
Specificity as Referential Anchoring: Evidence from Russian^{*}

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Abstract

In some languages different specific and non-specific readings of indefinites may be disambiguated by indefinite pronouns used as determiners. Our investigation of specificity markers in Russian shows that they mark different referential anchoring of new discourse referents which are introduced by indefinite noun phrases to already established discourse referents. The idea of referential anchoring can be modeled via parameterized choice functions. The proposed analysis suggests that semantics and pragmatics divide the labor of fixing the anchor for indefinites. The restrictions on the type of referential anchor may be encoded in the lexical entry of the specificity marker, or arise pragmatically from contrasts to other possible markers.

1 Introduction

It is well known in the literature that indefinites are generally ambiguous between so-called specific and non-specific readings. It has been shown (cf. Farkas 1995, von Heusinger 2007) that specificity cannot be described with a \pm feature but has a fine-grained structure. Under the label of “specificity” different distinctions have been discussed, including epistemic and scopal specificity. The epistemic specificity can be traced back to Fodor and Sag (1982). They observe that the indefinite *a student* may have both a specific and a non-specific interpretation.

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- (1) a. A student in Semantics cheated on the exam. His name is David.
 b. A student in Semantics cheated on the exam. I am trying to figure out who it was.

Fodor & Sag characterize the ambiguity of *a student* in the following way: under the specific reading the speaker has an intended referent in mind, i.e., knows who the cheater is, as the continuation in (1a) indicates. In contrast, in the non-specific reading as in (1b), the speaker has no particular referent in mind. Since the type of specificity in (1) concerns the way in which the use of an indefinite is related to the information state of the speaker who uses it, it is called “epistemic specificity” by Farkas (1995).

The type called “scopal specificity” is a more traditional one. Scopal specificity has been observed in contexts with strong intensional operators¹ such as with the modal *want*. If the value of the indefinite is fixed independently of the domain of such an operator as in (2a), the indefinite is interpreted as specific, that is taking wide scope. If the value of the indefinite is dependent on the domain of such an operator as in (2b), the referent receives a non-specific interpretation, that is it takes narrow scope.

- (2) a. John wants to marry *a student*. She is rich.
 b. John wants to marry *a student*. He couldn't find one.

However, in examples like (2a), in which the indefinite is scopally specific, two readings with respect to epistemic specificity are possible:

- (2') John wants to marry *a student*. She is rich. (scopally specific)
 Reading 1: The speaker has a particular student in mind.
 (epistemically specific)
 Reading 2: The speaker has no particular student in mind, but John knows the student. (epistemically specific)

All in all, the indefinite *a student* is ambiguous in three ways. Its interpretation depends on at least **two parameters**: the identifiability of the referent by the speaker and its scope relative to other operators in the clause. The NP may be scopally non-specific if the referent of the NP does not exist in the actual world; in this case it is also epistemically non-specific. The NP may be epistemically non-specific if the referent does exist but the speaker cannot identify it, and it is epistemically specific if the referent exists and the speaker can identify it.

¹According to Farkas (2002), the so-called weak intensional predicates like *believe* or *dream* do not have the same consequences for specificity as strong intensional predicates like *want* and *must*, therefore I ignore the weak intensional predicates in this paper.

While in many languages there are unmarked indefinites which tend to reflect the total amount of specificity-related ambiguities, languages may also overtly mark different types of specificity by different means such as indefinite pronouns (English, German, Russian, etc.). The differences between these specificity markers has been controversially discussed (cf. Farkas 2002 for English; Kagan 2007, Yanovich 2005 for Russian). In this paper, we claim that the difficulty in assigning precise semantic values for some markers of specificity can be traced back to semantic underspecification and pragmatic enrichment. In particular we will present a semantic model for indefinites based on the notion of referential anchoring and will show how this notion accounts for scope and epistemic effects with the three pronominal series in Russian.

The paper is organized as follows: Section 2 presents Russian data and shows that the idea of specificity as relative referential anchoring can account for differences between specificity markers. Section 3 introduces the formal reconstruction of referential anchoring via Choice Function and its application to Russian. Section 4 shows how the underspecified semantics of the specificity marker *to* can be pragmatically enriched in context. Section 5 concludes the main results of the paper.

