

RELATIVE SPECIFICITY*

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Abstract

Semantic theories of specificity are based on the assumptions that a specific indefinite has wide scope and/or a referential reading. However, there are specific indefinites that are neither wide scope expressions nor referential expressions. I call this kind of specificity “relative specificity” and take it as the most general case of specific indefinites. I propose that indefinite NPs have a *referential index*, like modal or temporal indices. This index can be anchored to another expression in the discourse. If the index is anchored to another referential expression, the indefinite receives a specific reading.

1 Introduction

Semantic theories generally focus on two main aspects of specific indefinites: A prototypical specific indefinite is assumed to have wide scope and a referential reading. Depending on the theoretical perspective, the one or the other aspect may be emphasized. The classical scope approach disambiguates examples like (1) by scope interaction of the indefinite with other operators like negation (or verbs of propositional attitudes, questions, conditionals, modals, future, and intensional verbs, etc.) as in (1a) and (1b) (see Ludlow & Neale 1991). However, the contrast between a specific and non-specific reading can also appear in the absence of any other operator, such as in (2)-(4). Here, the lexical ambiguity approach (see Fodor & Sag 1982) assumes two lexical meanings of the indefinite – (i) an existential quantifier phrase, and (ii) a referential (or rigid) term:

- (1) Bill didn't see **a misprint**. (Karttunen 1976)
(1a) There is a misprint which Bill didn't see.
(1b) Bill saw no misprints.
(2) I talked with **a magician** and so did Uri. (Kasher & Gabbay 1976)
(3) Olivia is married to **a Swede**, but she denies it.
(4) **A book** is missing from my library.

However, there are specific indefinites that have neither wide scope nor can they be assigned a referential reading. In the “intermediate” reading (5a) of (5), the indefinite *some condition proposed by Chomsky* has wide scope with respect to *three arguments* and narrow scope with respect to *each student*. A similar case is the specific (witness ‘a certain’) indefinite *a certain*

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woman in (6), which has narrow scope with respect to *every man*. We observe a very similar contrast in the absence of any other operator, as in (7) and (8). The specificity of the NP *a certain student of his* in (8) can either depend on the speaker or on the subject of that sentence:

- (5) Each student has to come up with three arguments that show that **some condition proposed by Chomsky** is wrong. (Farkas 1981)
- (5a) each student > some condition > three arguments
- (6) According to Freud, every man unconsciously wants to marry **a certain woman** – his mother. (Hintikka 1986)
- (7) George: “I met a **certain student of mine**” (Higginbotham 1987)
- (8) James: “George met a **certain student of his**.”

I call this kind of specificity “relative specificity”¹ and assume that it is the most general case of specific indefinites. Wide-scope or referential indefinites are special (or “absolute”) instantiations of relative specific indefinites: they are bound to the speaker or the context of utterance. Observations on clear cases of relative specificity motivate an analysis of specificity in terms of referential anchoring, rather than in terms of scope or referential expressions. Examples from Turkish and Spanish confirm the assumption that relative specificity is the basic concept of specificity.

The paper is organized as follows: In section 2, I present different (sub-) types of specific indefinites: (i) scopal specific indefinites, (ii) epistemic specific indefinites, and (iii) partitive specific indefinites. I then introduce the additional group (iv) which I call “relative specific indefinites” and show that it is the most general notion for specific indefinites. In section 3, I discuss the morphological marking of specificity in Turkish and Spanish. I assume that the specificity marker in Turkish is more reliable than indirect markings in languages such as English. Spanish provides additional evidence for specific interpretations of certain indefinite NPs due to a contrast in the marking of animate direct objects. In section 4, I present a contrastive analysis of translations of the novel *The Name of the Rose* by Umberto Eco into English and Turkish. The novel forms the background for the sentences under investigation and controls the referential properties of the context. I also discuss some cases where Turkish and Spanish mark an indefinite as specific, although the indefinite does not have wide scope. In section 5, I compare three semantic theories with respect to their treatment of specificity. In section 6, I present a general theory of specificity based on the notion of “referential anchoring” at the level of discourse representation: a non-specific NP is bound by some operator such as negation or modal predicates, while a specific NP is anchored to a referential term. Thus, the specific expression is assigned the same scope as its anchor. Section 7 gives a short summary.

2 Types of Specificity

In the literature on specificity, different kinds of specific indefinites have been distinguished. Following Farkas (1995), I present the following groups: (i) scopal specific indefinites, (ii)

¹ I am not sure if this term has been previously used. Hans-Martin Gärtner pointed out to me that Ruys (1992, 115ff) uses the term “relativized specificity” for an additional syntactic indexing rule. Owing to space limitations I cannot discuss this very interesting proposal here.

epistemic specific indefinite, and (iii) partitive specific indefinite. I then introduce an additional group (iv) which I call “relative specific indefinites”.

