36.Semantics of Turkish plural marking revisited

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Abstract

It has been claimed in some recent theoretical and experimental studies that in addition to the exclusive reading, there is evidence for the inclusive reading of the plural marker -l*A*r in Turkish (Sağ 2019 and Renans et al. 2020, among others). The main argumentation comes from the inclusive interpretation of the plural marker in syntactically negative sentences and in certain other downward entailing contexts. However, based on new data, I argue in this paper that the plural marker is primarily associated with the exclusive reading in Turkish (Bliss 2004, Bale et al 2010, Görgülü 2012, Bale and Khanjian 2014, among others) and the apparent inclusive reading arises only in the context of certain logical operators in the structure. More importantly, I show that the experimental design in recent experimental studies has certain issues. This is because number marking in the nominal system of Turkish was not actually taken into consideration in the design process of the experimentation, which apparently led to certain interpretive complications for participants. Thus I argue that a much better way to look at the meaning of plural marking should be through a more careful consideration of the specification of the number and plural marking system in the language.

Key words: Semantics, plurality, Turkish, inclusive reading, exclusive reading

Türkçede çoğulluğun anlambilimine yeniden bir bakış

Öz

Son zamanlarda yapılan kuramsal ve deneysel çalışmalarda, Türkçede -lAr çoğul belirticisinin dışlayıcı okumasının yanı sıra kapsayıcı okunuşuna dair kanıtlar olduğu da ortaya atılmıştır (Sağ 2019, Renans ve ark. 2020). Bu bağlamda temel iddia, çoğul belirticisinin sözdizimsel olarak olumsuz cümlelerde ve bazı aşağı yönlü bağlamlarda kapsayıcı yorumlanmasından kaynaklanmaktadır. Bununla birlikte, bu makalede, çoğul belirticisinin öncelikle dışlayıcı okuma ile ilişkili olduğu (Bliss 2001, Bale et al 2010, Görgülü 2012, Bale and Khanjian 2014) ve görünen kapsayıcı okumasının yapılarda sadece belirli mantıksal operatörler bağlamında ortaya çıktığı gösterilmektedir. Bunlara ilaveten, son araştırmalardaki deneysel tasarımda birtakım problemler olduğu ortaya konmaktadır. Bunun nedeninin de deneyin oluşturulması sürecinde Türkçenin adsıl alanda sayı belirlenmesinin dikkate alınmadığı gösterilmektedir. Bu durumun da katılımcılar için açıkça bazı yorumsal karışıklıklara yol açtığı belirtilmektedir. Bu nedenle, dilde çoğul belirticisinin anlamına bakmanın çok daha iyi bir yolunun, dildeki sayı ve çoğul belirleme sisteminin özelliklerinin daha dikkatli bir şekilde gözden geçirilmesinin ve değerlendirilmesi gerektiği savunulmaktadır.

Anahtar kelimeler: Anlambilim, çoğulluk, Türkçe, kapsayan okuma, dışlayan okuma

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1. Introduction

It is well-attested in previous formal accounts that the plural marker in English and some other languages may be interpreted in different ways. These studies generally provide a syntactic minimal pair to show different plural interpretations where one of the sentences has the negative marker. Consider (1) and (2).

(1) John bought books.   *(exclusive reading)*

(2) John did not buy books.   *(inclusive reading)*

In (1), the plural noun *books* has the exclusive reading in that it is interpreted as one in which John bought more than one book (i.e. multiple books). This reading is exclusive as it does exclude atomic or singular books. On the other hand, the same element in (2) does not have the same exclusive reading and has the reading that John did not purchase any book, whether it is singular or plural (Krifka 1989, Sauerland et al. 2005, Marti 2020ab, inter alia).

Note also that this is what one sometimes observes even in positive sentences in a language like English. When the context makes it clear, a plural noun could also be construed as inclusive (i.e. denoting individuals or singulars). This is exemplified by the following dialog from an American TV series.

Two and a Half Men (Season 1, Episode 24)

(3) Evelyn Harper: How can you have a vasectomy without consulting me? You're selfishly robbing me of grandchildren.

Charlie Harper: You've got **grandchildren.**

Evelyn Harper: Oh, big whoop... **one**.

