse referent. As people are likely to buy only one mobile (at least at a time), it is possible to pick it up to identify it with the discourse referent of a singular anaphoric element, without further problems. The equation v=δ means that v and δ are anchored to the same discourse referent, where δ can be anchored to atomic or non-atomic discourse referents, and v can only be anchored to atomic ones. In this case, it is not necessary to mark the antecedent as singular, *yek*.

Anti-Uniqueness is the opposite case, where world knowledge suggests that the

neutral discourse referent is anchored to a sum individual. This enables the use of a plural pronoun, as in the following case:

(65) Mæryæm   hævij khærid.   sepæs khoord.eshoon/∅-kærd.
Maryam carrot bought.3sg.   Then cut-**them/∅**-did.3sg
'Maryam bought carrots. Then she cut them.'

[u V δ | Mariam(u), carrot(s)(δ), u bought δ, δ = V, u cut V]

6.3   Explaining anaphoric reference in donkey sentences

We have seen that donkey sentences are more liberal in the choice of anaphoric expressions that may pick up the number-neutral discourse referent introduced by a bare noun. A plausible reason for this is that in such sentences we have a reading that gets the same truth conditions irrespective of whether we quantify over atomic or non-atomic entities. Hence ,the choice of singular or plural pronoun does not matter. This is illustrated in the following example:

(66) ægeh kasi   ketab mi.khær.eh,   ghælebæn   mi.khoonæd.esh/eshoon/∅

If   one   book dur.buys.3sg, often   dur.reads.it/them/∅
'If someone book buys, usually reads it / them.'

a. [... | [u δ | person(u), book(s)(δ), u buys δ] ⇒ [| u reads δ]]
b. [... | [u δ | person(u), book(s)(δ), u buys δ] ⇒ [v | v = δ, u reads v]]
c. [... | [u δ | person(u), book(s)(δ), u buys δ] ⇒ [V | V = δ, u reads V]]

Representation (a) corresponds to the use of a non-overt anaphoric device, representation (b) to the use of a singular pronoun, and (c) to the use of a plural pronoun. All three versions are possible. This is because all three represent the same interpretation, if the interpretation of the donkey sentence can be rendered in predicate logic as follows (this is the symmetric interpretation of donkey sentences, cf. Kadmon 1987 for further discussion of asymmetric readings):

(67) ∀x∀y[person(x) ∧ donkey(y) ∧ buy(x,y) → read(x,y)]

The reason why this is so is that the predicates *kharidan* 'buy' and *khoondan*

81

'read' are interpreted cumulatively, just as their English counterparts. In particular, if x buys (reads) y_1, and x buys (reads) y_2, then x reads (buys) also the sum of y_1 and y_2. This makes it the case that it does not matter whether we quantify over variables anchored to atomic individuals or sum individuals. Thus, all kinds of pronouns can refer back to the previously mentioned entity/entities.

As it is well known (cf. e.g., Geurts, 2002) the reading in (67) is not always present. For example, in the following case we understand the truth conditions involves:

(68) If a customer had a credit card, he paid with it.
$\forall x[[customer(x) \land \exists y[cc(y) \land have(x,y)] \rightarrow \exists y[cc(y) \land pay\text{-}with(x,y)]]$

Hence, it is sufficient that a customer pays with one credit card if he or she has more than one of them. I do not intend to go into the requirements and representation of this reading here (see e.g., Geurts 2002). But, I would like to mention that in Persian we find a preference for using the singular pronoun in this case, as it would be expected.

6.4 Explaining anaphoric reference in turn taking

We now come to the last context that we have identified as one that facilitates anaphoric reference to bare nouns, namely in cases there is a turn-taking between the antecedent expression and the anaphoric expression. In turn-taking situations the speaker does not plan to take up the discourse referent, and hence uses a less specified form. The addressee can have different conversational goals and use a singular or plural pronoun, to pick up the discourse referent in order to highlight a particular feature of the antecedent for various communicative and rhetorical purposes.

(69) A: mæn sib khærid.æm.
     I   apple bought.1sg
     'I bought apples.'   [u δ | speaker=u, apple(s), bought(u, δ)]

     B: resideh hæst.ænd?   [u δ V | speaker=u, apple(s), bought(u, δ),
        ripe   are.3pl.?   V = δ, ripe(V)]
        'Are they ripe?'

In this exchange, B reacts with a question, which is quite natural for such turn takings; it is not represented in the formal representation that this is a question. Speaker B interprets the antecedent as being anchored to a plural entity, and hence uses the plural agreement form of the verb.

7 Conclusion

In this chapter we discussed the discourse properties of bare nominals (Quasi-Incorporated nominals) in Persian in terms of their ability to support different forms of anaphoric reference. Incorporated Nominals in Persian generally show properties similar to discourse-opaque incorporating languages such as Hungarian, Hindi, etc. unlike type IV in Mithun's classification. However, we demonstrated various cases, where anaphoric visibility is permitted in Persian. Farkas and de Swart (2003) proposed an analysis in the framework DRT to account for similar cases in Hungarian where INs may antecede a covert pronoun in certain circumstances, allowing for limited anaphoric visibility. We discussed the problems posed by their analysis when faced with new sets of data in Persian, where bare nominals antecede both covert and overt pronouns. We described the conditions under which such anaphoric relations become possible, such as uniqueness and anti-uniqueness, where world knowledge may license a reference to an atomic entity (uniqueness) or a sum (anti-uniqueness). More examples were presented for donkey sentences in Persian, where anaphoric reference is possible.

We proposed an alternative analysis following Kamp and Reyle's analysis of dependent plurals. According to this, bare nouns introduce number neutral discourse

referents. Overt and covert pronominals in Persian differ with respect to their number specification; therefore, when a pronominal can't refer back to a bare noun, it is actually attributable to a number mismatch rather than the fact that the BN has not introduced a referent. We think that this alternative has empirical and theoretical advantages over Farkas & de Swart (2003). As for empirical advantages, it explains the uniqueness and anti-uniqueness effects and the influence of world knowledge in the choice of overt pronouns. As for theoretical advantages, I think it offers a solution for the treatment of the discourse referents associated to bare nouns that are more in line with general Discourse Representation Theory than the retrospective elevantion of thematic arguments to discourse referents.

Chapter 4:
Objects and Default Information Structure

1 Introduction

In chapter 3 we discussed the discourse properties of bare nominals in object position as opposed to other morphologically marked indefinites. We presented an overview of the function of morphemes such as the plural marker *-ha* and the indefinite markers *yek* and *–i* for a better comparison with bare nouns.

The puzzles to be discussed in the current chapter are the various readings of subject and object bare singular nominals in Persian to describe the general conditions under which each reading is permitted. Bare singular nouns receive different interpretations, including generic, definite and existential readings. They appear in different sentential positions, realizing different grammatical functions, including subject, object and indirect object.

At first sight there appears to be a subject-object asymmetry in the interpretation of bare nouns.

Looking at bare singular objects and subjects, where there is no morphological marking, we see a bare noun receives an existential reading as an object as in example (1) and often a definite or generic reading as a subject, illustrated in (2). This is a persistent view in the literature. For instance, Ghomeshi (1996, 2003) proposes that bare noun is construed as non-referential in direct object position but definite in subject position.

(1)   mæn ketab mi.khær.æm.
      I   book   dur.buy.1sg
      'I buy books.'

(2)   bæcheh bahoosh æst.
      baby   intelligent is.3sg
      'the baby/babies is/are intelligent.'

Example (1) shows that the only available reading for bare singular objects is an existential interpretation (here non-specific, number neutral, and non-referential reading, as mentioned in chapter 2 and 3).

In (2), the bare singular subject *bacheh* 'baby' can be interpreted as definite, referring to a particular baby, previously introduced in the context and uniquely identified by the speaker and the hearer. In the same sentence it can also receive a generic reading 'babies are intelligent in general'.

In example (3) below, the bare noun subject is interpreted as definite. The generic reading is not available because of the episodic nature of the agentive predicate with respect to the bare nominal subject, which will be discussed in this chapter further.

(3)   bæcheh   mi.ræghsæd.
       baby/child dur.dance.3sg
       'the baby/the child dances'

The above distinction between typical subject and typical object bare nouns is what one can detect at first sight. However, looking more closely we will see that these semantic tendencies for bare noun subjects and object may be violated. In particular, a bare noun subject may also receive existential readings in various contexts, a fact that has not received much attention in the literature. Also, bare noun objects when marked with suffix *–ra*[24] (traditionally referred to as a direct object

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24 *-o, -ro, -ra* in the colloquial language.

marker) can obtain definite and generic readings[25]. Thus, we need a more fine-grained analysis to describe why such a tendency exists for bare noun subjects and objects and when these tendencies are violated.

In the current (chapter 4) and the following chapter (chapter 5) we will show that there is no fixed syntactic position for subjects or objects. Bare nouns occur in different positions as information structure requires, realizing different functions, depending on whether they are given or not. The current chapter focuses on bare noun objects. We intend to provide a straight comparison between bare nouns as considered 'true bare nouns', i.e. not marked with any morpheme, and compare them with circumstances when they appear with the morpheme *-ra.* In chapter 5 we will turn to bare noun subjects.

The differences between simple bare nouns and bare nouns marked with *–ra* has nothing to do with a particular semantics of the morpheme *–ra*. I will argue that *-ra* rather marks that a bare noun or other DP is interpreted not in its vP/VP[26]-internal position, but has moved to a vP/VP-external domain. It is a morphological indicator for scrambled objects. That is, it is a clause level syntactic morpheme (see also Modarresi, 2010).

Bare noun objects marked with the morpheme *–ra* receive definite or generic readings, i.e. the typical interpretation of bare nominal subjects without any formal

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25 Though *–ra*-marked bare nouns is not deemed in the literature as "truly bare" anymore. This point will be clarified throughout this chapter.

26 The distinction between vP and VP does not affect our analysis. The divide in the clause is between vP/VP and TP/IP. We use VP and IP as cover terms for this distinction.

marking. As we will see in chapter 5, while bare noun subjects typically occur outside of the vP/VP, they also may occur inside, leading to an existential reading. Hence, subjects and objects have similar interpretational possibilities (inside or outside the vP/VP), but the position of an object outside of vP/VP has to be explicitly marked.[27].

The literature on Persian syntax/semantics has tried various morphological treatments of the nominal suffix -*ra* as marking definiteness, topicality, specificity, case etc. (Khanlari 1974, Browne 1970, Sadeghi, 1970, Peterson 1974, Windfuhr 1979, 1987, 1990; Dabir-Moghaddam 1990, 1992, Browning and E. Karimi 1994, Ghomeshi 1996, 1997, Karimi, 1989, 1990, 1994, 1996, 2003a, 2005; Ganjavi 2007, among others). Persian *ra*-marking has also been seen as a classical example of so-called "differential object marking", the phenomenon that many languages apply object marking relative to semantic criteria like definiteness, specificity and animacy (cf. e.g., Bossong, 1985). Most of these analyses capture some important aspects of the interpretation of sentences with –*ra* marked objects. Nevertheless, all of these proposals fall short of a generality, hence the need for a more abstract analysis, which yields the particular interpretations of -*ra* as side effects.

The study of the interpretation of bare nouns sheds light on the function of –*ra* as well. The proposal here is that -*ra* does not mark anything semantically as a morpheme, but instead diagnoses the high structural position for the direct object from its base position VP internal domain to VP-external domain. –*ra*-marking is, therefore, correlated with wide scope and the associated pragmatic interpretations

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27 Nominals marked with indefinite morphemes *yek* and –*i* can also be –*ra*-marked in which case they receive specific indefinite readings (see Karimi, 2003 for the role of –*ra* as marker of specificity).

under an independently supported hypothesis, the mapping hypothesis by Diesing (1992).

The theory to be developed here builds on Diesing's (1992) mapping hypothesis, which splits the sentence into two parts (VP and IP). Diesing (1992) discussing the interpretation of indefinite NPs suggests that material within the VP is mapped onto the nuclear scope subject to existential closure[28], whereas material from IP is mapped onto the restrictive clause of the quantifier.

In this chapter we use a syntactic structure similar to Diesing's (1992) Mapping Hypothesis, to map these semantic differences. We propose that objects originate inside VP but move out of VP when their discourse referents are given.

 Then we move from bare nouns to other nominals, such as indefinite marked nouns (-*i* and *yek*), to observe the effect of –*ra*-marking within this proposal. This proposal can extend to –*ra*-marking of all kinds of nominals, for instance –*ra*-marking shifts the scope of indefinites to only wide scope. The effect of –*ra*-marking on indefinites is specificity that is obtained in the restrictive clause in IP domain. This is compatible with previous accounts that consider –*ra* as a marker of specificity, without tying us to the proposal that *all* –*ra*-marked nominal are specific.

At the end of the chapter we look at examples where –*ra* obligatorily appears to discuss the role of verbal semantics and aspect on the –*ra*-marking of objects.

In the next section I present a brief overview of literature on –*ra.*

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28 Heim (1982) initially proposed the existence of VP-level existential closure over the nuclear scope in tripartite quantificational structure and Diesing (1992) developed her mapping Hypothesis based on this insight.

2 Background

There have been many analyses of *–ra*. It has been defined as having various functions or properties, simply as a marker of the object complement (Khanlari, 1974), a marker of definiteness (Sadeghi, 1970, Ghomeshi, 2003; Belyaev, 2009), a marker of specificity (Browne, 1970, Karimi, 2003), a marker of topicality (Karimi, 1989; 1990) or of secondary topics (Dabir Moghaddam, 1992) a case marker for DPs (Ganjavi, 2007). For Ghomeshi (1997) *–ra* is a phrasal affix KP (Kase Phrase) with head K that selects for a DP complement as marking case in addition to marking definite and topic noun phrases. Ganjavi (2007) argues in line with Ghomeshi 1996, 1997 that *–ra* is a case marker and hence only appears with DP direct objects.

In what follows I present a summary of different accounts of *–ra*. Although *-ra* has been referred to as a marker of definiteness in the literature, it can appear with indefinite nouns. Thus *–ra* is not a marker of definiteness.

Browne (1970) suggests that *-ra* does not mark definiteness because it can co-occur with the indefinite markers *–i* or *yek*. He assumes instead that *-ra* is a marker of specificity.

(4) a. film did.æm.
   film watched.1sg
   'I watched movies.'

  b. film-ra did.æm.
   film watched.1sg
   'I watched the movie.'

