Bare singulars and singularity in Turkish

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Abstract. This paper explores the semantics of bare singulars in Turkish, which are unmarked for number in form, as in English, but can behave like both singular and and plural terms, unlike in English. While they behave like singular terms as case-marked arguments, they are interpreted number neutrally in the non-case-marked argument position, the existential copular construction, and the predicate position. Previous accounts (Bliss 2004, Bale et al. 2010, and Görgülü 2012) propose that Turkish bare singulars denote number neutral sets and that morphologically plural marked nouns denote sets of pluralities only. This approach leads to a symmetric correlation of morphological and semantic (un)markedness. However, in this paper, I defend a strict singular view for bare singulars and show that Turkish actually patterns with English where this correlation is exhibited asymmetrically. I claim that bare singulars in Turkish denote atomic properties and that bare plurals have a number neutral semantics as standardly assumed for English. I argue that the apparent number neutrality in the three cases arises via singular kind reference, which I show to extend to the phenomenon called *pseudo-incorporation* and a construction that I call *kind specification*. I argue that pseudo-incorporation occurs in the non-case-marked argument position following Öztürk (2005) and the existential copular construction, whereas kind specification is realized in the predicate position. The different behaviors of bare singulars in Turkish and English stem from the fact that singular kind reference is used more extensively in Turkish than in English in these cases. I also show that Turkish manifests an asymmetry between singular and plural kind reference, the impact of which is seen as a blocking effect by the former on the latter in the positions where pseudo-incorporation and kind specification are in evidence. As a consequence, Turkish bare plurals end up having a more restricted distribution than English bare plurals.

1. Introduction

Turkish nouns, like English nouns, come in two forms. One is unmarked for number (Turkish *kitap*; English *book*) and one is morphologically marked plural (Turkish *kitap+lar*; English *book+s*). While unmarked nouns in English are readily identified as singular terms since they consistently give rise to singular interpretations, the picture is less clear for Turkish unmarked nouns, which sometimes seem to behave like singular terms and sometimes like plural terms. Yielding a strictly singular interpretation as case-marked arguments, e.g., Ali *kitab-ı* okudu. 'Ali read *the book*.', Turkish unmarked nouns can refer to more than one entity in three specific cases: (i) as non-case-marked direct objects, e.g., Ali *kitap* okudu. 'Ali read *one or more books*.' (ii) in existential statements, e.g., Odada *fare* var. 'There are *one or more mice* in the room.', and (iii) in the predicate position, e.g., Ali ve Merve *çocuk*. 'Ali and Merve are *children*.'

There are two approaches one can take in addressing this challenge. One can take them to be fundamentally number neutral/plural terms or one can take them to be fundamentally singular terms. Regardless of which approach is adopted, the challenge is to account for those cases where the base assumption does not work. On the view that unmarked nouns are essentially number neutral terms, one needs a principled account for instances when that neutrality is not in evidence; on the view that unmarked nouns are essentially singular terms, one needs a principled account for instances where the singularity is not in evidence.[1]

The three cases where the number neutrality is evidenced have led Bliss (2004), Bale et al. (2010), and Görgülü (2012) to pursue the first approach and claim that Turkish unmarked nouns

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[1]Treating unmarked nouns as ambiguous between singular and plural terms may reduce to the first approach.

include atomic and plural entities in their denotation while the plural marked nouns denote pluralities only. While this approach classifies Turkish as a language which draws a parallel between morphological and semantic (un)markedness, this match is not attested in many other languages, including English, where the semantic reflection of morphological (un)markedness is realized in the opposite way. The standard assumption for English is that unmarked nouns denote atomic entities only whereas plurals are unspecified for number (Krifka 2003, Sauerland et al. 2005, Spector 2007, and Zweig 2009).

This paper shows that Turkish actually patterns with English in the semantics of number marking. More precisely, I claim that Turkish unmarked nouns denote atomic properties, while plurals are inclusive of atoms and their pluralities. I argue that the seemingly number neutral reading in the three cases arises via singular kind reference.

Following Chierchia's (1998) analysis of plural kind reference and Dayal's (2004) analysis of singular kind reference, I argue that in Turkish, as in English, singular kind terms differ from plural kind terms in being grammatically (impure) atomic, though they remain true to the notion of kind, retaining a relation with the atomic and plural specimens at the conceptual level. I further argue that Turkish in fact resorts to this relation in the grammatical component, establishing it as part of the phenomenon called *pseudo-incorporation* in the non-case-marked argument position and existential statements (cf. Öztürk 2005, Dayal 2011, 2015), and as part of a phenomenon that I call *kind specification* in the predicate position. The establishment of this relation ensures a number neutral reading in these constructions and this extensive use of singular kind reference is what separates Turkish from English in terms of their unmarked nouns. We will see that English also resorts to singular kind reference in a similar way with the so-called weak definites, though only to a limited extent (Aguilar-Guevara and Zwarts 2010). I unify this phenomenon with Turkish pseudo-incorporation, but the productive status of the latter makes the number neutrality associated with these phenomena easier to detect in Turkish than in English, resulting in the illusion that Turkish unmarked nouns must be number neutral.

We will also see that singular kind terms have a blocking effect on plural kind terms in the non-case-marked direct object and predicate positions, revealing an interesting asymmetry between the two forms of kind reference in Turkish. The privileged status of singular kind terms results in more restricted use for plural nouns in Turkish compared to English.

Before we begin, a note on terminology is in order. The term *bare* refers to determinerless noun phrases following the convention in Carlson (1977) and neo-Carlsonian studies on English bare plurals. Thus, I refer to nouns that are unmarked for number as *bare singulars*, whereas I refer to nouns inflected with *-lAr* as *bare plurals*. So, as long as they are not accompanied by an overt determiner, nouns will be regarded as bare even if they have case-marking on them.

This paper is organized as follows: Section 2 introduces the core data and details the number-based puzzles to be solved. Section 3 discusses earlier analyses of Turkish bare singulars and plurals and presents the stance taken here with respect to their semantics. This section also introduces pseudo-incorporation in light of the widely known analysis proposed in Dayal (2011, 2015). Section 4 examines the nature of kind reference in Turkish in a comparison with kind reference in English. Section 5 explains the number neutrality of bare singulars in the three cases noted above. Section 6 discusses remaining issues and predictions, focusing especially on the comparison of pseudo-incorporation with case-marked arguments and the blocking effect of singular kind terms on plural kind terms. Section 7 concludes.

2. Number-based Puzzles in Turkish

Turkish posits an interesting puzzle to the cross-linguistic picture of nominal semantics. As has been observed by various scholars, Turkish bare singulars yield a number neutral interpretation in certain cases, whereas they give rise to a strictly singular interpretation in other cases.

The number neutral interpretation of bare singulars arises in the non-case-marked direct object position, as in (1a), the position immediately preceding the existential copula *var*, as in (1b), and the predicate position, as in (1c), where a bare singular is predicated of a plural subject. I will refer to the construction in (1b) as *the existential copular construction* from now on.

(1) a. Ali **kitap** oku-du.
         Ali book read-PAST
         'Ali read one or more books.'
     b. Oda-da **fare** var.
         room-LOC mouse exist
         'There are one or more mice in the room.'
     c. Ali ve Merve **çocuk**.
         Ali and Merve child
         'Ali and Merve are children.'

The strict singular interpretation of bare singulars is observed in case-marked argument positions, i.e., case-marked subject, direct object, and indirect object positions, where they are also interpreted as definite:[2]

(2) a. **Çocuk** ev-e   koş-tu.
         child   home-DAT run-PAST
         'The child ran home.' (undefined if more than one child ran home)
     b. Ali **kitab-ı**   oku-du.
         Ali book-ACC read-PAST
         'Ali read the book.' (undefined if Ali read more than one book)
     c. Ali **çocuğ-a** kitab-ı   ver-di.
         Ali child-DAT book-ACC give-PAST
         'Ali gave the book to the child.' (undefined if Ali gave it to more than one child)

This dual nature of bare singulars makes it hard to immediately identify them as singular or plural/number neutral terms. In case-marked argument positions they behave like singular terms, as in English, whereas unlike in English, there are those three cases where they behave like number neutral terms.

A challenge that I introduce into this picture comes from the contrast observed when bare singulars are modified in the three cases given in (1). Only certain types of adjectives are compatible with the number neutral reading of bare singulars in these constructions. Crucially, we do not observe a similar effect in case-marked argument positions.

Let us start with bare singulars that occur in the non-case-marked direct object position. They are restricted in terms of modification, as exemplified in the following contrast: The modification of *book* with *religious* or *scientific* is possible, as in (3a), where the bare singular *book*

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[2]Turkish lacks an overt definite article and both bare singulars and plurals can occupy argument positions. The general consensus about subjects is that they receive a null nominative case marker. However, in Section 5.1.3, we will see that subjects can also be caseless under certain conditions. See also Johanson (1977), Kornfilt (1984, 1997, 2009), and Heusinger and Kornfilt (2005).

yields 'one or more books' interpretation. In contrast, the modification of *book* with *old*, meaning *worn-out*, or the adjective *small* yields ungrammaticality, as in (3b), which instead requires the indefinite or plural forms. This contrasts with *old* meaning *ancient/historical*.

(3) a. Ali, ev-e   geldikten   sonra, *dini/*   *bilimsel* **kitap** oku-du.
         Ali home-DAT having.come after   religious scientific book read-PAST
         'After he came home, Ali read one or more religious/scientific books.'
     b. *Ali, ev-e   geldikten   sonra, *eski/ küçük* **kitap** oku-du.
         Ali home-DAT having.come after   old   small book read-PAST
         'After he came home, Ali read one or more old/small books.'

What seems to be common to the adjectives that are acceptable is the fact that they establish a sub-type of the noun that they modify; they denote classificatory properties in a sense. While *religious/scientific books* can be considered sub-types of books, it is harder to establish this relation with *worn-out/small books*. The latter adjectives simply define some physical properties of the book/books that were read.[3]

The same restriction in modification is also observed with bare singulars in the existential copular construction, except that non-sub-type forming adjectives are also possible in this construction. However, this possibility introduces a contrast in terms of number interpretation. If the adjective yields a sub-type of the noun that it modifies, as in (4a), then the bare singular either yields a singular definite or a non-specific number neutral reading. On the contrary, with adjectives like *old/small* the non-specific number neutral reading disappears, as shown in (4b).[4]

(4) a. Kutu-da *dini/*   *bilimsel* **kitap** var.
         box-LOC religious scientific book exist
         'This box has the religious/scientific book.'
         'There are one or more religious/scientific books in this box.'
     b. Kutu-da *eski/ küçük* **kitap** var.
         box-LOC old   small book exist
         'This box has the old/small book.' (undefined if more than one old/small book)

Ignoring the alternation between definiteness and non-specificity at this point, this contrast shows us that the number neutral interpretation of bare singulars disappears if the adjectival modification is not of a classificatory type.

Let us now see how these facts play a role in the predicate position: In Turkish, both bare singulars and indefinites can appear in the predicate position with a singular subject. If the subject is plural, though, bare singulars can still surface in this position, unlike indefinites:[5]

(5) a. Ali (bir) **çocuk**.
         Ali one child
         'Ali is a child.'

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[3]Some other adjectives that cannot modify *book* in (3b) are *güzel* 'nice', *kısa* 'short', and *sıkıcı* 'boring'. Another example is *Ali dün nostaljik/*sıkıcı film izledi.* 'Ali watched one or more nostalgic/*boring movies. While nostalgic movies are a type of movies, *boring movies* are not easily taken to be so. Notice though that what counts as sub-types depends on the verb and the context. We discuss this in Section 3.3.

[4]I assume that *old* is not interpreted as ancient/historical. Note, though, in a context where *old* is considered as a classificatory property, for example, when books are boxed based on whether they are old or new, then *old* can gain a sub-type forming function yielding a number neutral reading. This also holds for the adjectives *small*. My point is that the classificatory readings of these adjectives require significant contextual support, but with the modifiers in (4a), the sentences yield a number neutral reading even in out of the blue contexts.

[5](5) is found weird without accompanying adverbial elements like *hala/henüz* 'still'.

b. Ali ve   Merve (*bir) **çocuk**.
Ali and Merve one   child
'Ali and Merve are children.'

However, bare singulars lose their ability to be compatible with plural subjects when modified, unless the adjective has a sub-type forming function, as shown in (6). The adjective *practitioner* defines a type of doctor and when it modifies the bare singular *doctor* as in (6a) the result is compatible with a singular and a plural subject. The adjective *handsome* does not have such a function and its combination with *doctor* as in (6b) is only compatible with a singular subject.[6]

(6)   a.   Ali (ve Mehmet) *pratisyen*   **doktor**.
Ali and Mehmet practitioner doctor
'Ali is a practitioner doctor.' 'Ali and Mehmet are practitioner doctors.'
b.   Ali (*ve Mehmet) *yakışıklı*   **doktor**.
Ali and Mehmet handsome doctor
'Ali is a handsome doctor.' Not: 'Ali and Mehmet are handsome doctors.'

As is the case with the non-case-marked direct object position and the existential copular construction, the number interpretation of a bare singular occurring in the predicate position varies depending on the modification type. The second puzzle, then, is to understand what kind of a role different types of modification play in the number interpretation of bare singulars in the three cases and why they do not have similar effects in case-marked argument positions.

There are two approaches that we can pursue to account for the number-based puzzles in Turkish. One is to take the singular behavior of bare singulars as the core meaning and the other is to take their number neutral behavior as the basis. Regardless of which approach is adopted, a principled account is required to derive the cases where the base assumption does not work.

3. Theoretical Backdrop

In this section, I first discuss and discard the previous accounts of Turkish nominal semantics, where bare singulars are fundamentally treated as number neutral terms, whereas bare plurals are treated as having a strictly plural denotation. Then, I examine and argue for an alternative view where it is bare plurals that are in fact number neutral in Turkish similar to the views adopted for English bare plurals, while bare singulars are strictly singular terms. Finally, I discuss the phenomenon of pseudo-incorporation as it will have a crucial role in the account of the number neutral behavior of bare singulars that I develop in Section 5.

3.1. Number Neutral Bare Singulars, Strictly Plural Bare Plurals

Since the seminal work of Link (1983), the mereological treatment of pluralities has become a well-established tradition in the semantic literature, where the domain of individuals (D_e) has been assumed to include atoms and their closure under sum formation $\oplus$, by the 'star' operator *. That is, * applying to a P returns the closure of P under $\oplus$, therefore *P is a set inclusive of atoms and their sums. $[\![^*P]\!]$ is itself a complete atomic join semilattice, as shown below. So, in a model where the books are a, b, and c, *book* denotes an atomic set with the members a, b,

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[6]A reviewer questions whether *dini kitap* 'religious book' and *pratisyen doktor* 'practitioner doctor' could be compounds. There are some tests to distinguish noun phrases modified by adjectives from compounds. For example, while compounds do not allow the indefinite marker *bir* to intervene between the first and second elements, e.g. **yün bir çorap* 'a woolen sock' an adjective+noun combination does. *Dini* and *pratisyen* pattern with the latter, e.g. *dini bir kitap* 'a religious book', *Pratisyen bir doktora ihtiyacımız var.* 'We need a practitioner doctor.'

c and *books* denotes a number neutral set inclusive of atoms a, b, c, and their pluralities a⊕b, a⊕c, b⊕c, and a⊕b⊕c. (Throughout the paper, I assume this model for ease of exposition.)
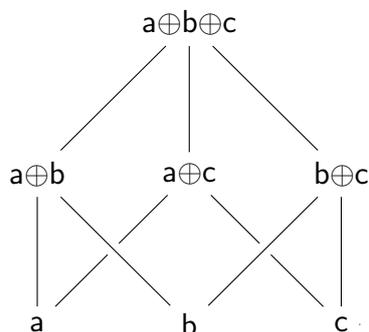
The semantics of Turkish bare nouns has received attention in the works of Bliss (2004), Bale et al. (2010), and Görgülü (2012), where it has been argued that bare singulars like *kitap* 'book' denote number neutral sets in Turkish, as given in (7). This account is based on the number neutral interpretation of bare singulars in the three positions, non-case-marked direct object position (Bliss 2004 and Görgülü 2012), the existential copular construction (Görgülü 2012), and the predicate position (Bale et al. 2010 and Görgülü 2012), shown in (1) above.

(7) $\llbracket kitap \rrbracket = \{a, b, c, a \oplus b, a \oplus c, b \oplus c, a \oplus b \oplus c\}$

Bliss (2004), Bale et al. (2010), and Görgülü (2012) further argue that Turkish bare plurals are strictly plural; they denote pluralities only, exclusive of atoms, as represented in (8).[7]

(8) $\llbracket kitap + PL \rrbracket = \{a \oplus b, b \oplus c, a \oplus c, a \oplus b \oplus c\}$

This analysis enriches the typology by treating Turkish, along with Western Armenian, for example, as one of the few languages where the morphologically marked plurals are also semantically marked in having a strictly plural denotation, while the morphologically unmarked singulars are also unmarked in having a number neutral denotation (see Bale et al. 2010 and Bale and Khanjian 2014 for Western Armenian). On the contrary, many other languages, English being one of them, exhibit an asymmetric relation between morphological and semantic (un)markedness. While their singulars are semantically marked as having a strict singular denotation, as we will see shortly for English, their plurals are argued to have an unmarked denotation (Krifka 2003, Sauerland et al. 2005, Spector 2007, and Zweig 2009).

