INCOMPLETE ACQUISITION OF THE TURKISH DIFFERENTIAL OBJECT MARKING

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Abstract. The differential object marking (the Accusative case) emerges very early, with very few errors in the speech of children acquiring Turkish. However, its early use is restricted to definite objects, although in adult speech it can be used with a variety of different interpretations, among which are specificity, presuppositionality, and wide scope with respect to other constituents. In this study, through experiments, 4;0, 5;0 and 6;0 year old children’s comprehension of Accusative indefinites was tested. The results of the experiments suggested that the children did not differentiate Accusative-marked and non-case-marked objects in terms of their scope-taking properties, therefore provided evidence for an incomplete acquisition pattern despite the early emergence of the Accusative case in spontaneous productions.

Keywords: Turkish, Accusative case, indefinites, wide scope, direct object.

1. INTRODUCTION

Differential object marking appears in the form of an Accusative case marker on direct objects in Turkish. When it is attached to a bare object (1), without the numeral/indefinite determiner bir it has a definite interpretation. Direct objects can appear without the Accusative case, and may have a non-referential reading as in (2) or indefinite non-specific ‘any’ reading as in (3). When the Accusative is attached to an object with bir, it results in a so-called indefinite ‘specific,’ or ‘a particular’ object reading (4). Because the indefinite bir ‘a(n)’ has numeral ‘one’ interpretation as well, those sentences with bir have dual interpretation which can be disambiguated with alternative stress shifts. When bir is stressed it has a numeral one interpretation. When it is not stressed, which usually results in the omission of the final /r/, as well, it has an indefinite determiner a(n) interpretation.

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Miki Fare elma yedi.
Mickey Mouse apple eat-past
‘Mickey Mouse apple-ate.’

Miki Fare bir elma yedi.
Mickey Mouse an apple eat-past
‘Mickey Mouse ate a(ny)/one apple.’

Miki Fare bir elmayı yedi.
Mickey Mouse an apple-acc eat-past
‘Mickey Mouse ate a/one apple.’

The Accusative case is one of the most widely discussed topics in modern Turkish linguistics literature. Its occurrence on direct objects vs. its omission as well as its semantic and discourse-pragmatic functions have been discussed in various grounds (Erguvanlı 1984, Nilsson 1985, Dede 1986, Enç 1991, Taylan and Zimmer 1994, Kennelly 1997, Zidani-Eroğlu 1997, von Heusinger 2002, von Heusinger and Kornfilt 2005, Kelepir 2001, Kılıçaslan 2006, Arslan-Kechioritis 2009, Nakipoğlu 2009, Hedberg et al. 2009, Özge 2010, among many others). Especially since Enç (1991), the Accusative marking on indefinite objects, that is exemplified in (4) above, has been closely associated with the specificity or discourse-linking interpretation. It has also been associated with presuppositionality, totality/delimitedness, particularization, wide scope with respect to other constituents and so on. Although there are differences between these accounts, which will not be discussed here due to space limitations, they all show that the Accusative case is more than just an object marker. On the contrary, a review on the adult/target language literature reveals that Accusative marking is very complex as it requires an interface of various components of grammar including syntax, morphology, semantics, pragmatics and information structure.

Despite its complexity, studies on Turkish children’s language development reveal that the Accusative case is one of the earliest acquisitions (Aksu-Koç and Slobin 1985, among others). It is either the first nominal inflection, or among the very first ones that emerge before age 2;0. More importantly, it emerges with very few errors (Ketrez 1999, Ketrez and Aksu-Koç 2009). One may think that this is very surprising considering the