The minimal pair in (4)a and (4)b seems to show that *–ra* is marking definiteness. However, (4)c and (4)d below show that *–ra* can appear with indefinites resulting in a specific reading of the indefinite noun.

c. film-i   did.æm
   film   watched.1sg
   'I watched a movie.'

d. film-i-ra   did.æm.
   film   watched.1sg
   'I watched a particular/specific movie.'

Since –*ra* appears only with objects, it may be considered as marker of accusative case. However, –*ra* can appear on adverbials as noted by Karimi (1990) in (5). It may also appear twice in a sentence as in (6):

(5)   hæfte-ye aayænda-ro esterahæt mi-kon-æm.
      week-ez coming-ra   relax   dur.do.1sg
      'As for next week, I will relax (I'll relax the whole week).'

      (Karimi 1990, p. 167, (78))

(6)   mashin-o dar.esh-o   bæst.æm
      car-ra   door.3sg-ra   closed.1sg
      'As for the car, I closed its door'

      (Karimi 1990, p. 143, (13))

Karimi (1989, 1990, 1999) analyzed -*ra* as a 'specific-oblique' marker. By oblique cases she means non-nominative case. In other words, she concludes that -*ra* marks a nominal for specificity as long as it does not receive nominative case.

Ghomeshi (1997) argues that –*ra* can be triggered by a number of different properties of NPs correlating with high transitivity, such as definiteness, animacy or topichood (Ghomeshi 1997, p. 133 and134).

The morpheme –*ra* has been considered also as a marker of topicality (Peterson, 1974; Windfuhr, 1979, 1987). Ghomeshi argues that assuming –*ra* as marker of topicality poses a problem. Since topics are supposed to mark old information and indefinite markers such as *yek* and -*i* are supposed to introduce new information, their co-occurrence causes a problem, as the same noun phrase is not expected to represent

both old and new information.

To address the problem that is raised with regard to co-occurrence of –*i* and –*ra* Dabir moghadam (1992) argues that –*ra* marks secondary topics. The distinction is that topics contain old information, whereas secondary topics can introduce new information.

(7)   mæn diruz mærd-i-ro did-æm.
       I yesterday man-i-ra saw.1sg
       'I saw a certain man yesterday…'

Dabir-Moghaddam proposes that sentence (7) is appropriate in a discourse where additional information is required, i.e. in (7) the speaker would continue on giving more information about the man he saw yesterday. Thus, he concludes that *mard-i* 'a man' is a 'secondary topic'.

Ghomeshi (1997) elaborates on this view and says it is why the co-occurrence of –*i* and -*ra* is more felicitous with a succeeding relative clause. However, it can be observed that –*i*-marked nominals is generally more felicitous with a subsequent relative clause regardless of whether it is –*ra*-marked or not (perhaps even a nominal marked with –*i* without being marked with –*ra* demands a succeeding relative clause more strongly). Besides, -*yek*-marked indefinites may also be –*ra*-marked with certain predicates without requiring a relative clause.

Dabir-Moghaddam has given the following example attributed to Phillot 1919 (Dabir-Moghaddam 1992, p. 557, (24)), where a –*ra*-marked noun is interpreted as generic thus undermining –*ra* as a marker of specificity.

(8)   serke   shir-ra   mi-borræd.
       vinegar milk-ra   dur-curdle.3sg
       'Vinegar curdles milk.'

The generic reading of –*ra*-marked nominals (BN-ra) does not seem to have received much attention; thus, for many –*ra* being considered as marking specificity is persistent in the most recent literature (but see Krifka 2001). As exemplified in (9) any bare noun that is marked with –*ra* can be interpreted as generic, with the habitual

reading of predicates (which states a general property of individuals). In (9) a generic reading is available in addition to a definite reading, because of the habitual aspect of the verb 'tear':

(9)   Mæn Kaghæz ra pareh.mi.kon.æm.
        I   paper   ra tear.dur.do.1sg
       'I tear the paper/I tear paper.'   (Generic or definite reading)

Data confirming the generic readings for –*ra*-marked objects further supports Dabir-Moghadam's attempt seeking an alternative analysis to the widespread account of –*ra* in the literature as a marker of specificity or definiteness.

Ghomeshi elaborates on Dabir-Moghadam's account using Erteschik-Shir's theory of topic and focus (1993). The theory proposed by Erteschik-Shir allows a nominal to be a topic and indefinite at the same time by means of a relative clause. According to Ghomeshi definite and presupposed arguments, obligatorily appear with –*ra* but indefinites may appear with -*ra* even if they are not animate, as long as they are interpreted as topics. Thus, based on Ghomeshi –*ra*-marked indefinites are required to be topics.

 Ghomeshi also considers –*ra* as a case marker. She considers –*ra* to be a phrasal inflectional suffix heading a KP (case phrase) in the framework of Travis Lamontagne (1992), that marks any DPs that is adjoined to VP below vP, as long as that DP is thematically licensed (Ghomeshi, 1997b, p. 144).

Previous accounts have also noted that –*ra*-marked objects appear higher in the syntactic structure of their clauses (Kahnemuyipour, 2004; Karimi, 2003; Browning and E. Karimi 1994, Ghomeshi 1996, 1997). Karimi (2003) proposes a structure with two base positions for two types of objects (specific DPs and non-specific DPs) and defines –*ra* as a marker of a specific nominal appearing higher than a nonspecific

object that is compatible with the syntactic, semantic, and morphological asymmetries between the two types of objects. The phrase structure proposed by Karimi is presented below:

Two object Position Hypothesis (Karimi, 2003)[29]:

a. [$_{VP}$ DP$_{[+Specific]}$ [$_{V'}$ PP V]]

b. [$_{VP}$ [$_{V'}$ PP [$_{V'}$ DP$_{[-Specific]}$ V]]

Karimi considers *yek*-marked nominals and bare nouns as non-specific DPs versus –*ra*-marked nouns as specific DPs. Our account is different from Karimi. We have discussed differences between *yek*-marked indefinites and bare nouns in chapter 2. The non-specific reading of *yek*-marked nouns is obtained VP-internally due to the application of VP-domain Existential Closure.

A bare noun, on the other hand, is different for lack of number specification and thus is regarded as being quasi-incorporated. Thus, bare nouns cannot be considered as simply [-specific] DPs, as suggested by the structure (a) above.

–*ra*-marked bare nouns can be considered as DPs as –*ra* appears on any definite nominal as will be shown in section 4.4. The other difference is that we do not consider two different types of objects with two separate base positions for objects. Objects originate inside VP and can move outside of VP. –*ra* marks any object that has moved out of VP into the IP domain.

Karimi (2005) revises the Two-Object-Positions hypothesis and proposes that specific objects move into the specifier of vP for the purpose of specific

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[29] Karimi 2005 proposes that both objects are generated in the VP and specific objects raise to [Spec, *v*P] where they satisfy the EPP, and where *v*° checks the accusative case feature of the object in a Local Agree configuration.

interpretation. Ganjavi (2007)'s account resembles Karimi's (2003; 2005) consisting of two positions for objects but she differs with Karimi proposing that specificity should not be the driving force for a nominal to move into the specifier of vP (Ganjavi, 2007). She argues that the morpheme –*ra* is a case marker similar to Ghomeshi's 1996, 1997b account but differing with Ghomeshi's (1996) proposals that DPs marked with -*ra* are VP-level topics.

We consider –*ra* as a syntactic morpheme that marks anything that has moved out of VP into the IP domain. This is related to discourse status effects such as givenness, or being part of the restrictor of a generic quantifier. For bare nouns, when marked with -*ra*, they receive definite and generic interpretations (and not specific indefinite readings like *yek*- or –*i* marked nominals), which is compatible with the readings obtained outside of VP as a bare singular noun has a free variables that is available to Generic operator in IP.

The VP-external domain is the domain of restrictive readings (specific, generic, etc.), referred to henceforth as the "restrictive clause"). Indefinite-marked nominals can also be marked with –*ra* and receive a specific indefinite reading in this domain. The generic restriction also applies in this domain. Such restrictive interpretations seem to be in the domain of background information. Topicality, which is a subset of 'givenness' also seems to be obtained in this domain. Aboutness topics (objects or adverbials) are often marked with –*ra*. But, not everything that appears with –*ra* is a topic.

In the next section we will firstly present Diesing's Mapping Hypothesis. We then move forward to explain the interpretation of bare noun objects in Persian.

3 Diesing's Mapping Hypothesis

Within the framework of Diesing (1992) LF is an abstract intermediary level between syntax and logical representations. Quantifiers relate two propositions (or rather functions from entities to propositions). Diesing relates these two propositions

to two syntactic domains: VP-external (henceforth "IP") and VP-internal (henceforth "VP"). According to Heim (1982), quantifiers create a tripartite structure, whose logical representation consists of three parts: An operator + a restrictive clause + the nuclear scope. Diesing (1992) following the semantic representation proposed by Heim (1982) assumes that materials inside VP map onto the nuclear scope of the semantic representation of the quantificational structure and materials outside VP map onto the restrictive clause.

(10) Mapping Hypothesis (Diesing, 1992, P:15)
      VP-internal material is mapped onto the nuclear scope
      VP-external material is mapped onto the restrictive clause

(11)