As pointed out above, though, the challenge for treating bare singulars as number neutral is to account for those cases where they receive a singular interpretation. Although this issue has not been addressed by Bale et al. (2010) and Görgülü (2012), Bliss (2004) offers a syntactic explanation. She argues that case-marked nouns are DPs since they are always interpreted as definite. DPs have a Number Phrase (NumP) in them, which is headed by a null Number head that bears a default singular feature, when it is not filled by the plural marker. This results in the singular interpretation of case-marked bare singulars. Non-case-marked bare singulars, though, are NPs and hence they are unspecified for number. While a solution like this explains the singularity of bare singulars that are also definite in case-marked argument positions and the existential copular construction, it does not predict the fact that the number interpretation is sensitive to the type of adjectival modification. Specifically, in the predicate position, a bare

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[7]The evidence that Bale et al. (2010) use for their strict plural account of Turkish bare plurals is the fact that they can be predicated of plural subjects, but not singular subjects. The details of the behavior of bare plurals in the predicate position will be discussed in Section 6.3. See also fn 52.

singular modified by a non-sub-type forming adjective, as in (6b), behaves as a singular term, yet it is not (necessarily) interpreted as definite. That is, it is not clear why *handsome doctor* in (6b) would include a NumP projection, while *practitioner doctor* in (6a) is merely an NP.[8]

A further challenge for the view adopted in these works comes from bare plurals. In fact, they are not strictly plural in Turkish, but rather they are number neutral terms. I illustrate this next.

3.2. Number Neutral Bare Plurals, Strictly Singular Bare Singulars

In this section, I discuss and argue for an alternative view where it is in fact bare plurals that are number neutral terms while bare singulars are strictly singular in Turkish.

Let me start with my take on Turkish bare plurals: I argue that they are inclusive of both atoms and their pluralities, as represented in (9). For this, I rely on the argumentation presented in the implicature-based accounts of English bare plurals.

(9) $\llbracket kitap + PL \rrbracket = \{a, b, c, a \oplus b, a \oplus c, b \oplus c, a \oplus b \oplus c\}$

As is well-known for English bare plurals, in Turkish, bare plurals are associated with more than one possible interpretation. Although they contain multiplicity as part of their denotation in positive contexts, as exemplified in (10a), they lose that requirement in downward entailing contexts, as in (10b), and in questions, as in (11a), instead conveying an inclusive/number neutral reading (see also Kan 2010).[9] In other words, the 'more than one' reading, the so-called exclusive reading, does not seem to be strictly part of their interpretation.

(10)   a.   **Çocuk-lar** sokak-ta   top oynu-yor.
             child-PL   street-LOC ball play-PROG
             'Children are playing ball on the street.'
             ⤳ *More than one child is playing ball on the street.*   EXCLUSIVE
        b.   **Çocuk-lar** sokak-ta   top oyna-**mı**-yor.
             child-PL   street-LOC ball play-NEG-PROG
             'Children aren't playing ball on the street.'
             ⤳̸ *It is not the case that more than one child is playing ball on the street.*
             ⤳ *No children are playing ball on the street.*   INCLUSIVE

(11)   a.   Orman-da **ayı-lar-la**   karşılaş-tı-nız   mı?
             forest-LOC bear-PL-COM come.across-PAST-2PL QUEST
             'Did you come across bears in the forest?'
        b.   Evet, bir tane gör-dü-k./   #Hayır, bir tane gör-dü-k.
             yes, one CL see-PAST-1PL no,   one CL see-PAST-1PL
             'Yes, we saw one./ #'No, we saw one.'

While for (10a) to be true more than one child needs to be playing ball on the street, (10b) doesn't merely convey that more than one child isn't playing; rather it conveys that no children are playing at all. Similarly, the question in (11a) is not about seeing more than one bear, since seeing one bear is sufficient for an affirmative answer.

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[8]One other solution would be to derive the singularity as a conversational implicature through a competition with the plural form, based on scalar reasoning (Grice, 1975). However, this approach does not explain the modification puzzle, either. It also wrongly predicts a singular reading for bare singulars in the existential copular construction. Note though that its predictions cannot be tested in the non-case-marked direct object position since plurals and singulars are not available in this position interchangeably. We discuss this in Section 6.3.

[9]The examples in (10) are ambiguous in having a non-specific and a definite reading. Here, we are concerned with the former. The definite reading of bare plurals will be discussed in Section 4.1.

Krifka (2003), Sauerland et al. (2005), Spector (2007), and Zweig (2009) argue that bare plurals in English denote atoms as well as pluralities (cf. Farkas and de Swart 2010, Martí 2020a, and Grimm 2013). Adopting this approach for Turkish bare plurals, we make the correct predictions for (10b) and (11a). However, what needs to be explained is how the exclusive reading is derived in cases like (10a). Krifka (2003) does not attempt to account for the exclusive reading, but rather focuses on kind-based interpretations of bare plurals. However, Sauerland et al. (2005), Spector (2007), and Zweig (2009) argue that the exclusive reading arises as a result of a conversational implicature in positive contexts, although they differ in the methods used to calculate the implicature. While Spector (2007) and Zweig (2009) adopt a scalar implicature account, Sauerland et al. (2005) derives it based on Maximize Presupposition (Heim, 1991).

If we adopted the strict plural approach, though, we would directly capture the exclusive reading in (10a), but this account wrongly predicts an exclusive reading for (10b) and (11a), as well. We would expect (10b) to be true in a situation where only one child is playing and we would expect the response to the question in (11a) to be 'no' instead, contrary to the fact.

I will now detail how the exclusive reading is derived as an implicature, under the number neutral approach for plurals, sticking to scalar reasoning. Consider a scenario where exactly one child is playing ball on the street. This situation could be described as in (12), conveying the singularity directly, which is true iff exactly one child is playing. The core meaning of (10a), which I represent as C in (13), is an inclusive interpretation. C competes with the alternative statement in (12), in this scenario.[10]

(12)   Tam olarak bir (tane) çocuk sokak-ta   top oynu-yor.
        exactly   one CL   child street-LOC ball play-PROG
        'Exactly one child is playing ball on the street.'

(13)   C = One or more children are playing ball on the street.   INCLUSIVE

The hearer reasons as follows: (S)he assumes that the speaker will convey the strongest information that (s)he believes to be true and a sentence S1 is stronger/more informative than a sentence S2 iff S1 is true in fewer scenarios than S2 (Grice, 1975). Since (12) is true in fewer scenarios than (10a), it is stronger. Then, hearing (10a), the hearer assumes that the stronger alternative must be false. The truth of the core meaning of (10a) (i.e., C in (13)) and the hearer's assumption for (12) combine to yield the following scalar meaning for (10a), which I show as *C+scalar* below. Thus, the plural receives an exclusive interpretation.

(14)   C+scalar = One or more children are playing ball on the street and it is not true that
                   exactly one child is playing ball on the street.
        C+scalar= More than one child is playing ball on the street.   EXCLUSIVE

However, in the negative case, the entailment relations are reversed. Thus, the negation of the alternative statement shown in (15) is weaker than the core meaning of (10b) given in (16). Based on this, the hearer does not make any assumptions regarding (15), and therefore the core meaning of (10b) is maintained. The plural is interpreted number neutrally.[11]

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[10]The choice of the alternative sentence competing with the plural form shows variation in the implicature accounts. See Tieu and Romoli (2018) for an overview.

[11]The exclusive reading of bare plurals could also be explained based on Maximize Presupposition, which favors the one with the stronger presupposition when two forms compete, on the condition that no presupposition violation occurs (Heim, 1991). In that case, the implicature in (10a) would surface due to the stronger presupposition of the alternative sentence and disappear in (10b) due to its weaker status.

(15)   Tam olarak bir (tane) çocuk sokak-ta   top oyna-mı-yor.
       exactly   one CL   child street-LOC ball play-NEG-PROG
       'It is not the case that exactly one child is playing ball on the street.'

(16)   C = It is not the case that one or more children are playing ball on the street.
       (No children are playing.)   INCLUSIVE

Confirming its systematicity, the 'one or more' reading of bare plurals is also available in other downward entailing contexts such as the antecedents of the conditionals, as in (17a), and the restrictors of universal quantifiers, as in (17b), where the bare plural *erkekler* 'men' is interpreted number neutrally.

(17)   a.   Eğer **erkek-ler** tarafından aldat-ıl-dı-y-sa-n,   sen de biz-e
            if   man-PL   by   cheat-PASS-PAST-COP-COND-2SG you also we-DAT
            katıl-abil-ir-sin.
            join-ABIL-AOR-2SG
            'If you have been cheated by men, you can join us.' (one or more men)
       b.   **Erkek-ler** tarafından aldat-ıl-an   herkes   biz-e   katıl-abil-ir.
            man-PL   by   cheat-PASS-REL everybody we-DAT join-ABIL-AOR.
            'Everyone who has been cheated by men can join us.' (one or more men)

In sum, in line with the argumentation for English bare plurals, I argue that Turkish bare plurals are number neutral and the exclusive reading in positive contexts arises as a result of a conversational implicature (see Renans et al. 2017, 2020 for experimental evidence).[12] However, it is also worth noting that the implicature account does not extend to bare singulars in the cases where they convey a number neutral reading, and so it is of limited value for Turkish.

Let me recap the discussion so far: We have seen that taking bare singulars to denote number neutral sets may provide a simple solution for their number neutrality in certain positions, but is unable to handle their singularity in other positions. Furthermore, we have seen that Turkish bare plurals must in fact be analyzed as number neutral terms, rather than strict plural terms. Recall also that modification has a restrictive role in the cases where bare singulars denote number neutral readings, whereas it does not create a contrast in case-marked argument positions where bare singulars denote strictly singular interpretations only.

Based on these considerations, I argue that it is best if we take strictly singular interpretation of bare singulars as the base denotation and their number neutral reading as the marked interpretation. That is, I analyze bare singulars in Turkish as atomic predicates, as illustrated in (18). This view, together with the number neutrality of bare plurals, relocates Turkish among the more commonly attested class of languages like English where the correlation between morphological and semantic (un)markedness is manifested asymmetrically.[13]

(18) $[\![kitap]\!] = \{a, b, c\}$

Having taken the singular reading of bare singulars as their base denotation, now the challenge

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[12] Görgülü (2012) argues for the strict plural view, providing examples of plurals in the existential copular construction with a possesive meaning where they exhibit an exclusive reading, e.g., *Çocuklarınız var mı?* 'Do you have children?' However, native speakers find such questions awkward and instead prefer the version with bare singulars, which have a number neutral reading in this construction as stated above. Additionally, there are some native speakers who still interpret it number neutrally (see also Kan 2010). As is clear in the examples above, once we move away from this construction that results in forced and unreliable judgements, the number neutral reading of bare plurals becomes visible.

[13] See XXX where the same conclusion is reached for Western Armenian, as well.

is to explain the cases where Turkish differs from English.[14] That is, it remains to be explained how the number neutral reading arises in the three positions and how modification plays a role in it. Among them, the non-case-marked direct object position has received some attention under the phenomenon called pseudo-incorporation. Before proceeding, I will present the core aspects of this phenomenon and discuss the insights we gain from previous analyses.

3.3. Pseudo-incorporation

Öztürk (2005) claims that non-case-marked bare singulars immediately preceding the verb and occupying the direct object position, as repeated here in (19), are instances of pseudo-noun incorporation (PI, henceforth) in Turkish, a term originally due to Massam (2001).

(19)   Ali **kitap** oku-du.
        Ali book read-PAST
        'Ali did book-reading.' (one or more books)

Among the most notable syntactic characteristics of PI-ed nouns is the fact that they form a unit with the verb, while retaining their independent phrasal status at the same time, as evidenced by the fact that they can be modified (Taylan 1984, Arslan-Kechriotis 2006, Öztürk 2005). They immediately precede the verb, and they are unable to undergo case-driven movements such as passivization while they can be separated from the verb for pragmatic purposes (e.g., contrastive topic or focus) (Öztürk 2009, Sezer 1996, and Gračanin-Yüksek and İşsever 2011, among others; see also Dayal 2003, 2011 for Hindi).[15] On the other hand, canonical arguments like definites, quantified expressions, etc. differ from PI-ed nouns in being free in terms of movement and their ability to be case marked. In virtue of the syntactic properties that separate them from canonical arguments, then, I take non-case-marked bare singulars as instances of PI.

Let us now consider the semantic properties that have been taken to characterize PI. Like canonical incorporation, PI allows for a number neutral interpretation for bare singulars and is not a fully productive process. As noted by Mithun (1984), it is only available if it conveys an institutionalized/enriched activity or state, which is also known as *name-worthiness*. That is, incorporation yields an interpretation of a canonically recognized type of activity in a sense. Furthermore, PI-ed bare nouns take obligatory narrow scope when they interact with scope taking elements.[16] These properties have been the focus of a number of accounts (e.g., Bittner 1994, van Geenhoven 1998, Chung and Ladusaw 2004, Farkas and De Swart 2003, Dayal 2003, 2011, 2015). Among these, Dayal (2011, 2015), centering on PI in Hindi but also drawing on data from Hungarian, claims that singular nouns involved in PI denote atomic properties. Below, I summarize this account and show that Turkish PI requires a separate analysis.

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[14]Turkish numerals, unlike in English, are incompatible with plurals, which is surprising on one view of numeral semantics, where they are treated as restrictive modifiers in the sense of Link (1987). Bale et al. (2010) take this disparity between the two languages as an argument for the number neutral view of Turkish bare singulars. However, there is an alternative view where numerals are argued to combine with atomic properties based on Turkish, Hungarian, and Welsh, despite the appearance of the noun in English (Ionin and Matushansky 2006; see also XXX, Martí 2020b, and Scontras 2014). Hence, the counting constructions are amenable to the strict singular view of Turkish bare singulars. Additionally, *çok* 'many/a lot of' and *birkaç* 'a few' also combine with singular nouns rather than plurals. I suggest that they can also be considered to presuppose atomicity like numerals.

[15]This contrasts with noun incorporation in languages like Mohawk and Inuit, where the incorporated noun is argued to combine with the verb root, forming a morphologically complex compound verb in Baker (1988, 1996) and Baker et al. (2005) (cf. Mithun 1984), thereby casting a strict ban on the separation of the noun from the verb.

[16]Another issue that is widely discussed in PI literature is the (in)ability to support discourse anaphora. As is widely known, this is a tricky empirical domain in which the consultants do not provide uniform judgments. So it will not be addressed here, instead awaiting more systematic judgment elicitations. See Seidel (2018a, 2018b).

The technical details of Dayal's account rely on the assumption that verbs have an incorporating version besides their canonical transitive form. The incorporating version takes an atomic property rather than an individual as its internal theme argument, which simply modifies the verb, resulting in a predicate of sub-types of events. Consider *mouse-catching*, which is a sub-type of catching events (Dayal 2011, pg. 147):

(20) $[\![mouse\text{-}catch]\!] = \lambda y \lambda e.\ mouse\text{-}catch(e) \wedge Agent(e) = y]$, where
         $\exists e\ [mouse\text{-}catch(e)] = 1$ iff $\exists e'\ [catch(e') \wedge \exists x\ [mouse(x) \wedge Theme(e') = x]]$

In this theory, the narrow scope property of PI is expected since any element taking scope over the verb also takes scope over its nominal modifier.[17] The number neutrality is provided by aspectual specification. It is only available with atelic events that allow iterative interpretations, and with habitual events. This is made possible by the fact that iterativity entails a plurality of sub-events and that habituality entails a quantificational structure presupposing a plural quantificational domain. Each sub-event in an iterative context or each sub-event forming the atomic part of a plural quantificational domain in a habitual structure has a singular individual as its theme argument. For example, in an iterative context, *Anu mouse-caught* would mean the following: There exists an event E with sub-events of mouse-catching, each of which has Anu as its agent, and each sub-event of catching has a mouse as its theme.

The evidence comes from the fact that in telic contexts, which are defined on atomic events, the number neutrality disappears and PI yields a singular reading in Hindi. Specifically, when Hindi *book-read* occurs with an atelic adverbial modifier such as *for three hours*, the interpretation of the PI-ed noun is 'one or more books'. In contrast, when it occurs with a telic adverbial such as *in three hours*, the PI-ed noun yields a strictly singular reading, i.e., 'exactly one book'. This difference shows that neutrality cannot be a property of PI-ed bare singulars in Hindi.

Dayal further makes this point with a contrast in Hungarian PI created by the verbs *collect* and *gather* on the one hand, and verbs like *compare*, *unite*, and *reconcile* on the other hand. While both singular and plural forms of PI-ed nouns are compatible with the former, only the plural form is possible with the latter. Dayal argues that collection or gathering presupposes a plurality of sub-events of acquiring which might involve a single item at a time. The core process involved in comparison, uniting, and reconciling, though, requires a plurality at each sub-event, and since bare singulars do not provide this plurality, the result is infelicitous with these verbs. This contrast is compatible with the claim that the number neutrality of PI-ed bare singulars in Hungarian, like in Hindi, is due to their interaction with aspectual specification.

Finally, Dayal treats the name-worthiness requirement of PI as a presupposition. That is, PI is only defined if the PI-ed noun denotes a prototypical theme for the activity associated with the verb resulting in a canonically recognizable sub-type of the activity. Dayal also observes that the effects of name-worthiness are prevalent in modification with PI-ed nouns. Namely, certain types of modification are not acceptable in PI. To exemplify one, in Hindi *old book-selling* is possible, unlike *heavy book-selling*, because *old books* can be a prototypical theme for the selling activity, for instance in a second-hand book store context. However, it is harder to form this relation with *heavy books*.

Turning back to Turkish, Dayal's account seems to be a good fit for the strict singular view of bare singulars at first glance, as well as for providing a partial explanation for the modification puzzle. As mentioned in Section 2, non-case-marked bare singulars are only compatible with

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[17]See Sadock (1980), Bittner (1994), van Geenhoven (1998), Farkas and De Swart (2003) for other approaches to obligatory scope properties.

sub-type forming adjectives in Turkish. To repeat the relevant examples, while modification by *religous/scientific* is acceptable with book-reading, modification by *old (worn-out)/small* is not. While I delay the more detailed discussion on this until Section 5.1 it suffices to state at this point that as in Hindi, this contrast is due to the name-worthiness requirement of PI. The bare singular *book* modified by the former can be a prototypical theme for reading events, yielding a canonical type of the reading activity, and hence it is acceptable for PI. In contrast, its modification by *old/small* does not have such an effect on reading events, unlike the interaction of old books with selling/buying events, therefore the combination results in ungrammaticality.