2 Abbreviations: acc Accusative case, past past tense (-DI), perf perfective aspect (-mIş), 1P first person plural, 3P third person plural, 2S second person singular, prog progressive marker (-Iyor), poss possessive marker, poss&3S third person singular possessive marker, cm compound marker loc Locative case, dat Dative case, abl Ablative case, advr adverbializer, -DIK complement clause marker, ger gerund, neg negation, conj conjunction dim diminutive marker, gen Genitive case, abil ablative mood, que question particle. Inflection markers appear in different phonological forms due to vowel harmony, consonant assimilation and buffer consonants that appear between two vowels. So the Accusative case, for example, appears as i, i, u, ü, after consonants, as, yu, yu, yu, yu after vowels, and as m, n, n, n, n after the possessive marker.
complexity of the morpho-syntactic/pragmatic properties of the Accusative case mentioned above and presented and discussed in the literature. A closer look at children’s speech, however, shows that children do not necessarily have access to all these complex properties when they are producing the Accusative case. The contexts in which they use the Accusative case are restricted to the immediately available objects of reference, which are typically definite (Ketrez 2006, Ketrez and Aksu-Koç 2009). Moreover, Ketrez (2006) observes that the Accusative omissions are found only with objects that are adjacent to verbs or postverbal objects that have generic reading which are legitimate positions for omission (Erguvanlı 1984, among others). All these require access to the syntactic properties of the case marking (adjacency to the verb), not necessarily anything beyond that. Turkish speaking children are also observed to use the Accusative case to attribute grammatical relations (subject vs. object) at a very early age (Slobin and Bever 1982). In this task, too, what children need to do is simply to attribute the case marker to the subject vs. the object, which is again a syntactic distinction. Examples of those contexts where children need to show ability to attribute complex morpho-semantic/pragmatic functions to case marking, such as the specificity or the wide scope reading with respect to other constituents are absent in early child speech. Even after age 3;0, children’s contexts are restricted in this sense. In Frog Story narrations (Turkish-Aksu corpora, at CHILDES database), just as is the case in younger children’s spontaneous data, *bir* is used in indefinite structures such as (5), without an Accusative case in most of its occurrences.

![Image](image-url)
studies. It is likely that children start mastering these structures after age three or five, and that is why we fail to observe them in earlier recordings which usually cover the period before age 3.0.

In this study, children’s interpretation of the Accusative case on indefinite objects is tested under conditions that are not easily observable in natural mother-child interactions. In the contexts that are created, Accusative marked indefinite objects have wide scope with respect to negation (8) and in that sense they contrast with the non-case marked objects (9–10). The goal of the study is to show that when faced with such complex contexts, children are not able to interpret the Accusative case and therefore cannot distinguish case-marked and non-case marked objects, unlike adults.

(8) Keçi bir çiçeği yemedi.  bir N-acc > negation
goat a flower-acc eat-neg-past
‘The goat did not eat a flower.’ (=there is a flower such that the goat did not eat it)

(9) Keçi bir çiçek yemedi.  negation > bir N
goat a flower eat-neg-past
‘The goat did not eat a(ny) flower(s).’ (= no flower is eaten)

(10) Keçi çiçek yemedi.  negation > N
goat flower eat-neg-past
‘The goat did not eat a(ny) flower(s)’ (= no flower is eaten)

In order to make sure that the scope of the object with respect to negation is due to the case morphology, rather than the linear position of the object, which is preceding the verb complex where negation is attached as a suffix, Accusative indefinites were tested in three different positions: preverbal adjacent to the verb, preverbal nonadjacent to the verb (sentence initial position, preceding the subject) and the postverbal position (8, 11 and 12). The prediction is that children would not have access to the wide scope interpretation of Accusative-marked indefinite object at age 4:0, and their case marked and non-case marked objects would not be different in terms of scope assignment.

(11) Bir çiçeği keçi yemedi.  bir N-acc > negation
a flower-acc goat eat-neg-past
‘The goat did not eat a flower.’ (=there is a flower such that the goat did not eat it)

(12) Keçi yemedi bir çiçeği.  bir N-acc > negation
goat eat-neg-past a flower-acc
‘The goat did not eat a flower.’ (=there is a flower such that the goat did not eat it)

Another concern is the numeral/indefinite determiner bir ‘one/a’ which could be confused with the wide scope reading. In order to deal with this problem, bare objects are included in the experiments. If children attribute wide scope because of bir, there should be a difference between bare objects and objects with bir, regardless of case morphology.