Figure:1

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                    IP
                   /  \
                  /    \          ←——————  Restrictive Clause
                 /      \
              Spec       I′
                        /  \
                       /    \
                      /      \
                     I       VP
                  ┌·············································┐
                  ┊        /  \                            ┊
  Nuclear Scope ——→ Spec    V′                             ┊
                  ┊        /  \                            ┊
                  ┊       /    \                           ┊
                  ┊      V      XP                         ┊
                  └·············································┘
```
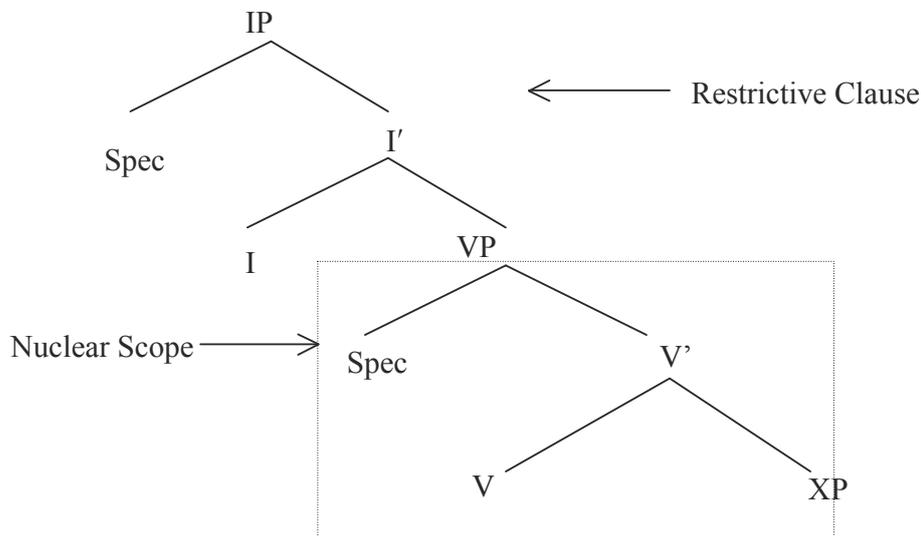
The mapping procedure takes the LF-representation as its input, and maps a noun phrase inside VP (VP-internal material) into the nuclear scope. A noun phrase outside VP (VP-external material) is mapped into the restrictive clause.

According to Diesing (1992) quantifiers like the universal quantifier in the tripartite structure bind all the variables that are introduced in the restrictive clause (the domain of quantification). Existential Closure (EC), which applies to VP-internal variables, only binds all the remaining variables in the nuclear scope.

The Mapping Hypothesis can explain why different interpretations of indefinites are associated with distinct syntactic positions. Diesing (1992) applies the mapping hypothesis for weak versus strong indefinite NPs, suggesting that NPs of type (e, t) are interpreted as predicates remain in a VP-internal position and are therefore subject to Existential Closure, but NPs of type ((e, t), t) with a quantificational reading move out. Thus splitting the syntactic tree in two parts results in different interpretations obtained in two distinct syntactic domains.

97

The Mapping Hypothesis can also explain the different readings that are associated with NPs in higher or lower positions in German and Dutch for instance. The following is an example in German from Diesing (1992):

(12) a. weil ja   doch Kinder auf der Strasse spielen.
         since PRT PRT children on the street play
         'since there are children playing in the street'

     b. weil Kinder ja   doch auf der Strasse spielen.
        since children PRT PRT on the street   play
        'since in general, children are playing in the street'

The bare plural *Kinder* 'children' in (12) has an existential reading and a generic reading, which is regarded as a quantificational reading that can be translated using *in general (Gen)*. The lower subject position in (12)a is VP-internal, and translates as a non-quantificational indefinite (existential closure being responsible for binding the nominal variable) and the higher subject in (12)b is in the IP or VP-external domain, and translates as a quantificational indefinite. In German the distinct positions for the subject NPs in (12)a and (12)b is visible at S-structure.

Leaving details of the Mapping Hypothesis and relevant issues in cross-linguistically aside, what matters the most for our analysis of Persian data is the application of EC over VP-internal variables matters, which marks the division between VP-internal material and VP-external material.

In the next section we will closely observe non-*ra*-marked indefinite objects versus –*ra*-marked objects. We will demonstrate that –*ra*-marked objects occupy positions outside of VP, and non-*ra*-marked indefinites are interpreted inside the VP. Even when non-*ra*-marked bare nouns are moved outside of VP for contrastive focus effects they are still interpreted VP-internally at LF (that is to say, reconstructed in the original position). Thus we have two types of Movements: a) Movements marked with –*ra*, which will be referred to as scrambling reflecting default Information Structure (given discourse referents are outside of VP and new discourse referents appear inside VP. b) Movements due to contrastive focus and contrastive topic

98

reflecting a non-default Information Structure: such movements have connectivity with the original (base) position. Consequently, it comes as no surprise that bare singulars when not –*ra*-marked, are interpreted as existential and when –*ra*-marked are interpreted as either definite or generic.

In the next sections we discuss properties of BNs with and without –*ra* against the background of Diesing's Mapping Hypothesis. For a better understanding of the position of indefinites marked with *yek* and –*i,* we simultaneously test the effect of –*ra* on morphologically marked indefinites by presenting relevant data in each section.

4   Properties of BN objects with and without morpheme –ra

4.1   Bare nouns and indefinite morphemes

Before discussing the relation between –*ra* and bare nouns, in this section I will give a brief overview of combinations of relevant morphological markings in Persian and their respective interpretations in object position with or without –*ra*-marking, as shown in example (13) below.

(13)   a. Mæn Ketab   khærid.æm.
          I   book   bought.1sg
          'I bought books.'

       b. Mæn Ketab -ra   khærid.æm.
          I   book -ra   bought.1sg
          'I bought the book.'

In (13)a, the object is a bare noun, whose non-specific existential reading was discussed in detail in chapter 2. Example (13)b shows a –*ra*-marked noun without any other morphemes such as *yek* or –*i*. The nominal is interpreted as definite here.

c. Mæn Ketab-i khærid.æm.
   I   book-i   bought.1sg
   'I bought a book/a certain book.'

d. Mæn Ketab-i-ra khærid.æm.
   I   book-i-ra bought.1sg
   'I bought a particular book.'

In (13)c-d we have a nominal marked with –i, without –ra marking in (13)c or with –ra-marking in (13)d. As can be observed, the –i-marked noun with –ra marking is interpreted as specific. Such has led to –ra to being deemed as marking specificity in the literature (Karimi, 2003, etc.).

e. Mæn yek Ketab   khærid.æm.
   I   one/a book   bought.1sg
   'I bought a book/one book'

f. Mæn yek-Ketab-ra bærdasht.æm.[30]
   I   yek-book-ra   picked.1sg
   'I picked up a book.'

Examples (13)e-f shows a *yek*-marked nominal without –ra (13)e and when it is additionally marked with –ra (13)f.

Yek-marked nominals also show a partitive indefinite reading when marked with –ra (a referent selected from a contextually given set). The difference between bare nouns and *yek*-marked nouns is related to number: The former is number neutral and the latter number-marked.

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[30] As will be explained *yek*-marked nouns when –ra marked create a partitive reading and some predicates have a harder time to create partitive reading. That is why example (13)f the predicate is different *bardashtam* 'took/picked up' from a specific set.

Bare noun objects marked with *-ra* receive definite readings as in (13)b. They also obtain generic interpretations when the predicates has habitual aspect, as shown in (8) and (9).

The presence of *–ra* has also an effect on the prosody of the sentence. In essence, a *–ra* marked noun cannot be part of a broad focus. Prosody will be treated in Chapter 5. However, I will mark the accent patterns in different examples presented in this section whenever it is required for a better comparison (bold face indicates accent).

4.2   Evidence from word order

Default word order with default intonation results in adjacency between the bare nominal object and the predicate as illustrated in (14)a, where the benefactive adjunct precedes the bare singular direct object. Example (14) is expressed in a neutral context as explained above, where no constituent is specifically given more prominence, for instance in response to the following question by speaker A.

(14)   A: Chi   shod?
              what became?
              'what happened?'

        B: a. mæn bæra Ali   **ketab**   khærid.æm.
                 I   for Ali   book bought.1sg
                 'I bought books for Ali.'

In contrast, *-ra*-marked objects are separated from predicates by the benefactive intervening between the direct object and the predicate in default word order with default intonation as shown in (14)b.

              b. mæn ketab ra bæra Ali   **khærid.æm**
                 I   book ra for Ali   bought.1sg
                 'I bought the book for Ali.

With the adverbial use *ziba* 'beautifully' the default word order for bare noun objects would be adjacent to the verb again but *ra*-marked bare nouns appear in a

higher position.

(15) a. Reza ziba   [ketab   mi.nevis.æd].
      Reza beautifully   [book   dur.write.3sg]
      'Reza writes books beautifully.'

    b. Reza ketab ra [ziba   mi.nevis.æd].
      Reza book ra [beautifully   dur.write.3sg]
      'Reza writes the book beautifully.'

With ditransitive construction bare noun *ketab* favors appearing adjacent to the verb as in (16)a. A *–ra*-marked object on the other hand favors a position higher in the structure preceding the Propositional Phrase argument as in (16)b.

(16) a. Reza too   ghæfæseh ketab mi.zareh.
      Reza in   the shelf   book dur.put.3sg
      'Reza puts books on the shelf.'

    b. Reza ketab ra too   ghæfæseh mi.zareh.
      Reza book ra on   the shelf   dur.put.3sg
      'Reza puts the book in the shelf.'

These examples show that a *-ra*-marked object not only is similar to a typical subject in terms of the readings associated with it (as discussed in the introduction) but a *–ra*-marked object is also similar to a typical subject in terms of its sentential position as it appears higher in the structure.

4.3   Scope, specificity, and definiteness

In chapter 2 we showed that non-*ra*-marked bare noun objects take narrow scope within VP. They receive an existential reading, as we have seen. In chapter 2 we compared the scope behavior of bare nouns with nominals marked with overt indefinite morphemes. In this section, we investigate the scope behavior of bare nouns and other nominals with respect to the morpheme *–ra*. Bare nouns always have narrow scope with respect to other operators. The scope of a bare noun is shifted

when it is –*ra*-marked from narrow scople to wide scope.

That is to say that –*ra*-marked indefinite nominals take scope over operators such as subject quantifiers[31] and modal operators.

The following examples show the scope difference of bare noun objects when marked with –*ra* or not.

In (17) the bare noun *film* 'film' has narrow scope with respect to the subject quantifier *hæmeh* 'everybody'.

(17) a. Hæmeh   film   did.ænd.
       Everybody movie   watched.pl
       'Everybody watched movies.'

It is not acceptable to refer back to the film 'movie' as in the sentence (18) below; the options for discourse anaphora in such cases were discussed in Chapter 3.

(18) *in   film   jaleb   bood.
      this   movie   interesting was.3g
      'this movie was interesting.'

However when a bare noun object is marked with –*ra*, it receives a definite reading.

(19) Hæmeh   film   ra did.ænd.
      Everybody   movie   ra watched.3pl
      'Everybody watched the movie.'

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[31] It is noteworthy that Persian has two different universal quantifier one is collective *hæmeh* 'all' and the other is distriutive *hær* 'each'. With respect to the distributive subject quantifier a –*ra*-marked indefinite (specific) still takes narrow scope even though it is –*ra*-marked. There is another position higher up in the structure where the –*ra*-marked nominal can move too to facilitate the wide scope reading over distributive quantifiers.

In (19) the bare noun is referring to a definite movie (uniquely identified) such that everybody watched it. Naturally, a definite noun is expected to take wide scope over the quantifier or no scope. As a comparison, however, I present the following example (20)-(24).

The wide scope effect of bare nouns marked with *–ra* with respect to various operators can be seen in the following examples. We start with negation. Sentence (20)a means that 'it is not the case that Ali buys a movie' and the interpretation 'there was a movie such that Ali does not buy' is prohibited. In (20)b the *–ra*-marked object is definite thus with wide scope reading 'there is a unique film that Ali does not buy'.

(20) a. Ali *film*   ne-mikhæræd.
        Ali *movie*   neg-buy.3sg
        'Ali does not buy movie.'

     b. Ali *film* ra   ne-mikhæræd.
        Ali *movie* ra neg-buy.3sg
        'Ali does not buy the movie.'

With respect to propositional attitude verbs, a bare noun takes narrow scope too as shown in (21) and (23). Bare nouns when marked with the morpheme *-ra* in (22) and (24) are interpreted as definite are thus considered as being scopeless.

(21) Reza mikhad *ketab*   be.khæreh. (narrow scope)
     Reza wants *book*   subj-buy.3sg
     'Reza wants to buy books.'

(22) Reza mikhad *ketab-ra*   be.khæreh.
     Reza wants *book-ra*   subj-buy.3sg
     'Reza wants to buy the book.'

(23) Reza bayæd *ketab*   be.khæreh. (narrow scope)
     Reza should *book*   subj-buy.3sg
     'Reza should buy books.'

(24) Reza bayæd *ketab-ra*   be.khæreh.
     Reza should *book-ra*   subj-buy.3sg
     'Reza should buy the book.'

We observe here that bare nouns marked by *–ra* are not only specific, i.e.

indefinite quantifiers with wide scope. Rather, they are interpreted as definite. The difference is that with specific DPs the speaker has a particular entity in mind, but there might be more than one entity around that falls under the description of the DP. With definite DPs, there is a unique entity in the world of interpretation, or a uniquely salient entity in the context. Hence, the definite interpretation is narrower than the specific one.

For a non-definite, specific interpretation, we require *–ra* marking together with either the suffix *–i* or the determiner *yek*. This is illustrated below in examples (25)-(27).

(25) a. Reza mikhad *ketab-i* be.khæreh. (narrow or wide scope)
Reza wants   *book*   subj-buy.3sg
'Reza wants to buy a book.'

b. Reza mikhad *ketab-i ra* be.khæreh. (only wide scope)
Reza wants   *book-i ra*   subj-buy.3sg
'Reza wants to buy a particular book.'

(26) a. Reza mikhad *yek*-ghesseh   tæriff.be.koneh.   (narrow or wide scope)
Reza wants   *yek*-story   narrate-subj-do.3sg
'Reza wants to tell a story.'

b. ?Reza   mikhad *yek*-ghesseh-ra   tæriff-be-koneh.   (wide scope)
Reza   wants *yek*-story-ra   narrate-subj-do.3sg
'Reza wants to tell one of the stories.'

As mentioned in the previous section, (26)b is usually acceptable in a partitive context, when a number of stories are given and Reza wants to tell one of those stories of his choice. This point holds for (27)b too. (27)b is better if we choose the predicate *entekhab.kæardæn* 'choose', which facilitates a partitive reading.

(27) a. Hæmeh   emruz *yek*-film   did.ænd.(narrow or wide scope)
        Everybody today   *yek* -movie watched.3pl
        'everybody watched a movie.'

    b.? Hæmeh   emruz *yek*-film-ra   did.ænd.   (wide scope)
        Everybody today   *yek*-movie-i-ra   watched.3pl
        'everybody watched one of the movies.'

In summary in this section we saw that bare nouns receive a definite reading when *-ra* marked, hence taking wide scope with respect to other operators. Nouns marked with indefinite morphemes show scope variability but when marked with *–ra*, the narrow scope reading is eliminated, hence *–ra* shifts the scope.

4.4 The definite interpretation

One major function of *–ra,* is referred to as marking definiteness in the literature. In this section it will be shown that definite and quantificational nominal objects obligatorily appear with *–ra*-marking. For instance the following definite nominals, reciprocals, reflexives, possessives, and strong determiners are marked with*–ra* (Ganjavi, 2007).

Reciprocals:

(28) Ma   hæmdigær-*(ro) did.im.
     We   each other-ra   saw.1pl
     'We saw each other.'

Reflexives:

(29) Khodæm-*(ro)   too   ayeneh did.æm.
     self.my-ra   in   mirror saw.1sg
     'I saw myself in the mirror.'

Possessive DPs:

(30) Ketab.æm-*(ro) bærdar.
     'book.my-ra   take.imperative.2sg
     'take my book.'

Strong determiners: such as *hæmeh* 'all' when they are objects, obligatorily

appear with –*ra*[32]

(31) a. hæmeh-*(ro)   avord.im.   (with +human objects)
      all-ra   brought.1pl
      'we brought all of the people.'

     b. hæmeh-æ-sh-ro   avord.im.   (with –human it is better with pronominal)
      all-ez.that.ra   brought.1pl
      'we brought all of it.'

Pronouns and proper noun objects:

(32) In ketab-ro bekhoon.
     this book-ra imperative-read.2sg
     'Read this book.'

(33) Oo-ra   did.æm.
     him.ra   saw.1sg
     'I saw him.'

(34) Maryæm-ro biar.
     Maryæm-ra imperative.bring.2sg
     'Bring Maryam.'

4.4.1   Genericity

Definite objects are certainly accompanied by -*ra* but not every noun accompanied by -*ra* is definite. For nominal objects a generic reading is obtained either with stative predicates, emotional experiencer predicates (Individual Level Predicates) or the habitual aspect of Stage Level Predicates. Emotional experiencer