However, the tests that Dayal appeals to in her account of number neutrality reveal a surprising cross-linguistic difference when applied to Turkish. Let me start with the interaction of aspect and PI in Turkish. With telic adverbial modification, singularity is the most salient reading, as predicted by Dayal's theory, but it can easily be overridden with good contextual support (see also Kan 2010). Imagine that we want to play football, but we need more people to form two teams. Then, Ali disappears and after half an hour, he returns with 10 people. I explain this situation to someone else as in (21), where the PI-ed bare singular yields a number neutral reading, as evidenced by the follow-up in (21b). This shows that the number neutrality of PI cannot be dependent on aspectual specification in Turkish.

(21) a. Ali yarım saat-te **adam** bul-muş/ topla-mış.
          Ali half hour-LOC man find-EVID/ collect-EVID
          'Ali did man-finding/collecting in half an hour.'
      b. Bir baktık, on kişiyle geliyor. Halbuki biz onun bir kişi bile bulabileceğinden emin değildik.
          'All of sudden, he came with ten people. In fact, we weren't even sure that he could find a single person.'

Additionally, unlike in Hungarian, PI-ed bare singulars are compatible with *compare*, and similar verbs like *unite*, *reconcile*, and *match* in Turkish. Comparing assignments is a common activity among students and it can yield PI in Turkish, as in (22a). Similarly, PI is also available for matching players, as in (22b). These facts also clearly show that PI-ed bare singulars in Turkish can yield number neutral readings independent of the aspectual specification.

(22) a. Yelda, acele et! Daha **ödev** karşılaştır-acağ-ız.
          Yelda, hurry.up yet assignment compare-FUT-1PL
          'Yelda, hurry up! We still need to do assignment-comparison.'
      b. Kurul önümüzdeki tenis turnuvası için **oyuncu** eşleştir-ecek.
          committee next tennis tournament for player match-PROG
          'The committee will do player-matching for the next tennis tournament.'

To conclude, the number neutrality of Turkish PI requires a different explanation than the one for Hindi and Hungarian. In order to offer a new analysis that will capture the number neutrality in Turkish PI as well as the other two constructions, I must first discuss another aspect of bare singulars, namely their status as singular kind terms. I will argue in Section 5 that singular kind reference is the source of the number neutral readings of bare singulars in these constructions.

4. Kind Reference in Turkish

In this section, I discuss the properties of kind reference in Turkish and illustrate that the singular form of kind reference contrasts with the plural form in having an impure atomic nature. For this, I first discuss general properties of kind reference by introducing Turkish plural kind terms and then I analyze singular kind terms in a comparative way.

4.1. Plural Kind Terms

In Section 3.2, we have seen that Turkish bare plurals yield number neutral interpretations in downward entailing contexts and questions, based on which I have argued that they denote sets of atoms and their pluralities, as in English. Turkish and English bare plurals are also equivalent in having kind (23a), generic (23b), and existential readings (23c) (see Carlson 1977, Krifka et al. 1995, and Chierchia 1998 for English). However, Turkish bare plurals can also have definite readings unlike English bare plurals, as shown in (23c).

(23)   a.   **Dinozor-lar** 250 milyon yıl   önce evrimleş-miş-tir.
           dinosaur-PL 250 million year ago evolve-PERF-GEN
           'Dinosaurs evolved 250 million years ago.'
       b.   **Ayı-lar** genelde   saldırgan   ol-ur.
           bear-PL generally aggressive be-AOR
           'Bears are generally aggressive.'
       c.   **Köpek-ler** bugün çok havlı-yor.
           dog-PL   today very bark-PROG
           '(The) dogs are barking a lot today.'

I will first illustrate how the readings that are available in both languages are derived, then turn to the definite reading of Turkish bare plurals.

The fact that bare plurals can be arguments of kind-level predicates like *evrimleşmek* 'evolve' or *nesli tükenmek* 'be extinct' means that they have kind reference since such predicates only denote properties of kind individuals (Carlson, 1977). Chierchia (1998) defines kinds as individuals that identify classes of objects with a sufficiently regular function or behavior in nature. When we talk about natural kinds we not only refer to 'well-established' biological ones, but artifacts like books and cars, as well as more complex ones like intelligent students can be considered as kinds, as well (see also Krifka et al. 1995 and Dayal 2004).

In Chierchia (1998), bare plurals in English are argued to start as type $\langle s, \langle e, t \rangle \rangle$ and become kind terms of type $\langle s, e \rangle$ via a nominalization operation (*nom*), shown in (24a). *Nom* is a function from properties to functions from situations s to the maximal entity satisfying that property in that situation. Namely, a kind, let us say the dinosaur kind, is an individual correlate of the property of being a dinosaur, as shown in (24b) (Chierchia 1998, pg. 351).

(24)   a.   For any property P and world/situation s, where P_s is the extension of P in s
           $$\cap P = \begin{cases} \lambda s. \ \iota x \ [P_s(x)], \textit{ if } \lambda s. \ \iota x \ [P_s(x)] \textit{ is in K, the set of kinds} \\ \textit{undefined, otherwise} \end{cases}$$
       b. $\cap dinosaur = \lambda s. \ \iota x \ [dinosaur_s(x)]$

Chierchia argues that the *nom* operator is only defined for plural properties, not singular properties. This is because if *nom* were applied to a singular property, it would mean that the kind is uniquely instantiated in every world/situation (Dayal, 1992). However, this goes against the concept of a kind, which instead is identified with the totality of instances in any given world/situation.

Following Chierchia (1998)'s analysis, I take bare plurals in Turkish to be kind terms that are built on the corresponding property via *nom*. This makes it possible for them to directly combine with kind-level predicates, as in (23a), the denotation of which is given in (25).

(25) $[\![(23a)]\!] = evolved(\lambda s. \ \iota x \ [dinosaur_s(x)])$

When plural kind terms combine with object-level predicates, they are type-shifted by the pred-icativization (*pred*) operator, which takes the extension of the kind (i.e., extension in whatever world/situation it is interpreted relative to) and returns the set of singular and plural entities that instantiate the kind (in that world/situation), as shown in (26) (Chierchia 1998, pg. 350). In generic contexts, the Generic operator quantifies over these entities, as shown in (27) for (23b).

(26)   Let d be a kind. Then for any world/situation s,

$$^\cup d = \begin{cases} \lambda x. \ x \leq d_s, \textit{if } d_s \textit{ is defined} \\ \lambda x. \textit{FALSE}, \textit{otherwise} \end{cases}$$

where d_s is the plural individual that comprises all of the atomic members of the kind.

(27) $[\![(23b)]\!] = \textit{Gen } s, x \ [^{\cup\cap} \textit{bear}(s)(x)] \ [\textit{aggressive}(s)(x)]$

When a kind-level argument combines with an object-level predicate in an episodic context, as in (23c), *Derived Kind Predication (DKP)* comes into the picture. DKP provides sort adjust-ment and introduces $\exists$-quantification over the instantiations of the kind provided by *pred* in a given situation, resulting in an existential reading, as shown in (28) (Chierchia 1998, pg. 364).

(28)   a.   DKP: If *P* applies to objects and *k* denotes a kind, then $P(k) = \exists x \ [^\cup k(x) \wedge P(x)]$
         b. $[\![(23c)]\!] = \textit{barking.today} (^\cap \textit{dog}) = DKP \Rightarrow \exists x \ [^{\cup\cap} \textit{dog}(x) \wedge \textit{barking.today}(x)]$

Bare plurals that have an existential reading obligatory take narrow scope. This is exemplified in (29), which conveys that there are no dogs barking today but not that there are some dogs that are not barking today. The latter would be possible if the plural could take scope over negation. This is predicated by the DKP analysis because the sort-adjusting $\exists$-quantification is introduced locally at the level of predication, i.e., inside the body of the abstract where the type-mismatch occurs, and therefore takes narrowest scope. So the interpretation in (29) is that there are no atomic or plural instantiations of the dog kind barking in the given situation.

(29)   **Köpek-ler** bugün havla-mı-yor.
         dog-PL   today bark-NEG-PROG
         'Dogs aren't barking today.' (false if one ore more dogs are barking today)
         $\neg \textit{barking.today} (^\cap \textit{dog}) = DKP \Rightarrow \neg \exists x \ [^{\cup\cap} \textit{dog}(x) \wedge \textit{barking.today}(x)]$

Now let us see how Turkish bare plurals, unlike English bare plurals, can also be definite in object-level contexts. This is shown in (23c), but also holds for (29). The explanation for this lies in the fact that Turkish does not have an overt definite determiner. The standard view for languages without overt definite determiners is that their bare nouns can undergo covert *iota* type-shifting to gain definite interpretations. There are two principles in the neo-Carlsonian approach that regulate the application of covert type-shifting operators:[18]

(30)   a.   *Blocking Principle* (Chierchia 1998):
                 For any type shifting operation ϕ and for any X: $*\phi(X)$ if there is a Determiner
                 D such that for any set X in its domain, $D(X) = \phi(X)$.
         b.   *Revised Meaning Preservation* (Dayal 2004) : $\{^\cap, \iota\} > \exists$

According to Revised Meaning Preservation, type-shifters apply in a certain order, as long as

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[18]I assume that Turkish bare nouns are NPs that undergo covert type-shifting. However, equivalent results can be obtained in a DP analysis with suitable adjustments to the Blocking Principle and Revised Meaning Preservation. The ranking in Revised Meaning Preservation is motivated by the fact that in languages without an overt definite determiner bare nouns can denote kinds as well as contextually salient unique entities, but they do not gain strong indefinite readings. See Dayal (2004) for details.

the Blocking Principle is respected. The intuition behind the Blocking Principle is to ensure the application of lexical items before covert type-shifting operations are resorted to, for reasons of economy. This explains the difference between bare plurals in English and languages like Turkish in terms of definite interpretations. To be more precise, English and Turkish bare plurals can both shift via *nom* to yield kind-level readings, as laid out above. This is possible since *nom* is a high-ranked operator and there are no overt determiners in either language that would do the same job and hence block its application. However, only Turkish bare plurals can also shift via the covert *iota* operator and yield definite readings. Again this is possible since *iota* is equally a high-ranked operator and Turkish does not have an overt definite determiner, unlike English where it is blocked by *the*.[19] The low-ranked $\exists$-type shift does not come into play for bare plurals in either language, ruling out the possibility of strong indefinite interpretations.

Following this line of thinking, we can derive the definite reading of (23c) as shown below:

(31)   a. ι: $\lambda P.\ \iota x\ [P(x)]$ (the maximal member of *P* if there is one, undefined otherwise)
       b. $[\![k\ddot{o}pekler]\!] = \lambda x.dogs(x) = \iota \Rightarrow \iota x\ [dogs(x)]$
       c. $[\![(23c)]\!] = barking.today(\iota x\ [dogs(x)])$

In sum, bare plurals in Turkish, like bare plurals in English, become kind terms via *nom*, and receive object-level readings via *pred* and DKP. Unlike bare plurals in English, they can also undergo covert *iota* type-shifting to yield definite interpretations. We are now ready to explore how the stance taken here with respect to Turkish bare singulars fits in this picture.

4.2. Singular Kind Terms

In this section, I discuss the semantics of singular kind reference and its differences from plural kind reference, which will prove to be in line with the strict singular view of bare singulars.

Just like bare plurals, bare singulars can also combine with kind-level and generic predicates, as shown in (32a) and (32b). However, in episodic contexts they are only interpreted as strictly singular and definite, as opposed to bare plurals, which, as we have seen, can receive narrow scope existential readings. Compare (32c) with (23c).

(32)   a.   **Dinozor** 250 milyon yıl   önce evrimleş-miş-tir.
            dinosaur 250 million year ago   evolve-PERF-GEN
            'The dinosaur evolved 250 million years ago.'
       b.   **Ayı** genelde   saldırgan   ol-ur.
            bear generally aggressive be-AOR
            'The bear is generally aggressive.'
       c.   **Köpek** bugün çok   havlı-yor.
            dog   today   very bark-PROG
            'The dog is barking a lot today.' Not: 'A dog is/Dogs are barking a lot today.'

The lack of the existential reading with bare singulars is further shown by their inability to take scope under negation, as in (33), where they have a singular and definite reading only.[20]

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[19]I set aside cases with bare plurals that do not refer to kinds like *parts of this machine* (see Carlson 1977, Chierchia 1998, Dayal 2004, 2013).

[20]In the preverbal non-case-marked argument position, bare singulars seem to have a narrow scope existential reading. In Sections 5.1 and 6.2, we will see that this is due to PI. What matters for us is that bare singulars cannot receive this reading when case-marked, contrasting with bare plurals. However, as also pointed out by a reviewer, profession/social role denoting bare singulars like *öğrenci* 'student' and *öğretmen* 'teacher' allow number neutral narrow scope existential readings in case-marked positions, like bare plurals: *Öğrenci kütüphaneye uğramıyor artık.* 'Students aren't going to the library anymore.' Notice, though, this interpretation is restricted: (i) The

(33) **Köpek** bugün havla-mı-yor.
　　　dog　　today　bark-NEG-PROG
　　　'The dog isn't barking today.' Not: 'A dog isn't/dogs aren't barking today.'

In order to predict the lack of existential readings in (32c) and (33), I adopt Dayal's (2004) analysis of singular nouns, which I lay out below.

Dayal proposes that singular nouns are ambiguous in denoting properties of ordinary atomic individuals and properties of taxonomic atomic individuals, i.e., (sub-)kinds, the latter yielding kind-level interpretations as in 'The dinosaur is extinct.' Regulated by Revised Meaning Preservation and the Blocking Principle, this view immediately predicts a definite singular reading for bare singulars in Turkish, as in (32c) and (33), at the ordinary object level. Namely, the bare singular *köpek*, denoting a set of atomic dog individuals, undergoes *iota* type-shifting to refer to a unique contextually salient dog individual, as represented below for (32c):

(34)　a.　$[\![köpek]\!] = \lambda x.\ dog(x) = \iota \Rightarrow \iota x\ [dog(x)]$
　　　b.　$[\![(32c)]\!] = barking.today(\iota x\ [dog(x)])$

In order to explain the denotation of singular nouns at the kind level, Dayal draws a distinction between singular and plural kind reference. She argues that although kinds overall are conceptually plural, singular kind terms are grammatically impure atomic terms. They differ from plural kind terms in not allowing type-shifting to sets of object-level entities.

Dayal draws an analogy with collective nouns like *team, committee*, etc. Barker (1992) and Schwarzschild (1996) argue that they are impure atomic group terms, unlike plural definites which simply denote sums, in the sense of Link (1983) and Landman (1989) (see also Kleiber 1990, Krifka et al. 1995, and Zucchi and White 2001). Schwarzschild (1996) further shows this through reciprocals and distributive predicates like *live in different cities*. While plural definites are compatible with them, as in (36), collective nouns are not, as in (35), meaning that groups do not allow distributivity over the individuals that they consist of, as opposed to sums.

(35)　a.　#The team lives in different cities.
　　　b.　#The team attacked each other.

(36)　a.　The players/the team members live in different cities.
　　　b.　The players/the team members attacked each other.

The group term *team* and the definite plural *the players/the team members* are associated with the same set of entities, i.e., players (a, b, c) and their pluralities (a⊕b, a⊕c, b⊕c, and a⊕b⊕c), but their relation to these entities differ. The definite plural has them as its parts, represented by the part-of relation ≤, but the group term has them as its members, represented by ↓ in Landman (1989). In other words, while groups are atomic elements that have no internal structure, they still retain the relation that they hold with their individual members.

Dayal treats plural kind terms as sums, which hold a part-of relation to the individuals instantiating the kind. This is reflected by ≤ in *pred* (see (26) above). In contrast, she considers singular kind terms to be like groups, and claims that the relation between singular kinds and the specimens remains at the conceptual level. Unlike plural kind terms which are derived from

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referents of these nouns have to be in abundance, massive in a sense, unlike DKP of bare plurals. (ii) It is only available in professional/report contexts. The sentence above gets an existential reading if it is uttered among teachers or it is a part of a report, for example. Since it would be misleading to generalize this restricted behavior to the broader class of bare singulars, I set aside these cases and refer the reader to XXX for more details.

a relevant property, singular kind terms directly refer to kinds in the taxonomic domain.[21]

Singular kind terms are derived compositionally from the regular definite determiner and a singular noun that denotes an atomic property of taxonomic individuals, i.e., (sub-)kinds: ιX $[P(X)]$, X ranging over entities in the taxonomic domain. Similarly, other determiners like *every* and *a*, as well as numerals also yield taxonomic readings when they combine with taxonomic properties. Consider (37) (Dayal 2004, pg. 423 & 424): (Adopting the convention in Dayal (2004), from now on singular kinds will be represented with capital letters.)

(37)   a.   The African lion is extinct.
       b.   Every/a/one lion is extinct.
       c.   Two lions are extinct.

In (37), the domain of quantification is the sub-kinds of the species *lion* for the predicate is a kind-level predicate. That is, the the predicate *LION* denotes the sub-kinds *AFRICAN LION*, *ASIATIC LION*, etc. (37a) differs from (37b) and (37c) in that the existence of the definite determiner imposes a uniqueness requirement. In (37a), the taxonomic property *LION* combines with the taxonomic property *AFRICAN* the denotation of which includes all the African kinds, including *AFRICAN LION*. Their intersection yields the singleton set $\{AFRICAN\ LION\}$, which refers to the unique African lion kind through its combination with the definite determiner.

Singular kind reference is also possible if the domain of quantification only includes distinct kinds. In (38), for example, the domain of quantification is the set of taxonomic entities given in (38a), which does not include the sub-kinds of lions, but instead some distinct kinds like *LION*, *WHALE*, etc. In that case, the extension of the taxonomic predicate *LION* is a singleton set whose only member is the taxonomic individual *LION*, as shown in (38b). The combination of the property *LION* with *iota* ensures the reference to the unique lion kind. Dayal states that what level of the taxonomic hierarchy (i.e., kinds or their sub-kinds) will be relevant to the interpretation of taxonomic properties is determined by the context (Dayal 2004, pg. 426).