2. METHOD

147 children (49 4-year olds, 50 5-year-olds, 48 6-year-olds) and 135 adults participated in a comprehension experiment. Children’s comprehension of five different
sentence types was tested. Because of the length of the experiment, each sentence type was tested on a different group of children. Each group/sentence type had 9–11 children participants, and around 25 adult participants. A Truth Value Judgment Task (Crain and Thornton 1999) was applied where a story was acted out in front of the child, and then a puppet commented on the final scene of the scenario. When the puppet’s comment was right, he was awarded with a candy. The child’s task was to decide whether the puppet was right or wrong. Each child listened to two warm-up stories, five test stories and fillers which are all related subparts of a one continuous story. After each test story, the puppet was asked to comment on the part that he just heard. Each testing session took about 30 minutes in total and children got a sticker as a gift upon their completion of the test. An example for a typical scenario is given below in (13).

(13) The hungry goat story
“(…) The goat, which is still hungry, is searching the garden to find something to eat. He sees two flowers in the bushes. But he doesn’t like flowers. So he keeps looking for some other things to eat. He cannot find anything. So he has to eat the flowers. He eats one of the flowers. He is still so hungry. So he wants to eat the other one too. But the other flower is somewhere high. He tries to reach it, but no matter how hard he tries he can’t get it. In the end, he gives up and returns home. A horse that is passing by finds the flower after the goat leaves and eats it. He can reach the flower because he is a very tall horse. (…)”

The expected responses are shown in (14). All the participants heard the same stories. After the story, each group of children heard a different sentence type. When the object is case-marked, the child is expected to accept the test sentence (wide scope reading). When the object is not case-marked, the child is expected to reject the test sentence. Cardinal reading, just like the narrow scope reading, requires rejection and the reason behind the child’s reject response can be checked with a follow-up question: Why is the puppet wrong? Because the research question is whether children can have a wide scope reading or not, the focus in this study is the proportion of the accept scores.

(14) Context: Eating one out of two flowers
(The goal is to eat two flowers. One flower is not eaten due to an unexpected problem).
Narrow scope: It is not the case that the goat ate a flower.
Expected response: REJECT (because he ate a flower).
Wide scope: There is a flower such that the goat didn’t eat.
Expected response: ACCEPT (because there is a flower that is not eaten).
Cardinal reading: It is not the case that the goat ate ONE flower.
Expected response: REJECT (because he ate exactly one flower).

3. RESULTS AND DISCUSSION

In Figure 1, dotted lines (with x and +) show the non-case marked bare objects and the bir N objects. The solid lines show the bir N-acc objects. As seen in the figure, adults have wide scope reading of the case-marked objects around 93–97% of the cases. They clearly distinguish case-marked vs. non-case marked object types (solid vs. dotted lines) but
they do not distinguish the case-marked adjacent, postverbal and non-adjacent preverbal object types. Adults assign wide scope reading to bir N objects in 34% of the cases, which is significantly lower than chance ($t(27)=-2.335$, $p<.05$) and thus shows that they have a preference for narrow scope, rather than assigning no scope, or arbitrary scope to them. In bare objects, the wide scope reading drops to only 4% of the cases, which was expected. A Factorial ANOVA was conducted on the comprehension scores of adults to see what determines the scope assignment in objects. Accusative case, bir, word order (preverbal vs. postverbal) and adjacency to verb were entered into the analysis as possible factors. The results indicated that case had a main effect ($F(1,131)=200.8$, $p<.001$) on the interpretation of indefinite objects, i.e., adults treated the case-marked and non-case marked objects differently. The numeral bir had a main effect ($F(1,131)=31.741$, $p<.001$), as well, i.e., bir N(-acc) objects and bare objects were also treated differently by adults. Word order (preverbal vs. postverbal), and adjacency, however, did not have significant main effects ($F(1,131)=.653$, n.s., $F(1,131)=.002$, n.s.).

![Graph showing wide scope reading (accept scores) of five object types by four age groups.](image)

Fig. 1. Wide scope reading (accept scores) of five object types by four age groups.

Children in the youngest age group have the wide scope reading of case-marked objects in 25%, 18% and 33% of the cases in preverbal non-adjacent, preverbal adjacent and postverbal object types, respectively. However, the statistical analysis shows that the four-year-old children treat all the object types alike ($F(4, 44)=.745$, $p=.567$). They are not only alike, preverbal Accusative-marked objects are also below chance ($t(9)=2.355$, $p<.05$, $t(9)=3.243$, $p<.05$ two object types respectively), so children’s Accusative-marked indefinites in the preverbal position have narrow scope. The wide scope assignment to the postverbal object, however, is around 50% chance level ($t(9)=1.732$, $p=.117$), which is not narrow scope, but not wide scope either. Four year old children’s treatment of bir N objects is quite similar to their treatment of Accusative-marked objects.

