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# SPECIFICITY EFFECTS OF TURKISH DIFFERENTIAL OBJECT MARKING

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## 1 Introduction<sup>\*</sup>

This paper aims at evaluating on the type of specificity that is associated with the differential marking of the direct object in Turkish as in (1).

- (1) a    Mustafa      bir      sandalye      al-dı.  
         Mustafa      a      chair            buy-PST.3SG  
         ‘Mustafa bought a chair.’
- b    Mustafa      bir      sandalye-yi    al-dı.  
         Mustafa      a      chair-ACC      buy-PST.3SG  
         ‘Mustafa bought a (specific) chair.’

It is generally assumed that the case marking of the direct object signals specificity, while the lack of case non-specificity in Turkish. However, it is controversial what kind of specificity is marked by the direct object case. Generally, it is assumed that the direct object case marker indicates (i) referential specificity, i.e. the indefinite direct object behaves like a direct referential term in intensional contexts (Fodor & Sag 1982), (ii) scopal specificity, i.e. the indefinite direct object takes widest scope with respect to extensional operators, and (iii) epistemic specificity, i.e. the speaker of the sentence has a particular referent in mind (see Erguvanlı 1984; Dede 1986; Kornfilt 1997; Aydemir 2004; von Heusinger & Kornfilt 2005, among others). Enç (1991),

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however associates DOM in Turkish with partitivity or D-linking. Özge (2011) argues that DOM expresses an implicit domain restriction and is therefore orthogonal to the other types of contrasts mentioned above. While partitivity is a clearly distinct notion from the others, Fodor & Sag (1982) argue that the other three types of specificity, namely referential, scopal, and epistemic are semantic and pragmatic effects of one and the same semantic contrast, but they were not able to support their hypothesis since there is no morphological marking in English that could be associated with specificity. Turkish, however, is a very good test case for their hypothesis on the unified phenomenon of specificity, as specificity is closely related to the morphological case marker of the direct object. By testing the effect of overt case marking of the direct object in comparison to zero marking in semantic as well as pragmatic contexts we aim at understanding the type of specificity Turkish DOM conveys. We also hope to find additional evidence of whether or not the unified hypothesis of Fodor & Sag (1982, see also von Heusinger 2011, to appear, Kamp and Bende-Farkas to appear) finds further confirmation or not. We create an experimental paradigm and refer to the intuitions of native Turkish speakers by using a forced-choice sentence continuation task. In the following, Section 2 provides a brief overview of the morphological marking of definiteness and specificity in Turkish, Section 3 informs on the different types of specificity under investigation along with previous views on Turkish DOM for each. Section 4 informs on the experimental study. Lastly Section 5 presents the conclusions.

## 2 Referentiality, Definiteness and Specificity in Turkish

Turkish does not have a definite article, but an indefinite article *bir* ‘a(n)’, which is homophonous to the numeral *bir* ‘one’, but different in its distribution (see Kornfilt 1997: 106). For the direct object, differential object marking (DOM) allows for further differentiation of the semantic and pragmatic referential categories, as summarized by Erguvanlı (1984) in Table 1:

	Referential			Non-referential
	Definite	Indefinite		
		Specific	Non-specific	
Object sg.	-yI	bir -yI	bir (-yI)	-Ø

Table 1. Correlation of *bir* and case marking with definiteness and referentiality (adapted from Erguvanlı 1984: 18).

For the direct object in Turkish, the lack of an article and the lack of case indicate a non-referential or non-argumental interpretation. Case marking or the use of the indefinite article *bir* marks a referential interpretation, i.e. an expression that introduces discourse referents in the sense of Karttunen (1969). Such referents can have a “short life” under the scope of negation or other operators if they are non-specific. Case marking and the lack of the indefinite article express a definite interpretation, and the indefinite article together with case marking expresses an indefinite specific reading. Note that various other factors such as tense, aspect, modality, type of statement and context may also play a role in definite/indefinite and referential/non-referential reading assignments to NPs. When the NP is ACC marked it is allowed to take any position in the sentence. This paper is concerned with the use of the indefinite article *bir* ‘a(n)’ together with optional case marking on the direct object in the preverbal position. This use is an instance to the common phenomenon of Differential Object Marking DOM in short (Erguvanlı

1984; Dede 1986; Enç 1991; Kornfilt 1997; Aydemir 2004; von Heusinger & Kornfilt 2005 for Turkish). DOM can have various functions, such as specificity marking, topicality marking or just being dependent on some grammatical features in a particular language (see Bossong 1985, Aissen 2003, Iemmolo 2010, Sinnemäki 2014 for a typological overview on DOM).