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[32] *hæmeh* 'all' seems to have a partitive reading as well. It selects from a given set, for instance, 'all of the people', 'all of something'; hence it is predicted to be outside of VP, as it is D-linked.

ILPs (such as *doost-dashtan* 'love', *parastidan* 'worship', *tanaffor-dashtan* 'hate', etc. describe a permanent property that the patient experiences.

In example (35) with an emotional experiencer predicate (*doost-dashtan* 'like/'love'), *ketab* 'book' may receive either a definite or generic reading.

(35) Mæn ketab ra doost   dar.æm.
     I   book ra like   have.1sg
     'I like books in general/the book.'

In (36) a generic reading is available in addition to a definite reading, because of the habitual aspect of the verb:

(36) Mæn Kaghæz ra pareh.mi.kon.æm
     I   paper   ra tear.dur.do.1sg
     'I tear the paper/I tear paper.'   (*Generic* or *definite* reading)

In (37) we can have either a generic or definite reading for either 'film' or 'concert' or both:

(37) Mæn film ra be   concert tærjih.mi.d.æm.
     I   film ra to   concert prefer.dur.give.1sg
     'I prefer (the) film over (the) concert.'

The *-ra*-marked nominal is not expected to have an existential reading as it has escaped VP-level existential closure. However, Karimi (2003) has noted that with superlatives, a *–ra*-marked object has an existential reading:

(38) Mæn behtærin   cake-ro bæra-t   sefaresh.mi.d.æm
     I   best   cake-ra for-you   order-dur-give.1sg
     'I ordered the best cake for you.'

Karimi (2003) based on Diesing (1997) proposes that superlatives are interpreted in the nuclear scope because they express new information just like focused materials. She suggested that one can argue that even though a *–ra* marked object is VP external, it will be lowered within the VP at LF. However, another approach to this dilemma is to propose that superlative NPs denote contextually unique entities, which is a typical definite behavior, even though such entities may be

deemed as discourse-new (which is not typical for definite NPs). Superlatives even as new information with unidentified referents, are presupposed to exist and hence accommodated[33].

This means that in the common ground (CG) we know that there exists a *behtærin cake* 'the best cake', as in the example (38), even though we may not yet be able to identify what it looks like. Anything that is unique by the world knowledge is considered as given and presupposed to exist. In these examples, *–ra* seems to be a marker of givenness in a default information structural context. Generic and definite readings can also be considered as given.

Thus *–ra*-marked bare noun objects have either definite or generic readings (39).

(39) Ataæh   kaghæz ra mi-soozanæd.
      Fire   paper   ra dur.burn.3sg
      'Fire burns papers/the paper.' (generic/definite)

If we assume that *–ra*-marked objects have scrambled out of VP to escape existential closure, then normally they should be in the restrictor of a Generic quantifier[34], hence the possibility of a generic reading for *–ra*-marked objects (based

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[33] Superlatives seem to be similar to specific indefinites, which is another VP-external reading of –ra-marked NPs. It is not an accident that superlatives are typically morphological definite in other languages.

34 According to Chierchia (1995), ILPs induce a Gen quantifier, an operator that is a phonologically covert adverb of quantification similar to 'often/usually' that induce habituality.

on Diesing's Mapping Hypothesis). The habitual aspect seems to induce Gen above VP leading to a generic reading for *–ra*-marked objects.

The LF representation as shown by Krifka et al. (1995) can be represented in the following format:

(40) GEN$x_1 \ldots x_n$ [Restrictor $x_1 \ldots x_n$] $\exists y_1 \ldots y_m$ [Nuclear Scope $x_{1 \ldots} x_n, y_1 \ldots y_m$]:

(41) Man *kaghaz* -ra   pareh-mi-kon.am
    I   *paper* -ra   tear-dur-do.1sg
    'I tear the paper (definite)/ I tear anything that is paper (Generic)

GEN can bind a situation variable, represented by *s:*

(42) GEN$_{,s,x}$ [paper(x) in s, s is a situation] [I tear it in s] Generally, for situations s, in which paper is given in s, then there is an event e in s in which I tear the paper in s.' Thus there is an event of tearing paper the agent of this event 'e' is I; Agent(e)=I and the patient of e is x PAT(e)=x

Here *kaghaz-ra* 'paper' is given in the sentence we are talking about situations in which paper is given (or identified) and the VP-event 'I tear it' is new information by default.

The example (43) expresses regularity meaning 'fire can burn paper'.

(43) Atæsh   kaghæz ra mi.soozan.æd.
    Fire   paper   ra dur-burn.3sg
    'Fire burns papers/the paper.' (generic/definite)

Gen$_{s,x,y}$ [x is fire in s $\wedge$ y is paper in s, x] x burns y

When the bare noun object is not *–ra*-marked and thus VP-internal what does the Gen operator bind for the habitual reading of the predicate?

(44) Mæn **kaghæz** pareh.mi.kon.æm.
     I   paper   tear-dur-do.1sg
     'I tear papers.'

Here the object *kaghæz*/'paper' in (44) is not *–ra* marked and thus not in the restrictor (restrictive clause) but it is rather inside VP. The domain of quantification needs to be non-empty for truth conditional interpretation. Thus a context function C is needed to restrict the generic quantification to contextually appropriate situations. GEN binds the situation 's'.

LF representation for (44) would be:

(45) $\text{GEN}_s [C(s)] [_e\text{I tear paper in } s]$

       $\text{GEN}_s [C(s)] [\exists e \text{ and } \exists x \text{ such that paper (x) and e=I tear x in s}]$

Certain predicates only allow for kind objects. These include those predicates that induce an emotional state for their patients

Thus *kaghæz-ra pareh.mi.kon.æm* 'I paper-*ra* tear' means that 'in situations containing paper, I usually tear paper' (For instance whenever I see paper I tear it); while *kaghæz pareh.mi.kon.æm* 'I paper tear' should mean 'I tear paper in contextually appropriate situations, or for example as a job' (For instance whenever I am upset I tear papers). Therefore, the two are distinct in terms of the truth condition.

Thus, *–ra* only indicates that an object is VP-external. This explanation accounts for why *–ra* marked objects can be interpreted as definite or generic.

Non-*ra*-marked bare singular objects cannot be bound by Gen, since they are in the scope of Existential Closure. Thus, below in (46) with the [[BN+V], *ketab-kharidan* 'book-buying', the habitual aspect of the verb or adverb of quantification results in the event of 'book-buying' to be habitually repeated everyday in the generic sentence.

(46) to   hær.ruz   ketab mi.khæri
     you   everyday   book dur-buy.2SG
     'you generally (buy books) everyday'

There is an exception with Emotional experiencer ILPs as *doost-dashtæn* 'love' and *pæræstidæn* 'worship'.

4.5   Sketch of a formal theory of bare nouns and *–ra* marking

We have seen that bare noun objects without *–ra* marking get a narrow-scope existential interpretation, and we have attributed this to the assumption that they are quantified over by an existential quantifier with scope over the VP. We have also seen that with *–ra* marking, bare nouns get a definite interpretation. And, we have observed that in generic sentences, *-ra* marked bare nouns get interpreted in the restrictor of the generic quantifier.

Even if we assume that these interpretational differences are related to the position of the bare noun relative to an existential closure over the VP, following Diesing's mapping hypothesis, it is not clear how the distinction between indefinite and definite interpretations come about. This is different from Diesing's treatment of bare nouns in English, as they do not receive a definite interpretation (except for the kind-referring use, which we will not treat here).

I will try to sketch a way that has the potential of explaining these three uses, and can be extended to the use of *yek*-marked nouns as well. This is a sketch only, as the consequences of these assumptions for other areas of semantic interpretation are not followed up. In particular, it does not try to capture the anaphoric properties of bare nouns and *–ra* marked nouns that we discussed in Chapter 3. Nevertheless, I hope it will point out a possible solution to the puzzle.

I assume that sentences are interpreted with respect to situations, which are seen as parts of possible worlds. The existential closure over the VP is actually an existential quantification over a situation in which the event denoted by the verb occurs. Similarly, generic sentences express quantifications over situations. Also, sentences in general are interpreted with respect to a situation that is provided by the context. This situation-centered framework takes up suggestions by Elbourne (2005).

The meaning of a bare noun depends on a situation, in the sense that it picks out

an individual with a certain property that exists in that situation. In addition, I assume that it presupposes uniqueness with respect to a situation – that is, it has essentially a definite interpretation. The indefinite reading only comes about because the situation may be quantified by an existential quantifier. For example, the meaning of the bare noun phrase *ketab* 'book' is as follows:

(47) *ketab*:
ιx[book(s)(x)]

Notice that the meaning depends on a situation s, and delivers the unique x such that x is a book at s. That is, we assume that the bare noun phrase *ketab* 'book' is interpreted as definite with respect to a situation s.

In the context of a sentence, e.g. in object positions, we assume the following interpretation, where an existential quantifier introduces a variable:

(48) ∃x[… ιx[book(s)(x)] = x …]

Now we consider a case of a bare noun without *ra-* marking. We assume that this signals that the bare noun is interpreted within the existential closure of the VP. We assume now that existential closure affects the situation argument that both the bare noun meaning and the verb meaning are related to. (I assume here that the subject is filled by the speaker, and I disregard tense).

(49) [$_{VP}$ *ketab* read.1sg]:
∃s∃x[ιx[book(s)]]= x ∧ read(s)(x)(speaker)]

This means that there is a situation s, and the speaker reads the unique book x in that situation. Notice that even though the bare noun is interpreted as definite here, dependent on the situation, it is in fact indefinite. This is because it depends on the situation, which in turn is existentially bound. A proper paraphrase would be: 'There is a situation s such that the speaker reads the book in s'.

As we have seen, bare nouns that are not marked with *–ra* are unspecific as to how many entities they apply to. Our example can be glossed as 'I read a book/books'. This seems to contradict the analysis just given, as this seems to suggest

113

that there is a unique book. However, this is not the case, because existential quantification can be satisfied for more than one value of the existentially bound variable. So, it might be that there are two situations s1, s2 such that it holds that [read(s1)(ιx[book(s1)])(speaker)], and it holds that read(s2)(ιx[book(s2)])(speaker)]. Consequently, there are two books that the speaker read in total. This means that the restriction to uniqueness is not of great importance within the scope of the existential quantifier.

The representation in (49) is underspecified in various respects. In particular, I will assume that a sentence is about a particular situation, and (49) does not relate the existentially quantified situation to that aboutness situation s*. Let us assume that s is a sub-situation of that aboutness situation, and let us write $s \subseteq s*$ to indicate that s is a part of s*. We then have the following representation for the intransitive *read*, where we have added here the condition that s is a part of the aboutness situation s*.

(50) [$_{VP}$ read.1sg], about s*:
$\exists s[s \subseteq s* \wedge \exists s[read(s)(speaker)]$

We now turn to a *ra* marked bare noun, which we take to signal that the noun is interpreted outside of the existential closure. Hence it cannot be interpreted as dependent on the situation s that is bound by existential closure. Consequently, it must be interpreted as dependent on the aboutness situation s*, and we get the following interpretation:

(51) *ketab ra* [$_{VP}$ t$_1$ read.1sg], about situation s*:
$\exists x[\iota x[book(s*)(x)]] = x \wedge \exists s[s \subseteq s* \wedge \exists s[read(s)(x)(speaker)]]$

This states that there is a unique book x in the aboutness situaiton s*, and that there is a situation s that is a part of s* such that the speaker reads x in s. Now the situation is different: As the sentence is about a particular situation s, the book talked about must be a unique book. This results in a definite interpretation; a possible gloss would be "I read the book". Notice that we get an indefinite or a definite interpretation depending on whether the noun is interpreted within or outside of the

existential closure of VP.

We finally turn to a generic sentence, as one in which the following expression occurs, and whose interpretation can be given as indicated.

(52) *ketab ra* [$_{VP}$ read.1sg], about situation s*
GEN s, x (s⊆s* ∧ ιx[book(s)(x)] = x)(∃s′[s′ ⊆ s ∧ read(s′)(x)(speaker)])

We have here a generic quantification over situations s and entities x that is restricted to those situations such that s is a part of the aboutness situation s* and x is the unique book in s. If these conditions are satisfied – that is, in particular, if there is a unique book in s – then it also holds that there is a situation s′ that is part of s, and in which the speaker reads x in s′. This renders the generic interpretation in which *ketab* 'book' occurs in the restrictor of the quantifier, as indicated by –*ra*.

We again have a definite interpretation of –*ra*, but again this does not imply that there is a unique book in the aboutness situation s*. The function denoted by *ketab* is unique with respect to the situation s, not with respect to the situation s*. Effectively, the result expresses a quantification over all books in the aboutness situation s*.

It should be noted that we can also give an interpretation along the following lines, where the second argument of the quantifier is a conjunction of the restrictor and the nuclear scope (cf. Chierchia 1995). Notice that under this condition, the generic quantifier only quantifies over situations, just like the existential closure.

(53) GEN s (∃x[s⊆s* ∧ ιx[book(s)(x)]) = x
(∃x[s⊆s* ∧ ιx[book(s)(x)] = x ∧ ∃s′[s′⊆s ∧ read(s′)(x)(speaker)])

Notice that uniqueness of the book guarantees that the same books are involved in the first argument and in the second argument.

We have seen that we can assign one and the same interpretation to a bare noun, as referring to a unique entity dependent on a situation, that gives us an indefinite interpretation when it occurs within the existential closure. We now can have a look at nouns marked with the indefinite marker *yek*. We assume that a nominal construction like *yek ketab* differs from the bare noun *ketab* by not implying

uniqueness:

(54) *yek ketab* : ∃x[… book(s)(x) …]

As a consequence of this interpretation, the book need not be unique with respect to the situation. Consequently, we have a non-definite interpretation when this noun phrase occurs outside of the existential closure of VP. This results in the following combination:

(55) *yek ketab ra* [$_{VP}$ t$_1$ read.1sg], about situation s*:
∃x[book(s*)(x)∧ ∃s[read(s)(x)(speaker)] = x ∧ ∃s[s ⊆ s* ∧
∃s[read(s)(x)(speaker)]]

This states that there is some book or other x (or more than one) such that x is a book in the situation s*, and the speaker read that book. Notice that this does not exclude that there is more than one book with respect to the aboutness situation.

4.6 Does *-ra*-marking appear on Subjects?

An important fact supporting the analysis of *-ra* as an index of structural position is the restriction to objects. The restriction to objects already supports the idea that *-ra* encodes a formal feature and not an interpretable semantic feature, otherwise it should be appear as freely as possible on nouns in all positions.

An apparent exception, however, in (56) is notable, in constructions involving propositional attitude verbs, such as 'think', 'believe', etc. that express a particular attitude towards an entity. We observe the subject of an embedded clause in (56)a shows up with *–ra*-marking in (56)b. The complementizer *ke* 'that' shows that *ketab* 'book' is part of the next embedded clause in (56)a.

Due to its prima facie similarity to "exceptional case marking" (as in the English translation in (56)b, it can not be considered as a real counter-example to the direct object restriction.

(56) a. mæn fekr.kon.æm ke ketab roo miz.e.
    I think.do.1sg ke book on table.is.3sg
    'I think that the book in on the table.'

  b. Ketab-o fekr.kon.æm ke roo miz.e.
    book-ra think.do.1sg ke on table.is.3sg
    'I think that the is on the table/About the book, I think it is on the table.'

(57) a. Mæn fekr.mi.kon.æm (ke) Mæryæm emshæb mi.ad.
    I think.dur.do.1sg (that) Maryam tonight dur.comes.3sg
    'I think Maryam will come tonight.'

  b. Mæryæm-ro fekr.mi.kon.æm (ke) emshæb mi.ad.