The five-year-olds have wide scope of the preverbal and adjacent type Accusative objects in only 52% of the cases. Postverbal objects are assigned wide scope in 41% of the instances. For five-year-olds bir N objects without case marker have wide scope in 34% of
the cases. With bare objects the wide scope assignment drops to 5%. At 5 years of age, children start distinguishing the bare objects and non-bare objects. A factorial ANOVA conducted on five-year-olds’ scores suggest that case morphology does not have an effect ($F(1,47)=.297, \text{n.s.}$), but $\text{bir}$ has an effect trend $F(1,47)=3.627, p=.06$ on the interpretation of the objects. As seen in Figure 1, $\text{bir}$ N objects pattern similarly to the $\text{bir}$ N-acc objects although they are not case marked. This trend shows that $\text{bir}$ has some impact on scope assignment. This is similar to what Su (2001) observes for Mandarin. She argues that in those languages where indefiniteness is marked with a cardinal number word, children have an early wide scope interpretation of indefinites. It is important to note, however, that although $\text{bir}$ N-acc and $\text{bir}$ N objects without case pattern similarly, neither of them have wide scope above chance level, in contrast to the prediction of Su (2001). Therefore, the objects that have $\text{bir}$ and bare objects are differentiated but $\text{bir}$ does not result in an early wide scope assignment. Rather, bare objects have narrow scope and the other object types are scopeless. In the earlier age group, however, they were clearly assigned narrow scope. Children, then, around the age of 5 stop assigning default scope to $\text{bir}$ N objects, but they do not assign wide scope either. Another important point is that children’s scope assignment to $\text{bir}$ N objects is not different from adults’ scope of $\text{bir}$ N objects (around 30%). Therefore the picture shows that $\text{bir}$ N-acc objects are behaving like $\text{bir}$ N objects (which is adult like). The cardinal number hypothesis (Su 2001) predicts it to be the other way around, namely, $\text{bir}$ N objects are expected to behave like $\text{bir}$ N-acc objects, having wide scope. Therefore the trend observed in $\text{bir}$ N objects in the five-year-old group cannot be interpreted as a result supporting Su (2001).

When the children are 6 years old, preposed objects have 80% wide scope. No increase is observed in adjacent objects, which are recorded to have around 57% wide scope. Postverbal objects have wide scope around 65% of the cases. At this age, the $\text{bir}$ N objects do not pattern like the $\text{bir}$ N-acc objects anymore. A high increase is observed in the preverbal objects in the 6 year olds’ speech. It is interesting to note that no such increase is recorded for other object types. Unlike adults, 6 year olds have neither a main effect of case ($F(1,45)=9.797, \text{n.s.}$) nor $\text{bir}$ ($F(1,45)=2.46, \text{n.s.}$).

In summary, the experiment results show that children do not distinguish case-marked vs. non case-marked objects within the contexts that are created. Even at the age of 6;0, children’s treatment of the Accusative case is not adult-like despite the increase in wide scope reading. The results reported here can be interpreted as incomplete acquisition of the Accusative case, even at age 6;0.

There may be two reasons for this ‘delay.’ One of them is the complexity of the structures, as mentioned above. The other one is the infrequent use of these structures and relevant contexts in the child-directed speech. These two potential reasons are not independent. Complexity of the structure and the contexts may be the reasons why they are not used in early child directed speech, so it is difficult to detect the reason behind children’s non-adult-like behavior.

Children have difficulty with similar structures cross-linguistically and their difficulty is attributed to the complexity of the interfaces of different components of grammar. In English, children do not have access to the wide scope interpretation of indefinite objects such as *Mickey Mouse didn’t ride a horse*, around age 4;0 (Musolino 1998, Lidz and Musolino 2002, among others). In Dutch, Schaeffer (1997, 2000) finds that narrow scope indefinites are earlier than wide scope indefinites, although she also observes
that even the youngest group uses the wide scope indefinites to some extent. Krämer (2000) observes that the structures that she tests through a series of experiments are difficult for Dutch-speaking children around age 4:0. Similar results are reported for Kannada (Lidz and Musolino 2002).