### 3 Specificity Contrasts at Semantic and Pragmatic Contexts

This paper aims at investigating the specificity effects of Turkish DOM in intensional, scopal and epistemic contexts. A specific reading of an indefinite NP is pretheoretically characterized by the “certainty of the speaker about the identity of the referent” (von Heusinger 2002). However, the term specificity has been used as a cover term for a whole range of different semantic and pragmatic notions. Following von Heusinger (2011, to appear) we distinguish between notions of specificity in a narrow sense, including (i) referential specificity, (ii) scopal specificity and (iii) epistemic specificity, and specificity related phenomena, such as (iv) partitivity, (v) topicality, (vi) noteworthiness, and (vii) discourse prominence, as in Figure 1 below.

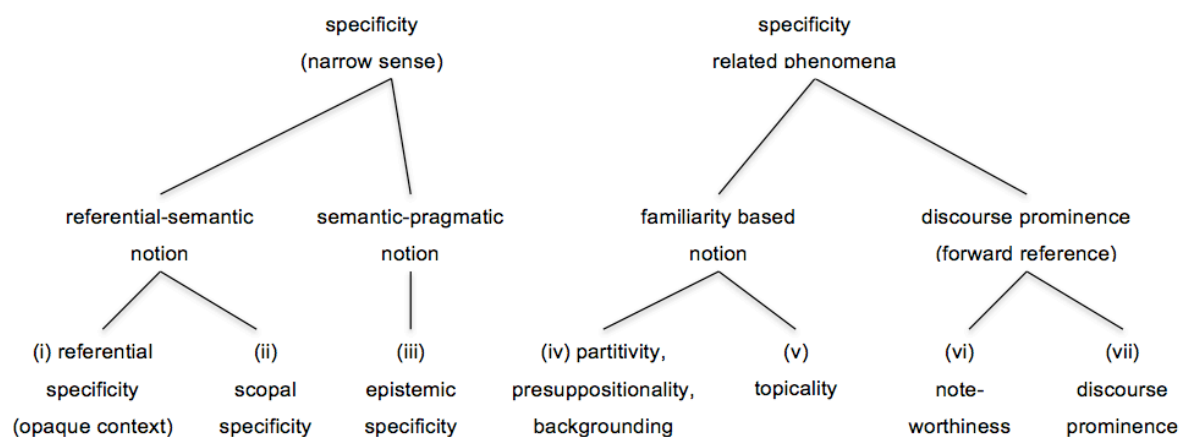


Figure 1. A family resemblance notion of specificity (taken from von Heusinger, to appear)

Fodor & Sag (1982) have argued that specificity is a unified phenomenon of the (first) three types of specificity. This paper concerns itself with the specificity in the narrow sense in the above Figure 1 and asks whether the overt use of DOM in Turkish shows the same effects for these three specificity contrasts and if not whether Turkish DOM constitutes a semantic-pragmatic notion or rather a referential-semantic one. To that end, it tests the use of the overt and zero DOM in Turkish for each of the three specificity types: i) referential specificity, ii) scopal specificity and iii) epistemic specificity. These three specificity types are described and exemplified below.