    Maryam-ra think.dur.do.1sg (that) tonight dur.comes.3sg
    'I think Maryam will come tonight.'

Unfortunately, a detailed discussion of the propositional attitude verbs is beyond the scope of this thesis. However, the major suggestion is to consider the subject of the embedded clause as an object about which a proposition that one 'thinks' or 'believes' holds. There is a precedent in the literature for this view (e.g., Cresswell and von Stechow, 1982). In their analysis, on the semantics of attitude verbs, they consider such predicates as transitive whose internal argument is a structured proposition.

It is noteworthy that an about-ness relationship between the attitude predicate *fekr.kærdæn* 'thinking' and the subject of the embedded clause establishes this type of movement. Here, Maryam is the object of the attitude verb *fekr.kærdæn* 'think.doing/thinking' as she is the one about whom the 'thinking' is. Theories that consider 'Maryam' in (57) as subject of the second clause with no such relation with attitude verbs cannot account for the *–ra*-marking on 'Maryam' in b. The attitude verb *fekr.kærdæn* 'thinking', therefore, consist of two objects, one object is the entity 'Maryam' and the other is the property about this entity. Thus, properties of moved object seem to hold for the embedded subjects of such verbs. These entities can be regarded as object of propositional attitude verbs.

Interestingly the properties of the moved object, whether they are specific or

117

not, whether they are definite or indefinite, is similar to the apparent embedded subjects. For instance, when the embedded subject is non-specific indefinite, it cannot appear with *–ra* when it is moved in this way.

(58) a. mæn fekr mi.kon. æm (ke) koodæk-i gol ro kændeh.
   I think.dur.do.1sg (ke) child-i flower ro pick.PRF
   'I think that a child has picked the flower.'

   b. koodæk-i mæn fekr mi.kon. æm (ke) gol ro kændeh.
   child-i I think.dur.do.1sg (ke) flower ro pick.PRF
   'I think that a child has picked the flower.'

I leave a more detailed analysis of attitude verbs and such constructions for a future research.

In this section we have shown that *–ra* cannot appear on subjects. However, it should be noted that *–ra* may appear on time and location adverbials and indirect objects as described in the introduction mainly as marker of topicality. This is going to be discussed in section 5.1.

In older texts of Persian the *–ra* has been widely used on the indirect object. Example (59) is from 11th century book 'Taarikh-e Bayhaqi: a history of the Ghaznavid Empire written by Abul-Fazl Bayhaqi in Persian:

(59) Sokhæn-I næ.ran.æm ta khanændeg.an in tæsnif gooy. ænd sharm bad
   <u>in pir-**ra.**</u>
   word-i neg.run.1sg that reader.pl this prose tell.pl. shame be
   this old-ra
   'I am not going to run a word so that the readers of this prose say shame <u>on this old</u> man.'

Thus far we have shown that *–ra*-marked bare noun has escaped VP existential Closure, receiving generic and definite reading. We showed the differences between the default word order as well as differences in the interpretation of bare nouns when marked with *–ra* or not. Genericity is obtained VP-externally in IP domain, where the Gen quantifier operates. At the same time, we tested the effect of *–ra* marking on nominals marked with *yek* and *i*. Showing that they often acquire specific and wide

scope readings. The properties suggest the main hypothesis that –*ra* is not a marker of specificity but rather a syntactic marker that the object has moved out of VP. As such -*ra* does not mark anything semantic, but rather a VP-external position for NP. The VP-external position is significant because of interpretive differences between certain types of nominals within VP and outside VP. Different types of indefinite then receive different interpretations when –*ra* is added just by virtue of where –*ra* requires them to be, rather than because of any intrinsic ambiguity/ polysemy of -*ra*.

5   Given DRs in VP-external domain (-*ra* marks given DRs)

As we have seen, both definite and generic readings should be obtained VP-externally, in the restrictive clause within the domain of a quantifier operator. The domain of quantification needs to be non-empty for truth conditional interpretation. Thus, the referent of the NP that appears in the domain of the quantification is presupposed to exist as being in the common ground or accommodated in the common ground.

The common ground (CG) consists of a set of propositions (what the speaker and hearer agree on what it is like) and a set of Discourse Referents (DRs) of entity type (Stalnaker, 1978). As shown in chapter 3, NPs that are within VP domain (non-ra marked bare nouns or indefinites) introduce new discourse referents (DR) into CG and in this way the CG is extended or updated. In fact, the division of the clause signalled by –*ra* enables us to distinguish between given discourse referents as a foundation on which the new referents are added (during online updating of information).

Nominals outside of VP will be shown to either pick up DRs that are already available or they can introduce new DRs that are uncontroversial linked to a set of already established discourse referents. All these cases are –*ra*-marked thus we can conclude –*ra* is a marker of givenness. By givenness I mean givenness for discourse referents.

119

Bare nouns when marked with *–ra* obtain definite reading. With definite nouns, the referent's identity is typically already known. Such definite entities are already presupposed to exist in the common ground.

Nominals marked with *–i,* when *–ra*-marked receive a specific indefinite reading. *–ra* signals a presupposition that something exists, but not that its identity is already known. It needs to be accommodated by updating the background.

The speaker in (60) has a referent in mind, which is going to be accommodated in the common ground and deemed as given.

(60) Ketab-i-ra   bærdasht.æm.
      book-i-ra   took.1sg
      'I took a certain book.'

Another example would be the case of superlatives already explained in section 4.4.1. When we talk about the 'tallest spy', we cannot identify him/her but he/she must exist. Thus, anything that is by world knowledge unique is also given. In other words, in the case of superlatives and specific indefinites, the DR may be unidentified in the common ground but is presupposed to exist.

These are DRs that are deemed as uncontroversial; that is, the speaker considers such new discourse referents as uncontroversial and not worth discussing. In (61) what is controversial or the new part is that I took one of the books. The new DR introduced by *yek*-book-*ra* 'one of the books' is not part of the new information but is rather linked to other established discourse referents.

(61) Man   yek-ketab-ra   æz   too   ketab-khooneh   bærdasht.æm.
      I   one-book-ra   from inside library   took.1sg
      'I took a book (one of the books) from the library.'

Thus, in a default information Structure *–ra* is the marker for givenness. Topical, generic, as well as specific indefinites and superlative nominals can also encompass givenness. In the next section we show the role of *–ra* as marker of topicality, a subset of givenness.

5.1   -ra as marker of Topicality

It has been noted in the literature that –*ra* is used to topicalize indirect objects or adverbs of time (Mahootian & Gebhardt, 1997; Karimi, 1989; 1990 among others).

In the following example (62), if we want to topicalize the adjunct benefactive *baraye Neda* 'for Neda', we need to add –*ra* and move it to initial position as in (62).

(62) a. Ketab   bæra-ye-Neda avord.æm.
         Book   for-Neda   brought.1sg
         'I brought book for Neda.'

     b. Neda-ra ketab bæra.**sh**   avord.æm. (aboutness topic)
         Neda-ra book for-her   brought.1sg
         'As for Neda, I brought book for her.'

(63) sepida-ro beh-esh goft.æm.
     Sepide ra to.3sg told.1sg
     'As for Sepide, I told her.' [Karimi 1990:161.65]

I suggest that –*ra* is not marker of topicality but it can be used to easily topicalize the objects of propositions. Usually they are definite and that is why they appear with –*ra*. A non-specific bare noun can also be topicalized without –*ra* -marking, when fronted and deaccented. The appearance of –*ra* should not necessarily be the reason to call it marker of topicality. The presence of –*ra* has, however, a correlation with the ease of topicalization.

For instance, (64)b is more like incorporation becoming lexicalized, where this combination of object+V makes it easer for a secondary argument (indirect object) to become primary argument (like direct object) and thus –*ra* -marked. *Gorbeh.am* 'my cat' can be topic in a non-default context but it does not have to be topic.

(64) a. be gorbeh.æm   ghæza   dad.æm.
         to cat-poss-1sg   food   gave.1sg
         'I gave food to my cat.'

      b. gorbeh.æm-o   ghæza   dad.æm.
         cat-poss-1sg-ra   food   gave.1sg
         'I gave food to my cat.'

Also we can see that non-specific object has a harder time to be topicalized as demonstrated below. For a better understanding of the example, I have marked the accent pattern in (65) with bold face.

(65)   a. sæg **ghæza**   khord.
            dog   food   ate.3sg
            'The dog ate food.'

In (65)b, topicalizing the non-specific object is harder to be obtained, unless there is long pause after the object or some intervening clause. Such as 'As for the food, <u>I must say</u>, dog ate'.

      b. ?ghæza **sæg**   khord.
         food   dog   ate.3sg

In (65)c the *ra*-marked objects can be easily topicalized.

      c. ghæza-ra   **sæg** khord.
         food-ra   dog   ate.3sg
         'Dog ate the food/As for the food, the dog ate it.'

Thus far we have given a general overview of the semantic and syntactic properties of VP-internal/VP-external domain. In the next section, we use *–ra* as a diagnostic to see if there is a relation between verbal semantics and *–ra*-marking.

6 The role of lexical semantics

At this point after observing properties of the two VP-internal/VP-external domains using *–ra* as a diagnostic, we will see the relations between lexical semantic of the predicates and the position of their objects. With certain predicates it would be

ungrammatical for objects to appear without –*ra*-marking.

As explained in the previous section, the discourse referents of –*ra*-marked objects are presupposed to exist as given. Thus, we can conclude the nature of verbal action may require an identifiable object. This shows that the semantics of the verb informs syntactic structure.

(66) Mæn gol *(ra)   boosid.æm.
     I   flower-ra   kissed.1sg
     I kissed the flower.'

In (66) the object obligatorily appears with –*ra*. Thus, it must have moved out of VP. The predicate *boosdiæn* 'kissing' as well as predicates that require contact with the object, seem to require a given object. Thus, the semantics of the verb provides information about the information structure of the sentence that results in syntactic movement.

(67) Mæn koodæk*(ra)   seda.kærd.æm.
     I   child-ra   call.did.1sg
     'I called the child.'

(68) Mæn koodæk-i *(ra)   seda.kærd.æm.
     I   child-i-ra   call-on.did.1sg
     'I called a certain child.'

In (67) and (68) we see that predicate *seda-kærdæn* 'call.doing/calling towards onself' requires a definite or specific indefinite object; thus –*ra*-marking is obligatory. It means 'calling on someone' requires a particular/specific patient. Such predicates seem to be of a higher ranking in transitivity. Various factors contribute to degree of transitivity, but one of them is individuation of the object.

Causative verbs are among those verbs that require –*ra*-marked objects.

(69) Mæn bæcheh/bæcheh-i *(ra) khand.ænd.æm.
     I   child/child-i   laugh.causative.1sg
     I made the child/a child laugh.'

Kind-Level Predicates or KLPs that select kinds requires –*ra*-marking on object (for an example cf. Modarresi, 2010):

(70)   Razi ælkol ra   kæshf.kærd.
        Razi alcohol-ra   discover.did.3sg
        'Razi discovered (for the first time) alcohol.'

In chapter 2 we showed that indefinite-marked nominals are compatible with telic verbs, whereas bare nouns appear with atelic verbs. One of the tests to distinguish between telic and atelic predicates is to see whether they are compatible with durative adverbs or with adverbs of accomplishment or frame adverbials (Vendler 1967, Dowty 1979).   For bare nouns, number neutrality of bare nouns appears to play a role, as there is no quantized individual to mark the end of the event. This is in line with Krifka (1989) distinction of two kinds of objects: quantized versus non-quantized objects. Quantized object maps onto quantized event/ bounded path (*Mary ate an apple*), and cumulative object maps onto cumulative event/ unbounded path (*Mary ate apples*) in the following way (Krifka, 1989).

(71) a. QUA(P) =$_{def}$ $\forall a \forall b$ [P(a) $\wedge$ P(b) $\rightarrow \neg$(a $\subset$ b)]
          (extension does not extend to proper parts)

      b. CUM(P) =$_{def}$ $\exists a \exists b$ [P(a) $\wedge$ P(b) $\wedge$ a$\neq$b $\wedge$ $\forall a \forall b$ [P(a) $\wedge$ P(b) $\rightarrow$ P(a$\oplus$b)]]
          (extension contains at least two objects, and is closed under sum formation).

Previous literature suggest that –*ra*-marked objects should appear with telic verbs (Ganjavi, 2007).

(72) a. dær (ærz-e) do   dæghighe sib-ro   khord.æm.
         in within-ez-minute   apple-ro ate.1sg
         'I ate the apple in two minutes.'

      b. * bæraye   do   sa'æt sib-ro   khord.æm
         for-ez   two   hours apple-ro   ate.1sg

The sentence (72) is acceptable when the verb eating is modified with adverbial 'in two hours' in (72)a. The sentence (72)b is not felicitous with durative adverbs. Ganjavi, (2007) concludes that sentences containing DPs are compatible with the adverbs of accomplishments and are thus telic. However, it is not always the case. It depends on the nature of the predicate as well and sometimes –*ra*-marked objects

appear in atelic constructions.

(73) Man bæraye do sa'æt pærændeh ra tæmasha.kærd.æm.
     I   for   two hours   bird   ra watch.did.1sg
     'I watched the bird for two hours.'

    Ghomeshi and Massam (1994) have also noted that the sentences containing bare noun objects were compatible with durative adverbials, thus denoting processes that are unbounded. In light of the results in chapter 3, when world knowledge specifies the number of a bare noun, we expect it to be compatible with adverbials specifying endpoints of accomplishments.

(74) a. Mæn dær.ærz-e yek hæfteh aparteman khærid.æm.
        I   in-frame-ez one week   apartment bought.1sg
        'I bought apartment in a week.'

     b. *Mæn bæraye yek hæfteh aparteman khærid.æm.
        I   for   one week   apartment bought.1sg
        'I bought apartment for a week.'

In example (74) the uniqueness condition described in chapter 3 makes the sentence acceptable with frame adverbials, whereas (74) is unacceptable.

    Another situation where –ra may shows an asymmetry is with animate *wh*-words. There is distinction between animate versus inanimate *wh*-words in terms of –*ra*-marking. Animate *wh*-words in object position are obligatorily –*ra*-marked, whereas inanimate *wh*-words may or may not be –*ra*-marked.

(75) a. Sara ki - *(ro) did?
        Sara who- ra saw.3sg
        'Who did Sara see?'

     b. Sara chi-(ro) did?
        Sara what- ra   saw.3sg
        'What did Sara see?'

    Animacy is not obligatory for –*ra*-marked objects as we have seen, but the tendency for animate objects to be identified is higher. The participants in the

communication seems to be interested in identifying the referents of animates object, especially in wh-question where the object identification is specifically targeted by focusing the object.

7 Conclusion

Bare nouns often receive existential readings in object position and definite or generic readings in subject position. This chapter was an attempt to investigate the reasons for the interpretation of bare nouns in object positions. In this chapter we discussed the semantic and syntactic properties of bare noun objects. Usually bare noun objects are considered as indefinite and –*ra*-marked objects are not considered as bare nouns. They are rather regarded as definite or specific objects. The main function of –*ra*, which may co-occur with other morphologically marked nominals (indefinites) and definite nouns, such as possessives, demonstratives, pronouns, proper nouns, etc. in the literature is referred to as marking definiteness, specificity and topicality.

I propose that the interpretation of a -*ra*-marked bare noun is similar to the interpretation associated typically to subject bare nouns, which is generic or definite. I showed that the various readings for bare nouns are related to syntactic position. A –*ra*-marked bare noun has moved out of VP to a domain where subjects usually appear (VP-external domain), thus obtaining generic or definite readings. Therefore, -*ra* does not mark a particular semantic characteristic but rather marks a nominal that has moved out of VP to restrictive clause, which is the domain of restrictive readings (specific, generic, etc.).