Musolino (1998) attributes the difficulty to the complexity of quantifier scope and argues that, in English, the reason lies in the fact that the indefinites and negation are in reverse order in the surface (negation ‘not’ precedes the object). Lidz and Musolino (2002) argue that children acquiring Kannada have similar difficulties although in Kannada, the linear order is reverse (negation follows the object in linear order). They argue that the difficulty has to do with the hierarchical ordering of constituents rather than a linear order. Negation is higher than the direct object in both Kannada and English and this poses a problem for young children in both languages. Schaeffer (1997, 2000) and Krämer (2000) on the other hand, argue that the difficulty children have has to do with the non-adult-like interpretation of pragmatics rather than the syntactic structure. Ketrez (2005), evaluating the results presented here attributes children’s difficulty in Turkish to their inability to dislocate the direct object to any position that is outside of the focus position within the verb domain. All these accounts and the crosslinguistic discussion of the indefinite objects and their acquisition show that children are tackling a complex structure and it looks like it takes time to master it in any language under investigation.

The other reason for the late acquisition of the wide scope interpretation or the Accusative marked indefinite objects may be their infrequent use in the speech directed to young children. In three children’s corpora (Boğaziçi Baby Corpora) that were examined for this purpose (children aged between 1;3–3;3), there was no use of Accusative-marked indefinite direct objects. The Accusative case appears on definite direct objects (demonstrative pronouns, definite DPs and proper names) and bir is used alone with non-case-marked objects in examples such as bana bir oyuncak getir ‘bring me a toy.’ There were no contexts where children could use such structures either. In other words there were no errors either. Although this explains why children do not understand the Accusative-marked indefinites in the experimental settings that we presented here, it fails to capture the reason why we have a developmental curve and how children become adults eventually. Remember that adults had the wide scope reading of Accusative marked indefinites in more than 90% of the cases. One reason for this developmental curve might be due to the other sources of language that children hear, such as story books. The written language may have more examples of Accusative-marked indefinites. In a number of books that were examined, examples such as (15) and (16) below were found.

(15) (...) küçük küçük bir kangru yavrusunun vaşşi bir aslan yakaladım a kangroo baby-cm-gen wild a lion-acc catch-DIK-poss&3S-dat believe-abil-prog que-2P ‘Can you believe that a little baby kangroo could catch a wild lion?’

(Kahraman Kimi, Eğitsel Öyküler Dizisi 8, YA-PA)

(16) anneönüm rêveyinden çok güzel süsülü bir arabayı çekiyordum.

Mum-dim dream-loc very beautiful fancy bir arabayı çekiyordum.
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a car-acc pull-prog-past-1S

‘Mummy, I was pulling a beautiful, fancy car in my dream.’

(Dögüdik Fayton by Koray Avcı Çakman)

It is likely that as children grow older, they are exposed to language in a variety of different forms through different sources (both spoken and written), and they master different and infrequent forms eventually. It looks like Accusative-marked indefinites are one of those late acquisitions that requires not only more time but also a different type of input.

4. CONCLUSION

Children do not only start producing the Accusative case, the differential object marker, before age 2;0, they also have very few errors in their speech suggesting that they do not have any difficulty with it. These naturalistic data results, however, may be misleading because they do not present the whole picture about the acquisition of the differential object marking in Turkish. In this study, children’s comprehension of Accusative-marked indefinite objects was tested in contexts that have not been observed in early child speech. Children’s scope of Accusative marked objects with respect to negation was compared to the scope of non-case-marked objects in the same contexts. The results suggested that at age 4;0, children did not differentiate case-marked and non-case-marked objects in terms of their scope. They start recognizing the case marker around age 5;0, but even at age 6;0, children’s interpretation of the Accusative-marked indefinites is not adult-like, suggesting an incomplete acquisition of the Accusative case. Despite its early emergence in production of less complex structures, children have difficulty with the interpretation of Accusative-marked indefinite objects in the contexts under investigation. This delay may be attributed to the complexity of the structure and the infrequent use of the Accusative marked indefinites in contexts that are accessible to young children.

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