In this verbal exchange, Charlie Harper is telling his mother that she already has grandchildren despite the fact that she only has one grandchild, Jake (Charlie's nephew), which is also confirmed by Evelyn in her last remark. Here Charlie uses the plural noun even though he knows that there is only one grandchild that he is referring to. This interpretation seems to be compatible with the theoretical assumptions that one of the meanings of the plural marking in a language like English should be inclusive in the sense that it will, or should, include atomic entities or individuals (Sauerland et al. 2005, Spector 2017, Grimm 2013, Križ 2015, 2017).

When we consider prior work on the semantic of plurality in Turkish, we observe that there are some various analyses that show that plural marking is exclusive (Bliss 2004, Bale et al 2010, Bale and Khanjian 2014) whereas others maintain that the plural marker is associated with the inclusive reading (Kan 2010, Sağ 2018, 2019, Renans et al. 2020). In that sense, there is some controversy about the possible readings plurality might have. In the next section, I will provide a brief overview of these opposing views, especially Renans et al (2020), and show that plural marking is primarily exclusive in the language.

2. Previous work

In a recent study, based on experimental work that included adults and preschool-aged children, Renans et al. (2020) report that Turkish is one of those languages in which the plural marker –l*Ar*2 has the inclusive interpretation. This is shown in (4) where the extension of the plural marking includes not only plurals but also singulars.

(4) [[çocuk-lar]]^M = {a, b, c, {a, b}, {a, c}, {b, c}, {a, b, c}}   *Inclusive reading*

The meaning of the noun *çocuklar* 'kids' in (4) includes individuals as well as sets of pluralities. Note that their findings are in line with the arguments made by Kan (2010), Sağ (2018, 2019) and Marti (2020ab) who also make similar assumptions about the meaning of plurality and number marking. This is, however, contra Bliss (2004), Bale et al. (2010) and Bale and Khanjian (2014) who argue that the denotation of the plural marker in Turkish has the exclusive reading in the sense that the meaning of a plural-marked noun does not involve atomic entities or individuals. This is illustrated in (5).

(5) [[çocuk-lar]]^M = {{a, b}, {a, c}, {b, c}, {a, b, c}}   *Exclusive reading*

In the exclusive reading, as in (5), the meaning of plurality does exclude singulars and this dichotomy shows a sharp disagreement between theoretical and experimental analyses with respect to the meaning of plural marking.

The recent work by Renans et al. (2020) is one of the first attempts at addressing the issue of the meaning of plural marking in the language through an experimental design. In that sense, it is worth considering the execution as well as the findings of the study. Basically, the main objective of the study was to investigate native speakers' interpretations of plural nouns in both positive and negative sentences in Turkish. There were forty-five adults as well as twenty-two children, all native speakers of Turkish, that were recruited for the experimental work. In terms of methodology, the practice that was used in previous studies on English by Tieu et al. (2020) and on Greek by Renans et al. (2018) was also adopted in this work. The participants were introduced to a puppet that they interacted with through a webcam. The participants were then presented with a series of short stories on PowerPoint. After each story, the experimenter asked a question and the puppet answered with one of the test sentences. The task of the participants was to judge the puppet's utterances by rewarding it with one strawberry (i.e. not a good answer), two strawberries (i.e. not perfect but somewhat fine answer) and three strawberries (i.e. a good answer). The factors that were manipulated in the experiment, on the other hand, were (i) Group (adult vs. child), (ii) Polarity (positive vs. negative) and (iii) Sentence Type (Plural Sentence and Implicature) within the plural. An example of positive and negative plural targets in the experiment looks like in (6) below.[34]

(6) Plural target

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Context: Tiger only planted this one tree and no flowers.

EXP: Peki, Ellie, Kaplan çiçek-ler ek-me-di.   Peki,   ağaç?

   okay Ellie tiger   flower-PL plant-NEG-PAST what.about tree

   'Okay, Ellie, so Tiger didn't plant any flowers. What about trees?'

   a. PUPP: Kaplan ağaç-lar ek-ti.   *POSITIVE*

         tiger   tree-PL plant-PAST

         'Tiger planted trees.'

   b. PUPP: Kaplan ağaç-lar ek-me-di.   *NEGATIVE*

         tiger   tree-PL plant-NEG-PAST

         'Tiger didn't plant trees.'

