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, but can behave like both singular and plural terms. Previous accounts (Bliss 2004, Bale et al. 2010, and Görgülü 2012) propose that Turkish bare singulars denote number neutral sets and 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 in English. The apparent number neutrality of bare singulars stems from singular kind reference, which following Dayal (2004), I take to be grammatically atomic but conceptually plural, contrasting with plural kind terms, which are plural in both terms. The cases where bare singulars are interpreted number neutrally are the non-case-marked argument position, the existential copular construction, and the predicate position. I treat the first two as pseudo-incorporating singular kind terms, drawing an analogy with English weak definites (cf. Dayal 2011, 2015, Aguilar-Guevara and Zwarts 2010). I also argue that singular kind terms can participate in a construction that I call *kind-specification* in the predicate position. It is the conceptual plurality of singular kind terms that ensures the number neutrality in these cases. I also show that Turkish singular kind terms are privileged over plural kind terms and have a blocking effect on the latter in pseudo-incorporation and the predicate position. Finally, I briefly discuss the consequences of my analysis for current debates on the semantics of numerals.

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.

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. No matter 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]

Bliss (2004), Bale et al. (2010), and Görgülü (2012) pursue the first approach and claim that Turkish unmarked nouns denote number neutral sets. This approach pairs morphologically unmarked forms with a semantically unmarked denotation. Accordingly, they argue that Turkish plurals are exclusive of atoms, denoting pluralities only, which also draws a parallel between morphologically marked forms and semantically marked denotations. We note that this match is not attested in languages like English where the semantic reflection of morphological (un-) markedness is realized in the opposite way. That is, while unmarked nouns of English manifest themselves as singulars, plural marked forms are number neutral, inclusive of both atoms and their pluralities (Krifka 2003, Sauerland et al. 2005, Spector 2007, and Zweig 2009).

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

This paper shows that Turkish actually patterns with English in this respect. The correlation between morphological and semantic (un-)markedness is exhibited in the opposite direction. More precisely, I claim that Turkish unmarked nouns denote atomic properties, while plurals have an unmarked denotation inclusive of atoms and their pluralities. I show that there are construction specific reasons for the perceived neutrality of unmarked nouns. The cases where this is in evidence are the non-case-marked argument position, the position preceding the existential copula *var*, and the predicate position. I argue that the former two are instances of pseudo-incorporation, and the number neutral interpretation is linked to this phenomenon (cf. Öztürk 2005). Illustrating that Turkish PI differs from Hindi and Hungarian PI as analyzed in Dayal (2011, 2015), I offer a parametric analysis building on Dayal's (2011, 2015) PI analysis and Aguilar-Guevara and Zwarts's (2010) analysis of English weak definites. I further illustrate why the number neutrality of unmarked nouns in the predicate position does not stem from a number neutral set denotation, which I derive from a special copular semantics instead.

Crucially, I claim that the source of the number neutral interpretation in the three positions is the kind reference of unmarked nouns. Therefore, I also discuss kind terms and their relevance to the stance taken here regarding the semantics of number marking. I show that Turkish, like English, can refer to kinds through singular and plural kind terms. Following Chierchia's (1998) analysis of plural kind reference and Dayal's (2004) analysis of singular kind reference, I argue that singular kind terms differ from plural kind terms in being grammatically (impure) atomic in Turkish as in English, though 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). I also discuss several respects in which Turkish and English kind reference vary. We will see the impact of this as a blocking effect on plural kind terms in pseudo-incorporation and the predicate position.

Finally, my analysis has consequences for the current debates on the semantics of numeral constructions, in favor of Ionin and Matushansky's (2006) view of numerals, which are claimed to be combine with atomic properties.

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 discusses the number neutral view of bare singulars and shows the problems that remain unresolved under this view, along with the analysis of bare plurals. Section 3 shows that bare singulars denote atomic properties and that their apparent number neutrality is linked to the specific constructions that they occur in. 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. Section 6 discusses the consequences of the overall analysis for numeral semantics. Section 7 concludes.