2.1 Scopal specificity

Classically, the contrast between a specific and a non-specific reading of an indefinite is configurationally represented by scope interaction between the indefinite and some other operator, as in (9a) and (9b). The scope of the indefinite also determines whether an anaphoric link is possible or not: (9a) can be continued with (9a') since the pronoun *her* refers back to the existential quantifier that is outside of the scope of *want*. In (9b), the quantifier is inside the scope; thus a link to a pronoun is not possible in the same way as in (9a). Therefore, we can only continue as in (9b'):

- (9) John wants to marry **a Norwegian**.
- (9a) There is **a Norwegian₁**, and John **wants** to marry her₁.
- (9a') He met her₁ last year.
- (9b) John **wants** that there is a **Norwegian₁** and he marries her₁.
- (9b') He will move to Norway to try to achieve this goal.

The interaction of the indefinite with other operators can also be illustrated with negation, as in (10), or it can interact with more operators, as in (11) and (12). In these cases we expect three readings, which the reader can easily work out.

- (10) Bill didn't see **a misprint**. (Karttunen 1976)
- (10a) There is a misprint which Bill didn't see.
- (10b) Bill saw no misprints.
- (11) Bill intends to visit **a museum** every day. (Karttunen 1976)
- (12) Luce expects Pinch to ask him for **a book**. (Kasher & Gabbay 1976)

2.2 Epistemic specificity

The ambiguity described in the last section arises in the presence of other operators such as negators, universal quantifiers or verbs of propositional attitudes. An analysis in terms of scope seems to work well. However, there are examples that show the same (intuitive) contrast, but do not contain other operators. In the specific reading of (13), we can continue with (13a), while the non-specific reading can be continued by (13b). Kasher & Gabbay (1976) present examples (14)-(16), where they notice a clear ambiguity between specific and non-specific readings. This contrast is also often described as *referential* vs. *non-referential*. The specific indefinite refers to its referent directly, while the non-specific indefinite depends on the interpretation of other expressions in the context.

- (13) **A student** in Syntax 1 cheated on the exam. (Fodor & Sag 1982)
- (13a) His name is John.
- (13b) We are all trying to figure out who it was.
- (14) I talked with **a magician** and so did Uri. (Kasher & Gabbay 1976)
- (15) Olivia is married to **a Swede**, but she denies it.
- (16) **A book** is missing from my library.

2.3 Partitive-specificity

Milsark (1974) argues that indefinite NPs can either receive a weak (or existential) interpretation or a strong (or prepositional) interpretation. In (17) the indefinite *some ghost* receives a weak interpretation, but gets a strong interpretation in (18), i.e. it presupposes that there are other groups of ghosts. The reading in (18) is generally called “partitive”.

- (17) There are **some ghosts** in this house.
- (18) **Some ghosts** live in the pantry; others live in the kitchen.

Enç (1991) claims that partitives denote an unknown subset of a given set. Partitives always exhibit wide scope since the set from which they pick some elements out is already mentioned. This means that partitives are complex expressions, formed by an indefinite choice from a definite set. This view is supported by the contrast between the following three partitive expressions from the novel *The Name of the Rose*: the partitive *one of my monks* in (19) has a specific reading – it refers to the monk Adelmo, who has been found dead at the beginning of the story. In (20), the partitive is rather non-specific, while in (21), it is a negative one.

- (19) “It would already be serious enough if **one of my monks** had stained his soul with the hateful sin of suicide. But I have reason to think that another of them has stained himself with an equally terrible sin.” (33)
- (20) “In the first place, why **one of the monks**? In the abbey there are many other persons, grooms, goatherds, servants...” (33)
- (21) The library was laid out on a plan which has remained obscure to all over the centuries, and which **none of the monks** is called upon to know. (37)

I assume (contrary to Enç and others) that partitives comprise two independent referential functions: the first can be specific, non-specific, negative, etc., while the second must be definite. I therefore, do not include them in the investigation of specific indefinites proper.²

2.4 Relative specificity

The term “relative specificity” describes the observation that “specific indefinites” are often only “specific with respect to another expression”. This observation was made in early investigations of specificity. In the following, I refer to Jackendoff (1972), Karttunen (1976), Farkas (1981), Higginbotham (1987), and Hintikka (1986).

² Lyons (1999, 100) expresses a similar view with respect to the partitive article in French: “The partitive article is almost certainly best regarded as a genuine partitive construction, and not as an indefinite article.”