### i) Referential Specificity

The term referential specificity is used here to refer to indefinites in intensional contexts, i.e. in contexts created by intensional verbs like *to look for*, or by verbs of propositional attitudes like *to hope*, *to wish*, *to desire*, or future tense, modals, conditional etc. Use of such verbs set up “opaque contexts”. Referential specificity is associated with the different readings of the indefinite noun phrases in such opaque contexts (Fodor & Sag 1982, Kamp & Bende-Farkas to appear). In opaque contexts the notion of referential specificity describes a contrast between a reading that allows existential entailment and a reading that does not (von Heusinger 2011). In such cases the indefinite direct object is understood as denoting either a particular entity or whatever satisfies the description; that is, on one reading it is “referring” (in some sense) and on the other it does not. There is great variety in the terminology used in the linguistic and philosophical literature for this distinction: specific or referential reading in contrast to non-specific or non-referential readings. Below are examples from Turkish with an intensional verb in (2) and a verb of propositional attitude in (3), creating opaque contexts. The indefinite in the opaque context can be interpreted as referential specific, which is forced by the continuation in (a), or it can be read non-specific, which is forced by the continuation in (b). Note that there is a truth-conditional contrast between the specific and non-specific reading: The specific reading allows for an existential entailment, the non-specific does not.

- (2) Ali sevgili-sin-e bir yüzük(-ü) ver-mek iste-di.  
 Ali girlfriend-PSS.3SG-DAT a ring(-ACC) give-INF want-PST.3SG  
 ‘Ali wanted to give a ring to his girlfriend.’

a) *referential specific*: This was a very beautiful diamond ring from his grandmother.

b) *referential non-specific*: But he could not find a ring he could afford.

- (3) Zeynep parti için bir elbise(-yi) ara-dı.  
 Zeynep party for a dress(-ACC) look.for-PST.3SG  
 ‘Zeynep looked for a dress for the party.’

a) *referential specific*: This was one of a kind dress made for her size and taste.

b) *referential non-specific*: She tried many dresses but none of them were beautiful enough.

It is generally assumed (e.g. Dede 1986, von Heusinger & Kornfilt 2005) that case marking disambiguates the specific from the non-specific reading. According to Dede (1986: 158), the unmarked form is ambiguous between a specific and non-specific reading, which is indicated by the translation of *bulamıyorum* as ‘I can’t find him’ or ‘I can’t find one’, respectively. The indefinite direct object with case marker in (4b), on the other hand, allows only for a specific reading.

- (4) a Bir öğrenci arı-yor-um. Bula-mı-yor-um.  
 One student look.for-PROG-1SG find-NEG-PROG-1SG  
 ‘I’m looking for a student. I can’t find him / I can’t find one.’  
 b Bir öğrenci-yi arı-yor-um. Bula-mı-yor-um.  
 One student-ACC look.for-PROG-1SG find-NEG-PROG-1SG  
 ‘I’m looking for a student. I can’t find him/ \*I can’t find one.’

## ii) Scopal Specificity

Scopal specificity concerns the interpretation of the indefinite if there are other extensional operators such as *all* and *every*. The indefinite might interact with the universal quantifier yielding readings with wide scope over the universal quantifier or narrow scope. The wide scope reading is forced by the continuation (a) saying that there is one costume such that every player has tried it. Whereas, the narrow scope reading is forced by the continuation (b) saying that for each player there is a potentially different costume.

- (5) Her oyuncu bir kostüm(-ü) dene-di.  
 Every player a costume(-ACC) try-PST.3SG  
 ‘Every actor tried a costume.’

*a) scopal specific:* It was hard to find an actor who can wear this costume.

*b) scopal non-specific:* The actors had to try hard to find a fitting costume for their roles.

Kelepir (2001: 84) argues that case marked indefinite direct objects are ambiguous between a wide scope reading and a narrow scope reading, as in (6) taken from Kelepir (2001: 84). This sentence can be interpreted in two different ways. One possible interpretation is that there is only one book and everybody reads the same book, whereas another interpretation might be that there is a different book for each person.

- (6) Herkes bir kitab-ı oku-du.  
 Everybody a book-ACC read-PST.3SG  
 ‘Everybody read a book.’

An unmarked direct object, however, can only have a narrow scope reading, as in sentence (7), taken from Kelepir (2001: 84). The only available interpretation for this sentence is that each person sang a (potentially) different song.

- (7) Parti-de herkes bir şarkı söyle-di.  
 Party-LOC everybody a song sing-PST  
 ‘At the party everybody sang a song.’

These examples show that overt DOM enables the indefinite direct objects to have either wide or narrow scope reading with respect to the subject quantifier, whereas the zero marking enables only the narrow scope reading.