2 Specificity Marking in Russian

Russian is an article-less language. Noun phrases may be interpreted as definite or indefinite depending on the information structure and word order. In addition, noun phrases can be accompanied by different indefinite pronouns used as determiners specifying different interpretations of noun phrases (cf. Dahl 1970, Ioup 1977). There are many pronominal series consisting of a *wh*-pronoun combined with some affix (cf. Haspelmath 1997). In this paper, we will investigate the following three series of indefinite pronouns formed by the suffixes *to*, *nibud'*, and by the prefix *koe*: *wh-to*, *wh-nibud'*, *koe-wh*, cf. (3).

- (3) Igor' hochet zhenit'sja na *koe-kakoj* / *kakoj-to* / *kakoj-nibud'* studentke.
 Igor wants marry at *koe-wh* / *wh-to* / *wh-nibud'* student
 'Igor wants to marry a student.'

These pronominal determiners disambiguate different readings with respect to the identifiability of the referent by the speaker and scope.

2.1 Identifiability by the Speaker

In Russian, epistemically specific and epistemically non-specific NPs can be overtly distinguished by indefinite pronouns; cf. the example from Fodor & Sag (1982) in (4) translated into Russian.

- (4) a. *Koe-kakoj* student spisyval na ekzamene. Ego zovut Ivan Petrov.
 koe-wh student cheated on exam he is-called Ivan Petrov
 ‘A student [known to the speaker] cheated on the exam. His name is Ivan Petrov.’
- b. *Kakoj-to* student spisyval na ekzamene. Ja pytajus’ vyjasnit’, kto eto byl.
 wh-to student cheated on exam I try to find-out who it was
 ‘A student [not known to the speaker] cheated on the exam. I am trying to figure out who it was.’

According to Haspelmath (1997), the *koe*-series indicates that the speaker has a particular referent in mind, i.e., the referent of the NP is somehow anchored to the speaker. By using *to*-series, in contrast, the speaker conveys that he cannot identify the referent (cf. also Haspelmath 1997:45). Thus *koe* indicates epistemic specificity while *to*- encodes epistemic non-specificity.

However, although *-to* indefinites cannot be anchored to the speaker, they can be anchored to other discourse entities, like the discourse referent introduced by the subject-NP in the matrix clause; cf. (5) from Dahl (1970).

- (5) Ona skazala, chto on govorit s *kem-to* po-telefonu. (Dahl 1970:35)
 she said that he was-talking to wh-to on telephone
 ‘She said that he was talking to somebody on the telephone.’

Dahl points out that this sentence is ambiguous in the same way as its English translation: she may have said *He is talking to John*, which indicates that she knows to whom he is speaking, thus she can identify the referent. In another reading, she may have said *He is talking to somebody*, that is, she cannot identify the person he is talking to. In this case, the referent of the NP is identifiable only to him. Further, Dahl points out that in some examples the referent of a *to*-NP need not be identifiable to any discourse referent in the clause.

- (6) Ona govorit, chto *kto-to* ukral ee koshelek. (Dahl 1999:673)
 she said that wh-to stole her purse
 ‘She said that someone stole her purse.’

In this example, the referent introduced by the NP *kto-to* is not identifiable either to the speaker or to the subject-referent.

To sum up, for the interpretations of the *to*-series, there is no requirement that any particular person possesses identifying knowledge, but only that the referent is not identifiable by the speaker. Different human discourse referents in the sentence can, but need not, possess this identifying knowledge. In contrast, *koe* strongly indicates the identifiability of the referent by the speaker.

But what about the *nibud'* series? This pronominal series can only occur in the scope of some operators. e.g. intensional predicates as in (7). Since it is impossible to use *nibud'* in a simple declarative sentence, it can be called a *polarity determiner*. The continuation indicating the non-identifiability of the referent by the speaker, which is compatible with the *to* series, is also compatible with *nibud'*. But with the *to* marker, it is possible to interpret (7) in the way that the student is identifiable to Igor, i.e., the student may be identifiable to the discourse individual who is different from the speaker. In contrast, the *nibud'* marker indicates the non-identifiability of the individual to the speaker, or to any other individual for that matter.

- (7) a. Igor' hochet zhenit'sja na **koe-kakoj* / -*to* / -*nibud'* studentke.
 Igor wants marry koe-wh /wh-to / wh-*nibud'* student
 'Igor wants to marry a student.'
 b. Continuation: Ja ne znaju, na kakoj.
 'I don't know who.'

The difference between indefinites marked with *nibud'* and with *to* seems to be the difference in scope.

2.2 Scope

The three specificity markers have a different impact on the scope of the NP. *Koe*-indefinites take wide scope with respect to intensional and extensional operators. *Nibud'* always indicates narrow scope and has to be licensed by operators or quantifiers in the clause. The scope of NPs marked with the *to* series seems to vary depending on the type of operator, intensional versus extensional. We will discuss both contexts separately.