Jackendoff (1972) investigates specificity in his chapter on “Modal Structure”. He uses the Term “Modal Structure” for a “general theory of semantic representation of intended reference” (1972, 291). Jackendoff (1972, 280) starts with the observation that the indefinite NP *a cigar* is ambiguous between a specific and a non-specific reading in (22). He then embeds this sentence into another, as in (23), and notes

that *a cigar* is now three ways ambiguous. In the first interpretation, there is a particular cigar that Fred wants someone (specific or nonspecific) to ask for; in the second Fred wants someone to ask ‘Will you give me that cigar?’ where the person asking has a particular cigar in mind but Fred does not know which one it will be; in the third interpretation, Fred wants someone to ask, ‘Will you give me a cigar?’ having no particular cigar in mind.

(22) [= (7.5)] Bill asked a man for a cigar.

(23) [= (7.6)] Fred wants a man to ask him for a cigar.

Jackendoff (1982, 284ff) develops a theory in which an indefinite NP in the scope of a “modal operator” can either be bound or not by that modal operator. A bound or “dependent” indefinite NP is non-specific, while an unbound one is specific (with respect to the particular binder). In other words, the second reading of (23) is specific with respect to the predicate *ask*, while it is non-specific with respect to *want*.

Karttunen (1976, 382) discusses the “relative character” of specificity with respect to (24) and its three readings (24a)-(24c):

One might want to say that, with respect to the verb *want* the indefinite *a Swede* is specific. On the other hand, ... as in (45c), *a Swede* could be called nonspecific with respect to *want*. In general, let us call an indefinite NP specific with respect to a given verb (or quantifier, or negation) if the latter is in the scope of the quantifier associated with the NP. It is nonspecific in case the verb commands the quantifier. This kind of definition seems consistent with the way these terms have been used in recent literature, and there is no reason to stop using them as long as the **relative nature of specificity** is understood. (my emphasis, KvH)

(24) [= (43)] Marry may want to marry a Swede.

(24a) [= (45a)] There is some Swede whom Marry may want to marry.

(24b) [= (45b)] It may be the case that there is some Swede whom Marry wants to marry.

(24c) [= (45c)] It may be the case that Marry wants her future husband to be a Swede.

Following Fodor & Sag (1982), Farkas (1981) produces similar examples with extensional operators. Contrary to Fodor & Sag, she shows that such configurations also allow for three readings of the indefinite, as shown in (25). In the “intermediate” reading (25b) of (25), the indefinite *some condition proposed by Chomsky* has wide scope with respect to *three arguments* and narrow scope with respect to *each student*. Fodor & Sag (1982) predicted that this reading is not possible due to the island constraint of the relative clause.

- | | | |
|-------|---|--------------------|
| (25) | Each student has to come up with three arguments that show that some condition proposed by Chomsky is wrong. | (Farkas 1981) |
| (25a) | each student > three argument > some condition | narrow scope |
| (25b) | each student > some condition > three argument | intermediate scope |
| (25c) | some condition > each student > three argument | wide scope |

Higginbotham (1987, 64) produces the second reading of Jackendoff's example (23) in the absence of any other operator and discusses the notion of specificity on examples (26) and (27):

In typical cases specific uses are said to involve a referent that the speaker 'has in mind.' But this condition seems much too strong. Suppose my friend George says to me, 'I met with a certain student of mine today.' Then I can report the encounter to a third party by saying, 'George said that he met with a certain student of his today,' and the 'specificity' effect is felt, although I am in no position to say which student George met with.

(26) George: "I met a certain student of mine."

(27) James: "George met a certain student of his."

Hintikka (1986) made a similar observation in his discussion of the expression *a certain*. In (28), he shows that the specific indefinite *a certain woman* can receive narrow scope with respect to the universal quantifier and still be specific: there is a specific woman for each man. Hintikka suggests that the specific indefinite NP is to be represented by a Skolem-function that assigns to each man the woman who is his mother. With Farkas (1997) we can describe the dependency of the specific NP *a certain woman* from the universal quantifier *every man* by the concept of "co-variation": Farkas builds this dependency into the interpretation process: The value for the specific indefinite *woman* co-varies with the value for *man*. In other words, once the reference for *man* is fixed (during the process of interpreting the universal quantifier), the reference for the specific indefinite is simultaneously fixed. In (28b), I informally indicate this by indexing the indefinite NP with the variable bound by the universal quantifier.³

(28) According to Freud, every man unconsciously wants to marry **a certain woman** – his mother. (Hintikka 1986)

(28a) $\forall x [\text{Man}(x) \rightarrow \text{Wants}(x, \text{marry}(x, f(x)))]$

with *f*: Skolem function from men into their mothers

(28b) $\forall x [\text{Man}(x) \rightarrow \text{Wants}(x, \text{marry}(x, [\text{a woman}]_x)]$

These observations motivate a revision of the pre-theoretical description of specificity in terms of obligatory wide scope or of referential expression. It was shown that a specific indefinite NP need not depend on the speaker or the context of utterance; it can also depend on other linguistic entities, like the universal quantifier *every man* in (28) or on the proper name *George* in (27). This view is a generalization of Jackendoff's analysis. He assumes that an indefinite is non-specific if it is bound by a predicate or some other operator; otherwise it is specific. However, he does not discuss cases where the indefinite is bound by other referential expressions. In such cases the indefinite is specific with respect to that expression. Before I give my formal reconstruction of this idea, I present some current approaches to specificity.