## iii) Epistemic Specificity

Farkas (1994) uses the term “epistemic specificity” to refer to the contrasts found in contexts without any other operator and that are caused just by the option of a referential intention. In this context the specific vs. non-specific contrast is not reflected in truth conditions and arguably said to be of pragmatic nature (Neale 1990; Heim 1991; but von Heusinger 2002, Kamp & Bende-Farkas to appear for a different view). This is illustrated by an example in Turkish below in (8),

where the indefinite direct object is ambiguous between an epistemic specific and an epistemic non-specific reading, which are forced by the continuations (a) and (b), respectively.

- (8) Mustafa        bir        sandalye(-yi)        al-dı.  
 Mustafa        a        chair(-ACC)        buy-PST.3SG  
 ‘Mustafa bought a chair.’

*a) epistemic specific:* This is a very similar one to the rocking chair I bought last month.

*b) epistemic non-specific:* But I have no idea what type of chair this is.

In a previous study, Özge, Özge & von Heusinger (2016) investigated the forward-looking properties of epistemic specific indefinites at discourse level, which can be considered to fall under the category of “discourse prominence” in Figure 1 above. Epistemic specific indefinites are assumed to introduce discourse referents that are discourse prominent, i.e. they structure the upcoming discourse by signaling that they present referents, which are highly probable to be picked up in the upcoming discourse. Özge, Özge & von Heusinger (2016) measured the probability of a referent introduced by a subject in comparison to a referent introduced by an overt or zero marked direct object to be picked up in the upcoming discourse. Contrary to their hypothesis, their data did not show an increase in the number of object re-mentions regardless of the objects’ being overtly marked with ACC or not. In sum, their results indicate that case marking of indefinite direct objects does not signal or enhance the discourse prominence of the associated discourse referents.

## 4 Experimental Study

### 4.1 Experimental Stimuli and Procedure

In order to test which type of specificity DOM in Turkish expresses and in order to question the hypothesis that specificity is a unified phenomenon of (i) referential specificity, (ii) scopal specificity, and (iii) epistemic specificity (see Fodor & Sag 1982, von Heusinger 2011, Kamp & Bende-Farkas to appear) we tested the effect of case marking in four different contexts: (1) Transparent context, (2) in the context of universal quantifiers, (3) in the context of verbs of propositional attitudes, and (4) in the context of intensional verbs. We created 48 experimental sentences consisting of singular NPs as subjects, transitive verbs in past tense chosen among those naturally take direct objects, and an indefinite singular direct object. In order to control for an animacy effect, the direct objects were selected from human (e.g., teacher, doctor), animal (e.g., cat, dog) and inanimate (e.g., table, chair) categories and were equally distributed across conditions. Each participant has seen each direct object either with or without accusative case. Four conditions presented below are tested in this experimental study.

**(1) Transparent Context**

- (9) Mustafa bir sandalye(-yi) al-dı.  
 Mustafa a chair(-ACC) buy-PST.3SG  
 ‘Mustafa bought a chair.’

a) *epistemic specific*: This is a very similar one to the rocking chair I bought last month.  
 b) *epistemic non-specific*: But I have not yet seen what type of chair this is.

**(2) Universal Quantifier**

- (10) Her oyuncu bir kostüm(-ü) dene-di.  
 Every player a costume(-ACC) try-PST.3SG  
 ‘Every actor tried a costume.’

a) *scopal specific*: It was hard to find an actor who can wear this costume.  
 b) *scopal non-specific*: The actors had to try hard to find a fitting costume for their roles.

**(3) Verbs of Propositional Attitude**

- (11) Ali sevgili-sin-e bir yüzük(-ü) ver-mek iste-di.  
 Ali girlfriend-PSS.3SG-DAT a ring(-ACC) give-INF want-PST.3SG  
 ‘Ali wanted to give a ring to his girlfriend.’

a) *referential specific*: This was a very beautiful diamond ring from his grandmother.  
 b) *referential non-specific*: But he could not find a ring he could afford.