We used a syntactic structure similar to Diesing's (1992) Mapping Hypothesis, to map these semantic differences. We propose that objects originate inside vP/VP but move out of vP/VP if –*ra*-marked. Bare nouns when marked with –*ra* are interpreted as definite but when are not marked with the morpheme –*ra* are interpreted VP-internally and as we discussed in chapter 2 are quasi-incorporated.

126

Then, we moved from bare nouns to other nominals, such as indefinite marked nouns (-*i* and *yek*), to observe the effect of –*ra*-marking within this proposal. This proposal can extend to –*ra*-marking of all kinds of nominals, for instance, –*ra*-marking shifts the scope of indefinites to only wide scope. The effect of –*ra*-marking on indefinites is specificity (specific indefiniteness) that is obtained in the restrictive clause in IP domain (this is compatible with previous accounts that consider –*ra* as a marker of specificity, without tying us to the proposal that *all* –*ra*-marked nominal are specific).

One puzzle that needs explanation is that following the Diesing's mapping hypothesis, it is not clear how the distinction between indefinite and definite interpretations come about and why *yek*-marked nominals outside VP remain indefinite but bare nouns are definite?

In line with Elbourne (2005), I suggest that the meaning of a bare noun depends on a situation, in the sense that it picks out an individual with a certain property that exists in that situation

The existential closure over the VP is actually an existential quantification over a situation in which the event denoted by the verb occurs. The meaning of a bare noun depends on a situation, in the sense that it picks out an individual with a certain property that exists in that situation.

I assume that bare noun has essentially a definite interpretation with respect to a situation. The indefinite reading of bare nouns come about as the situation may be quantified by an existential quantifier, such as VP-level EC. The definite interpretation of BNs are obtained outside of the VP. If bare nouns are interpreted outside the VP, the only situation that they can be made dependent on is the situation about which the sentence makes a claim, and therefore they have to be unique with respect to that situation.

At the end of the chapter we showed examples on the role of verbal semantics and aspect on the –*ra*-marking of objects.

Chapter 5
Subjects, Prosody and Information Structure

1   Introduction

In this chapter we will investigate the behavior of bare noun subjects. Bare nouns in subject position can receive definite, generic/kind[35] and existential readings[36]. A major cue to distinguish these various interpretations lies, in addition to positional variation, in the prosody; in this subjects differ from objects, for which there is also a morphological marking (with -*ra*). We will investigate how the prosodic and syntactic markings of subjects correlate with their interpretations, which reflect different LF positions of the subject. This study at the interface of syntax, semantics and prosody will also shed light on the architecture of Persian sentential structure in general.

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[35] kind reference involves reference to an entity that is related to specimens (Krifka, 2003; P.1):

æsb   heivan-e-næjib-i   æst.
horse animal-ez-modest-i is
'horse is a modest animal.'

'For all/typical x: if x is a horse, x is modest.'

36 BN subjects are widely considered as definite in most accounts and BN objects as indefinite as mentioned in chapter 4.

In the previous chapter we examined when bare noun objects were interpreted VP-internally or VP-externally. Subjects are most often interpreted VP-externally, but, as this chapter will show, they can also be interpreted VP-internally and receive existential interpretation.

Interestingly we will see that a similar movement as for objects must have occurred for subjects too and it will be argued that subjects originate from a VP-internal position.

In fact, in most of the previous accounts a BN subject is regarded as a definite nominal. However, considering default or unmarked prosody, we will see that in various contexts a bare noun subject also allows for existential readings. But an explicit marking such as –*ra* does not exist for subjects, thus it is much harder to detect the scrambling of bare singular subjects.

Windfuhr 1994, however, citing a 19th-century textbook of Persian for English-speakers, identifies a case of existential subjects but presents no specific analysis as cited in Belyaev (2009). He introduces the following example:

(1)   a. væqt-i-ke   æsb-ha   amade.ænd ma-ra xæbær-kon-id
         when-i-that   horse-pl ready.3pl   me.ra news-do.2pl
         'When the horses are ready, let me know'

      b. væqt-i-ke   æsb   amade.æst, ma-ra xæbær-kon-id
         when-i-that   horse ready.3sg   me-ra news-do.imp-2pl
         'When horses are ready, let me know'

As illustrated in (1), the subject æ*sb* 'horse' is definite (plural-marked) and number-neutral. The existence of an indefinite subject in (1) has not received much attention. Belyaev (2009) notes this example by Windfur and says that "how cases such as (1) are to be dealt with is uncertain, if at all they survive in the modern Persian; they will for the time being remain beyond the scope of our analysis". At the end of his analysis on noun determination in Persian, he questions the accuracy of the interpretation in (1): "The idea that bare object NPs are non-referential while bare subject NPs are definite is very persistent in the literature, however, which may not be

a mere coincidence, but may rather mean that my interpretation of (1) is simply wrong. These NPs could also be "deep objects" of unaccusative verbs. Further investigation may shed light on this question."

I will argue that subjects originate from within the VP, and that they tend to move out of the VP without any formal marking – but that they don't have to. Bare noun subjects often are realized outside of the VP, where they receive a definite or generic reading, but they also may remain within the VP, which results in an existential reading due to Existential Closure. One aim of this chapter is to show under what circumstances subjects stay inside VP, violating the expected tendency of appearing outside VP.

As subjects do not have a morphological marking (such as the object marker -*ra*) that indicates when they have been moved out of the VP, the main evidence for this will come from a consideration of stress assignment to sentences uttered in particular contexts.[37].

This chapter is organized as follows. Section 2 presents a brief discussion of the main hypotheses. In section 3 we will discuss the prosody and interpretation of objects. We will see that the main assumptions we made in chapter 4 on semantic grounds are backed up by independent theories of the interaction of accent and

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[37] Ideally, such an investigation should have been done by analyzing the prosody of realizations of sentences in particular contexts, and by judgments of sentences with carefully controlled pitch contour in context. Unfortunately, this could not be achieved within the circumstances in which this thesis was written, and so the judgments have to rely on my own native speaker intuitions. This is certainly an area where future work will be necessary.

syntactic structure. The distinction between two VP-internal objects versus VP-external objects will be shown to be correlated with prosody.

The same division, marked with *–ra* for objects, exists for subjects too. However, for subjects, there is no explicit morphological marker of the distinction. This is discussed in section 4. In section 5 we have a closer look at VP-internal subjects.

Agentive subjects can also appear VP-internally and the split in the structure will be shown not to be due to the unaccusative / unergative distinction, but rather determined by the topic-comment structure of the sentence. In section 6 we will look at how complex the VP can be. In section 7 we will discuss an asymmetry between subject and object with respect to definiteness. Section 8 contains some concluding remarks.

2   Why bare subjects originate within the VP and why they strongly tend to move out

As stated above, we assume that subjects originate within the VP because this is where they can get their thematic role assigned.

When subjects originate within the VP, the question arises as to why they are generally interpreted outside of it.

Generally, subjects tend to move out because subjects tend to be given (topical, specific or quantificational). These properties of subjects will be discussed throughout the chapter. The position outside VP is the unmarked position for subjects to avoid existential closure, but we will see that they do not have to always move out. This entails that subjects tend to be VP-external but they do not have to. However, there are certain predicates that force the subjects out of VP. Similarly, we showed in chapter 4 that certain predicates require *–ra*-marking on their objects.

Sentences require a topic (which can be a topic situation, in thetic sentences – cf. work by Cohen and Erteschik-Shir, 2002, among others). By their thematic nature,

subjects are the most likely topic candidates (e.g. being agents). For instance, Individual Level Predicates (ILPs) or characterizing predicates that describe a permanent property, such as *ba.hoosh* 'intelligent, or *baærzesh* 'valuable' as in (2) force a generic or a definite reading for their bare singular subjects and block an existential reading of their subjects. ILPs lack spatiotemporal arguments, to become topic, thus the bearer of the expressed property must become topic.

(2)   Ketab **ba.ærzesh** æst.
      book valuable   is.3sg
      'books are valuable/the book is valuable.'

Such predicates ascribe a certain permanent property to the property holder. Ascription of properties seems to be only achieved VP-externally. The reason is holding a property is not a specific thematic role, it is just a predicate applied to an entity.

As explained in the introduction, prosody is the main cue for distinguishing VP-internal from VP-external subjects. We need to carefully separate accent caused by shift stress when we are narrowly focusing an item in a non-default Information Structure versus the accent that is reflecting constituent syntactic position in a default Information Structure.

If we shift the accent from the predicate and put it on *ketab* 'book' as in (3). Then the only available reading is the narrowly focused meaning that 'the book/books is/are valuable as opposed to other things' and thus it is still a VP-external subject which has attracted the sentential stress due to narrow focus and should not be mistaken of course by VP-internal subject that is accented due to default sentential prosody. In the next section I will explain what I mean by default prosody.

(3) **Ketab** ba-ærzesh ast, næ   mæjæleh.
     book valuable   is, not magazin
     'books are valuable/the book is valuable, not magazines or the magazine.'

3 Prosody and the interpretation of objects

In the previous chapter (chapter 4), we have discussed object bare nouns. In particular, we have identified the role of suffix *-ra* in indicating objects that are moved out from the VP, thus escaping existential closure. In that chapter we did not discuss sentential prosody, as the morphological marking by *–ra* was sufficient to make our points. For subjects, there is no morphological marking, and we have to rely on other types of evidence. The nature of this evidence is the prosody of how a VP is interpreted, and this already shows up when we consider objects. So, while the current chapter is mainly on subjects, we have to return to objects in order to consider the role of prosody. In what follows we will see how *–ra*-marking (for VP-internal versus VP-external position) is correlated with changes in prosody and how this observation can be attested for subjects too.

The minimal pair below (between speaker A and B) shows the prosodic pattern for a *–ra*-marked VP-external object versus bare VP-internal objects in a neutral context, where no constituent is marked for higher prominence.[38] Note that accent is shown by bold face.

(4)   A: 'chi shodeh?' 'What's up?'

   a. B: **ketab**   khærid.æm.
          book   bought.1sg
          'I bought books.'

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[38] It is important to note that the respondent in such a neutral context can use a strategy of adding extra information narrowly focusing a specific constituent of their choice. In other words, the addressee may reply back not only answering what happened out of the blue but also narrowly focusing an item giving extra prominence to any constituent of their choice, intentionally changing the focus of the ongoing speech. This is a factor one should note and control for to ensure we are dealing with broad focus context.

b. B: Ketab-ra **khærid.æm.**
   book -ra   bought.1sg
   'I bought the book.'

The leading question assures a broad focus; in any case, it prevents a narrow focus from attracting accent to a particular constituent due to focusation, which we would see with questions like 'What did you buy?' or 'What did you do with the book?' Hence we observe the default accent that is assigned to the sentence in question. What do we see? In (4)a, the accent is assigned to the object, whereas in (4)b the accent is assigned to the predicate.

The accent on the object in (4)a is consonant with what has been observed by much work on languages like English, German, and other languages. The whole clause should be in focus, due to the nature of the leading question. This requires an accent marking, and this accent marking is realized on the argument in case of a constituent consisting of an argument and a head. While a number of authors have made the same observation, the way this was spelled out differed quite widely, and in some cases authors have changed their analyses over the years. For example, Selkirk (1984) assumed a focus feature F that is interpreted by accent, and can "project" from an argument to the head and then to the constituent consisting of head and argument together. In contrast, Gussenhoven (1984) proposed that when a constituent consisting of an argument and a head has a focus feature, then this has to be realized by an accent, and the accent is realized on the argument. The proposals by Selkirk and Gussenhoven have evolved over the years (cf. e.g. Gussenhoven 1992, Selkirk 1995), and theoretical alternatives have been proposed (see e.g. Truckenbrodt 2007 for a survey treatment). For example, Jacobs (1991, 1992) has proposed that arguments can be prosodically "integrated" into their heads, and that a prosodically integrated constituent can receive accent. A number of languages have been described within these theories, which include head-final languages like German (cf. Uhmann 1991, Féry 1992), Hindi (cf. Hayes & Lahiri 1991) and also Persian (Kahnemuyipour 2004).

In any case, it is established that arguments behave differently from adjuncts; insofar as in an adjunct-head-construction, we typically find separate accents on the adjunct and the head. For example, Kahnemuyipour (2004) observes the following contrast within the same neutral context, involving prepositional phrases:

(5)   a.   Ali [ru **tez-e-sh** kar mi-kon-e].
            Ali [on thesis-ez-his work do.3sg
            'Ali works on his thesis.'

        b.   Ali [tu dæftær-e-sh **kar** mi-kon-e].
            Ali in office-ez-his work do.sg
            'Ali works in his office.'

In (5)a, the PP *ru tez-esh* 'on his thesis' is an argument of the complex verb *kar mi-kon-e* 'do', and hence it gets accented. in (5)b, the PP *tu dæftær-esh* 'in his office' is an adjunct of the *kar mi-kon-e* 'do', and hence it does not receive the main accent.

Truckenbrodt (1995) has proposed a rather general rule to cover the accent placement in such cases and also in a case like (4)a, which then will also extend to (4)b. His Stress-XP rule says that each XP has to be assigned a beat of stress. In addition, in a series of beats, the last beat gets strengthened (cf. also Jacobs 1991 for a rule that is similar in spirit, but differs in details). In the case of (5)a, accent on the DP can satisfy the rule Stress-XP for the PP and the VP, resulting in a single stress. In the case of (5)b, as the adjunct PP is outside of the VP, the Stress-XP rule requires independent stresses on the PP and the VP, where the second stress is realized more strongly, here indicated in bold.

(6)   a.   Ali [$_{VP}$ [$_{PP}$ ru [$_{DP}$ **tez-esh**]] [$_{V}$ kar mi-kon-e]]

        b.   Ali [$_{PP}$ tu [$_{DP}$ **dæftær-esh**]] [$_{VP}$ **KAR** mi-kon-e]]

In the VP in (b), *kar* 'work' can be seen as a direct object, or as part of a complex verb, where stress rules determine that stress should be on the object-like element *kar*.

We now can return to the original example with direct objects, (4), which can be analyzed as follows (we are interested here on the level of the VP):

(7) a. [… [_{VP} [_{DP} **ketab**] khærid.æm]]

   b. [… [_{DP} **ketab-ra**]   [_{VP} **KHARID.æm**]]