³ Farkas focuses on a somewhat different case, namely on indefinites in the scope of an extensional operator. She describes then the narrow scope (= "non-specific") indefinites as "dependent indefinite". Thus, according to Farkas, dependent indefinites are non-specific. In my view, they can be specific if they co-vary with the value of an extensional operator like in (28).

3 Grammatical encoding of specificity: Turkish & Spanish

As opposed to definiteness, there are no sets of specific vs. non-specific articles in Indo-European languages. However, there are many other languages that mark specificity lexically or morphologically. Lyons (1999, 59) summarizes observations from other languages: “Articles marking specificity, or something close to specificity, rather than definiteness are fairly widespread.” In the remainder of this section, I present data from Turkish, where specificity is reflected in the morphological marking of the direct object, and data from Spanish, where non-specificity can be marked on animate direct objects.

3.1 Turkish object marking

Turkish is an agglutinating and suffixing language. The main verb is sentence final and most suffixes are phrase-final. The unmarked word order (29) is illustrated in (30):

- (29) subject > indirect object > direct object > predicate
 (30) ressam biz-e resim-ler-i göster-di
 artist 1pl-dat picture-pl-acc show-di.past
 ‘An artist showed us picture’

A language-specific realization of specificity is found in Turkish (Kornfilt 1997, 219ff). Turkish does not have a definite article, but an indefinite article *bir*, which is derived from the numeral *bir*, but which differs in distribution. The direct object can be realized by the absolut(ive) without case endings or by the accusative with the case ending *-I*. (The *I* represents the set of accusative suffixes which differ according to phonological rules). (31a) expresses a reading that comes close to noun incorporation by the verb. The form *kitabı* with the case-suffix in (31b) is generally translated as a definite NP, while the form *bir kitap* in (31c) with the indefinite article and without the case suffix is translated as an indefinite NP. However, (31d) shows that the case-suffix expresses specificity rather than definiteness, since it can be combined with the indefinite article. (see Lewis 1967, Dede 1986, Kornfilt 1997 among others)

- | | | | |
|-------|-----------------------------|---------------|---------------------------------|
| (31a) | (ben) <i>kitab</i> oku-du-m | | [incorporated] |
| | I book | read-past-1sg | ‘I was book-reading’ |
| (31b) | (ben) <i>kitab-ı</i> | oku-du-m | [definite] |
| | I book-acc | read-past-1sg | ‘I read the book.’ |
| (31c) | (ben) <i>bir kitap</i> | oku-du-m | [indefinite] |
| | I a book | read-past-1sg | ‘I read a book.’ |
| (31d) | (ben) <i>bir kitab-ı</i> | oku-du-m | [indef. spec.] |
| | I a book-acc | read-past-1sg | ‘I read a certain book.’ |

Dede (1986, 158) observes that direct objects without case suffixes are ambiguous between a specific and a non-specific reading, as in (32a), while direct objects with case suffixes can only receive a specific reading, as in (32b):

- | | | | |
|-------|--|------------------|-----------------|
| (32a) | Bir <i>öğrenci</i> arı-yor-um. | Bulan-mı-yor-um | |
| | a student look_for-prog-1sg | find-NEG-aor-1sg | |
| | ‘I am looking for a student. I can’t find him’ | | [specific] |
| | ‘I am looking for a student. I can’t find one’ | | [non-specific] |
| (32b) | Bir <i>öğrenci-yi</i> arı-yor-um. | Bulan-mı-yor-um | |
| | a student-acc look_for-prog-1sg | find-NEG-aor-1sg | |
| | ‘I am looking for a student. I can’t find him’ | | [specific] |
| | (*‘I can’t find one’) | | [*non-specific] |

3.2 Spanish animate direct objects with *a*

Spanish has different grammatical options to mark specific indefinite NPs (see Leonetti 1999 for an overview). For example, specific indefinite animate objects are marked by the preposition *a* ‘to’ and the indefinite article *un(a)*, as in (33b) (examples from Comrie 1992, 136):

- | | | |
|-------|---|------------------------|
| (33a) | El director busca al empleado. | [definite] |
| | ‘The director looks for the employee.’ | |
| (33b) | El director busca a un empleado. | [specific-indefinite] |
| | ‘The director looks for a certain employee.’ | |
| (33c) | El director busca un empleado. | [non-spec. indefinite] |
| | ‘The director looks for an employee.’ | |