2. The Number Neutral View of Bare Singulars

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.

a⊕b⊕c

a⊕b a⊕c b⊕c

a b c

So, in a model where the books are a, b, and c, *book* denotes an atomic set with the members a, b, 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 represented below.

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

Below, I first discuss the motivations for this account and how one might tackle the challenges that it faces. Then, drawing on the facts of Turkish plurals, I show that the challenges in fact remain unresolved.

2.1. The Case for Number Neutrality of Bare Singulars

The number neutral account of Turkish bare singulars is based on the fact that they yield a number neutral interpretation in three positions: non-case marked direct object position (Bliss 2004 and Görgülü 2012), as in (2a), the position immediately preceding the existential copula *var* (Görgülü 2012), as in (2b), and the predicate position (Bale et al. 2010 and Görgülü 2012), as in (2c), where a bare singular is predicated of a plural subject.[2] I will refer to the construction in (2b) as *the existential copular construction* from now on.

(2) 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 is a mouse/are mice in the room.'

c. Ali ve Merve **çocuk**.
Ali and Merve child
'Ali and Merve are children.'

However, bare singulars are interpreted as strictly singular and definite in case-marked argument positions, i.e., case-marked subject, direct object, and indirect object positions:[3]

(3) a. **Çocuk** ev-e koş-tu.
child home-DAT run-PAST
'The child ran home.' Not: 'The children ran home.'

[2]Thanks to a reviewer, the possibility of the bare singular *çocuk* 'child' in (2c) to be analyzed as an adjective is ruled out by the fact that it cannot be modified by an adverb such as *çok* 'very' unless it means childish.

[3]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 5.5, 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).

b. Ali **kitab-ı** oku-du.
Ali book-ACC read-PAST
'Ali read the book.' Not: 'Ali read the books.'

c. Ali **çocuğ-a** kitab-ı ver-di.
Ali child-DAT book-ACC give-PAST
'Ali gave the book to the child.' Not: 'Ali gave the book to the children.'

The challenge for treating bare singulars as number neutral, then, is to account for these cases where they receive a singular interpretation. Although this issue has not been addressed by the advocates of the number neutral view, one possible solution would be to derive their singularity in these cases as a conversational implicature via a competition based-approach. This would be possible if bare plurals denoted pluralities only, as shown in (4). Indeed, Bliss (2004), Bale et al. (2010), and Görgülü (2012) adopt this approach for Turkish bare plurals.[4]

(4) $[\![kitap + PL]\!] = \{a \oplus b, b \oplus c, a \oplus c, a \oplus b \oplus c\}$

Here is how the competition between number neutral bare singulars and strict plurals could result in the singular reading of bare singulars as in (3): Imagine that one utters the sentence in (3b). Based on scalar reasoning, the hearer assumes that the speaker will convey the strongest information that (s)he believes to be true. A sentence S1 is stronger/more informative than a sentence S2 iff S1 is true in fewer scenarios than S2 (Grice, 1975). In that case, the plural version of (3b) is more informative since it would only be true if Ali read more than one book. The sentence (3b) is less informative because it would be true if Ali read one or more books. Then, hearing (3b), the hearer assumes that the more informative alternative must be false, and interprets the sentence as 'Ali read exactly one book'. The same result is obtained if we assume the competition to hold under Maximize Presupposition, which favors the one with the stronger presupposition, i.e., the bare plural in this case, when two forms compete, on the condition that no presupposition violation occurs (Heim, 1991).

To sum up, this analysis treats morphological (un-)markedness in a symmetric correlation with semantic (un-)markedness. Morphologically unmarked bare singulars denote number neutral sets, whereas morphologically marked bare plurals denote sets of pluralities only. The singularity of bare singulars is simply derived by a competition between the two.