In terms of the predictions of the experimental work, Renans et al. (2020) notes that both exclusive and inclusive approaches predict an exclusive reading of the positive targets (i.e. Tiger planted more than one tree). As the exclusive reading was not true in the context, the participants were expected to give the puppet a non-maximal reward: one or two strawberries. In the negative targets, the exclusive approach predicts that participants should access the exclusive plural interpretation (i.e. Tiger did not plant more than one tree). As this interpretation is true in the context, the participants were expected to give the puppet the maximal reward (i.e. three strawberries). Under the inclusive approach, on the other hand, the participants were expected to interpret the sentence inclusively (i.e. Tiger didn't plant any tree). Since this interpretation is incompatible with the context, the expected reward was one or at most two strawberries.

The findings of the experimental study could be summarized as follows: With the positive plural targets, (i) adults mostly rejected the positive sentences in contexts that were incompatible with the exclusive reading, (ii) children tended to accept such sentences in the same contexts, suggesting that they had instead interpreted the sentence under an inclusive reading. This is in fact expected for the adult participants and given the fact that the exclusive reading was not true in the context, they mostly gave the puppet a non-maximal award. Nevertheless, it should be noted that although both exclusive and inclusive approaches expect an exclusive reading of the plural marker in the positive contexts, 25 percent of the adults and 80% of the children still interpreted the plural marker inclusively. This is a significant detail that is not elaborated in the study.

On the other hand, Renans et al. reports that with the negative plural targets, (i) adults appeared to split between selecting the maximal and the non-maximal rewards, (ii) children tended to give minimal rewards only, suggesting that they generally interpreted the plural inclusively under negation. These results are interpreted as being in line with the predictions of an inclusive approach since adults gave evidence of an interpretation in negative contexts by rejecting the targets more than half of the time. They go on by saying that the findings pose a challenge for an exclusive approach that would predict invariable acceptance in the same contexts. However, when one takes a closer look at the results of the

study, one notices that more than 50 percent of the participants interpreted the plural marker exclusively in the negative context. More importantly, only less than 50% of the participants interpreted the plural marker inclusively in the negative context. This suggests that even though plural marking in certain languages is interpreted inclusively in negative contexts, this experimental study alone does not seem to verify that fact. Therefore, a re-analysis of the meaning of plural marking in Turkish seems to be warranted. Based on the argumentation raised in Section 1.1, the current work is an attempt to address these research questions: (i) What is the true semantics of the plural marker in Turkish? and (ii) how does nominal number marking actually work in the language?

3. Nominal number marking and plural marking in Turkish

Recall that the methodology that Renans et al. used was taken from two previous studies on Greek (Renans et al. 2018) and on English (Tieu et al. 2020). However, these two languages are known as having a clear-cut distinction between singularity and plurality (with count nouns) in their respective nominal domain. This is respectively exemplified in (7)-(10) below.

(7) a. kopéla   (Sims 2015)

        a girl

    b. kopéles

       girls

(8) a. sálpigga

        a trumpet

    b. sálpigges

        a trumpet

(9) a. a kid

    b. kids

(10) a. a book

     b. books

As can be seen above, count nouns obligatorily appear in either singular form or in the plural form in these languages. In other words, nouns cannot appear in their bare form in sentences. A structure like *'There is man/book in the room'* would be ungrammatical. On the other hand, it is well-attested that nominal number marking in Turkish is different from its counterpart in these languages (Schroeder 1999, Corbett 2000, Bliss 2004, Bale et al. 2010). This is because of the fact that there is not a binary but a ternary opposition in the Turkish nominal marking system, as illustrated below.

(11) a. adam

   man/men

   b. bir adam

   a man

   c. adam-lar

   men

(12) a. kitap

   book/books

   b. bir kitap

   a book

   c. kitap-lar

   books

The fact that nouns can appear in their bare form with their own semantics in Turkish seems to not have been taken into account in the experimental study. However, this is in fact crucial in a study in which the issues are nominal and plural marking. What Renans et al. attempts to show about what plural marking can do in the study is actually achieved by bare noun phrases (bare NPs) in Turkish. Specifically, bare NPs are interpreted as inclusive, as shown in (13).

(13) a. Ayşe ağaç dik-ti.

   Ayşe tree plant-PAST

   'Ayşe planted a tree/trees'.

   b. Ayşe bir ağaç dik-ti.

   Ayşe one tree plant-PAST

   'Ayşe planted a tree.'

   c. Ayşe ağaç-lar dik-ti.

   Ayşe tree-PL plant-PAST

   'Ayşe planted trees.'