In contrast to Turkish, a direct object with *a* can be ambiguous, while an animate direct object without *a* can only be interpreted as non-specific (Leonetti 1999, 864):

- | | | | |
|------|----------------------------------|--------------------------|----------------|
| (34) | <i>contrar un especialista</i> | to look for a specialist | [non-specific] |
| | <i>ver un guerrillero armado</i> | to see an armed guerilla | [non-specific] |
| | <i>buscar una asistenta</i> | to look for an asistent | [non-specific] |

4 A contrastive view

Even though in many European languages it is difficult to detect a specific reading of indefinite NPs on morphological grounds, other languages allow for this, as shown in the last section. To examine this more closely, I will compare translations of one and the same fragment into English and Turkish with respect to their grammatical reflexes of specificity. I have selected fragments from the novel *The Name of the Rose* by Umberto Eco, which furnishes background for the sentences under investigation and controls the referential properties of the context (for a more detailed account toward this contrastive method, see von Heusinger 2002). The background for the following example is that a particular monk has

indicated to William of Baskerville (the medieval Sherlock Holmes) that he knows something (specific!), but that he is not ready to disclose it: "... But in the abbey there are rumors, ... strange rumors ..." – "Of what sort?"

- (35a) i Strane. Diciamo, di **un monaco** che nottetempo *ha voluto* avventurarsi in
 ii biblioteca, per cercare **qualcosa** che Malachia non *aveva voluto* dargli, e ha
 iii visto serpenti, uomini senza testa, e uomini con due teste. Per poco non usciva
 pazzo dal labirinto...(97)
- (35b) i Strange. Let us say, rumors about **a monk** who decided to venture into the
 ii library during the night, to look for **something** Malachi had refused to give him,
 iii and he saw serpents, headless men, and men with two heads. *He* was nearly
 crazy when he emerged from the labyrinth... (89)
- (35c) i Garip söylenti-ler örneğin, [**bir rahib-in**₁ geceyarısı, [[Malachi'nin₂ kendine
 ii strange rumor-pl for example, [a monk-gen midnight [[M.-gen himself-
 dat
 ver-mek iste-me-dig-i₂] **bir kitab-ı** bul-mak için] gizlice
 iii give-inf want-NEG-NOM-poss.3sg] a book-acc find-inf to] secretly
 kitaplıg-a girmey-e kalkış-tıg-ı₁] (...) dair söylenti-ler (137)
 library-dat enter-to venture-NOM-poss.3sg] about rumor-Pl
 ‘There are strange rumors, for example rumors about [a monk midnights secretly
 into the library venturing [to find a book [that Malachi did not want to give
 him]]]’

The context of the novel strongly suggests that the speaker knows the referent of the indefinite NP *a monk/un monaco* but not the referent of the indefinite pronoun *something/qualcosa*. The specificity of the indefinite *a monk* is indicated in different ways: In the English translation the anaphoric pronoun *he* in (35biii) is clearly not embedded under the NP *rumors*. If that is the case then the indefinite NP *a monk* must be specific, otherwise it could not serve as antecedent for the pronoun. In the Italian original the indicative mood of the relative clause (*ha voluto*) indicates that the head noun *un monaco* is specific. This is confirmed by the Turkish translation, where the subject *bir rahib-in* of the embedded sentence is marked as specific.

Note that the Turkish translation *bir kitabı* for the Italian *qualcosa* or English *something* in line (ii) is marked as specific. The specificity of this NP is confirmed by the setting of the novel: Malachi (the librarian) can only refuse to give something to the monk if the monk had asked for a specific thing. In Italian, the predicate *aveva voluto* in the relative clause is in the indicative, and thus indicating that the head noun *qualcosa* is specific. In English, the relative clause modifying *something* contains the proper name *Malachi*, which again is a good indication that the indefinite pronoun is linked to the referent of that proper name. In comparing the three languages, Turkish marks specificity clearly, whereas subtle indicators in English or Italian must be looked for (The Spanish translation is very similar to the Italian one. Since ‘book’ is not animate, Spanish cannot mark it as specific in the way presented in section 3.2).

The following example confirms the observation that Turkish is quite reliable in marking specificity. In the English sentence (36a), the context strongly suggest a specific reading for *a rare book*. This is confirmed by the Turkish translation in (36b):

- (36a) The day before, Benno had said he would be prepared to sin in order to procure *a rare book*. (183)
- (36b) Bir gün önce Benno *az bul-un-ur* ***bir kitab-ı*** elde etmek için seve seve günah ihleye-ceğ-in-i söyle-mihti.
commit-fut-3sg-acc say-mih.past.
One day before B. *rare find-pass-SP a book-acc* procure-inf to with pleasure sin

However, we also find in (37) and (38) the same morphological indicators for specific readings, even though the indefinite NPs do not have wide scope. In (37a), the indefinite *a horse* has narrow scope with respect to the conditional or the generic force (“if a monk ...” or “Any monk...”). Yet, the Turkish translation marks the corresponding term *bir at-ı* as specific. This is also confirmed by the Spanish translation *a un caballo*. A similar observation can be made in example (38), where the indefinite NP *a brother monk* is marked as specific in Turkish and in Spanish.