Contexts with intensional operators

To-indefinites take wide scope with respect to intensional operators, such as future and intensional predicates like *iskat'* 'to look for' and *chotet'* 'to want' (cf. Pereltsvaig 2000).

- (8) Igor' hochet zhenit'sja na *koe-kakoj / -to / *-nibud'* studentke.
 Igor wants marry koe-wh / wh-to / wh-nibud' student
 'Igor wants to marry a [specific] student.'
 Continuation: On znakom s nej dva goda. → wide scope
 'He has known her for two years.'
- (9) Igor' hochet zhenit'sja na **koe-kakoj / *-to / -nibud'* studentke.
 Igor wants marry koe-wh / wh-to / wh-nibud' student
 'Igor wants to marry a [non-specific] student.'
 Continuation: On poka ni s kem ne poznamilsja. → narrow scope
 'He didn't get to know anybody.'

Contexts with extensional operators

In contexts with extensional quantifiers, like with universal quantifiers, *koe* and *nibud'* determiners behave in the same way as with intensional operators: *koe* indicates wide scope, while *nibud'* indicates narrow scope. However, the behavior of *to*-indefinites seems to be more complicated.

To-indefinites may take wide scope relative to extensional quantifiers.

- (10) Kazhdyj student voschischchaetsja *koe-kakim / -to / *-nibud'* professorom.
 Every student admires koe-wh / wh-to / wh-nibud' professor
 'Every student admires a certain professor.'
 Intended Reading: 'the same professor' → wide scope

But narrow scope for *to* is also possible (cf. Kagan 2007).

- (11) Kazhdyj student voschishchaetsja **koe-kakim / -to / -nibud'* professorom.
 Every student admires koe-wh / wh-to / wh-nibud' professor
 'Every student admires a professor.'
 Intended Reading: 'more than one professor' → narrow scope

Since *to* indefinites can take narrow scope relative to universal quantifiers, the problem of distinguishability with *to* and *nibud'* arises. The difference seems to lie in the dependency between the indefinite marked with *to* or *nibud'*, and the quantifier expression. If the *to*-indefinite takes narrow scope, it differs from *nibud'* in the property of co-variation, cf. (12).

- (12) Kazhdyj rebenok poluchil na Rozhdestvo **kakoj-nibud'* / -*to* podarok.
 every child got for Christmas *koe-wh* / *wh-to* gift
 'Every child got for Christmas a certain gift.'

Continuation: A imenno tot, kotoryj on ozhidal.
 Namely the one which he expected.

The natural interpretation of (12) with its continuation is that gifts are distributed to all the children in the context. The continuation with a bound variable pronoun forces strict dependency between the quantifier expression and the indefinite: different instances of the gifts must co-vary with different children. The continuation requires the non-random choice of value for the variable introduced by the indefinite NP.

The strict distributive reading is only possible with *to*. For *nibud'*, narrow scope readings in which the referent of the indefinite strictly depends on some referents in the clause are not available. *Nibud'* indicates that the referent of the indefinite is in principle not identifiable and signals the randomness of referent choice.

The differences between the three pronominal series discussed in this section are summarized in Table 1.

Table 1: *Distinctions between pronominal series in Russian*

Distinguishing criteria	<i>koe-wh</i>	<i>wh-to</i>	<i>wh-nibud'</i>
Identifiability of the referent by the speaker	yes	no	no
interaction with intensional operators	wide scope	wide scope	narrow scope
interaction with extensional quantifiers	wide scope	wide / narrow scope	narrow scope
co-variation under narrow scope		yes	no

3 Semantic Analysis

It is obvious that the distinctions between the specificity readings discussed in the previous section cannot be described via feature \pm specific. Specificity rather seems to

have a fine-grained structure. The referent introduced by the indefinite NP can depend on other expressions in the clause as universal quantifiers or discourse participants like the speaker. In order to account for such dependencies we will introduce the notion of referential anchoring (von Heusinger 2007) which we will model as parameterized choice functions (Kratzer 1998) involving an implicit *e*-type argument.