2.2. The Case Against Number Neutrality of Bare Singulars

In this section, I show that the competition account given above is untenable since bare plurals in Turkish are actually inclusive of atoms and their pluralities, as represented in (5). This further constitutes a case against the number neutral view of bare singulars given that we can no longer account for their singular interpretation as a conversational implicature.

(5) $[\![kitap + PL]\!] = \{a, b, c, a \oplus b, a \oplus c, b \oplus c, a \oplus b \oplus c\}$

Let me illustrate this point: Krifka (2003), Sauerland et al. (2005), Spector (2007), and Zweig (2009) argue for a number neutral account of bare plurals in English. They observe that although bare plurals contain multiplicity as part of their denotation in positive contexts, they lose that requirement in downward entailing contexts and in questions. In other words, the 'more than one' meaning does not seem to be strictly part of their interpretation. The perceived multiplicity arises as a result of a conversational implicature in positive contexts.

[4]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 nouns in the predicate position will be discussed in Section 5.8. See also fn 44.

This observation also holds for Turkish bare plurals. If we had gone to the forest and come across one bear, it would be bizarre to respond to the question in (6) with 'no'. Because seeing one bear answers the question positively, the denotation of the bare plural *ayılar* cannot be 'more than one' bear.

(6) 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?
a. Evet, bir tane gör-dü-k.
yes, one CL see-PAST-1PL
'Yes, we saw one.
b. #Hayır, bir tane gör-dü-k.
no, one CL see-PAST-1PL
'No, we saw one.'

Now, let us examine the occurrence of a bare plural in a positive and a negative context. In (7a), the multiplicity implicature surfaces, but in (7b), it does not.

(7) a. **Çocuk-lar** sokak-ta top oynu-yor.
child-PL street-LOC ball play-PROG
'Children are playing ball on the street.'
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.'

Consider a scenario where exactly one child is playing ball on the street. This situation could be described as in (8) conveying the singularity directly. The core meaning of (7a) is an inclusive interpretation, as shown in (9), and it competes with this alternative statement in (8).[5]

(8) 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.'

(9) S = One or more children are playing ball on the street.

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 (8) is true in fewer scenarios than (7a), it is stronger. Then, hearing (7a), the hearer assumes that the stronger alternative must be false. The truth of (7a) and the hearer's assumption for (8) combine to yield the following scalar meaning for (7a). Thus, the plural is interpreted as an exclusive plural.

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

However, in the negative case, the entailment relations are reversed. Thus, the negation of the alternative statement in (12), is weaker than the core meaning of (7b) in (11). Based on this, the hearer does not make any assumptions regarding (12), therefore the core meaning of (7b) is maintained. The plural is interpreted number neutrally. If Turkish bare plurals were strictly plural with a multiplicity condition, (7b) would be predicted to be infelicitous in this case.

[5]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) S = It is not the case that one or more children are playing ball on the street.
(No children are playing.)

(12) 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.'

I have shown how the multiplicity reading of bare plurals arises under the scalar implicature account (Spector 2007, Zweig 2009). However, it could also be explained based on Maximize Presupposition, which, to recall, favors the one with the stronger presupposition when two forms compete, on the condition that no presupposition violation occurs (Heim 1991, Sauerland et al. 2005). In that case, the multiplicity implicature in (7a) would surface due to the stronger presupposition of the alternative sentence and disappear in (7b) due to its weaker status.

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 (13a), and the restrictors of universal quantifiers, as in (13b), where the bare plural *erkekler* 'men' is interpreted number neutrally.

(13) 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)

Therefore, in line with the argumentation for English bare plurals, I argue that Turkish bare plurals are also number neutral and the multiplicity condition in positive contexts arises as a result of a conversational implicature (see Renans et al. 2017, 2019 for experimental evidence).

In sum, we have discussed how the singular interpretation of bare singulars in case-marked argument positions might be explained under the number neutral view of bare singulars. A possible explanation based on competition with strictly plural terms was shown to be flawed, since Turkish bare plurals are not strict plurals. Hence, the problem for the number neutral view remains unresolved.