**(4) Intensional Verbs**

- (12) Zeynep parti için bir elbise(-yi) ara-dı.  
 Zeynep party for a dress(-ACC) look.for-PST.3SG  
 ‘Zeynep looked for a dress for the party.’

a) *referential specific*: This was one of a kind dress made for her size and taste.  
 b) *referential non-specific*: She tried many dresses but none of them were beautiful enough.

Each experimental sentence was followed by two alternative continuation sentences, one being coherent with a specific reading, as in (1), and another one with a non-specific reading, as in (b), of the direct object in the test item. 34 filler sentences consisting of bare plural subjects were added to the experimental stimuli. Thus each participant has seen a total of 82 sentences. We provided two different versions of the item lists in which the order of experimental items as well as specific and nonspecific continuations were differently randomized. The participants were instructed to select the ‘most natural’ continuation for each experimental item.

## 4.2 Participants

62 native speakers of Turkish between ages 22-43 ( $M=32,8$ ), who were monolingually grown up and were university students or graduates have participated in our study.

## 4.3 Data Analysis

Data were analyzed using R (R Core Team, 2012), including the R packages *lme4* and *languageR* (Baayen 2008). Raw ratings were subjected to analyses with linear mixed effects models (*lme*). Contrasts were defined for testing the factor of Specificity. In addition to the fixed effects that correspond to the independent variables (Specificity and ACC marking), Participants and Items were included as random effects (see Baayen 2008).

## 4.4 Results

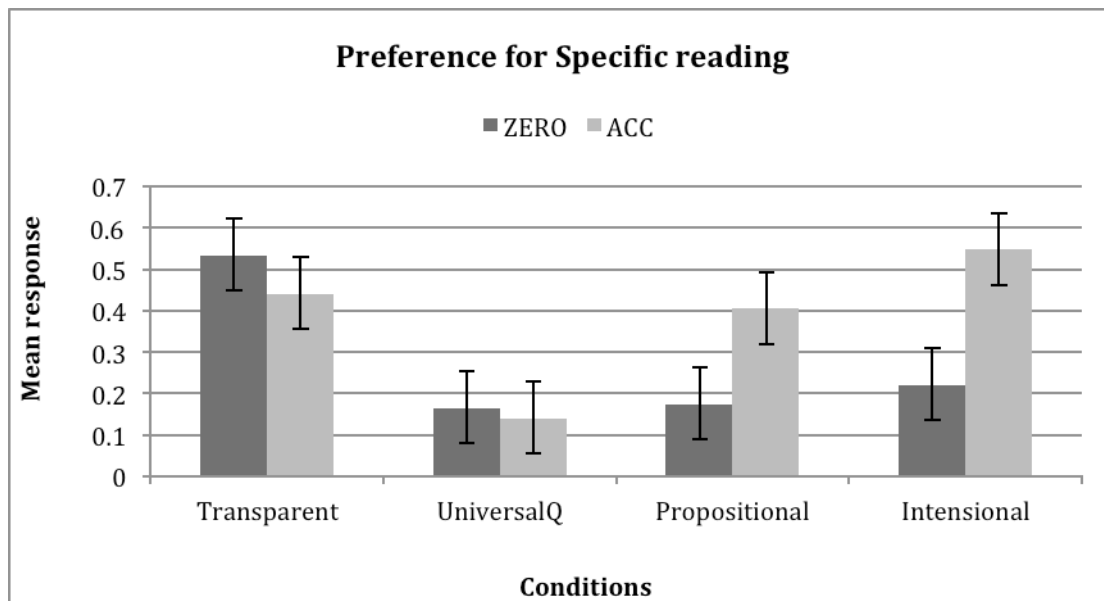


Figure 2. Preference for specific reading across semantic-pragmatic contexts

Figure 2 presents two types of information. The size of the columns signal the mean preference for specific readings for zero and overt DOM for each context, while the size difference between the pairs of columns indicate a possible specificity effect of DOM.