3.1 Referential Anchoring

In the discussion about indefinites, examples in which narrow scope indefinites strictly co-vary with the quantifier phrase have been widely discussed, as in (13a) where the dates are strictly dependent on the individual husbands. Based on Kratzer (1998), we assume that this dependency can best be accounted for as shown in (13b):

- (13) a. Each husband has forgotten a certain date – his wife’s birthday
(Hintikka 1986)
b. $\forall x(\text{husband}(x) \rightarrow \text{had forgotten}(x, f_x(\text{date})))$ (Kratzer 1998)

In the formalism, f is a free function variable, representing a contextually salient partial function from individuals into choice functions. The subscripted x is an implicit argument of the indefinite and is of type *e*. f_x is a partial choice function that takes some set as an argument and returns an individual member of this set. In our example (13), the implicit argument is bound by the universal quantifier and therefore f_x maps the set of dates to particular dates depending on each husband. In other words, the dates are referentially anchored to each husband. Note that if the implicit argument was not anchored to husbands but, say, to the speaker, as in (14), the indefinite would get wide scope reading.

- (14) a. Each husband has forgotten a certain date – the 8th of March
b. $\forall x(\text{husband}(x) \rightarrow \text{had forgotten}(x, f_{\text{SPEAKER}}(\text{date})))$

Assuming that argumental indefinites can generally be modelled as parameterized choice functions in this way, argumental indefinites always introduce discourse referents referentially anchored to some other individual. The major advantage of this view is that the referential anchor, modeled as an implicit argument, allows for interaction both with quantifier expressions and discourse participants. Different readings of indefinites can now be captured as the difference in the choice of anchor.

3.2 Binding Constraints on Implicit Argument

For the semantic analysis of specificity markers, we assume that argumental (*e*-type) indefinites are underspecified with respect to the effects of specificity, but lexical markers may fix different specific readings by imposing constraints on the binding of

the implicit argument. The contrasts summarized in Table 1 can now be captured by constraints on the implicit argument. We assume that the specificity markers *koe*, *to*, *nibud'* take $\langle e, t \rangle$ type arguments and ignore the meaning of the *wh*-pronoun combined with specificity markers for the sake of simplicity.

Table 2: *Specificity markers in Russian*

	<i>koe-</i>	<i>-to</i>	<i>-nibud'</i>
lexical entry	$\lambda P f_x(P)$ x=speaker	$\lambda P f_x(P)$	$\lambda P \exists x f_x(P)$
identifiability of the referent by the speaker	yes	no	no
interaction with intensional operators	wide scope	wide scope	narrow scope
interaction with extensional quantifiers	wide scope	wide / narrow scope	narrow scope
co-variation under narrow scope		yes	no

As shown in Table 2, the only difference between the lexical entries of specificity markers concerns the binding of the implicit argument *x*. The implicit argument of *koe* must be bound by the speaker, yielding identifiability by the speaker and necessary wide scope.

According to Table 2, the implicit argument of the non-specificity marker *nibud'* is existentially closed at the lexical level yielding non-identifiability of the referent by the speaker, narrow scope, and the lack of co-variation reading. We interpret the fact that for *nibud'* no specific anchor exists in the following way: indefinites accompanied by *nibud'* introduce a completely random referent. The referent of a *nibud'*-indefinite is not identifiable. However, the lexical entry of *nibud'* is still a simplification since the fact that *nibud'* needs licensing by some operators in the clause is not yet integrated in it.

The lexical entry of *to* given in Table 2 is the most underspecified one. In contrast to *koe* and *nibud'*, the implicit argument of *to* is not bound at the lexical level and there are no lexical constraints on its binding. We consider the underspecified anchoring of

indefinites with *to* to be the key for the explanation of their different interpretations. For the implicit argument of *to*, different possibilities arise depending on the context: in contexts with intensional operators as in (15a), the implicit argument may be bound to some discourse referent different from the speaker as shown in (15b), or existentially closed in the preceding context as is shown in (15c). Both possibilities yield wide scope with respect to intensional operators.

- (15) a. Igor' hochet zhenit'sja na *kakoj-to* studentke.
 Igor wants marry wh-to student
 'Igor wants to marry a student.'
- b. ...*kakoj-to* studentke WANT ... $f_{IGOR}(\text{student})$ \rightarrow wide scope
 c. ...*kakoj-to* studentke: $\exists x$WANT... $f_x(\text{student})$ \rightarrow wide scope

In contexts with an extensional quantifier as in (16), the possibility of binding the implicit argument of *to* by an extensional quantifier arises. This binding yields co-variation reading under narrow scope.