- (37a) And a monk who considers *a horse* excellent, whatever his natural forms, can only see him, especially if – and here he smiled slyly in my direction – the describer is a learned Benedictine ... (24)
- (37b) Dahası, ***bir at-ı*** güzel bulan bir rahip, doğal biçimi ne olursa olsun, onu ancak yetkili kihilerin betimledikleri gibi görür - burada bana doğru bakıp kurnaz kurnaz gülümsedi - bu kihi bilgin bir Benedikten olursa ... (46)
- (37c) Y un monje que considera excelente ***a un caballo*** sólo puede verlo, al margen de las formas naturales, tal como se lo han descrito las auctoritates, sobre todo si – y aquí me dirigió una sonrisa maliciosa -, se trata de un docto benedictino ... (38)
- (38a) And I tremble to think of the perversity of the reasons that could have driven a monk to kill *a brother monk*. (34)
- (38b) Bir rahibi, ***bir rahip kardehin-i*** öldürmeye sürükleyebilecek nedenlerin aykırılığını düşününce titriyorum. (60)
- (38c) Me estremece pensar en la perversidad de las razones que pueden haber impulsado a un monje a matar ***a un compañero***. (53)

In this section, I showed that there are languages which mark specific readings of indefinite NPs (in certain cases) by morphological means. Once we have accepted this view, we have to account for cases like (37) and (38) where these markings are also used in cases that are not captured by common theories of specificity. These examples thus show that specific indefinite NPs are not just wide scope indefinite NPs, and that the formalization of specificity may present considerable challenges.

5 Semantic theories of specificity

In the following I discuss three semantic approaches to definiteness and specificity: (i) the pragmatic view; (ii) the lexical ambiguity view, and (iii) the discourse semantics approach.

5.1 Quantifiers and Pragmatics

The classical theory of NPs (Frege, Russell, Montague) translates definite and indefinite NPs into quantifiers: indefinite NPs are existential quantifier phrases, while definite NPs are translated into complex quantifier phrases expressing uniqueness of each object that falls under the description. Thus, the difference between indefinite and definite NPs is semantically expressed in the uniqueness condition. This was the background of this classical theory, when the notion of specificity was introduced in the late 60s. The *de re-de dicto* ambiguity of definite NPs was applied to indefinite NPs, and a similar contrast appeared in the context of verbs of propositional attitudes, negation, questions, conditionals, modals, future, and intensional verbs (see Jackendoff 1972). I illustrate this with the interaction between negation and NPs in (39)-(42):

- (39) William didn't see **the book** – until he saw it in the finis africae.
(39a) $\forall x \exists y [\text{book}(y) \rightarrow x = y \ \& \ \neg \text{See}(\text{william}, x)]$
(40) William didn't see **the book** – he began to wonder if there is one.
(40a) $\neg \forall x \exists y [\text{book}(y) \rightarrow x = y \ \& \ \text{See}(\text{william}, x)]$
(41) William didn't see **a book** from the finis africae – until he saw it in the hands of Jorge de Burgos.
(41a) $\exists y [\text{book}(y) \ \& \ \neg \text{See}(\text{william}, x)]$
(42) William didn't see **a book** – so he knew that they had removed all books.
(42a) $\neg \exists y [\text{book}(y) \ \text{See}(\text{william}, x)]$

Epistemic specificity, as in (43), is explained by pragmatic principles. The characterization of specific NPs as “the speaker as the referent in mind” is on purely pragmatic grounds – in the course of discourse, the speaker and hearer might get sufficient contextual clues in order to be able to identify the indefinite NP uniquely (cf. Ludlow & Neale 1991).

- (43) **A book** is missing from my library.

This view was disputed by Jackendoff (1972), who argued that specificity cannot be explained in terms of quantifier scope – there must be an additional structure, what he calls “Modal Structure” or “general theory of semantic representation of intended reference” (see section 2.4 above). However, he did not have adequate means to describe this structure.