(38)   The lion is extinct.
       a. $U_c = \{LION, WHALE, DOG\}$
       b. $[\![lion]\!] = \{LION\}$
       c.   *become-extinct*$(\iota X\ [LION(X)])$

Following Dayal's view of singular kind reference, I take Turkish bare singulars, as English singular nouns, to have a taxonomic property denotation in addition to the ordinary object-level one. Due to the lack of a definite determiner, though, reference to a unique kind individual is ensured by covert *iota* type-shifting in Turkish. When a bare singular combines with a kind-level predicate, as in (32a), its taxonomic denotation is at play, as shown below:

(39)   a. $[\![dinozor]\!] = \lambda X.\ DINOSAUR(X) = \iota \Rightarrow \iota X\ [DINOSAUR(X)]$
       b. $[\![(32a)]\!] = evolved(\iota X\ [DINOSAUR(X)])$

The lack of the narrow scope existential reading in (32c) is predicted since singular kind terms, having an impure atomic nature, do not allow type-shifting to the object-level entities that we intuitively associate with them. The kind-driven existential reading, though, is dependent on this shift, which is ensured for plural kind terms by *pred* when DKP applies.

The fact that bare singulars in their kind reading refer to impure atomic kinds, as opposed to

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[21]Landman (1989) also posits an operator that forms groups from sums, represented by ↑. Dayal's view departs from this in the treatment of taxonomic kinds as distinct entities that are not derived from a property correlate.

bare plurals, can be tested with distributive elements like *come from different regions*, as applied to sums and groups by Schwarzschild (1996). Such predicates require access to the parts of the instantiations to ensure distributivity. As shown in (40), if the singular kind term *ayı* is used in an episodic context it is incompatible with this predicate, unlike its plural counterpart. Notice that the same contrast also holds in English, as reflected in the translations.

(40)   **Ayı*(-lar)** bu hayvanat bahçesi-ne farklı   bölge-ler-den gel-di.
          bear-PL   this zoo-DAT   different region-PL-ABL come-PAST
          'Bears/*The bear came to this zoo from different regions.'

$$\exists x \left[^{\cup\cap}bear(x) \wedge \forall y, z \left[[y < x \wedge z < x \wedge y \neq z] \rightarrow \iota r_1 \left[region(r_1) \wedge came.to.zoo.from(r_1)(y) \right] \neq \iota r_2 \left[region(r_2) \wedge came.to.zoo.from(r_2)(z) \right] \right] \right]$$

The example in (40) shows that singular kind terms do not allow distributive predication to object-level entities associated with them. Otherwise, they would yield grammatical results with this test. However, plural kind terms grant access to their instantiations for distributivity. As shown in the truth condition represented roughly above, the plural kind term is type-shifted via *pred*, denoting a set of singular and plural entities instantiating the kind in the relevant situation. The predicate *come from different regions* distributes over these instantiations.

Let us now consider the behavior of singular kind terms in object-level contexts in more detail and see how their impure atomicity plays a role in these contexts.

(41)   a.   The dog is barking.
        b.   The rat arrived in Australia in 1770.
        c.   The buffalo is roaming the prairie again.

The sentence in (41a) is a statement about a unique contextually salient dog, where the singular noun *dog* denotes a set of ordinary dog individuals. In contrast, (41b) is a statement about the rat kind. In order for (41b) to be true one or more rats should have the property at issue, but there is something more that is implied. The individual rats involved in the event stand in for the whole species as a singleton individual. This is known in the literature as the *representative object reading* but what exactly is involved in such readings has never been formalized (see Krifka et al. 1995). I will not attempt to formalize it here, either. However, there are some crucial features of these readings that we can use to guide us.

Although both require the involvement of some object-level entities in their truth-conditions, the representative object reading of singular kind terms differs from DKP-based reading of bare plurals. While in DKP the protagonist of the event is some instantiation of the kind, in the representative object reading, it is the kind individual itself. One can think of the latter as involving the total participation of the species or as involving some type of radical change of state for the species (p.c. to be written later). For example, in (41b), arriving in Australia is a property of the total rat kind, not just some rat individuals, and (41c) is only acceptable as a statement about buffalos if at a prior time, the species had become extinct or at least near-extinct. The episodic statement can then be read as a change of state from near extinction to viability. In concrete terms, modulo the representative object reading, a definite singular kind term cannot lend itself to iterative readings in the same way that a plural kind term can:[22]

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[22]The fact that the representative object reading requires the involvement of some object-level entities in its truth-conditions does not mean that type-shifting to sets of object-level entities takes place. The kind-level predicate *be extinct* also requires the involvement of object-level entities in its truth conditions. For a kind to be extinct, the object-level entities associated with the kind need to die, yet the property is attributed to the kind, not to these entities. The representative object reading is similar to this, except that it requires only a representative subset of

(42)   a.   The mouse kept entering the room.
          b.   Mice kept entering the room.

The sentence in (42b) is about different instantiations of the mouse kind engaging in distinct events of entering. This reading is derived since plural kind terms, undergoing DKP, can be type-shifted to denote sets of entities instantiating the kind in the relevant situation. This makes it possible for each entering event to involve different parts of these entities. In contrast, singular kind terms do not allow such interpretations in virtue of their impure atomicity. Therefore, (42a) is about a single mouse that engages in the same event multiple times, which is derived through the ordinary object-level denotation of the singular noun instead.

Based on these differences, I take the representative object reading, as in (41b) and (41c), to be distinct from the DKP-based readings of plural kind terms, as in (42b). The nature of this reading will be clearer in Section 6.2, but for now I adopt the following generalization reached in Dayal (2004): Singular kind terms are compatible with episodic contexts only if they stand for the whole species as a singleton representative/prototypical entity. This corresponds to singularity in syntactic terms, but they remain true to the notion of kind, being conceptually plural (cf. Jesperson 1927, Langford 1949, Carlson 1977, Heyer 1985, and Krifka et al. 1995).

Then, as in English, when a singular kind term in Turkish refers to the species under the representative object reading, as exemplified in (43), its taxonomic denotation comes into play.

(43)   **Bilgisayar** bu ülke-ye   çok geç gel-di.
          computer   this country-DAT very late come-PAST
          'The computer reached this country very late.'
          $reach.this.country.late(\iota X\,[COMPUTER(X)])$

Similarly, singular kind terms are acceptable in generic sentences if they refer to the whole species via a singleton representative entity per situation, as exemplified in (32b) (Dayal, 2004). The fact that singular kind terms block access to the object-level entities is also visible in generic contexts, as shown by the distributivity test applied through reciprocals.[23] While the bare plural is compatible with the reciprocal which distributes over singular and plural entities instantiating the kind, the bare singular is not compatible with it due to its impure atomicity.[24]

(44)   **Kedi*(-ler)** birbiri-ne   saldır-ır.
          cat-PL   each.other-DAT attack-AOR
          'Cats attack each other./*The cat attacks each other.'
          $Gen\ s,\ x\,[^{\cup\cap}cat(s)(x)]\,[\forall y,z\,[[y < x \wedge z < x \wedge y \neq z]\ \rightarrow attack(s)(y)(z)]]$

In summary, as in English, Turkish bare plurals are kind terms whose object-level readings are derived via *pred* and DKP. Unlike English bare plurals, they can also be type-shifted via *iota* and have definite readings, due to the lack of an overt definite determiner. Turkish bare singulars

object-level entities to participate in the event for the property to be attributed to the whole kind.

[23]Unlike (44), the generic version of the singular form in (40) is accepted by some speakers: *Ayı bu hayvanat bahçesine farklı bölgelerden gelir.* 'The bear comes to this zoo from different regions.' It does not express generic situations, each of which consists of bears coming from different regions. Rather, the distributivity is over the situations/events that the generic operator quantifies over. So, in situation 1, they come from Asia, in situation 2, from Africa, etc. This is expected given the impure atomic nature of singular kind terms.

[24]Notice that in the plural form of (40) the most salient reading involves distributivity down to atomic instantiations of the kind, while in (44) the most salient reading involves distributivity to pluralities. I set aside the reasons for this variation, as it is orthogonal to the point under discussion (see Dalrymple et al. 1994 for relevant discussion). The important point for present purposes is that the plural kind term makes individual instantiations available for distributive predication, contrasting with singular kind terms.

are ambiguous in denoting atomic properties of ordinary individuals and atomic properties of (sub-)kinds. In kind-level contexts, their kind-level property denotation shifts via *iota* to yield singular kind readings. In object-level contexts, their ordinary individual property denotation shifts via *iota* to yield singular definite readings. English singular nouns only differ in that they combine with the overt definite determiner in these cases.

It is worth highlighting the implications for the number neutral view of bare singulars at this point. The *nom* operator is only defined for plural properties, as mentioned previously, and it does not apply to bare singulars in virtue of them denoting atomic properties. If bare singulars denoted number neutral properties, though, *nom* would be defined for them, which would also make type-shifting via *pred* possible in generic and episodic contexts. Hence, they would have DKP-based narrow scope existential readings and be compatible with distributivity, making them akin to plural kind terms. Reference to kinds, therefore, is another problem for the number neutral view of bare singulars under the approach adopted here. The strict singular view of bare singulars though finds support from kind reference.

That being said, I now turn to the distinctive status of singular and plural kinds. We have seen the arguments for distinguishing between them with respect to their relationship to the ordinary entities that they are conceptually connected to. In formal terms we can posit two separate relations, to explain the differential behavior of singular and plural terms. Drawing on the familiar analogy to sums and groups, I keep the relation that plural kinds stand in with their instantiations separate from the relation singular kinds stand in with the individuals that we intuitively associate with them. I represent the latter as a *belong-to* relation, as shown below:

(45)   *Belong-to relation*
       belong-to(y, x^K) is true iff y is *a member of* the kind x^K, where x^K is a singular kind and y is an object-level entity.

Recall that plural kinds are related to their instantiations via *pred*, and we can parse that relation in terms of an *instantiation-of* relation, as shown below, to make transparent the difference with the *belong-to* relation in (45). Crucially, although singular and plural kinds are associated with the same set of atomic and plural entities, their relation to these entities differ. Plural kinds have them as their parts, singular kinds have them as their members.

(46)   *Instantiation-of relation*
       a.   *instantiation-of*(y, x^k) is true iff for any world/situation s, $y \leq k_s$, where x^k is a plural kind, y is an object-level entity, and k_s is the plural individual that comprises all of the atomic instances of the kind x^k in s.
       b. $x \leq z$ is true iff $x \sqcup z = z$, where $\sqcup$ denotes the join operation on the domain of individuals.

Although the *instantiation-of* relation is established via *pred*, there is no type-shifting operator that establishes the *belong-to* relation in the grammatical component. Namely, an operator that takes a singular kind term and returns a set of individuals that belong to its referent is not available (i.e., $\lambda x^K \lambda y.\ belong\text{-}to(y, x^K)$). Thus, although singular kinds are conceptually related to their specimens, this relation is not represented in the grammar, as Dayal (2004) claims; at least not in the same way as the *instantiation-of* relation is represented. In fact, I argue that the *belong-to* relation is established as part of two constructions in Turkish; one happens in pseudo-incorporation and the other in the predicate position. This more extensive use of singular kind reference in Turkish is the factor that separates Turkish bare singulars from English singular nouns in terms of number neutral readings. I illustrate the details next.

5. Explaining Number Neutrality of Bare Singulars

Now that we have the ontological machinery in place, I now turn to the three cases in which Turkish bare singulars have number neutral readings: the non-case-marked direct object position, the existential copular construction, and the predicate position. In Section 3.3, I have categorized the first one as an instance of pseudo-incorporation (PI). I will now elaborate on the explanation for this phenomenon and the other two cases. I will illustrate that the number neutral reading of bare singulars in these cases is derived from their kind-level characteristics.

5.1. Pseudo-incorporation with Singular Kind Terms

I argue that (i) PI in Turkish denotes sub-event types in line with Dayal (2011, 2015), as discussed in Section 3.3, but with singular kind arguments rather than as property denoting nouns, and that (ii) the number neutral reading is ensured through an incorporating thematic function that takes a singular kind term and forms a *belong-to* relation between the thematic argument of the verb and the referent of the kind term.

I start by discussing the similarities between Turkish PI-ed bare singulars and English weak definites and then I build my analysis for Turkish PI based on this analogy. I further illustrate that subject PI is also possible in Turkish, following Öztürk (2005), which I will extend to bare singulars in the existential copular construction in Section 5.2.

5.1.1. Analogy with English weak definites

Singular nouns do not always yield strictly singular readings in English. This is observed with the so-called *weak definites*, which are not associated with uniqueness despite their definite status, but instead can yield a number neutral reading. For example, (47a) could be true in a situation where John reads one or multiple newspapers when he gets home, and (47b) could mean that Mary took the train A halfway to Brussels, and the train B for the other half.

(47)   a.   John will read the newspaper when he gets home.
        b.   Marry took the train to Brussels.

Motivated by this fact, Carlson and Sussman (2005) and Carlson (2006) analyze English weak definites as a case of PI. Building on these works, Bosch and Cieschinger (2010), Aguilar-Guevara and Zwarts (2010), and Schwarz (2014) offer different analyses. Aguilar-Guevara and Zwarts show that weak definites have a narrow scope reading, as in (48), where *the hospital* allows a distributive interpretation. Crucially for us, they also show that only sub-type forming adjectives are acceptable with the weak definite reading, as shown in (49) (pg. 180-1).

(48)   Every boxer was sent to the hospital.

(49)   a.   #Lola is in the new hospital vs. ✓ Lola is in the medical hospital.
        b.   #You should see the doctor who works in the medical center. vs. ✓ You should see the eye doctor.

They further point out that the weak definite reading requires stereotypical circumstances to hold. For example, in *Alice went to the hospital*, it does not suffice for Alice to merely go to the hospital; she also needs to be engaged in a stereotypical activity there, like undergoing an examination or working as a doctor. Namely, weak definites need to obey name-worthiness.

The behavior of weak definites as laid out above is very similar to PI, except that weak definites are not as productive, being available for certain nouns only. To give an example, while both

newspaper-reading and *book-reading* are available in Turkish PI, the weak definite reading is restricted to the former only. Indeed, I argue that Turkish PI and English weak definites should be analyzed in a unified way based on the striking similarities between the two (cf. Dayal 2015). However, the highly productive status of Turkish PI makes the number neutrality associated with these phenomena more visible in Turkish than in English.

Aguilar-Guevara and Zwarts analyze weak definites as singular kind terms in light of Dayal's (2004) view of singular kinds and link the restriction in modification to this. Namely, being built on taxonomic properties, weak definites can only receive modification that is taxonomic in meaning. It follows then that only adjectives establishing sub-kinds would be acceptable with the weak definite reading. For example, the adjective *new* in (49) is considered as operating at the level of ordinary objects since *the new hospital* does not easily denote a type of the hospital kind for that particular event. In contrast, the adjective *medical* can be considered as operating at the taxonomic domain since medical hospitals are types of hospitals.

Now, let us see how this view applies to Turkish PI: In Section 3.3, I have followed Dayal (2011, 2015) in that a similar restriction in modification observed in PI is an effect of the name-worthiness presupposition. That is, PI should result in a canonically recognizable type of events, which is ensured if the PI-ed noun denotes a prototypical theme for the activity associated with the verb. Although this restriction is compatible with PI-ed bare singulars being singular kind terms, it does not necessarily have to follow from this. In fact, the modification facts still hold when PI happens with ordinary object-level properties, as in Hindi and Hungarian. However, the singular kind analysis captures the fact that PI-ed bare singulars yield a number neutral reading independent of the aspectual specification in Turkish. This is possible since although singular kind terms are grammatically atomic, they still retain a relation with atomic and plural individuals that belong to the kind.[25]

As discussed previously, while *religious/scientific book-reading* is a good candidate for PI, the modification of *book* with *old/small* is not available in the non-case-marked object position:

(50)   a.   Ali, ev-e   geldikten   sonra, *dini/*   *bilimsel* **kitap** oku-du.
            Ali home-DAT having.come after   religious scientific book read-PAST
            'After he came home, Ali read one or more religious/scientific books.'
       b.   *Ali, ev-e   geldikten   sonra, *eski/ küçük* **kitap** oku-du.
            Ali home-DAT having.come after   old   small book read-PAST
            'After he came home, Ali read one or more old/small books.

The contrast between *religious/scientific* and *old/small* is then derived as follows: The bare singular *book* in (50a) is a PI-ed singular kind term, and it can therefore only be modified by sub-kind denoting adjectives. Similarly to how singular nouns are ambiguous in having object-level and taxonomic-level denotations, some adjectives can function as taxonomic modifiers depending on both the noun being modified and the context, in addition to functioning as a modifier at the ordinary object-level domain. *Religious* and *scientific* are two such adjectives, and in (50a) they operate at the taxonomic domain by name-worthiness. That is, intersecting with the taxonomic property *BOOK*, they denote a sub-kind of the book kind, i.e., the religious/scientific book kind, for the reading activity. In contrast, the adjective *old* with a meaning like *worn-out* and the adjective *small* do not establish a type of the book kind in a reading context, and as

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[25]Dayal (2015) notes that telicity cannot guarantee a singular reading with English weak definites. This confirms its parallelism with Turkish PI. However, Dayal also notes that English weak definites are not compatible with the verb *compare*, which is an unexpected behavior under the current account. I leave this issue open.

such, they can only operate at the level of ordinary objects. As a result, they cannot modify the singular kind term *book* and be a part of PI in (50b).[26]

We do not observe similar effects with case-marked bare singulars when they have a definite singular reading. This is predicted since bare singulars denote at the ordinary object level this time. So all adjectives, including *religious* and *scientific*, also denote properties of object-level entities when they modify these nouns, and hence no contrast arises in number interpretation.