- (16) a. Kazhdyj muzh zabyl *kakoj-to* den', a imenno den' rozhdenija svoej zheny
 Each man forgot wh-to date namely birthday of his wife
 'Each husband has forgotten a certain date – his wife's birthday.'
 \rightarrow narrow scope, co-variation
- b. $\forall x(\text{husband}(x) \rightarrow \text{had forgotten}(x, f_x(\text{date})))$

In contexts without operators or quantifiers as in (17a), the implicit argument of *to* is existentially bound by default, cf. (17b). Note that *nibud'* is not licensed in (17).

- (17) a. Ona govorit, chto *kto-to* / **-nibud'* ukral ee koshelek (= 6)
 she said that wh-to / *wh-nibud' stole her purse
 'She said that someone stole her purse.'
- b. ... *kto-to*: $\exists x f_x(\text{human})$

We see that there are many possibilities to bind the implicit argument of *to*, but some possibilities are excluded. Firstly, the implicit argument of *to* cannot be bound to the speaker, that is *to* avoids the binding pattern of *koe*. Secondly, the implicit argument of *to* cannot be existentially bound in the scope of some operator, in other words, *to* avoids the binding pattern of *nibud'*. However, the existential binding for the implicit argument of *to*, which is conventionalized for *nibud'*, is possible for *to* in contexts in which *nibud'* is not licensed as in (17). Observing these regularities, we come to the conclusion that the binding of implicit arguments of *to* must be restricted by pragmatic principles.

4 Pragmatic Enrichment

The aim of this section is to show that the preferences for particular interpretations of indefinites with *to* arise from the contrast with other specificity markers which may be used in the same context.

to vs. *koe*: contrast in identifiability

The contrast between *to* and *koe* is based on speaker identifiability. Both markers can occur in any logical environment and since *koe* lexically signals that the speaker is the referential anchor, we consider *koe* to be more informative. Therefore, if *to* is used, the hearer can infer that the conditions for *koe*, namely speaker anchoring, are not met. From here we derive the reading of *to* as marking the non-identifiability of the referent by the speaker. As was assumed in (Geist & Onea 2007b), it is a standard scalar implicature since *koe* logically implies *to*. This implicature can be cancelled or reinforced as in (18).

- (18) a. Igor videl *kakuju-to* zhenschchinu.
 Igor saw wh-to woman
 ‘Igor saw some woman.’
- b. Reinforcement
 Ja dejstvitel’no ne znaju kto eto byl.
 ‘I really don’t know who it was.’
- c. Cancellability
 Mne kazhetsja, ja ee znaju.
 ‘It seems to me that I know her.’

to vs. *nibud’*: different contrasts

On the other hand, *to* contrasts with *nibud’* in contexts with intensional operators and extensional quantifiers. Again, *nibud’* has restrictions on the implicit argument, existentially binding it at the lexical level, which makes *nibud’* more “marked” than *to*. *To* has no such restrictions. Pragmatic reasoning now applies in different ways for intensional and extensional contexts.

whose lectures he attends.’

professors co-vary with
different students

b $\forall x(\text{student}(x) \rightarrow \text{admire}(x, f_x(\text{professor})))$

The co-varying reading cannot arise with *nibud'* since its implicit argument is existentially bound and cannot be made dependent on a quantifier expression. Therefore, if *to* is used for narrow scope with extensional quantifiers, the hearer can infer that it signals co-variation which cannot be signaled by *nibud'*.

Thus, the variability in interpretation of indefinites with *to* can be accounted for by its underspecified semantics. The preferences for a particular reading arise from the contrast with other specificity markers which may be used in the same context.

5 Conclusion

I have argued here for uniform semantics with the three pronominal series used as indefinite determiners in Russian. Each indefinite determiner introduces an implicit argument and a function which chooses a particular individual from a set depending on some implicit argument. This implicit argument interacts with quantifiers and the discourse context, fixing an appropriate referential “anchor” for the indefinite. We further have suggested that the three pronominal series examined differ with respect to the constraints they impose on the binding of the implicit argument. The *koe* series is marked in that it lexically encodes a constraint requiring the implicit argument to be identical to the speaker. The *nibud'* series is marked in that it lexically encodes a constraint requiring the implicit argument to be unspecified. The *to* series is unmarked in that it imposes no lexical constraints on the binding of its implicit argument. In the case of *to*, however, pragmatic constraints arising from contrasts to other available markers apply. These constraints exclude for the *to* series the binding patterns typical for *koe* and *nibud'*. My analysis suggests that all argumental indefinites are anchored. The restrictions on the type of the referential anchor may be determined by the lexical semantics of the specificity marker, or may be derived by pragmatic reasoning.

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