With DP-internal objects, accent on the object satisfies Stress-XP for the DP and for the VP. With DP-external objects, Stress-XP requires both accents on the DP and on the VP. Again, the last accent is strengthened, resulting in a general stress pattern where we perceive accent on the verb.

Since the early formulations of the interaction of stress assignment and syntax, it was observed that givenness interacts with stress placement. If the argument DP is given – that is, if it refers to a discourse referent that is previously mentioned, or present in the situation, or assumed to be shared in the world knowledge of speaker and addressee – it will not project focus (in the theory of Selkirk 1984), and it will not receive accent (in the theory of Gussenhoven 1984). Rather, the head verb will be accented. This does not prevent accent on given constituents in case of narrow focus; it does prevent, however, that accent in case where narrow focus is not present is realized on a given argument.

At first sight it might appear that this explains the difference in accent patterns in (4)(a) and (b) as well. In (a), no constituent is given (note that the speaker, which is always given, is just indicated by inflection on the verb), and the accent is realized on the direct object. In (b), the object refers to a particular book, hence it is given; accent cannot be realized on the object, and must be realized on the head (the verb). And indeed, if the object DP is given, then Truckenbrodt's Stress-XP rule, amended by a rule that excludes accent on given constituents, would lead to the following analysis:

(8)b. [… [_{DP} ketab-ra]   [_{VP} **Khærid.æm**]]

However, if we look at a wider range of examples, we see that *ra*-marked objects that are moved out of the VP need not be given, and still we observe the same accent pattern, as in the following example:

(9) A: *chi shode?* 'what has happened?'

136

B: Leila   jayez-e-ævæl.ra   [_{VP} **bord]**
       Leila   prize-ez-first.objm   [_{VP} **won.3sg]**
       'Leila has won the first prize'

The object is not definite here, but unique (there is only one first prize). Therefore, the object DP has to move out of the VP, which is accompanied by *ra*-marking, as usual. The accent is realized on the verb, even though the object is not given. In Truckenbrodt's theory (1995), we would have to assume the following stress assignment, which results in the main stress on the verb, as observed.

(10)   Leila   [[_{DP} **jayez-e-ævæl.ra**]   [_{VP} **BORD]]**

It is well worth to notice here that the theories of stress placement and its interaction with syntactic structure provide independent evidence for the assumption that we made in the last chapter, that *–ra* marked objects move outside of the VP. There, we argued for this assumption mainly on semantic grounds, as the *–ra*-marked object escapes existential closure. Here, we have seen that facts about accent placement also force us to assume that *–ra* marked objects are outside of the VP, and require the VP to realize its own accent.

In this section, we have seen that the movement of the object out of the VP, which is marked by *–ra*, is also accompanied by a particular accent pattern. We have argued that VP-internal objects can carry stress without being narrowly focused, because they can realize the stress of the whole VP, whereas VP-external objects cannot carry stress without being narrowly focused. Much more could be said about the accent patterns here, but we should keep in mind that this chapter is about subjects. As subjects do not have any morphological marking, we must rely on stress patterns alone as evidence for their syntactic position. The main purpose of this section was to convince ourselves that in case we find a structure with a subject that bears accent, without being narrowly focused, we should assume that this is evidence that the subject is internal to a maximal constituent that includes the verb (if we follow the Stress-XP rule of Truckenbrodt). In the syntactic architecture proposed so

far, we should take this as evidence that such subjects are included in the VP.

4   Prosody and the interpretation of subjects

Now let us consider subject bare nouns. We will see that a similar distinction as for objects exist for subject as well. The minimal pair (11) shows two possible accent patterns for bare singular subjects in a neutral context, where no constituent is marked for higher prominence. In (11)a the bare singular subject receives existential reading and in (11)b a definite reading is obtained.

(11)   A: *chi shod?* 'what happened?'

    a. B: **ketab**   oftad
           book   fell
           'some   book fell'

    b. B: Ketab   **oftad**
           book   fell
           'the book fell'

The primary cue in order to distinguish these two different interpretations is changes in prosody. In (11)a the nuclear stress is assigned on the bare subject, which we take as evidence that it is included within the VP. The bare subject is interpreted as indefinite. Notice that this is now predicted under the hypothesis that there is existential closure over the VP, as existential closure will capture the variable of the bare noun subject. Under the semantic proposal of Chapter 4, section 4.5, involving quantification over situations, we can assume the following interpretation (as before, this does not capture tense):

(12)   [$_{VP}$ [$_{DP}$ **ketab**] oftad], asserted at situation s*:
     $\exists s \exists x[s \subseteq s^* \wedge \iota x[book(s)(x)] = x \wedge fell(s)(x)]$

This states that there is a situation s that is part of the situation s* that the sentence is about, and that the unique book in s fell. As with bare noun objects, the overall reading is an indefinite one, due   to the existential quantification over

situations. Due to the existential quantifier, it is also true in case there is more than one book that fell, leading to the indeterminacy as to number ('a book/books fell').

In (11)b the bare noun subject cannot realize the main stress in the neutral context that is given. We take this as evidence that it is interpreted as outside of the VP. This predicts that it is not captured by existential closure over the VP, and hence cannot receive a non-specific interpretation. In fact, it receives a definite interpretation.

(13) $[[_{DP} \textbf{ketab}] [e \textbf{ OFTAD}]]$, asserted at situation s*:
$\exists x[\iota x[book(s^*)(x)] = x \land \exists s[s \subseteq s^* \land fall(s)(x)]]$

This states that the unique book x in the reference situation s* fell, or more specifically, that there is a situation s that is a part of s*, and that x fell in s.

Just as with objects, there is also a generic reading with subjects. For this, the bare subject also is interpreted outside existential closure over the VP, but now it is bound by a generic quantifier. The following example illustrates this situation, where the verb is interpreted as durative; it applies the same format as developed in chapter 4, section 4.5 for objects in generic sentences.

(14) $[[_{DP} \textbf{ketab}] [e \text{ mi-}\textbf{OFTAD}]]$, asserted at situation s*:
GEN s $(\exists x[s \subseteq s^* \land \iota x[book(s)(x) = x])$
$(\exists x [s \subseteq s^* \land \iota x[book(s)(x)] = n \land \exists s'[s' \subseteq s \land fall(s')(x)])$

This states that in general for situations s that are a part of the asserted situation s*, if there is a book in s (to be specific, a unique book), then it holds that there is a unique book in s that falls. This represents the generic reading similar to *Books fall.* It states this for situations that contain a unique book, but as such situations can be multiply instantiated, it holds for books in general in the aboutness situation s*.

The indicated example shows the stress assignment under the rule Stress-XP with final strenghtening in case *ketab* is not given (as e.g. for a specific, non-definite interpretation). For the interpretation as a given definite, no accent would be assigned at all.

If a bare subject noun should receive a generic or definite interpretation, it has to move out of the VP, as otherwise its variable is captured by the existential closure over VP. This does not imply that definite DPs cannot occur within the VP. For instance, a proper name or a DP with a definite interpretation due to a possessive or a demonstrative, there is no free variable that can be bound by existential closure. Consequently, such DPs can remain within the VP, as indicated by the resulting accent pattern in a neutral context:

(15)   A: chi shod? 'what happened?'

   a. B: **Reza** umæd.
      Reza came.3sg
      'Reza came.'

   b. B: Reza **umæd.**
      Reza came.3sg
      'Reza came.'

Both patterns are possible. What is important is that the pattern (15)a does not necessarily imply narrow focus on Reza. It is possible in a case where Reza is not a person that is somehow salient in the context. This is evidence that a definite DP can be realized within the VP. In (15)b it is understood that Reza is salient and can be treated as given. The accent pattern is compatible with assuming that Reza is realized outside the VP. It would also be compatible with a VP-internal realization and deaccentuation due to givenness. Example (16) is an example with a definite nominal.

(16)   A: chi shod? 'what happened?'

   a. B: **ketab.æm**   oftad.
      book.poss.1sg   fell.3sg
      '**my book** fell.'

   b. B: ketab.æm   **oftad.**
      book.poss.1g   fell.3sg
      'my book **fell.**'

Interestingly, the aspect of the clause has an effect on the interpretation. In

particular, perfective aspect seems to change the information structure. For instance, in (17) the context question 'what has happened?' seems to induce an understanding that an event has already taken place, and is thus minimally given. For this reason, the verb may be deaccented. Thus, (17)b is not a felicitous response by speaker B to such a contextual question. (17)b with the perfective aspect is only acceptable in a circumstance when the verb is contrastively focused or Reza is aboutness topic. Possible contexts would be when speaker A claims that Reza has not come and the speaker B wants to underline that Reza has indeed come, or when Speaker A inquires about Reza whether he has come or not.

(17)   A: chi shodeh? 'what has happened?'

    a. B: **Reza** umæd.eh
       Reza come.has.3sg
       'Reza has come'

?b.B: Reza **umæd.eh**
       Reza come.has.3sg
       'Reza has come'

There are two possible interpretations for the contextually appropriate form (a) here: Either the subject is VP-internal, and accent on the subject satisfies Stress-XP for the VP as well. Or the subject is VP-external, but the VP *umæd.eh* is given, and hence prevented from carrying accent.

5   A closer look at internal subjects

We have seen in the previous section that we have to assume that VP-internal subjects exist, under two independent but converging assumptions. The first is prosodic in nature: Subjects can be accented without being narrowly focused; theories of the interaction of accent and syntactic structure predict then that there is a maximal constituent that contains both the subject and the verb as its head. The second is semantic in nature: Bare nouns require an external existential closure to be interpreted existentially, and we have seen with   objects that we have to assume

existential closure over the VP. So, this existential closure would provide the necessary quantificational force for bare noun subjects as well.

It is a natural assumption that the subject originates from this internal position, and can be moved out to an external position, with special accentual and interpretative properties. In fact, in most sentences, the subject is external, and so it might even appear that this is the default position of the subject. I think this would be a wrong conclusion, as it also makes sense to assume a VP-internal position on theoretical grounds if we assume that the verbal head can assign thematic roles within its maximal domain. But, we should have a closer look at why subjects typically occur outside of the VP, and under which conditions they can remain inside.

As for the first reason, I think this reflects the fact that the typical choice for the topic of a sentence, the entity a sentence is about, is the subject. In sentences with more than one argument, the theta role assigned to the subject has more proto-agent properties (Dowty 1991), and it appears a principle of human communication that we more typically talk about agents than about patients.

As for the second point, many researchers have assumed that there are two types of subjects that originate from different positions, one external, one internal, and that this correlates with different thematic roles, one agentive, one non-agentive. This is the so-called unergative / unaccusative distinction (cf. Kratzer and Selkirk 2007 Zubizarreta & Vergnaud 2006, Legate 2003, Kahnemuyipour 2004, Perlmutter 1978, among others). They propose that in unaccusative sentences nuclear stress falls unambiguously on the subject in broad focus contexts. For unergative predicates there is no consensus; many accounts assume that the stress falls on the predicate only while others such as Zubizarreta and Vergnaud (2006), while faithful to this distinction, have also observed cases of stress falling on the subjects of unergatives too.

Similarly, using the phase theory of Chomsky, Kratzer (2007), Kahnemuyipour (2004) (among others) consider the verb plus subject to be spelled out in a single phase for unaccusative verbs and in two phases for unergative verbs. Kahnemuyipour

(2009) argues that in Persian for unergative verbs the accent on the predicate is the default one in broad focus context but the accent on the subject is non-default.

(18)   a. Unaccusative verbs
        [vP **Subject** Verb]

    b. Unergative verbs
       [vP Subject [vP **Verb**]]

Indeed, the examples we have considered so far involved verbs like *oftad* 'fall' and *umæd* 'came' which are unaccusative, as they do not involve an agentive subject role. (In the case of *umæd*, this is rather understood as a verb of appearance than as an agentive verb). Other cases involving unaccusative verbs are presented as follows. The examples are always to be understood with wide focus.

(19) [vP **setareh** monfæjer.shod]
      star   explode.became.3sg
      'a star exploded'

(20) [vP **Nameh**   resid]
       letter   arrived.3sg
       'a letter arrived'

(21) [VP **bærf** mi.baræd]
       snow dur.falls.3sg
       'it is snowing'

(22) [vP **bæstæni** ab.shod]
      ice cream   water.became.3g
      'ice cream melted'

(23) roo   miz [vP **toop** ghel-khord]
     on table   ball   roll.hit.3sg
     'some ball rolled on the table.'

However, there are also examples in which the subject receives an agentive theta role, and hence should be classified as unergative predication. Consider the following examples:

(24)   A: chi shod?
       'what happened?'

a. B: gorbeh   æz   balay-e-divar [_{VP}**pærid].**
     cat   from top-of-wall   **jumped**
     'The cat jumped from the top of the wall.'

b. B: æz   balay-e-divar   [_{VP} **gorbeh** pærid].
     from the top-of-wall   cat   jumped
     'A cat jumped from the top of the wall.'

(25)   A: chi shod?
        'what happened?

a. B: sæg   ghæza ra   [_{VP} **khord**].
     dog   food ra   ate.3sg
     'the dog ate the food.'

b. B: ghæza ra   [_{VP} **sæg** khord].
     food ra   dog ate
     'the food, some dog ate it.'

(26) maman negah.kon   bæcheh ro [_{VP} **sæg** gaz.gerefteh].
     mom   look.do.2sg   child-ra [_{VP} **dog** bite.taken.PRF.3sg]
      'Look mom, some dog has bitten the child.'

Presented with such examples, one is forced to assume that subjects in general can be VP-internal. This even holds for the subjects of transitive verbs, as shown by the last two examples.

There are of course cases that do not allow for VP-internal subjects. But such cases seem not to be motivated by the thematic role the subject assigns to the verb, hence not by the unaccusative / unergative construction, but by the topic-comment structure of the sentence, which includes generically interpreted sentences, as in the following examples:

(27) pærændeh [_{VP}   **ziba**-st].
      bird   [_{VP}   beautiful-is.3sg]
      'the bird/birds in general is/are beautiful.'

(28) Aseman [_{VP} **abi** æst].
      sky   [_{VP} blue is.3sg]
      'The sky is blue.'

(29) dayereh [$_{VP}$ **gerd** æst].
       circle   [$_{VP}$ round   is.3sg]
       'The circle is round.'

But if the generic predication is not about the subject, then the subject can appear well VP-internally:

(30) inja [$_{VP}$ **khers** ræft-o-amæd mi.kon.e].
       here [$_{VP}$ **bears**   go-and-come dur.does.3sg]
       'here bear comes and goes/here is a passage for bears.'

6 Multiple arguments within VP

We have seen in the preceding section that both object arguments and subject arguments can remain within the VP. In this section we will examine at how complex the VP can be – that is, how many arguments may occur in it.

We have seen with examples like (25)b that subjects can occur within the VP even if the verb is transitive. But, is it possible to have all the arguments at the same time within VP? The following example seems to indicate that this is not the case:

(31) A: 'what happened?' or 'what are you watching from the window?'