In sum, I claim that PI-ed bare singulars in Turkish are singular kind terms, similar to weak definites in English. Below, I show how they participate in PI.

5.1.2. The Analysis of Turkish Pseudo-incorporation

Aguilar-Guevara and Zwarts argue that weak definites, being singular kind terms, stand in Carlson's (1977) Realization relation (R) with the implicit theme of the verb (cf. Schwarz 2014). R is the realization relation between kinds and their instantiations which is later defined as *pred* in Chierchia (1998). That is, the implicit theme instantiates the singular kind in their view.[27] Their analysis of *Lola is reading the newspaper*, where the neo-Davidosonian event semantics is adopted, is given below (Aguilar-Guevara and Zwarts 2010, pg. 187). N stands for the singular newspaper kind and the two place predicate $U(e,K)$ represents the additional stereotypical interpretation restriction. It means that e is a stereotypical use of a kind K.

(51) $\exists e \, [read(e) \wedge Agent(e) = lola \wedge R(Th(e), N) \wedge U(e, N)]$

Sharing the intuition behind this account, I provide a different analysis for the semantics of Turkish PI, building on Dayal (2011, 2015). However, the new analysis can be considered as applying to weak definites in English, as well. I argue that Turkish PI-ed bare singulars are both syntactic and semantic arguments rather than property denoting nominal modifiers.

As mentioned in Section 3.3, PI-ed bare singulars contrast with canonical arguments in that they do not bear case-marking and they have some degree of adjacency relation with the verb. Despite their non-canonical properties, PI-ed bare singulars must still be syntactic arguments since it is impossible to add an extra object with the same thematic role to the structure, as shown in (52) (Öztürk 2005, pg. 111). This contrasts with PI in Chamorro, where theme-doubling is possible (Chung and Ladusaw 2004).

(52)   *Ali Romeo ve Juliet(-i) **kitap** oku-du.
         Ali Romeo and Juliet-ACC book read-PAST
         Literally intended: 'Ali did book-reading Romeo and Juliet.'

PI-ed bare singulars also block the assignment of accusative case associated with direct objects to other elements in the structure. Öztürk (2005) shows this via a contrast with unergative constructions which lack an object position. When an unergative verb is causativized, the agent receives accusative case-marking, as in (53a). However, when a transitive verb is causativized, the agent receives dative case-marking, as in (53b). When an incorporating verb is causativized, the agent receives dative case-marking as is the case with transitive verbs, as in (53c) (Öztürk 2005, pg. 109). Öztürk explains this on the view that PI-ed bare singulars are structurally associated with the accusative case, although they do not receive it themselves. This may be considered further support for their syntactic argument status.

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[26]We discuss some more details regarding taxonomic modification in Section 6.1.

[27]Similarly, Espinal and McNally (2011) treat bare singular objects in Spanish and Catalan as properties of singular kinds that provide information about the implicit thematic argument of the verb.

(53)   a.   Ayşe Ali-yi   koş-tur-du.
             Ayşe Ali-ACC run-CAUS-PAST
             'Ayşe made Ali run.'

         b.   Ayşe Ali-ye/*-yi   balığ-ı   tut-tur-du.
             Ayşe Ali-DAT/ACC fish-ACC catch-CAUS-PAST
             'Ayşe made Ali catch the fish.'

         c.   Ayşe Ali-ye/*-yi   balık tut-tur-du.
             Ayşe Ali-DAT/ACC fish   catch-CAUS-PAST
             'Ayşe made Ali go fishing.'

However, PI-ed arguments still need to be kept apart from case-marked arguments. For this, I follow Öztürk (2005) in that the verbal structure has two distinct domains: The lexical domain of VP where case-assignment does not occur and the VP external functional domain where canonical arguments are introduced and assigned case.[28] I take the fairly strict word order restrictions of PI-ed bare singulars to be a result of them being in the VP internal domain.[29]

Adopting a line of thinking in neo-Davidsonian terms, I argue that PI occurs through an Inc head that introduces an incorporating function, i.e., *Inc*. It merges with a theme head, i.e., Th, that introduces the theme function Th, and creates an incorporating theme head, i.e., Th$_{INC}$, that introduces a special incorporating theme function, i.e., Th_{INC}. The complex Th$_{INC}$ head merges with the verb and creates a complex verbal head, which takes a bare singular as its complement. Namely, PI occurs inside the VP internal domain. I call the case-assigning heads *little v theme* and *little v agent*, represented as v_{Th} and v_{Ag}.

(54)
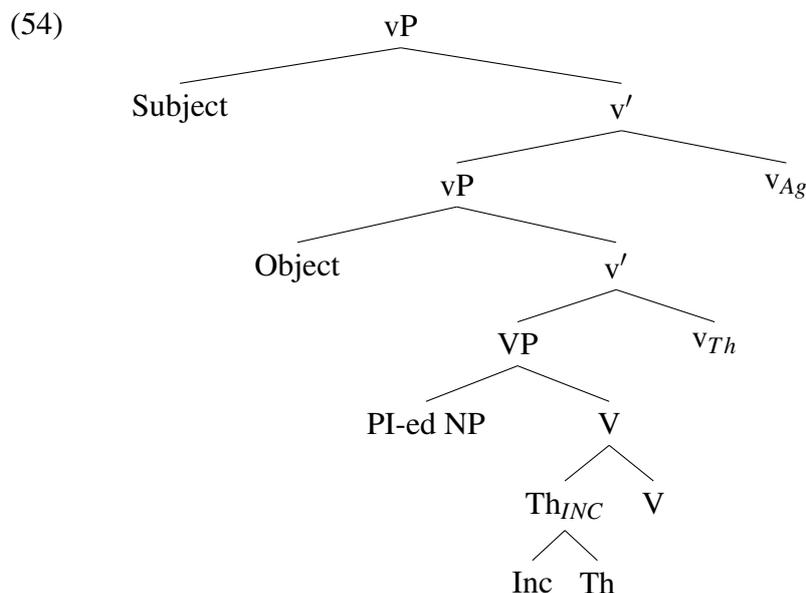
Taking verbs to denote properties of events *e*, of type $\langle v \rangle$, I define *Inc* as a function that takes the Th function of type $\langle \langle v,t \rangle, \langle e, \langle v,t \rangle \rangle \rangle$ and returns a new Th_{INC} function of type $\langle \langle v,t \rangle, \langle e^K, \langle v,t \rangle \rangle \rangle$. Th_{INC} takes a verb and a singular kind term to denote a predicate of events whose theme is a member of the kind the singular kind term refers to. In short, it restricts the domain of indi-

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[28]The representation in (54) is slightly different from Öztürk's. She argues that thematic role assignment only occurs in the functional domain and a PI-ed object receives its theme role by undergoing head-movement together with the verb to the theme-introducing functional head (represented as v_{Th} here). However, it is not obvious how the interpretation would be derived compositionally in this case.
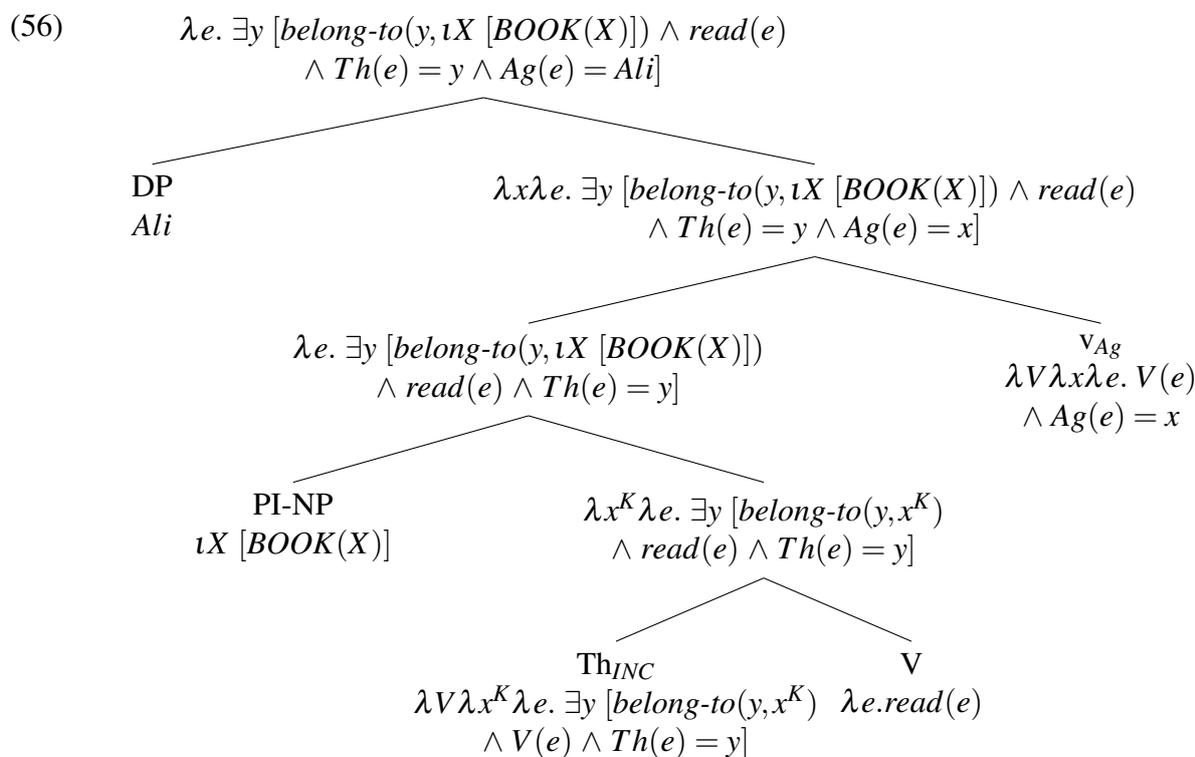
[29]The VP internal position is not only dedicated to PI, but in fact hosts non-specific direct object arguments in general. We discuss this in Section 6.3.

viduals that the *Th* function can combine with to singular kind arguments only, and it forms a *belong-to* relation between the theme of the event and the referent of the kind term:

(55) a. $\llbracket Th \rrbracket = \lambda V_{\langle v,t \rangle} \lambda x \lambda e. \, V(e) \wedge Th(e) = x$

  b. $\llbracket Inc \rrbracket = \lambda Q_{\langle\langle v,t \rangle, \langle e, \langle v,t \rangle\rangle\rangle} \lambda V_{\langle v,t \rangle} \lambda x^K \lambda e. \, \exists y \, [belong\text{-}to(y, x^K) \wedge Q(V)(y)(e)]$

  c. $\llbracket Th_{INC} \rrbracket = \llbracket Inc \rrbracket (\llbracket Th \rrbracket) = \lambda V_{\langle v,t \rangle} \lambda x^K \lambda e. \, \exists y \, [belong\text{-}to(y, x^K) \wedge V(e) \wedge Th(e) = y]$

Eventually, the predicate of events denoted by the saturation of the verb and the singular kind argument to Th_{INC} is a sub-type of the event denoted by the verb. Following Dayal (2011, 2015), the incorporation is defined iff the application of Th_{INC} to the verb and its singular kind argument denotes a canonically recognizable type of events (i.e., name-worthiness).

Here is how *Ali kitap okudu* 'Ali did book-reading' is derived: Syntactically, the singular kind term *book* is introduced inside the VP and remains non-case-marked, and the agent argument *Ali* is introduced in the functional domain and receives nominative case. Ignoring tense, the semantic derivation is illustrated in (56), which is existentially closed, as shown in (57).

(56)
$$\lambda e. \, \exists y \, [belong\text{-}to(y, \iota X \, [BOOK(X)]) \wedge read(e) \wedge Th(e) = y \wedge Ag(e) = Ali]$$

```
                                            λe. ∃y [belong-to(y, ιX [BOOK(X)]) ∧ read(e)
                                                      ∧ Th(e) = y ∧ Ag(e) = Ali]
                                                              /\
               DP                           λxλe. ∃y [belong-to(y, ιX [BOOK(X)]) ∧ read(e)
               Ali                                        ∧ Th(e) = y ∧ Ag(e) = x]
                                                              /\
                                                                            v_Ag
                   λe. ∃y [belong-to(y, ιX [BOOK(X)])              λVλxλe. V(e)
                          ∧ read(e) ∧ Th(e) = y]                      ∧ Ag(e) = x
                                  /\
                     PI-NP          λx^K λe. ∃y [belong-to(y, x^K)
                     ιX [BOOK(X)]          ∧ read(e) ∧ Th(e) = y]
                                                  /\
                                     Th_INC                         V
                          λVλx^K λe. ∃y [belong-to(y, x^K)    λe.read(e)
                                 ∧ V(e) ∧ Th(e) = y]
```

(57) $\exists e \, \exists y \, [belong\text{-}to(y, \iota X \, [BOOK(X)]) \wedge read(e) \wedge Th(e) = y \wedge Ag(e) = Ali]$

Informally, (57) means that Ali is involved in a book-reading event type as an agent. A book-reading event type is a reading event with a theme argument that belongs to the book kind. Since the members of a kind can be both atomic (a book) and plural individuals (books), PI yields a number neutral interpretation.

Canonical arguments, in contrast, are introduced in the functional domain by regular thematic functions and receive case. For example, the bare singular *kitap* 'book' in (58a) denotes an atomic property at the ordinary object level and undergoes *iota* type-shifting to denote a contextually salient unique book individual, as shown below. It is introduced in the spec of v_{Th} as a theme argument via the canonical *Th* function. As a result, it receives accusative case.

(58) a. Ali **kitab-ı** oku-du.
        Ali book-ACC read-PAST
        'Ali read the book.'

  b.
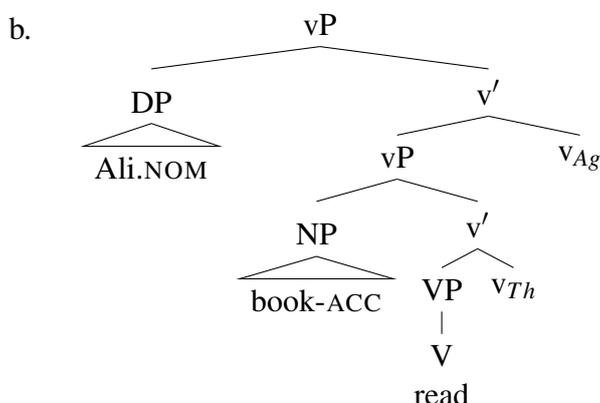
  c. $\exists e \; [read(e) \wedge Th(e) = \iota x \; [book(x)] \wedge Ag(e) = Ali]$

PI yields a narrow scope reading since the theme of the event is introduced through an $\exists$-quantification over the entities that belong to the singular kind as part of the Th_{INC} function. When Th_{INC} is applied to the verb, the $\exists$-quantification becomes a part of the event meaning. The narrow scope then results from the event quantifier always taking narrow scope with respect to the other quantificational elements. For example, (59) means that there is no reading event with an entity that belongs to the book kind as its theme that Ali is involved in as an agent.

(59) Ali **kitap** oku-**ma**-dı.
      Ali book read-NEG-PAST
      'Ali didn't do book-reading.' (no books)
      $\neg\exists e \; \exists y \; [belong\text{-}to(y, \iota X \; [BOOK(X)]) \wedge read(e) \wedge Th(e) = y \wedge Ag(e) = Ali]$

Note that PI is similar to DKP in some sense but that they are not the same phenomena. DKP is built on the instantiation operator *pred* which is always available whenever plural kind terms occur with object-level predicates. Thus, DKP does not have positional restrictions. It can occur in case-marked argument positions and does not require adjacency. In contrast, the *belong-to* relation is not established in the grammar unless the singular kind term undergoes PI, and PI has positional and case-related restrictions. Outside of PI, singular kind terms can only receive a representative object reading when they occur in object-level contexts, as discussed in Section 4.2. In addition, DKP differs from PI in not being subject to the name-worthiness condition. We will explore these difference more in Section 6.[30]

Before concluding, let me briefly compare my analysis with Aguilar-Guevara and Zwarts's analysis: As in their account, I have argued that the theme of the incorporating verb has a relation to the kind the bare singular refers to. However, I depart from them in the way this relation is represented. Aguilar-Guevara and Zwarts represent it as *R*, but above I have established that the relation which singular kinds hold with respect to the specimens is different from the one associated with plural kinds. The relation applying to plural kinds is *instantiation-of* that is established by the *pred* operator, which is a recasting of Carlson's (1977) *R* relation. Instead, positing a separate relation for singular kinds, my account captures the empirical differences between singular and plural kind terms discussed in Section 4.2.[31]

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[30]We will see in Section 6.3 that PI has a blocking effect on DKP in the non-case-marked direct object position.

[31]Furthermore, differing from Aguilar-Guevara and Zwarts's account, the *belong-to* relation is accompanied by

In sum, we have seen how PI with singular kind terms is possible. In a nutshell, it takes place with an incorporating thematic function that establishes a *belong-to* relation between singular kinds and individuals that belong to these kinds, which further conveys number neutrality. In the following section, I analyze subject PI.

5.1.3. Subject Pseudo-incorporation

I have argued that PI occurs with singular kind terms in Turkish. I have also argued that bare singulars in case-marked argument positions, as opposed to those participating in PI, are singular definites. A striking confirmation of these claims comes from examples such as (60):

(60) Ali-yi **arı** sok-tu.
      Ali-ACC bee sting-PAST
      'Ali got bee-stung.' (one or more bees)

Although PI usually targets direct objects, it has been noted in the literature that PI of subjects is possible under certain conditions. Farkas and De Swart (2003), for example, discuss subject PI in Hungarian, and Öztürk (2005, 2009) specifically argues for this for (60).[32] She provides two pieces of evidence, which I elaborate on within the terms of the present analysis. The first one comes from the contrast between (60) and (61) (Öztürk 2005, pg. 42). As noted earlier, an adjacency relation holds between the bare singular and the incorporating verb. When that is not in evidence, the bare singular undergoes *iota* type-shifting to yield a singular definite subject.