In (13a), the bare NP is not specified for number in the sense that it can be interpreted as either singular or plural. In other words, the sentence conveys the meaning that Ayşe got engaged in tree planting. She

might have planted one or more trees. In (13b), on the other hand, the singular NP indicates that Ayşe planted only one single tree. Finally, in (13c), the plural marked NP shows that Ayşe planted multiple trees. This idea can also be captured by the following sentences where a bare noun can be followed by a singular or a plural noun.

(14) a. Ayşe bahçe-ye   **ağaç** dikti.   Şimdilik **bir ağaç** var   ama geri-si   gel-ecek.

Ayşe garden-DAT tree plant-PAST for now   one tree exist but   rest-POSS come-FUT

'Ayşe did tree-planting in the garden. There is only one for now but more will come'

b. Ayşe bahçe-ye   **ağaç** dik-ti.   Şimdilik **üç   ağaç** var ama geri-si   gel-ecek.

Ayşe garden-DAT tree plant-PAST for now   three tree exist but rest-POSS come-FUT

'Ayşe did tree-planting in the garden. There are only three for now but more will come'

In (14a), the bare NP in the first sentence can be followed by a singular denoting NP in the subsequent sentence. Similarly, in (14b), the bare NP in the first sentence can be followed by a plural denoting NP in the second one.

It should also be noted that plural marking does not always need to be associated with the inclusive reading even when there is negation in the sentence, as exemplified in (15).

(15) Ayşe çiçek-ler   ek-me-di,   sadece bir (tane) çiçek ek-ti.

Ayşe flower-PL plant-NEG-PAST only   one (item) flower plant-PAST

'Ayşe didn't plant flowers, she only planted one flower.'

When the plural NP is used contrastively in the sentence, it does not necessarily have the inclusive reading despite the presence of negation. This is because the same sentence can be followed by another one containing a singular denoting NP.

Finally, there is evidence from structures indicating quantity that bare NPs, and not plural-marked NPs, are in fact inclusive. The examples in (16) and (17) show that only bare NPs are compatible with singular and plural denoting numerals and quantifiers.

(16) bir / birkaç / birçok / daha fazla / bir grup   **öğrenci**

one some   many   more   one group student

'One student / a few students / more students / a group of students'

(17) *bir / birkaç / birçok / daha fazla / bir grup   **öğrenci-ler**

one   some   many   more   one group student-PL

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If we assume that the plural marker has the inclusive reading, Turkish then would be classified as a language in which all the forms of NPs would have a singular interpretation. This would put Turkish in a place where it does not share this characteristic with any other language. In the next section, I will consider various downward-entailing environments in Turkish to see whether plural marked NPS have exclusive of inclusive reading.

4. Negation and downward entailment

Recall that the apparent inclusive reading of the plural marker arises in the presence of sentential negation. This environment is known as one of the Downward Entailing (DE) contexts in previous work. Basically, downward entailing environments are those contexts that support inferences from sets to subsets (i.e. if a relation holds for some X, then the relation will hold for a subset of X) (Ladusaw 1979), as exemplified below.

(18) John did not buy a car.

(19) John did not buy a BMW.

The fact that negation (i.e. not) is a downward entailing operator is shown in (18) and (19). The sentence *John did not buy a car* entails that *John did not buy a BMW* or any other car for that matter. That way downward entailment holds between the two sentences. The question that arises here is whether the plural marker is interpreted as inclusive in other downward entailing contexts. Let us consider one where the plural-marked and bare nouns are in the restrictor of the universal quantifier where the relative clause provides the restriction for every.

(20) [[Kol-u-nda   **bilezik-ler** ol-an] her kadın]-a   borç ver-il-di.

　　 arm-POSS-LOC bracelet-PL be-REL every woman-DAT loan give-PASS-PAST

　　 'Every woman that has bracelets on her wrist was given a loan.'

The plural-marked noun in (20) is interpreted as a true plural in the sense that the reading is 'two or more'. Thus in this context only women that have more than one bracelet were given a loan. This is, however, different from the sentence in (21) where the bare noun does not necessarily indicate the number of the bracelet in question.

(21) [[Kol-u-nda   **bilezik** ol-an] her   kadın]-a   borç ver-il-di.

　　 arm-POSS-LOC bracelet be-REL every woman-DAT loan give-PASS-PAST

　　 'Every woman that has a bracelet / bracelets on her wrist was given a loan.'