3. The Strict Singular View of Bare Singulars

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. Instead, I flip the problem and take the singular interpretation of bare singulars as their basic denotation. Namely, I argue that Turkish bare singulars denote atomic predicates, as exemplified in (14). This means that the correlation between morphological and semantic (un)markedness is exhibited asymmetrically in Turkish as is the case for English.

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

Below, I provide evidence that the apparent number neutrality of bare singulars is not inherent to the property denotation of bare singulars, but linked to the constructions that they occur in.

Öztürk (2005) claims that non-case marked bare singulars immediately preceding the verb and occupying the direct object position, as repeated here in (15), are instances of pseudo-noun incorporation (PI, henceforth) in Turkish, a term originally due to Massam (2001). PI-ed bare

singulars form a unit with the verb, as well as retaining their independent phrasal status. By this unity, it is meant that (i) they immediately precede the verb, and (ii) they are unable to undergo case-driven movements such as passivization. However, PI-ed objects can be separated from the verb for pragmatic purposes (e.g., contrastive topic or focus), as shown by Öztürk (2009), Sezer (1996), and Gračanin-Yüksek and İşsever (2011), among others for Turkish (see also Dayal 2003, 2011 for Hindi). They differ from canonical arguments, e.g., definites, quantified expressions, etc., in this rather loose adjacency requirement and in not bearing a case marker.

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

The semantics of PI has 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) claims that PI denotes predicates of sub-types of events. For example, the PI structure in (15) denotes a sub-type of reading events, i.e., book-reading events. The hallmarks of PI are name-worthiness, number neutrality, and obligatory narrow scope interpretation. For now, we will be concerned with the first two.

PI is not a fully productive process. As noted by Mithun (1984), it conveys an institutionalized activity or state. Dayal (2011, 2015) further defines this as *name-worthiness*, and locates it in a presupposition about a related generic statement. Namely, PI-ed nouns denote a prototypical theme for the activity associated with the verb, the combination of which should result in a canonically recognizable 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 event, whereas it is harder to form this relation with *heavy books*. Consider a similar contrast in Turkish PI:

(16) a. İçeri girdiğimde Ali *dini/ tarihi/ bilimsel* **kitap** oku-yor-du.
inside when.I.entered Ali religious historical scientific book read-PROG-PAST
'When I entered inside, Ali was doing religious/historical/scientific book-reading.'
b. *İçeri girdiğimde Ali *eski/ büyük/ kırmızı* **kitap** oku-yor-du.
inside when.I.entered Ali old big book red read-PROG-PAST
'When I entered inside, Ali was reading an old/big/red book/ old/big/red books.

The modification of *book* with *religious*, *historical*, or *scientific* is possible, as shown in (16a), resulting in a sub-type interpretation for book-reading events. In contrast, the modification of *book* with *old* meaning *worn-out* or the adjectives *big* and *red* yield ungrammaticality, as in (16b), instead requiring the indefinite or plural forms. This contrasts with *old* meaning *ancient/historical*. As in Hindi, this is due to the name-worthiness requirement. While *religious/ancient/historical/scientific book* can be a proto-typical theme for reading events yielding a canonical type of the reading activity, *worn-out/big/red book* does not have such an effect on the reading event, unlike the interaction of *worn-out book* with selling or buying events.

Nevertheless, it is possible for (16b) to be grammatical in the non-case marked direct object position without indefinite or plural marking if the adjective is focused contrastively, which I exemplify with the adjectives *old* and *big* in (17).[6]

[6]I thank a reviewer for making me realize this case. For some speakers, (17) is still ungrammatical.

(17) İçeri girdiğimde Ali *ESKİ/ BÜYÜK* **kitap** oku-yor-du, yeni/ küçük değil.
inside when.I.entered Ali old big book read-PROG-PAST new small NEG
'When I entered inside, Ali was reading an old/big book/#old/big books, not new/small.'