(61) **Arı** Ali-yi sok-tu.
      bee Ali-ACC sting-PAST
      'The bee stung Ali.' (undefined if more than one bee stung Ali)

The second piece of evidence comes from the case-assignment facts. Öztürk (2005) claims that canonical subjects bear the null nominative case, being introduced in the functional domain, whereas PI-ed subjects are introduced in the VP internal domain and receive no case. The difference in case is visible in embedded nominalized clauses in which canonical subjects receive the genitive case marking, as in (62a), whereas PI-ed subjects remain non-case-marked, as in (62b) (Johanson 1977, Kornfilt 1984, 1997, 2009, Heusinger and Kornfilt 2005).

(62) a. **Arı*(-nın)** Ali-yi sok-tuğ-un-u   bil-iyor-um.
          bee-GEN   Ali-ACC sting-NMLZ-3SGPOSS-ACC know-PROG-1SG
          'I know that the bee stung Ali.' (canonical subject)
      b. Ali-yi **arı(-nın)** sok-tuğ-un-u   bil-iyor-um.
          Ali-ACC bee-GEN sting-NMLZ-3SGPOSS-ACC know-PROG-1SG
          without GEN: 'I know that Ali got bee-stung.' (PI)
          with GEN: 'I know that the bee stung Ali.' (canonical subject)

To Öztürk's arguments about subject PI, I add the following additional piece of support. PI-ed bare singulars do not take object-level modifications but rather take taxonomic-level modifica-

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an ∃-quantification over the members of the kind. They avoid it because weak definites do not introduce discourse referents at the ordinary object level. As pointed out in fn 16, this paper does not address the (non)referentiality issue of Turkish PI, and as observed in Seidel (2018b, 2018a), there are both cases where PI-ed bare singulars introduce discourse referents and cases where they do not. Completely avoiding ∃-quantification leaves the former unexplained, while allowing it seems to be a problem for the latter. See also Krifka and Modarresi (2016) who observe similar inconsistencies in Persian, yet resort to ∃-quantification in their analysis.

[32]In Turkish, all types of nouns, animate or inanimate, are perfect candidates for PI with unaccusative verbs. With transitive and unergative verbs, human-denoting bare singulars can only be PI-ed in evidential contexts, where the identity of the subject feels less important, e.g. *Bu resmi çocuk çizmiş.* 'This picture is child-drawn.'

tions depending on the activity type, leading to sub-kind level interpretations. In the case of (60), it is possible to have European bee-stinging, but not broken-wing bee-stinging, as shown in (63). (The adjective *siyah* 'black' in (63b) defines the European honey bee.)

(63) a. *Ali-yi *kırık* *kanat-lı* **arı** sok-tu.
    Ali-ACC broken wing-with bee sting-PAST
    Intended: 'Ali got broken-wing bee-stung.'
    Good: 'The bee with broken wings (focused) stung Ali.'
  b. Ali-yi *siyah* **arı** sok-tu.
    Ali-ACC black bee sting-PAST
    'Ali got European bee-stung.'

Based on the argumentation sketched above, I argue, following Öztürk, that subjects as in (60) also fall into the same analysis proposed for object PI. As in object PI, PI-ed subjects are introduced inside the VP, so they do not receive case. Adjacency also follows from this. Since case-marked arguments are situated outside the VP, they linearly precede the VP internal PI-ed subject. This is why, when an accusative case-marked argument intervenes between a subject and a verb as in (61), the subject cannot be a PI-ed subject. Namely, a caseless argument cannot be preceded by a case-marked argument due to its position in the structure.

Semantically, then, PI-ed subjects are also singular kind terms incorporating to the verb to yield sub-event types. This time the *Inc* function takes the agent function *Ag* of type $\langle\langle v,t\rangle,\langle e,\langle v,t\rangle\rangle\rangle$ and turns it into an incorporating agent function, Ag_{INC} of type $\langle\langle v,t\rangle,\langle e^K,\langle v,t\rangle\rangle\rangle$. Similar to Th_{INC}, Ag_{INC} takes a verb and a singular kind term to denote a predicate of events whose agent belongs to the referent of the singular kind term, as shown in (64).[33] Based on this, the syntax and semantics of (60) are illustrated in (65), ignoring tense. It means that Ali is involved in a bee-stinging event type as a theme. A bee-stinging event type is a stinging event with an agent that belongs to the bee kind. Since the members of a kind can be both atomic (a bee) and plural individuals (bees), PI yields a number neutral interpretation.

(64) $[\![Ag_{INC}]\!] = \lambda V_{\langle v,t\rangle}\lambda x^K \lambda e. \exists y\, [belong\text{-}to(y,x^K) \wedge V(e) \wedge Ag(e) = y]$

(65) a. $[_{vP}\,[_{DP}\,Ali.\text{ACC}]\,[_{v'}\,[_{VP}\,[_{PI-NP}\,bee]\,[_V\,[_{Ag_{INC}}\,Inc\,Ag]\,[_V\,sting]]]\,v_{Th}]]$
  b. $\exists e\,\exists y\,[belong\text{-}to(y,\iota X\,[BEE(X)]) \wedge sting(e) \wedge Ag(e) = y \wedge Th(e) = Ali]$

On the contrary, in (61), both the subject and object are canonical arguments introduced at the functional domain and receive case. Semantically, the bare singular *arı* 'bee' denotes an ordinary atomic property which undergoes *iota* type-shifting to denote a contextually salient unique bee individual, and becomes an agent argument of the event via the canonical *Ag* function.

Recall that PI-ed bare singulars obligatorily take scope under other quantifiers. Accordingly, if (60) is negated, we get the expected $\neg > \exists$ reading: Ali did not get bee-stung (no bees). As in object PI, this is because the agent of the event is introduced through $\exists$-quantification over the individuals that have a *belong-to* relation with the kind as part of the event meaning. Since the

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[33] Notice also that the PI of indirect objects is not as common as direct objects, though possible. When they PI, they are not case-marked, e.g., *çocuk bakmak* 'to do baby-sitting; *çocuk* receives dative case in the non-PI-ed version. However, if the case marking expresses a location then it is still preserved in PI, e.g., *doktor-a çıkmak* 'to go to the doctor' (Jo and Palaz 2019a, 2019b). These are still instances of PI since the goal/location bears the signature properties, number neutrality, narrow scope interpretations, and the compatibility with only taxonomic modification. How case-marking is retained in the latter needs explanation, but we could say that *Inc* also applies to the goal function.

event quantifier always takes narrow scope with respect to the other quantificational elements, this ∃-quantification is also interpreted under these quantificational elements.

To conclude, just as in the case of object PI, the apparent number neutrality of bare singulars occurring as non-case-marked subjects is due to their incorporation as singular kind terms.

5.2. The Existential Copular Construction and Pseudo-Incorporation

I now turn to the existential copular construction, which is another instance where bare singulars are interpreted number neutrally, as repeated below. I argue that the number neutrality of bare singulars in this position is due to subject PI.

(66)　Oda-da　**fare**　var.
　　　room-LOC mouse exist
　　　'There are one or more mice in the room.'

In the existential copular construction, a locative phrase is followed by a pivot, which in turn is followed by the existential copula *var*. The pivot is a bare singular in (66) but plurals, indefinites, numerical and universally quantified expressions, definites, demonstratives, pronouns, and proper names can also be pivots, as shown in (67). Namely, Turkish existential clauses are unrestricted in that respect and do not show a definiteness effect (cf. Kelepir 2001).

(67)　a.　İçeride **fareler/bir fare/iki fare** var.
　　　　　'There are mice/is a mouse/are two mice inside.
　　　b.　İçeride **her fare/fare/fareler/o fare/o/Mickey Mouse** var.
　　　　　Literally: 'There is every mouse/the mouse/the mice/that mouse/(s)he/Mickey Mouse inside.'

There is an adjacency relation between the pivot and the existential copula, as evidenced by the fact that the sentence becomes ungrammatical if the pivot is left-dislocated (Taylan, 1984). However, as is the case with PI, the separation of the pivot from the existential copula can be successful for discourse-related reasons such as contrastive topicalization.

The semantics of existential clauses has been well studied cross-linguistically, and various theories have been put forward for their interpretation (e.g., Milsark 1974, Barwise and Cooper 1981, Keenan 1987, Landman 2004, McNally 1992, Francez 2007). Among them, Milsark (1974) proposes that the existential predicate contributes an ∃-quantifier and the pivot serves as its restrictor, denoting a property. Under this analysis, we would expect bare singulars in the existential copular construction to denote properties, and the construction to yield a definiteness effect. The definiteness effect does not hold for Turkish, as stated above. Furthermore, it would be misleading to treat bare singulars as properties in this construction for the following reason.

As discussed in Section 2, a bare singular in the existential copular construction, when modified, yields a contrast with respect to the type of modification. Similar to the case of PI, bare singulars cannot be modified at the ordinary object level when they convey a number neutral reading. This type of modification is only possible if they are interpreted as singular definites, as shown in (68b). However, with adjectives that can have a taxonomic meaning, the definite interpretation is not obligatory, as shown in (68a).

(68)　a.　Kutu-da *dini/*　*bilimsel* **kitap** var.
　　　　　box-LOC religious scientific book exist
　　　　　'This box has the religious/scientific book.'
　　　　　'There are one or more religious/scientific books in this box.'

b. Kutu-da *eski/ küçük* **kitap** var.
box-LOC old small book exist
'This box has the old/small book.' (undefined if more than one old/small book)

Based on these facts, I claim that bare singulars in the existential copular construction occur as a singular kind term or a singular definite at the ordinary object level, undergoing *iota* type-shifting. Namely, they cannot serve as the property denoting restrictor to the ∃-quantifier presumably introduced by the copula and yield a standard indefinite reading.

I claim that in the existential clauses of Turkish, the copula *var* denotes a property of existing/being present and the pivot is a subject bearing the theme role on par with unaccusative constructions. This explains the unrestricted nature of the pivot and the lack of the definiteness effect in Turkish, as opposed to languages like English. The locative phrase, on the other hand, is an argument that specifies the contextually salient location or time of existence/presence.[34] I also claim that when a singular kind term is the pivot, differently from the other pivots, subject PI occurs. Namely, singular kind terms are introduced by the incorporating Th_{INC} function to yield a sub-type of the existence event/state. The PI-ed singular kind term refers to the kind that the theme argument of this event/state belongs to. This in turn ensures number neutrality as in canonical cases of PI. The syntax and semantics of (66) are given below. I call the functional head introducing the locative argument as *little v-locative* and represent it as v_{Loc} for consistency.[35]

(69) a. $[_{vP} [_{PP} \textit{room}.\text{LOC}] [_{v'} [_{VP} [_{PI-NP} \textit{mouse}] [_{V} [_{ThINC} \textit{Inc Th}] [_{V} \textit{var}]]] v_{Loc}]]$

b. $[\![(66)]\!] = \exists e \, \exists y \, [\textit{belong-to}(y, \iota X \, [MOUSE(X)]) \wedge \textit{exist}(e) \wedge Th(e) = y$
$\wedge \, Loc(e) = \iota x \, [\textit{room}(x)]]$

Similar to the case discussed in Section 5.1.3, all pivots except for singular kind terms receive the null nominative case marker, and this difference becomes visible through genitive case marking in nominalized embedded clauses, as shown below.[36]

(70) a. Bu oda-da **Ali*(-nin)** ol-duğ-un-u bil-iyor-um.
this room-LOC Ali-GEN be-NMLZ-3SGPOSS-ACC know-PROG-1SG
Literally: 'I know that there is Ali in this room.' (canonical pivot)

b. Bu oda-da **fare(-nin)** ol-duğ-un-u bil-iyor-um.
this room-LOC mouse-GEN be-NMLZ-3SGPOSS-ACC know-PROG-1SG
without GEN: 'I know that there are one or more mice in this room.' (PI)
with GEN: 'I know that this room has the mouse.' (canonical pivot)

It is worth noting that the existential copular construction requires an adjacency relation between all types of pivots and the copula, not just the PI-ed pivot and the copula, for some reason that is unclear at the moment. This is not the case with regular unaccusative constructions. We could assume that just like non-case-marked direct objects, all pivots are introduced VP internally instead of in the higher case assigning functional domain. This would explain the adjacency because the elements introduced inside the VP are more restricted in terms of the degree of syntactic freedom. However, this would leave the facts of case marking shown above unexplained because VP internal arguments, both objects and subjects, as shown in the

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[34]The existential copular construction receives a possessive meaning when the locative phrase is animate like a human, e.g., *Bende bu kitap/kitap var.* 'I have this book/a book/books.' This is expected since the interpretation of the copula is being present at a location, applying to this case as being present at one's possession.

[35]Espinal and McNally (2011) treat bare singulars occurring in existential clauses of Spanish and Catalan as PI.

[36]Existential copula *var* is realized as the copula *ol-* in embedded structures (Göksel 2003 and Kelepir 2003).

analysis of PI, do not receive case (cf. Kelepir 2001). In the existential copular construction, it is syntactically evident that all pivots except for singular kind terms receive the null nominative case. However, what matters for us is the distinction between a bare singular pivot occurring as a singular kind term and all other pivots in terms of case-assignment, which aligns with the facts of subject PI.[37]

With this analysis, we expect bare singulars in the existential copular construction to convey narrow scope readings due to PI as opposed to other pivots.[38] For example, in (71), the event quantification takes narrow scope with respect to the universal quantification, which also results in a narrow scope interpretation for the PI-ed singular kind term.

(71) Ev-in   her yer-in-de   **fare** var.
      house-GEN every place-3SGPOSS-LOC mouse exist
      'Everywhere in the house there is a mouse/are mice.'
      $\forall z \, [place.of.house(z) \rightarrow \exists e \, \exists y \, [belong\text{-}to(y, \iota X \, [MOUSE(X)]) \wedge exist(e)$
      $\wedge \, Th(e) = y \wedge Loc(e) = z]]$

In sum, bare singulars in the existential copular construction can be singular kind terms undergoing subject PI, and the number neutrality is due to the association of singular kinds with their members through the *belong-to* relation established as part of PI semantics.

5.3. Singular Kind Reference in the Predicate Position

Finally, let us discuss the number neutrality of bare singulars in the predicate position. Analogous to the analysis of PI, I claim that bare singulars in the predicate position can have singular kind reference and that the apparent neutrality follows from that.

Let us recall the facts regarding bare singulars occurring in the predicate position. Given our claim that bare singulars in Turkish denote atomic properties, we expect them to be predicated of singular subject terms only. However, they can be predicated of plural subjects, too. The relevant example is repeated below as (72).

(72) Ali ve Merve **çocuk**.
      Ali and Merve child
      'Ali and Merve are children.'

As shown in Section 2, this use of bare singulars is restricted in terms of what kind of modification they may receive. We have established above that the denotation of bare singulars can be ascertained on the basis of taxonomic-level vs. object-level modification. This diagnostic also applies to the case under discussion. When bare singulars in the predicate position are modified by an adjective that can establish a sub-kind of the noun that it modifies, then the predication is compatible with singular and plural subjects. In contrast, when they are modified at the object level, the predication is only compatible with singular subjects, as repeated below.

(73) a. Ali (ve Mehmet) *pratisyen* **doktor**.
          Ali and Mehmet practitioner doctor
          'Ali is a practitioner doctor./Ali and Mehmet are practitioner doctors.'

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[37]The possessive construction also makes use of the copula *var*, as in *Ben-im kitab-ım var.* 'I have a book/books.' This differs from the one analyzed here in that the possessor bears the genitive case (*-im* above), rather than the locative marker, and the possessee bears the possessive person agreement marker (*-ım* above). The facts of modification explored above also hold for this case, so it could be considered under a similar analysis. See Kelepir (2001) for the types of the existential copular construction, and Öztürk and Taylan (2016) for possessive structures.

[38]All the pivots except for bare plurals undergoing DKP are free in their scope abilities.

b.   Ali (*ve Mehmet) *yakışıklı* **doktor**.
        Ali and Mehmet handsome doctor
        'Ali is a handsome doctor. Not: Ali and Mehmet are handsome doctors.'

The latter case is predicted by the claim that bare singulars denote atomic properties of ordinary individuals, which receive object-level modification. Additionally, since they are atomic properties, they can only be predicated of singular subjects.[39] In parallel with PI, the former can be explained if bare singulars can also appear as singular kind terms in the predicate position, being only compatible with taxonomic modifiers.[40]

The next question is how the predication occurs when bare singulars in the predicate position are singular kind terms, but not property denoting elements. Since shifting to a property type is not possible for singular kind terms, the predication cannot be achieved in canonical terms. Instead, I argue that just as in PI, the predicate position makes it possible for the conceptual *belong-to* relation to be established in the grammatical component. This is achieved by the copula which plays the role of a null operator that takes a singular kind term and a subject term and establishes the *belong-to* relation between the referents of the two.[41] I will call this phenomenon *kind specification* where a kind that the referent of the subject term belongs to is specified. The denotation that the copula has in this construction is given in (74a), and the logical form of the sentence *Ali çocuk* 'Ali is a child' is shown in (74b).

(74)   a. $[\![\text{COP}]\!] = \lambda x^K \lambda y. \ belong\text{-}to(y, x^K)$
       b. $[\![Ali \ child]\!] = belong\text{-}to(Ali, \iota X \ [CHILD(X)])$

Kind specification can also be achieved if the subject is a plural term, considering that sum individuals are also members of kinds. This explains the compatibility of bare singulars with plural subjects in the predicate position. The logical form of (72) is given below.

(75) $[\![Ali \ and \ Merve \ child]\!] = belong\text{-}to(Ali \oplus Merve, \iota X \ [CHILD(X)])$

One could argue that the ability of a bare singular to occur with a plural subject is due to a null Distributive operator that takes an atomic property denoted by a bare singular and distributes it over the atomic parts of a plural subject. However, a solution of this type cannot be adopted since in that case, bare singulars modified at the ordinary object level would also be predicated of plural subjects. This is not the case, as shown in (73b).