The sentence in (21) states that any woman that has one or more bracelets was given a loan. To complete the entire picture, consider the sentence in (22) which states that every woman that has one single bracelet was given a loan.

(22) [[Kol-u-nda   **bir bilezik** ol-an]   her   kadın]-a   borç ver-il-di.

　　 arm-POSS-LOC one bracelet be-REL every woman-DAT loan give-PASS-PAST

'Every woman that has a bracelet on her wrist was given a loan.'

Note that Turkish is not the only language in which bare/plural nouns are in fact semantically different from each other. Bale and Khanjian (2014) report that this is also the case in Western Armenian, as exemplified in (23) and (24).

(23) Amen mart   vor **bəzdig** uner vodk-i   gajnetsav.

    all   person that child   had foot-DAT stood.up

    'Everyone that had one or more children stood up.'

(24) Amen mart   vor **bəzdig-ner** uner vodk-i   gajnetsav.

    all   person that child-PL   had   foot-DAT stood.up

    'Everyone that had two or more children stood up.'

While the bare noun 'bəzdig' in (23) is interpreted as inclusive, the plural-marked noun 'bəzdig-ner' in (24) is necessarily interpreted as exclusive. In other words, the plural is unambiguously interpreted as 'more than one' even in downward-entailing contexts in Western Armenian.

Another context that is referred to as downward entailing in previous work is *if*-conditionals, as in (25) below.

(25) [Eğer **referans-lar-ın**   var-sa] bu iş-e   başvur-abil-ir-sin.

    if   reference-PL-POSS exist-COND this job-DAT apply-ABIL-AOR-2SG

    'If you have references, you can apply for this job.'

The sentence in (25) indicates that one can apply for a job only if they have multiple references, not only one single reference. Again, this is different from the sentence in (26) where there is a bare noun in the conditional.

(26) [Eğer **referans-ın**   var-sa] bu iş-e   başvur-abil-ir-sin.

    if   reference-POSS exist-COND this job-DAT apply-ABIL-2SG

    'If you have a reference / references, you can apply for this job.'

The interpretation of the bare noun in (26) is different than the other one since one or more reference would suffice in order to apply for the job.

One other context that is referred to as downward entailing in prior work is yes/no questions, as exemplified below.

(27) Araba-lar-ın var mı?

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car-PL-2SG exist Q

'Do you have cars?'

First of all, the sentence in (27) is the marked way to ask whether someone possesses something in the language. The use of the plural in the yes/no question is what is called "deviation from default expectations" (Farkas and de Swart 2010) in the sense that the question asks whether one has more than one car. The yes/no question with the plural-marked NP is somewhat unexpected since it asks about whether someone has multiple cars or not. Therefore, it is different from the one in (28) with the bare noun, which is the unmarked way of asking for possession in Turkish.

(28) Araba-n var mı?

car-2SG exist Q

'Do you have a car / cars?'

One last point is that if the plural marker is ambiguous between an inclusive and exclusive reading, as Renans et al. (2020) suggests, then the question is why one does not observe it in non-monotonic contexts. These are contexts in which downward entailment does not hold. Contrast the sentence in (29) with (30) where the plural marker is strictly exclusive.

(29) Tam   ol-arak bir öğrenci zürafa gör-dü.

exactly be-ADV one student giraffe see-PAST

'Exactly one student saw one or more giraffes (and the other students saw none).'

(30) Tam   ol-arak   bir öğrenci zürafa-lar gör-dü.

exactly be-ADV one student giraffe-PL see-PAST

'Exactly one student saw more than one giraffe (and the other students saw one or none).'

Even though the bare NP in (29) is interpreted as having the inclusive reading, the plural marked NP in (30) only has the exclusive reading. This again indicates that plural marking is associated with exclusive reading in Turkish.

5. Conclusions

In this paper, I showed that the apparent inclusive (i.e. number-neutral) reading of the plural marker in Turkish appears only in certain contexts. The analysis also indicated that bare nouns in Turkish are primarily inclusive whereas plural-marked nouns are primarily exclusive. It was shown that plural marking does not seem to lead to inclusive reading in other downward-entailing and non-monotonic contexts. Arguing that the plural marker is inclusive in Turkish would wrongly predict that all forms of nouns are inclusive. This would put Turkish in a place that it does not share with any other language. Further work on these phenomena will surely shed more light on the topic and help better understand the true meaning of plural marking across languages.

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