5.2 Lexical ambiguity approach

Fodor & Sag (1982) propose a lexical ambiguity of the indefinite article, thus relinquishing a uniform analysis of indefinites. Indefinites have either a specific or a referential reading, or they have a non-specific or an existential reading. They assume that the contrast between the two readings is incommensurable. They illustrate this point by the interaction of indefinites with quantifiers as in (44). The indefinite has either a specific reading or a non-specific reading. The classical approach to this contrast is by means of scope differences: the

indefinite NP can get wide or narrow scope with respect to the definite NP *the rumor*, reflecting the specific and non-specific reading, respectively. However, the universal phrase *each student* in (45) cannot receive wide scope due to an island constraint. Thus, the specific reading in (44) cannot be described by a wide-scope existential quantifier. Fodor & Sag propose that the indefinite NP is interpreted either as a referring expression or as an existential quantifier. Like proper names and demonstratives, the referring expression is scopeless; i.e. it behaves as if it always had widest scope, as in (44b). The quantificational interpretation, as in (44a), must observe island constraint like other quantifiers and accounts here for the non-specific reading.

- (44) John overheard the rumor that **a student of mine** had been called before the dean.
- (44a) the rumor > there is a student
- (44b) a certain student > the rumor

- (45) John overheard the rumor that each student of mine had been called before the dean.
- (45a) the rumor > each student
- (45b) *each student > the rumor

The theory makes a clear prediction: an indefinite is interpreted either as a referential term and always receives widest scope, or as an existential quantifier, whose scope is constrained by scope islands. We can now test this prediction on examples with two quantifiers as in (44) or (46). In both sentences, there are two quantifiers beside the indefinite, which stands in a scope island. According to Fodor & Sag's theory, we would only expect a narrow scope reading on the existential interpretation and a wide-scope reading on the referential interpretation, but no intermediate reading. While judgements on intermediate readings are quite intricate, Farkas (1981) observed for examples like (46) that intermediate readings are often very natural. (46) has one reading (46a) according to which for each student there is one condition such that the student comes up with three arguments against the condition.

- (46) Each student has to come up with three arguments that show that some condition proposed by Chomsky is wrong.
- (46a) each student > some condition > three arguments

The intermediate reading (46a) of (46) clearly states that even such a radical theory of ambiguity cannot exhaustively describe the flexibility of indefinite NPs.

5.3 Discourse representation

Discourse representation theories (Karttunen 1976, Heim 1982, Kamp 1981) assume that NPs are represented as discourse referents associated with their descriptive material (or as variables that are associated with sentences). So NPs do not refer directly to individuals but to discourse referents. The distinction between definite and indefinite NPs is that of familiarity: a definite expression receives a discourse referent that is linked to an already established discourse referent, while an indefinite receives a discourse referent that is not or cannot be linked. Discourse referents of indefinite NPs are always inserted into the current discourse

domain or box, while referential terms introduce their discourse referents in the main box. Kamp & Reyle (1993, 290) assume with Fodor & Sag that specific indefinite NPs are referring terms like proper names. “Specifically used indefinites act as *referring terms*, terms that are used to refer to particular things, whose identity is fixed independently of the context in which the term occurs.” Intermediate readings are represented by placing the discourse referent for the indefinite NP into some higher box – the exact rules for this are not given, nor do they state conditions that restrict this assumed flexibility.

Geurts (2002) explains specificity in terms of backgrounding. He assumes that “Background material tends to float up towards the main DRS.” Indefinite NPs are not ambiguous between a specific and non-specific reading; they always introduce variables and associated predicates. The predicates are inserted into the discourse structure according to their background status. This seems like another version of the scope theory discussed above, even though the predictions are somewhat different.

To summarize, there have been basically two ways to model relative specific indefinites: In the pragmatic approach, domain restriction is used to produce a singleton set corresponding to the indefinite NP. In the lexical ambiguity view, choice functions are replacing a referential operator and they can depend on other linguistic expressions. Choice functions naturally give one individual to each set. However, here a lexical ambiguity between specific and non-specific NPs are assumed. In the next section, I present a unified approach.

6 Specificity as referential anchoring

My proposal has two main assumptions: (i) indefinite NPs are translated into indexed epsilon terms, which are interpreted as choice functions, and (ii) they are indexed by a referential variable that must be anchored to another discourse item. The two assumptions are independent. If you do not like assumption (i), you can start from a more DRT-style representation of indefinites and implement assumption (ii) in this representation (this would lead to a theory similar to that of Farkas 1997). The contrast between a specific and a non-specific indefinite can then be represented by the way the referential variable of the indefinite NP is anchored in the context. Specific indefinites are represented by anchoring the index to another (referential) expression, while the referential indices of non-specific indefinites are bound by either (modal) predicates (cf. Jackendoff 1972) or some other operators.