To summarize, the number neutrality of bare singulars in the predicate position is a result of kind specification, which establishes a *belong-to* relation between a subject and a singular kind, similar to PI.

6. Further Issues and Predictions

I have argued that bare singulars are ambiguous between atomic properties of object-level and taxonomic entities, which, via covert ι type-shifting, become either a singular definite or a

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[39]Bare singulars in the predicate position resist modification by complex structures like relative clauses and postpositional phrases, either being interpreted as definite or requiring the indefinite form. This paper does not offer an explanation for this restriction. The main purpose is to show that modification of bare singulars when available yields interesting predictions regarding the number interpretation.

[40]Bare singulars in the predicate position can also be found in Romance and Germanic languages like Dutch, French, Spanish, and German, although their usage is more restricted compared to the ones in Turkish. See de Swart et al. (2007) for an account of them which is along the same lines as the analysis given here.

[41]It has been claimed that there is a null copula in the predicate position, and that it is the present tense realization of the copula *-i*, which is overtly realized with other tenses (Kornfilt 1996, Kelepir 2003).

singular kind term. I have attributed their number neutral interpretation observed in the three constructions to their singular kind reference.

There are three remaining issues that need to be addressed under the analysis proposed here. The first concerns some details regarding the modification of PI-ed bare singulars. We will briefly discuss how a more complex form of taxonomic modification is possible, in addition to tackling a problem arising in generic contexts. The second issue pertains to distinctive properties of PI-ed and canonical argument saturation. We have only investigated these properties by comparing PI with canonical bare singular arguments denoting at the ordinary object level. We have yet to explore the variations between the two to see how they apply to case-marked singular kind terms. I will further show that these variations extend to proper names, as well, which will prove to be in line with the claim that PI is a phenomenon involving kind reference in Turkish. Finally, the third issue is about the status of bare plurals in the non-case-marked direct object and predicate positions. We will see that they have a restricted distribution in these positions and that this follows from plural kind terms being in competition with singular kind terms, illustrating an asymmetry between the two forms of kind reference in Turkish.

6.1. Revisiting Taxonomic Modification

Taxonomic modification is usually available with adjectives rather than with more complex structures like postpositional phrases and relative clauses. However, the type of modification that counts as taxonomic depends on both the predicate and the noun being modified, and is regulated by the name-worthiness requirement of PI, as we have seen previously (e.g., *old book-read* vs. *old book-sell/buy*). In addition, it is possible for some participial relative clauses to modify PI-ed bare singulars, as in (76) (Öztürk 2005, pg. 40).

(76) Ali *oku-yacak* **kitap** al-dı.
      Ali read-FUT book buy-PAST
      'Ali bought one or more books to read (for spare-time reading).'

I argue that here *okuyacak* 'to read' is not an object-level modifier, but a taxonomic modifier based on a purposive classification, because it adds the meaning 'for spare-time reading'. It is easy to imagine classifying books based on the purpose for which they are intended, such as for spare-time reading, coloring, studying, etc. Thus, the participial in (76) is predicted to be acceptable under the present analysis.

I suggest that *okuyacak* 'to read' is derived from the PI structure *book-read* and it yields bouletic modality, conveying future possibility based on salient desires/purposes, which, in our case, is spare-time reading. Such relative clauses which are realized in the infinitival form in English are analyzed as internally headed in Hackl and Nissenbaum (2011) (see also Carlson 1977, Sauerland 1998, among others). NPs modified by these relative clauses are base-generated inside the relative clause and raise for modification, but are interpreted in their base position, as illustrated in (77). This contrasts with externally headed relative clause structures which require adjunction to a matching external NP.

(77) *okuyacak kitap* = *iota* [$_{Rel\ Clause}$ PRO to t_i-read [$_{NP}$ book]$_i$]

This makes it possible for the bare singular *kitap* 'book' to be interpreted as part of the PI meaning, *book-reading*, and hence as a singular kind, even if it raises out of its base position in the PI structure to be modified by the relative clause *okuyacak* 'to read'. Based on this, the informal denotation of *okuyacak kitap* 'book to read' is given in (78). The result can denote any of the book kinds, including novels, comics, etc. each of which goes under the category of

books for spare-time reading.[42]

(78)   The unique (sub-)kind X s.t. there is at least one world w" that is a possible develop-
ment of some w' that is consistent with some goal held in w' (spare-time reading), and
in which PRO does BOOK(X)-reading (i.e., X is a sub-kind of the book kind and that
kind is compatible with the goal of spare-time reading).

I will now address an issue that seems to cast doubt on the conclusion that PI-ed bare singulars
are only compatible with taxonomic modification: object-level modification of a non-case-
marked bare singular is possible in generic contexts (cf. with (50b)).[43]

(79)   Ali genellikle *eski* **kitap** oku-r,   çünkü   yıpranmış sayfa-lar-ın
Ali generally old book read-AOR because worn.out page-PL-GEN
koku-su-nu   çok sev-er.
scent-3POSS-ACC very like-AOR
'Ali generally reads old books because he likes the scent of worn-out pages very much.'

Assuming that *eski* 'old' is a predicate of ordinary objects, we predict a contrast based on
whether the sentence is episodic or generic. According to Dayal's (2004) Revised Meaning
Preservation, *eski kitap* 'old book' receives a definite singular reading since *iota* is ranked
above ∃-type shift. In an episodic context, this requires accusative case-marking on the noun,
as shown in (80). In the generic case, though, number neutrality arises since the singular term
is in the restrictor of the Generic operator, as shown in (81). Quantification in this case is over
situations, each of which has a unique old book in it. The uniqueness effect is therefore diluted.
The lack of case-marking on the noun might be a reflection of this effect.[44]

(80)   Ali *eski* **kitab-ı**   oku-du.
Ali old book-ACC read-PAST
'Ali read the old (worn-out) book.'
read $(Ali, \iota x [old(x) \wedge book(x)])$

(81)   *Gen s*, *x* [*s* is a reading situation & $x = \iota y [old(y) \wedge book(y)]$ in *s*] [Ali reads *x* in *s*]

So, in order to understand the behavior of bare singulars in the non-case-marked direct object
position, one needs to eliminate the genericity factor that would blur the contrast created by
taxonomic and object-level modifiers for independent reasons.

In sum, I have discussed how a more complex form of taxonomic modification is possible
under the present view of PI-ed bare singulars, together with explaining some issues created
by generic contexts. In the following section, I elaborate on the differences between PI-ed and
case-marked canonical argument saturation.

6.2. Remarks on Case-marked vs. Pseudo-incorporated Arguments

I have proposed that case-marked arguments are introduced by canonical thematic functions,
while PI-ed arguments are introduced by incorporating thematic functions, as discussed in Sec-
tion 5.1.2. We have seen that PI-ed argument saturation has a mediator status. It indirectly

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[42]Since the singular kind term is interpreted internally inside the relative clause, the arguments introduced above
it do not affect the taxonomic interpretation of the relative clause. E.g., *Ali akşamları çocuklarına okuyacak kitap
aldı.* 'Ali bought a book/books to read to his kids in the evenings.'

[43]I thank a reviewer for making me realize this case. Note also that the modification facts discussed here hold
for bare singulars in the existential copular construction, as well.

[44]See also Dayal (2011) for other cases where uniqueness effects are diluted.

makes it possible to identify the theme/agent of the event, and the purpose of this indirect identification is to yield canonically recognizable types of events.

So far, we have only discussed the variations between PI-ed and canonical argument saturation based on a comparison of PI-ed singular kind terms with case-marked bare singulars that have a definite singular interpretation at the ordinary object level. I will now show how the analysis proposed here predicts these variations comparing PI-ed singular kind terms with cased-marked bare singulars that are also singular kind terms. We have already seen examples of the latter in Section 4.2: their occurrence in a kind-level context, as in (82a), or in an object-level context where they receive a representative object reading, as in (82b).

(82)   a.   Charles Babbage **bilgisayar-ı**   icat et-ti.
               Charles Babbage computer-ACC invent-PAST
               'Charles Babbage invented the computer.'
      b.   Bu ülke   **bilgisayar-a** çok geç kavuş-tu.
               this country computer-DAT very late have-PAST
               'This country had (obtained) the computer very late.'

In the former, the singular kind term is an argument to the kind-level predicate *invent*, and therefore its kind-level denotation is at play. In the latter, it is an argument in an object-level context, and so it refers to the computer kind under a representative object reading. In both cases, the argument saturation is canonical in the sense that there is no incorporation going on. Namely, they are introduced by regular thematic arguments, rather than Th_{INC}. PI differs from (82b) in that it does not yield a representative object interpretation, and it differs from (82a) in that a PI-ed singular kind term refers to the kind that the theme of the event is associated with. In (82a) and (82b) the theme of the event is the kind individual itself, but in the case of PI, it is some object-level entity or entities that have a *belong-to* relation to the kind.

We expect a difference between canonical and PI-ed singular kind arguments in their scope taking properties. The narrow scope interpretation of singular kind terms is only possible if they are PI-ed. This prediction is borne out, as is evident in the following contrast:

(83)   Sonunda bu hayvanat bahçesi-ne **ayı(-yı)**   getir-di-ler.
        finally   this zoo-DAT   bear-ACC bring-PAST-3PL
        with ACC: 'Finally, they brought the bear (kind) to this zoo.'
        without ACC: 'Finally, they did bear-bringing/delivery to this zoo.'

      a.   with ACC: $\exists e\ [bring.to.zoo(e) \land Th(e) = \iota X\ [BEAR(X)] \land Ag(e) = they]$
      b.   without ACC: $\exists e\ \exists y\ [belong\text{-}to(y, \iota X\ [BEAR(X)]) \land bring.to.zoo(e)\ \land$
            $Th(e) = y \land Ag(e) = they]$

(84)   Sonunda her kurum   bu hayvanat bahçesi-ne **ayı-(#yı)** getir-di.
        finally   every foundation this zoo-DAT   bear-ACC bring-PAST-3PL
        with ACC: 'Finally, every foundation brought the bear (kind) to this zoo.'
        without ACC: 'Finally, every foundation did bear-bringing/delivery to this zoo.'

      a.   with ACC: $\forall x\ [foundation(x) \rightarrow \exists e\ [bring.to.zoo(e) \land Th(e) = \iota X\ [BEAR(X)]$
            $\land Ag(e) = x]]$
      b.   without ACC: $\forall x\ [foundation(x) \rightarrow \exists e\ \exists y\ [belong\text{-}to(y, \iota X\ [BEAR(X)]) \land$
            $bring.to.zoo(e) \land Th(e) = y \land Ag(e) = x]$

In (83), the singular kind term *ayı* 'the bear' is a canonical direct object if it is accusative case-marked, as shown in (83a). The reference is to the kind under a representative object reading,

and the event is about the bear kind being brought to this zoo in the sense that the event is momentous for the kind. In short, the protagonist of the event is the bear kind and it has the property of being brought to this zoo. When the singular kind term is non-case-marked, it participates in PI, denoting a sub-type of bringing events, i.e., bear-bringing/delivery, as shown in (83b). Namely, the theme of the event is an object-level entity or entities in the *belong-to* relation to the bear kind, and what is at issue is what type of a bringing event has taken place. Thus, the protagonist of the bringing event is a member or some members of the bear kind, the identity of which is not relevant.

The example in (84) represents the interaction of this singular kind term with a universal quantifier in both configurations. Imagine a context where there are a few foundations responsible for bringing animals to zoos. The PI-ed version is interpreted as distinct bear-bringing events for each foundation. This is ensured by the event quantifier taking narrow scope with respect to the universal quantifier. Since the *belong-to* relation is established through an ∃-quantification as part of the event meaning, we get the reading in (84b).

In contrast, the accusative case-marked version of (84), represented in (84a), receives the implausible reading that each foundation brought the bear kind to the zoo. In this case, the bear/bears brought to this zoo stand for the whole bear kind as a unique singleton/group individual, ensuring a total reference to the kind. Since definites are scopally inert, the singular kind term cannot take scope under the quantifier, resulting in infelicity. However, as expected, it can describe a situation as follows: First, a group of bears representing the bear kind is brought to the zoo, but for some reason the group is returned. Then, another foundation brings what is probably a different group, but this group is also returned. This continues until each foundation happens to bring the bear kind to the zoo. Crucially, it does not describe a situation where each foundation brings a different part of the same representative group.

This is reminiscent of the case that we have seen in Section 4.2: Singular kind terms are incompatible with distributive predicates like *come from different regions*, as repeated in (85).

(85) ***Ayı** bu hayvanat bahçesi-ne farklı   bölge-ler-den gel-di.
       bear this zoo-DAT   different region-PL-ABL come-PAST
       Intended: 'Bears came to this zoo from different regions.'

Again, the ungrammaticality of (85) follows from the representative object reading of singular kind terms. However, it can be made grammatical if the singular kind term is PI-ed instead, as shown in (86). (86) is grammatical because *from different regions* modifies the event of bear-bringing/delivery, not the singular kind. In other words, (86) refers to distinct events of bear-bringing/delivery, each of which is done from a different region, and each bear-bringing event involves different members of the bear kind as its theme.[45]

(86) Kurum   bu hayvanat bahçesi-ne farklı   bölge-ler-den **ayı** getir-di.
       foundation this zoo-DAT   different region-PL-ABL bear bring-PAST
       'The foundation did bear-delivery to this zoo from different regions.'

Having compared PI-ed and case-marked singular kind terms, I will now briefly discuss an interesting fact related to case marking on proper names that turns out to be quite revealing for the analysis offered here regarding PI-ed and canonical argument saturation. Although proper names generally receive case-marking, there are some contexts where they may appear non-

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[45]Subject PI would also be possible as the following: *Bu hayvanat bahçesine farklı bölgelerden ayı geldi.* 'Bear-coming happened to this zoo from different regions.'

case-marked. Famous book and movie/series names constitute a good example for this, as in
(87) (*Çalıkuşu* is a famous Turkish novel).

(87)   Bugünlerde **Çalıkuşu** oku-yor-um.
         nowadays   Çalıkuşu read-PROG-1SG
         'Nowadays, I do Çalıkuşu-reading.'

I propose that in (87), the proper name *Çalıkuşu* functions as a kind term, representing the
content of a famous novel as an abstract concept. The familiarity of the novel warrants the
construal of an event type that is the reading of this novel. Namely, *Çalıkuşu* in (87) undergoes
PI as a book kind, conveying a sub-type of reading events, Çalıkuşu-reading. Hence, it appears
without case-marking. Such a configuration is not possible with nonfamous book names, but
not all proper names that refer to some famous entity can be PI-ed. For example, although
commemorating Atatürk, the founder of the Republic of Turkey, can be considered as a name-
worthy event for the people of Turkey, the proper name *Atatürk* cannot be PI-ed. Instead, it
has to receive the accusative case marker, as shown in (88). This is because the founder of the
Republic of Turkey is a unique individual, and something that is necessarily realized by just
one individual does not qualify as a kind. This contrasts with famous books and movies, which
have the totality and parts of their contents as their object-level realizations. The disparity
between (87) and (88) supports the claim that PI is really a matter involving kind terms.

(88)   Her yıl on Kasım-da   **Atatürk*(-ü)** an-ıyor-uz.
         every year ten November-LOC Atatürk-ACC   commemorate-PROG-1PL
         'Every year on the 10th of November, we commemorate Atatürk.'

In sum, we have investigated the properties of PI-ed and canonical argument saturation in more
detail. We have seen that the present analysis correctly predicts the variations between PI-ed
and case-marked singular kind terms, and that it extends to proper names, as well.

6.3. The Competition between Singular and Plural Kind Reference

Finally, I will discuss the behavior of bare plurals in the positions where PI and kind speci-
fication take place and show that singular kind reference has a blocking effect on plural kind
reference in these positions.

Dayal (2011, 2015) shows that, in Hindi and Hungarian, where PI-ed bare singulars denote
atomic properties of object-level individuals, bare plurals can also be PI-ed as plural properties.
Since Turkish PI is built on singular kind reference instead, the status of non-case-marked
bare plural objects needs to be addressed. The question is whether the incorporating thematic
functions can also apply to plural kind terms, forming an *instantiation-of* relation built on *pred*,
similar to DKP. I argue that this is not the case. Bare plurals are not PI-ed in Turkish and in fact
they compete with PI-ed bare singulars in the non-case-marked direct object position.

Bare plurals, when they are caseless direct objects immediately preceding the verb, are awk-
ward at best, and are ungrammatical if they are intended to convey a sub-event type reading:

(89)   *Ali **kitap-lar** oku-du.
          Ali book-PL   read-PAST
          Intended: 'Ali did book-reading.'

Their use in this position becomes acceptable if the plurality is emphasized in a contrastive way
(e.g., *Ali kitap yazmadı, KİTAPLAR yazdı.* 'It is not the case that Ali wrote one or more books,

Ali wrote BOOKS.'), or when abundance in number is emphasized.[46] Crucially, though when PI is not possible as in the case of ordinary object-level modification (e.g., the incompatibility of *book-reading* with adjectives like *old (worn-out)*), bare plurals are good in this position without contrastiveness or emphasis on the plurality:

(90)   Ali *eski* **kitap-lar** oku-du.
        Ali old book-PL   read-PAST
        'Ali read old books.'

To reiterate, when PI of a bare singular is possible in the non-case-marked direct object position, bare plurals are ruled out unless used independently for emphasizing/contrasting the plurality. However, when PI is infelicitous, bare plurals surface in this position without a need for a marked interpretation.

I argue that non-case-marked bare plurals, when available as in (90), function as canonical arguments undergoing DKP, and are hence interpreted as narrow scope existentials, as shown in (91). Plural kind terms are derived from properties of ordinary objects, so the bare plural *kitaplar* 'books' is first modified with *eski* 'old' and then *nom* applies to the property of old books to denote its individual correlate, i.e., $^\cap$*old-book*. When this kind individual combines with the object-level verb *oku* 'read', DKP applies, drawing on *pred*. Unlike PI, DKP is not conditioned by name-worthiness, and hence *reading old books* is acceptable.