In the transparent context, both specific and nonspecific readings received preference to similar extends without a bias towards any. This tendency is consistent in sentences with direct objects with or without DOM. This pattern yields an indeterminacy with regards to the specific vs. non-specific readings in the transparent contexts regardless of the use of DOM. This result indicates that overt DOM does not trigger a preference towards epistemic specificity. This is in line with the findings of Özge, Özge & von Heusinger (2016) where the direct objects with or without overt DOM both had a high likelihood to be taken in the upcoming discourse, where overt DOM did not increase the probability for the direct indefinite object to be taken up in the following



discourse. Our data as well as that of Özge, Özge & von Heusinger (2016) contradict the general assumption in the literature that case marking signals epistemic specificity (Erguvanlı 1984; Dede 1986; Kornfilt 1997; von Heusinger & Kornfilt 2005).

In the condition with the universal quantifier *her* ‘every’, we found a clear preference for non-specific reading regardless of overt or zero marking of DOM. This is against the assumption that case marking signals a specific reading for indefinites direct objects with respect to quantifiers in subject position. If this were the case the data would be expected to yield a clear preference of specificity for case marked direct objects, and a preference for non-specific readings for unmarked direct object, see Kelepir (2001: 84). Our data is rather in line with Aygen (2007), who argues that *her* ‘every’ is strongly distributive and therefore forces an interpretation where we have different values for the direct object for each subject. Our data show that the distributive power of *her* ‘every’ is persistent across both overt and zero forms of DOM. However, the different universal quantifier *bütün* ‘all’ has no distributive power and therefore more easily allows for wide or narrow scope reading. This will be tested in a follow up experiment.

In the intensional contexts, i.e., verbs of propositional attitude and intensional verbs, on the other hand, the data reveals different patterns from the first two conditions discussed above. The intensional context differs significantly from the transparent context. This stems from the sharper distinction of the specific and nonspecific readings in the intensional contexts. Unlike the equal level of preference for specific readings in the first two contexts across zero and overt DOM conditions, in the intensional context the difference for the specific and nonspecific readings are distinguished from each other in the zero and overt DOM conditions. Namely, zero marking causes a decrease in the preference for the specific reading, which is in contrast to the overt marking where the specific reading is still likely. Thus, our data indicates that effects of Turkish DOM are observed in opaque contexts, but not in transparent contexts. Hence, Turkish DOM creates contrasts of referential specificity, but not epistemic specificity.

Lastly, upon a detailed data analysis taking the animacy as a factor we did not observe an effect in or across the conditions.

## 5 Conclusions

The aim of our study was two-fold. Firstly, we wanted to test the claim that the three specificity types, namely epistemic, scopal and referential specificity, make the same contrasts (e.g., Fodor & Sag 1982, von Heusinger 2011, von Heusinger & Kornfilt 2005). An alternative to this view would be that specificity effects differ when specificity is taken as a referential-semantic notion or as a semantic-pragmatic notion. Secondly, we took Turkish as a test case, which morphologically marks specificity and aimed at understanding the type of specificity Turkish DOM conveys. To that end, we conducted a psycholinguistic experiment referring to the intuitions of a large group of Turkish monolingual native speakers. The following two paragraphs responds to these two aims by means of a brief discussion of our results and their implications regarding the characteristics of specificity in general and the specificity effects of Turkish DOM.

Our results showed a significant distinction between epistemic specificity and referential specificity. In transparent contexts, DOM did not create a contrast with respect to epistemic specificity, thus the specific-nonspecific ambiguity is not disambiguated by means of DOM. On the other side, in intensional contexts, zero marking received less preference for the referential specific reading when compared to overt DOM. We take these results to reject the claim that the three types of specificity create the same contrasts. In light of our data, following the classification in von Heusinger (2011), we argue that the referential-semantic notion of specificity is differently manifested in the grammar than that of the semantic-pragmatic one.

The psycholinguistic insights gained in this study enable us to understand the specificity effects of Turkish DOM as well. As DOM did not resolve the specificity ambiguity at the transparent context, and the two contexts i.e., transparent and opaque contexts, differed significantly from each other, we suggest that the specificity effect of Turkish DOM characterizes as the referential-semantic type and not the semantic-pragmatic one. Our data indicates that DOM signals referential specific readings, i.e. that the expression is a direct referential term and is interpreted according to the utterance context and not to the intensional context. To conclude, Turkish data provides evidence for the claim that specificity is a semantic notion rather than a pragmatic one.

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