6.1 Indefinites as indexed epsilon terms

Following von Stechow (1997, 2000) we represent indefinite NPs as indexed epsilon terms, as illustrated in (47). The epsilon operator is interpreted as a choice function Φ that assigns one element to each set, as in (48) and (49):

$$(47) \quad \text{a book:} \quad \epsilon_i x [\text{book}(x)]$$

$$(48) \quad \|\epsilon_i x [\text{book}(x)]\| = \Phi(\|\text{condition}\|)$$

$$(49) \quad \Phi(\|\text{condition}\|) \in (\|\text{condition}\|)$$

In other words, the referent of an indefinite NP is found by the operation of selecting one element out of the set that is described by the description. The selection depends on the context in which the indefinite is located. This treatment is similar to that of discourse representation theories (Heim 1982; Kamp 1981), where indefinites introduce new individual

variables or discourse referents. One of the main advantages of using choice function variables instead is that indefinites need not be moved or raised for expressing various dependencies.

6.2 Referential anchoring

The second assumption is that indefinite NPs must get a referential index, analogously to the temporal index. Enç (1986) has shown that the temporal index can be freely assigned to the indefinite. It is not restricted to the time of evaluation of the matrix verb, as illustrated in (50). Enç (1986, 423): “There does not seem to be any need for any constraints on the temporal arguments of nouns beyond the pragmatic ones.”

(50) The fugitives are now in jail.

I assume a referential argument (variable or index) for indefinites. This argument must be bound in some way. Often the argument is bound by the context or the speaker, yielding a wide-scope specific reading. However, we have also seen cases of non-wide-scope specific indefinites, as in (36)-(38). These examples can be represented in (51)-(53), where the index is anchored to another (referential) argument or discourse item:

(51) The day before, Benno_i had said he would be prepared to sin in order to procure **a rare book**_i.

(52) and a monk_i who considers **a horse**_i excellent

(53) the reasons that could have driven a monk_i to kill **a brother monk**_i

6.3 Specific indefinites as anchored epsilon terms

Combining the two assumptions, we gain the following representation for (51). (51a) represents the relative specific reading, i.e. the reading according to which the referent of the indefinite depends on some other referential expression in the sentence, here Benno. (51b) represents the “absolute” specific reading, i.e. the reading according to which the referent depends on the speaker. Thus, this reading represents the classical intuition of “the speaker has in mind”.

(51a) Said(benno, Would(Sin(benno, Procure(benno, $\epsilon_{\text{benno}x}$ [book(x)]))))

(51b) Said(benno, Would(Sin(benno, Procure(benno, $\epsilon_{\text{speaker}x}$ [book(x)]))))

We can analyze the readings of (52) as the non-specific reading (52a), and the two specific readings (52b) and (52c). In (52a) the index is bound by an existential quantifier in the scope of the negation – therefore, the indefinite has narrow scope with respect to the negation. In (52b) and (52c), the index is anchored to the speaker and to the subject of the sentence, respectively. In both cases the indefinite receives wide scope with respect to the negation.

- (52) William didn't see **a book**.
 (52a) $\neg\exists i \text{ See}(\text{william}, \varepsilon_i x [\text{book}(x)])$
 (52b) $\neg\text{See}(\text{william}, \varepsilon_{\text{speaker}} x [\text{book}(x)])$
 (52c) $\neg\text{See}(\text{william}, \varepsilon_{\text{william}} x [\text{book}(x)])$

There is no difference between (52b) and (52c) in terms of scope. However, if we replace the subject with a quantifier phrase as in (43), repeated as (53), we get a different picture. (53a) is the representation for the relative specific reading, according to which the choice of the indefinite depends on the value for *man*, while (53b) is the representation for a speaker-specific reading – here the indefinite has wide scope.

- (53) According to Freud, every man unconsciously wants to marry **a certain woman**.
 (53a) $\forall x [\text{man}(x) \rightarrow \text{want}(x, \text{marry}(x, \varepsilon_x y [\text{woman}(y)])]$ subject specific
 (53b) $\forall x [\text{man}(x) \rightarrow \text{want}(x, \text{marry}(x, \varepsilon_{\text{speaker}} y [\text{woman}(y)])]$ speaker specific.

The same contrast can also be represented in the absence of any other operator, such as in (54). Even though the two representations result in the same scope behavior of the indefinite NP, they express a different referential anchoring relation of the indefinite.

- (54) A book is missing from the library.
 (54a) $\exists i \text{ missing_from}(\varepsilon_i x [\text{book}(x)], \text{the_library})$ non-specific
 (54b) $\text{missing_from}(\varepsilon_{\text{speaker}} x [\text{book}(x)], \text{the_library})$ specific

7 Summary

Semantic approaches describe specific indefinites either as referential expressions (similar to proper names or demonstratives), or as simple wide-scope indefinites. I showed on the basis of observations from Turkish and Spanish that not all specific indefinites fall under this characterization. Recent theories of specificity lead to a similar result: Specificity cannot be described in terms of wide-scope behavior or in terms of rigid reference. I argued that the reference of a specific expression depends on the “anchor” expression. Once the reference for the anchor is determined, the reference for the specific term is also determined, giving a specific reading of the indefinite.

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