(91) $[\![(90)]\!] = \exists e \exists y \, [read(e) \wedge {}^{\cup\cap}old\text{-}book(y) \wedge Th(e) = y \wedge Ag(e) = Ali]$

I further argue that a PI-ed singular kind term and a non-case-marked bare plural direct object undergoing DKP occupy the same syntactic position where case-marking is not available, i.e., the VP internal domain. A competition occurs between PI and DKP in this position, with the former being privileged and blocking the other.

(92) **PI:**   **DKP:**
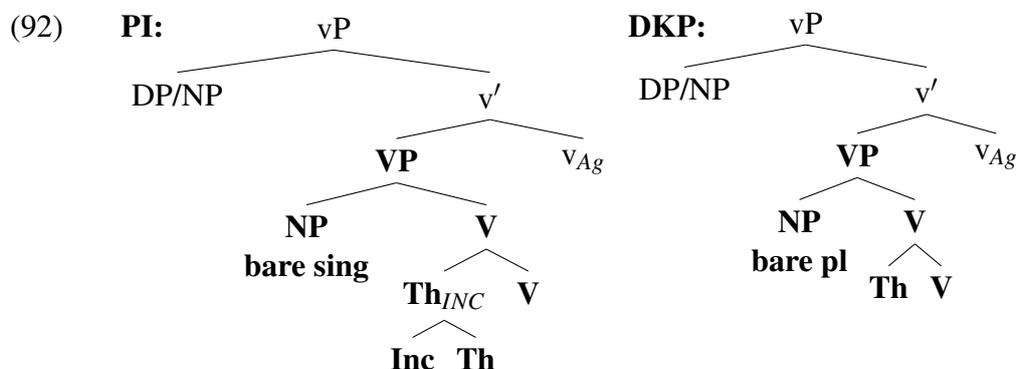
I suggest that PI blocks DKP because the *belong-to* relation applying to singular kind terms has a privileged status over the *instantiation-of* relation applying to plural kind terms via *pred*. The rule in (93) ensures that PI will apply over DKP, letting DKP apply only when PI is not available in the same syntactic position, or when needed independently for contrastive and abundance interpretations.

(93)   When the *belong-to* relation and *pred* are both available in the same syntactic position, apply the *belong-to* relation.

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[46]Also see Ketrez (2004) for the multiple events reading that is available in certain conditions, e.g., doing book-reading multiple times. Such readings are not always available and they add a flavor of exaggeration.

Note that in case-marked argument positions, whether they undergo DKP or *iota* type-shifting, plurals are perfectly fine without a marked reading. This is because PI is not available in the functional domain outside of VP. More precisely, DKP of bare plurals is restricted in the non-case-marked direct object position only, i.e., when it occupies the same position with PI.

These effects are most visible in the subject position. Recall that Turkish allows PI of bare singulars in the subject position, as repeated in (94a). As predicted, the plural version of (94a) with *arı-lar* is unacceptable with the intended PI meaning of bee-stinging. It can only occur as a canonical argument with nominative case that receives an existential reading via DKP or a definite reading via *iota*. This is evidenced by the obligation of plurals to receive the genitive case in nominalized clauses, as shown in (94b) (cf. with (62b)). Additionally, the bare plural in the DKP interpretation does not compete with the PI-ed singular kind term in the subject position, since they do not occupy the same syntactic domain in this case. While the PI-ed bare singular is still in the caseless VP internal domain, the bare plural occupies the functional domain this time, receiving case. So bare plural subjects are still good in the preverbal position without the restrictions observed in their object counterparts.[47]

(94) a. Ali-yi **arı(-lar)** sok-tu.
          Ali-ACC bee-PL   sting-PAST
          without PL: 'Ali got bee-stung.' (one or more bees)
          with PL: 'Ali got stung by (the) bees.' (more than one bee)
      b. Ali-yi **arı-lar*(-ın)** sok-tuğ-un-u   bil-iyor-um.
          Ali-ACC bee-PL-GEN sting-NMLZ-3SGPOSS-ACC know-PROG-1SG
          'I know that (the) bees stung Ali.' (more than one bee)

The fact that bare plurals can occur in the non-case-marked direct object position adjacent to the verb as PI-ed bare singulars, does not mean that they are instances of the same phenomenon.[48] A good way of supporting this idea would be to find contrasts between PI of singular kind terms and DKP of plural kind terms, especially in terms of the hallmarks of PI, name-worthiness, number neutrality, and obligatory narrow scope. Unfortunately, the narrow scope property does not differentiate between the two since it is ensured for bare plurals by DKP anyway. Name-worthiness and number neutrality might be considered as distinctive properties, however. As we have seen above, non-case-marked bare plurals are not subject to name-worthiness and hence are compatible with modifiers that PI-ed bare singulars are not. Furthermore, as shown in Section 3.2, bare plurals in Turkish are number neutral, though they receive an exclusive reading in positive contexts due to a conversational implicature. So, (90) has a strict plural reading. In contrast, a number neutral interpretation is always inferred from a PI-ed bare singular and does not involve a conversational implicature. These contrasts show that DKP and PI are distinct phenomena.[49]

Another contrast that proves helpful on this point is the occurrence of PI with non-derived adverbs in Turkish. Taylan (1984) shows that non-derived adverbs, i.e., adjectives that act like

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[47]These facts also hold in the existential copular construction. This is predicted since PI manifests itself as subject PI in this construction, and bare plural pivots are canonical case receiving arguments.

[48]The caseless direct object position can only be occupied by non-specific objects. Specific and definite direct objects obligatorily receive accusative case in episodic contexts (Enç 1991), but non-specificity can still be achieved with other case markers. Bare plural direct objects are interpreted as definites when accusative case-marked, and as narrow scope existentials when non-case-marked. With other case markers, they get both readings. However, the accusative case does not necessitate specificity/definiteness in generic contexts.

[49]In addition, non-case-marked bare plural objects introduce discourse referents, as opposed to the PI-ed bare singulars for which this is a trickier issue (see Aydemir 2004 and Kamali 2015). See fn 16.

adverbs, always have to occupy an immediate pre-verbal position and cannot precede a case-marked argument, as in (95). However, in the case of PI, they have to precede the PI-ed bare singular, as shown in (96) (Öztürk 2005, Aydemir 2004, and Kamali 2015).

(95)   a.   *Ali *yavaş* **kitab-ı**   oku-du.   *[*Subj* [Adv [Obj.ACC V]]]
            Ali slow book-ACC read-PAST
            'Ali read the book slowly.'

       b.   Ali **kitab-ı**   *yavaş* oku-du.   [*Subj* [Obj.ACC [Adv V]]]
            Ali book-ACC slow read-PAST
            'Ali read the book slowly.'

(96)   a.   Ali *yavaş* **kitap** oku-du.   [*Subj* [Adv [PI.Obj V]]]
            Ali slow book read-PAST
            'Ali did book reading slowly.'

       b.   *Ali **kitap** *yavaş* oku-du.   *[*Subj* [PI.Obj [Adv V]]]
            Ali book slow read-PAST
            'Ali did book reading slowly.'

Non-case-marked bare plurals pattern with case-marked arguments in that they cannot be preceded by non-derived adverbs, as shown in (97). Instead, as in (98a), these modifiers modify the bare plural rather than the verb (Aydemir 2004). Notice that if the sentence has a bare singular, as in (98b), *güzel* 'nice' still acts as a non-derived adverb. If the modifier is intended to be used as an adjective, it requires the indefinite form, since it is an ordinary object-level modifier. As we have seen above, such modifiers are incompatible with PI-ed bare singulars.

(97)   *Ali *yavaş* **(eski) kitap-lar** oku-du.   *[*Subj* [Adv [DKP.Obj V]]]
       Ali slow old   book-PL read-PAST
       'Ali read (old) books slowly.'

(98)   a.   Ali *güzel* **kitap-lar** oku-du.   [*Subj* [[Adj DKP.obj] V]]
            Ali nice book-PL read-PAST
            'Ali read nice books.'

       b.   Ali *güzel* **kitap** oku-du.   [*Subj* [Adv [PI.Obj V]]]
            Ali nice book read-PAST
            'Ali did book-reading nicely .'

It seems that in the case of PI, non-derived adverbs modify the event after the sub-event type is formed and before canonical arguments are introduced. It is plausible to consider them to have a restrictive function on the (sub-)event type. Based on this approach, the book-reading event type modified by the adverb *yavaş* 'slowly' in (96) is a sub-type of book-reading events: slow book-reading (vs. fast book-reading). Since the modification happens as part of the sub-event type, it is expected to occur before canonical arguments are introduced. This might explain why non-derived adverbs cannot precede canonical arguments. Given that they cannot precede bare plurals, either, it is reasonable to conclude that non-case-marked bare plurals have a distinct status from PI-ed bare singulars.[50]

Besides bare plurals, numerical expressions and indefinites formed with the numeral *bir* 'one', i.e., weak indefinites, can also occur adjacent to the verb without receiving an overt case-

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[50]Non-derived adverbs cannot follow non-case-marked bare plurals undergoing DKP, either. It is because the position of these adverbs is assumed to be the edge of VP and bare plurals undergoing DKP are in the complement position of the verb. If non-derived adverbs were ever compatible with non-case-marked bare plurals, they would be expected to precede them. However, as stated above, they cannot do so for semantic reasons.

marking, further supporting the idea that the non-case-marked direct object position is not only dedicated to PI. In this position, they are interpreted as non-specific, as opposed to specific indefinites with *bazı* 'some', universal quantifiers, pronouns, and definites, which always have to receive case. Kamali (2015) compares weak indefinites with PI and argues that the former cannot be analyzed as an instance of the latter (cf. Öztürk 2005). She shows that weak indefinite objects do not convey a number neutral reading and there are some cases where they yield wide scope readings. Aydemir (2004) also distinguishes them from PI, showing that non-derived adverbs cannot precede weak indefinite objects, as opposed to PI-ed bare singulars.

Obviously, being a non-case-marked direct object that requires some degree of adjacency to the verb is the reflection of a more general phenomenon related to non-specificity, and PI of bare singulars is just an instance of it. To recap how these issues fit into my account, there are two things that need to be emphasized. First, strict adjacency between a PI-ed noun and a verb is not a property that Turkish exhibits. Second, fairly strict word order restrictions concerning PI-ed nouns are also shared by non-specific bare plural and indefinite direct objects. I understand these restrictions to be a result of these arguments being in the VP internal position. A robust syntactic reflex of this is their inability to bear case or undergo case-driven movement.

I will now show that, similar to PI, kind specification also blocks plural kind terms in the predicate position. We would expect bare plurals to appear in this position in two ways. One is to occur as properties, and the other is as definites, undergoing type-shifting via *iota*. However, the first option is unavailable, as evidenced by (99) which means 'Ali and Mehmet are the doctors.', not 'Ali and Mehmet are doctors.', receiving an equative interpretation.[51]

(99)   Ali ve Mehmet **doktor-lar**.
         'Ali and Mehmet are the doctors.'

This does not mean that bare plurals can only be definite in the predicate position, since they can also have a predicative denotation if they are modified, as in (100a). However, for this, they should receive ordinary object-level modification. With adjectives that can function as taxonomic modifiers, as in (100b), the bare plural has an equative reading, just like in (99).[52]

(100)   a.   Ali ve Mehmet *yakışıklı* **doktor-lar**.
               'Ali and Mehmet are (the) handsome doctors.'
         b.   Ali ve Mehmet *pratisyen* **doktor-lar**.
               'Ali and Mehmet are the practitioner doctors.'

The restricted use of bare plurals in the predicate position is similar to the case of bare plurals occurring in the non-case-marked direct object position. That is, bare plurals are only allowed to occur as properties in the predicate position when singular kind terms cannot participate in kind specification. This could therefore also be derived by the constraint given in (93).

One way for bare plurals to have a property denotation is through their kind reference, i.e., by

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[51]Here, I assume that the stress falls on the plural marker. It is also possible that the syllable before *-lAr* is stressed instead, in which case *-lAr* is the optional 3rd person plural agreement marker that appears on the bare singular (Göksel and Kerslake 2005). The stress pattern follows from the fact that the null copula, the present tense realization of the copula *-i*, is between the noun and the person agreement marker. Being a clitic, the copula shifts the stress to the preceding syllable (e.g., Kornfilt 1996, Kelepir 2003). See fn 41.

[52]As pointed out in fn 7, Bale et al.'s 2010 claim of bare plurals to be exclusive of atoms is based on the fact that they cannot be predicated of singular subjects. This can be considered to be a result of a competition with singular forms due to Maximize Presupposition (Heim 1991), as in English: When bare plurals are definites, it competes with the singular definite denoted by the singular form. Similarly, when bare plurals are predicates, they compete with atomic predicates, i.e., bare singulars and singular indefinites in the predicative use.

type-shifting via *pred*. Since the predicate position is one of the two places where the *belong-to* relation is established in the grammar, its application bleaches *pred*, by (93). In contrast, the occurrence of bare plurals as definites in the predicate position is freely available since they are the only means for this interpretation. However, why bare plurals cannot appear as properties independently of their kind reference in this position remains as an open question, since it is not obvious why a singular kind term would block a plural property underived from a plural kind term. Indeed, the predicative use of an indefinite form is not blocked by the singular kind term, so it stays as an alternative usage even when kind specification is still available.

To wrap up, analyzing bare singulars that yield a number neutral reading in the non-case-marked direct object and predicate positions as singular kind terms turns out to be helpful in explaining the asymmetry between bare singulars and bare plurals in these positions. With this analysis, the blocking effect of the former on the latter nicely demonstrates a connection with their kind-level characteristics.

The crucial question, though, is why there is a competition between the *instantiation-of* relation conveyed by *pred* and the *belong-to* relation at all. Although the exact reason behind this competition is obscure at this point, we can safely conclude that in Turkish, plural kind terms systematically have an under-privileged status with respect to singular kind terms.[53]

Turkish, in this respect, differs from English where singular kind reference has a more limited use compared to plural kind reference. While English singular kind terms are mostly restricted to well-defined or biological kinds, in Turkish they apply to almost all sorts of nouns. Furthermore, the effects of singular kind reference are revealed more significantly in Turkish than in English, extending to phenomena that pertain to pseudo-incorporation and kind specification in the predicate position. Although similar effects are observed in English with weak definites, they have a very limited application compared to their highly productive status in Turkish. It should also be noted that English bare plurals are not subject to similar restrictions when they occupy the direct object position undergoing DKP, or when they occur as plural properties in the predicate position. Therefore, the extensive use of singular kind terms in Turkish together with the asymmetry between the two forms of kind reference also results in Turkish bare plurals having a more restricted distribution than English bare plurals.

7. Conclusion

This paper has explored the semantics of bare singulars in Turkish, which are unmarked for number, but receive singular readings in some cases and number neutral readings in some other cases. We have seen that while in case-marked argument positions Turkish bare singulars are interpreted as strictly singular, they yield a number neutral interpretation in the non-case-marked argument position, the existential copular construction, and the predicate position. This dual nature of Turkish bare singulars separates them from English unmarked nouns which behave as singular terms in a more systematic way.

Previous accounts analyze Turkish bare singulars as denoting number neutral sets, inclusive of atoms and pluralities, and Turkish bare plurals as denoting strictly plural sets, exclusive of atoms (Bliss 2004, Bale et al. 2010, and Görgülü 2012). I have pursued an alternative approach and argued that Turkish bare singulars are fundamentally singular terms, denoting sets of atoms only, while bare plurals are number neutral terms instead. My analysis aligns Turkish with English and many other languages where the correlation between morphological and semantic

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[53]See XXX for a more extensive discussion on the under-privileged status of plural kind reference in Turkish.

(un)markedness is manifested asymmetrically. This contrasts with the opposing view where Turkish is located among few known languages realizing this correlation in a parallel way.

I have shown that the seemingly number neutral interpretation of bare singulars is derived through singular kind reference. I have discussed the kind-level characteristics of Turkish bare nouns, drawing a line between plural and singular kind reference in light of the claims made in Chierchia (1998) and Dayal (2004). I have followed Dayal (2004) in that singular kind terms differ from plural kind terms in having an impure atomic nature, but at the same time retaining a conceptual relation with the object-level entities we intuitively associate with them. I have further proposed that this relation, which I have named *belong-to*, is in fact established as part of the three problematic constructions in Turkish, the first two of which I have analyzed as instances of pseudo-incorporation (cf. Öztürk 2005).

Turkish pseudo-incorporation occurs through an incorporating thematic function that defines the kind the thematic argument of the verb *belongs to* with a singular kind term (cf. Dayal 2011, 2015, Aguilar-Guevara and Zwarts 2010). The number neutrality is ensured by virtue of the fact that object-level entities associated with singular kinds can be both atomic and plural entities. I have also analyzed the number neutrality of bare singulars in the predicate position as being the result of a phenomenon that I have called kind specification. Similar to pseudo-incorporation, in kind specification, a special copular semantics forms the *belong-to* relation between the referent of a singular kind term and the referent of a singular or plural subject term.

The claim that singular kind reference extends to pseudo-incorporation and kind specification in the predicate position also accounts for the difference between Turkish and English singular nouns in terms of number neutrality. We have seen that singular kind reference has similar effects in English through weak definites in a limited way (cf. Aguilar-Guevara and Zwarts 2010), but its productive status in Turkish makes these effects more visible in Turkish than in English. We have also seen that this extensive use of singular kind reference in Turkish has a bleaching effect over plural kind reference, resulting in a privileged status for bare singulars over bare plurals in the non-case-marked argument and predicate positions. This asymmetry separates Turkish bare plurals from English bare plurals, which are not subject to similar restrictions and therefore have a wider application.

In conclusion, we have seen that (singular) kind reference has applications in more places than we have previously been aware of. This is not only important for explaining the challenges of the Turkish number marking system; it also contributes to our understanding of kind reference in general, as well as its cross-linguistic variations.

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