   a. B: sæg **ghæza** khor.d.
          dog   food   ate.3sg
          'the dog ate the food.'

   b. B: ghæza ra **sæg** khor.d.
          food ra   dog ate.3sg
          'the food, some dog ate it.'

   c. B: #**sæg** ghæza   khor.æd.
           dog   food   ate.3sg
          'some dog ate some food.'

The unavailability of (c) could be explained by a requirement that the VP can contain maximally one overt argument; so with transitive verbs, at least one argument has to move out. However, following Truckenbrodt's Stress-XP thesis, there might be another reason. Stress-XP requires that both DPs get assigned an accent, and that the

145

second accent gets an extra beat:

(32)   [$_{VP}$ [$_{DP}$ **sæg**] [[$_{DP}$ **GHAZA**] [mi.khor-æd]]]

Under this accent pattern, the sentence is predicted to have the reading 'some dog ate food'. The accent pattern is identical to the one in (31)(a), which corresponds to the prominent tendency of subjects to be interpreted outside of the VP, and hence eclipses this reading. But, when we add an explicit topic, the reading appears, for instance in a context when speaker A asks the following question as in (33):

(33)   A: oonja che   khæbær.e 'what is going on over there?

a. B: oonja   **sæg**   ghæza   mi.khor.e.
there   dog   food   dur.eat.3sg
'over there some dog eats food.'

7 Definite Subjects vs. Definite Objects

There is an interesting asymmetry here between subjects and objects. We have argued that definite subjects can occur within the VP in case they are names, or otherwise referring expressions. This is different with objects, at least under our hypothesis that–*ra* marking always indicates that the object has left the VP: Definite objects, like names or objects marked as definite by possessives or demonstratives are obligatorily marked with –*ra*. Examples from chapter 4:

Proper names:

(34)   Maryam-ro biar   ba   khod-e-t.
Maryam.ro bring.2sg   with self-ez-you
'bring Maryam along.'

Possessive DPs:

(35)   Ketab. æm-*(ro)   bærdar.
'book.poss-1sg-ro   take.imp.2sg
'take my book.'

Demonstrative DPs:

(36)   in ketab-ro bekhoon.
       this book-ro read.2sg
       'read this book.'

(37)   oo-ra   did.æm.
       him.ra   saw.1sg
       'I saw him.'

I do not have a ready answer for this difference. One option is that the object argument position is of the semantic type of predicates, and so arguments of the type of entities have to move out. Another option is that *ra* is a grammatical marker that became obligatory for referring DPs. As object DPs typically are less often definite than subject DPs, the *ra* marker is evidently an economic coding device to mark objecthood.

Usually we use explicit marking for the unusual or rare (marked) cases. It would be unusual for objects to be outside of VP, thus we mark them when outside with the morpheme *–ra*. For subjects, on the other hand, it is not unusual to be outside of VP (as they usually appear), so we do not mark them.

If the *–ra* marking for definite objects did not exist, then we would have problems distinguishing between subjects and objects, as then word order would not be a reliable indicator.
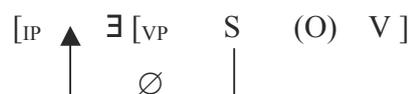
8   Non-default Information Structure

Thus far we have shown two types of minimal structural scrambling for objects and subjects in neutral context (broad focus) as demonstrated with the study of bare nouns in chapter 4 and chapter 5:

Figure: 1

For objects:

[IP ▲ ∃ [VP S   (O)   V]
     └_____-ra_____┘

For subjects:

147

[IP ∃ [VP   S   (O)   V]

         ∅
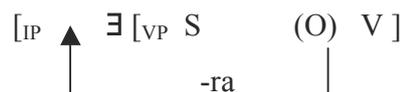
The object scrambling is marked with the morpheme –*ra*. The subject scrambling does not have an explicit marker. This is actually neat because when the thematic arguments are assigned within the VP, one marker is enough to distinguish between object and subject. Naturally, the unexpected cases are marked overtly. Objects have closer relations with the verbs and are expected to remain inside VP; when scrambled, they will be marked by a morpheme. Generally, subjects tend to move out because subjects tend to be given (topical, specific or quantificational). This expected movement is the one that remains unmarked. Of course, the positional difference is reflected in prosody. The data in the current and the previous chapter (chapter 4 and chapter 5) reflect a default information structure in broad focus, when no constituent is given extra prominence, narrowly or contrastively focused. We saw that the broad focus is realized at the left edge of VP.

In a non-neutral context every item in the sentence can be focused narrowly resulting in deaccentuation of the rest of the clause material. Participants in a conversation even in response to a broad focus question such as 'what happened?' can change the default order of constituents by giving more prominence to one constituent over another.

In chapter 2 we showed that an accented fronted bare noun is interpreted VP-internally. Example from chapter 2:

(38) **ketab**   hæmeh   dirooz   khærid.ænd.
     book   everybody yesterday   bought.3sg
     'books, everybody bought yesterday.'

We should note that the bare noun is still interpreted as existential (VP-internally) and takes narrow scope with respect to subject quantifier *hameh* 'all/everybody'.

This type of surface movement to mark non-default information structure is

interpreted with the moved constituent reconstructed to the base position and can be represented in the following way. All constituents moved for Contrastive Focus (CF) readings are reconstructed in their original positions. Such movements are different from scrambling (shown in Figure 1 above), where syntactic movement results in loss of connectivity with the base position. As shown in chapter 4, objects scrambled to VP-external position are –*ra*-marked obtaining definite and generic readings, whereas a fronted bare noun is not VP-external; instead, it is still interpreted inside VP and has this connectivity with the base position. The same holds of subjects too as any constituent can move to CF position or be strongly accented in situ. Verbs can also move to this position for verum focus purpose[39].

For instance below when a subject is contrastively focused. In this case the primary stress would be on the CF constituent overriding sentential stress, which predicts accent to be on the left edge of VP. Consequently, the secondary stress falls at the left edge of VP. It is notable that a fronted bare noun bearing this accent pattern may be interpreted as definite or indefinite because it is not clear if the subject has moved to this position from inside or outside VP. Only the context can determine whether the subject should be interpreted as definite or indefinite.

(39) [CF**gorg],** dar-tariki-ye-shab [VPzoozeh mi-keshid].
       Wolf, in the dark of the night was howling.
   'It was the/a wolf that was howling in the dark of the night among other animals.'

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[39] For now I skip examples of movement of other constituents into CF position. Any constituent in the sentence can move to this position. The difference between narrow focus and Constrastive focus is in prominence. Contrastive focus is more prominent. I will leave a detailed discussion of focus movements for future research as it is beyond the scope of this dissertation.

In Persian narrow focus and contrastive focus attract the sentential stress either in situ or by movement to a position higher in the structure. The difference between the two is that contrastive focus receives a stronger accent and tends to be fronted, thus it is more prominent. The processing of prominent items sentence initially is better facilitated.

Since these movements aren't obligatory, they are dotted (See the syntactic structure in Figure 2 below.). Below the continuous lines represent scrambling for subjects and objects (when objects and subjects are scrambled their connection with the base position is cut), and the dotted line represents the focus movement due to prominence showing a bi-directional connectivity effect. In this way, we separate scrambling and default information structure from focus movements and non-default information structure (narrow focus/contrastive focus).

Figure (1)

Object movements:
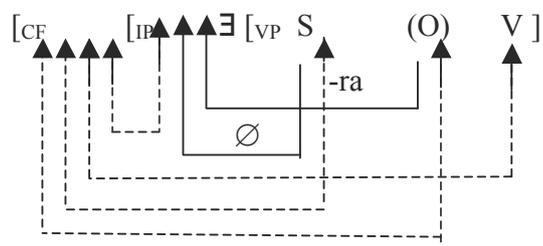
9 Conclusion

We started this chapter by examining the various interpretations of bare noun subjects. We discussed how the syntactic structure and prosodic marking of subjects is related to their semantic interpretations. I argued that subjects originate from within the VP, where thematic roles are assigned.

They tend to move out of the VP without any formal marking – but they don't have to. Subjects may instead remain within the VP, resulting in an existential reading due to Existential Closure.

In chapter 4 we discussed object bare nouns. In particular, we identified the role of the suffix *-ra* in marking objects that are moved out of the VP, thus escaping existential closure. In contrast, in order to show the distinction between VP-internal subjects versus VP-external subjects, we need to rely on prosody as there is no morphological marker to distinguish between these two positions for subjects. Theories of stress placement and its interaction with syntactic structure provide independent evidence for the assumption that we made in the last chapter, that *–ra-* marked objects move outside of the VP as the movement is reflected in the accent pattern. The same distinction exists for subjects too but this time with no explicit morphological marker. We assume that VP-internal subjects exist, under two independent but converging assumptions. The first is prosodic in nature: Subjects can be accented without being narrowly focused. The second is semantic in nature: Bare nouns require an external existential closure to be interpreted existentially, and we have seen with objects that we have to assume existential closure over the VP. Thus, this existential closure would provide the necessary quantificational force for bare noun subjects as well.

Many researchers link the assignment of stress in different languages directly to the unaccusative/unergative distinction (Diesing 1992, Kratzer 1995; Selkirk 1995, Legate 2003, Kahnemuyipour 2009, Zubizarreta & Vergnaud 2006, among others).

We showed that subjects in general can be VP-internal. This holds for agentive subjects as well. There are many cases of VP-external agents, but this tendency holds because agents are often aboutness topics and subject position is more related to topic-comment structure and not to the unaccusative / unergative distinction. We then discussed the complexity of VP and constraints on the amount of material it can contain.

In the end we gave a brief picture of movements due to narrow and contrastive focus.

Chapter 6:
Summary of Thesis

By way of concluding remarks, I would like to summarize the main points of each chapter. This thesis investigated the cause of polysemous behavior of bare nouns in Persian. As such it investigated different morphological markers and their effect on bare nouns.

Chapter 1 presented a brief overview of the main puzzles. Chapter 2 investigated bare noun objects with no morphological marking and contrasted them with indefinite nominals marked with *yek* and *–i*. Bare nouns showed properties associated with noun incorporation in the literature (chapter 2).

In chapter 3 we discussed the discourse properties of bare nominals. We demonstrated that Persian bare singulars at first sight were discourse opaque, but showed discourse transparency under certain circumstances. The test for this is whether they can be picked up in subsequent discourse by anaphors, i.e. pronominal elements, or not.

The semi-transparent behavior of bare nouns does not fit neatly into Mithun's typology of NI where languages are divided in two categories of either discourse opaque or discourse transparent. A detailed analysis of the discourse transparency of bare nouns (BNs) in Persian in contrast with non-bare morphologically marked indefinites was presented. A new analysis of the anaphoric potential of quasi-incorporated bare nouns (framed in DRT (Kamp and Reyle, 1993) was presented.

In the proposal developed in chapter 3, incorporated nouns do introduce discourse referents right away, but their discourse referents are number-neutral, and the nouns are formally number-neutral as well. This explains why overt pronouns are not well suited to pick up these discourse referents, as they are specified for number, and denote atomic or sum individuals. But it explains why covert anaphoric elements can pick up these discourse referents easily, as they lack a formal number feature, and

they do not impose atomicity or non-atomicity on their referents. This is the reason why covert anaphoric elements allow for picking up discourse referents introduced by bare nouns (or rather more specifically, by incorporated nouns) in Persian.

In chapter 4 and 5, we switched to the broad syntactic structure and looked at the behavior of bare nouns. At first sight there appears to be a subject-object asymmetry in the interpretation of bare nouns in the literature similar to Ghomeshi (1996; 2003) suggesting that a bare noun is construed as non-referential in direct object position but definite in subject position. We argued that the distinction is due to a divide in the clause between two major domains, VP-internal versus VP-external. In chapter 4 we presented differences between bare nouns with or without the morpheme *–ra*.

The morpheme *–ra* has received a wide range of treatments in the syntax/semantics literature but without arriving at any consensus as to an intrinsic feature or meaning. I proposed that *-ra* does not mark anything semantic directly and has no particular meaning, but rather its presence marks movement of an internal argument to VP-external position. The consequences of this for interpretation are then derived from independent and general principles. The theory developed here builds on Diesing's (1992) Mapping Hypothesis, which splits the sentence into two parts (VP-internal versus VP-external). Diesing (1992) discussing the interpretation of indefinite NPs suggests that material within the VP is mapped onto the nuclear scope (weak indefinites) and subject to existential closure, whereas material from IP is mapped onto the restrictive clause of the quantifier (quantificational or strong indefinites).

In chapter 5 we investigated the behavior of bare noun subjects. Bare nouns in subject position can receive definite, generic/kind and existential readings. A major cue to distinguish these various interpretations lies, in addition to positional variation, in the prosody; in this subjects differ from objects, for which there is also a morphological marking (with *-ra*). The existential reading of subjects has not been given much attention in the literature. I argued that subjects originate from within the

154

VP, and that they tend to move out of the VP without any formal marking – but that they don't have to. The main assumptions we made in chapter 4 on semantic grounds are backed up by independent theories of interaction of prosody and syntactic structure in chapter 5.

At the end of chapter 5, we gave a brief overview of contrastive focus and narrow focus, on both accent patterns and word order as a non-default information structure. This section has potential for further investigation in future.

A puzzle we have come up against for both chapter 4 and chapter 5 is that even if we assume that these interpretational differences are related to the position of the bare noun relative to existential closure over the VP, following Diesing's Mapping Hypothesis, it is not clear how the distinction between indefinite and definite interpretations come about. This is different from Diesing's treatment of bare nouns in English, as they do not receive a definite interpretation (except for the kind-referring use, which we will not treat here).

Under the semantic analysis sketched in chapter 4 and 5, invloving quantifications over situations, we assumed the meaning of a bare noun depends on a situation. There is a situation s in which the individual denoted by bare noun is picked out. The reason bare nouns inside VP receive indefinite reading is due to the existential quantification over situations. There is a situation s that is a part of s*, and that bare noun has a unique referent in that situation, i.e. the bare noun has essentially a definite interpretation with respect to a situation. If bare nouns are interpreted outside the VP the relevant situation is the situation about which the sentence makes a claim, and therefore they have to be unique with respect to that situation. Inside VP the interpretation of a bare noun depends on the situation, which in turn is existentially bound. Existential quantification can be satisfied for more than one value of the existentially bound variable. There maybe more than one situation in which the bare noun picks out the individual it is referring to. Consequently, inside VP within the scope of existential quantifier the restriction to uniqueness does not matter and the bare noun receives number neutral indefinite reading.

155

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