Crucially, this use of *old/big/red book* is only possible with a singular reading, not a plural one. This contrasts with *religious/historical/scientific book*, which retains its number neutrality even when it is focused contrastively. Then, clearly (17) is not an instance of PI. Leaving its nature aside, what concerns us is the fact that when it is possible for a bare singular to appear in the non-case marked position without being PI-ed, the number neutral interpretation disappears. Based on this, I conclude that the number neutrality cannot be not an inherent feature of bare singulars, but instead must be sourced from PI. We will see that this line of thinking will also apply to bare singulars occurring in the existential copular construction in Section 5.7.

Intriguingly, a similar situation also holds for bare singulars occurring in the predicate position. Let me elaborate on this: In Turkish, if the subject is singular, either a bare singular or an indefinite appears in the predicate position, but if the subject is plural, a bare singular can still appear in the predicate position as opposed to an indefinite.[7]

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

The fact that bare singulars can be predicated of plural subjects may seem to be a problem for the singularity view defended here but a closer investigation reveals the opposite: When bare singulars in the predicate position are modified, they are only compatible with singular subjects, losing their ability to be predicated of plural subjects, as shown in (19a). However, if the adjectival modifier establishes a sub-type of the noun that it modifies then the predication is compatible with both plural and singular subjects, as shown in (19b).

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

This contrast in modification is not predicted if bare singulars in these structures denote a number neutral property. They would be expected to convey a neutral reading regardless of the type of modification. Thus, the case in (19a) is in line with the claim that bare singulars are atomic, though the number neutrality of cases like (19b) remains to be explained.

In sum, the investigation of the constructions where bare singulars have a number neutral reading reveals even more problems for the number neutral view of bare singulars, supporting the strict singular view instead. However, we have yet to explore this construction specific number neutrality. In order to do, I must first discuss another aspect of bare singulars, namely their status as singular kind terms, as it will inform the account of number neutrality I develop.

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

4. Conceptual vs. Grammatical Plurality

In this section, I first discuss the properties of kind terms by introducing Turkish plural kind terms and then analyze singular kind terms. We will see that the differences between the two forms of kind reference constitute further evidence for the atomicity of bare singulars.

4.1. Plural Kind Terms

In Section 2.2, 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 the following readings: kind (20a), generic (20b), and narrow scope existential (20c) (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 (20c).

(20) a. **Dinozor-lar**-ın nesl-i 66 milyon yıl önce tüken-di.
dinosaur-PL-GEN generation-3POSS 66 million year ago end-PAST
'Dinosaurs became extinct 66 million years ago.'
Literally: 'The generation of dinosaurs ended 66 million years ago.'

b. **Ayı-lar** genelde saldırgan ol-ur.
bear-PL generally aggressive be-AOR
'Bears are generally aggressive.'

c. **Kedi-ler** dışarıda çiftleş-iyor.
cat-PL outside mate-PROG
'(The) cats are mating outside.'

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

The fact that bare plurals can be arguments of kind level predicates like *nesli tükenmek* 'be extinct' or *evrimleşmek* 'evolve' means that they have kind reference since such predicates only denote properties of kind individuals. 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 and more complex ones like intelligent students can be considered as kinds, as well (see also Carlson 1977, Krifka et al. 1995, Chierchia 1998, 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 (21a). *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 (21b) (Chierchia 1998, pg. 351).

(21) 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. $^{\cap}dinosaur = \lambda s.\ \iota x\ [dinosaur_s(x)]$

The *nom* operator is not defined for singular properties for deriving a kind through a singular property would mean that the kind is necessarily realized by a single individual, but kinds cannot have a singular instance in every world (Dayal, 1992). Instead, they are identified with the totality of their instances in any given situation, thus *nom* is only defined for plural properties.

Following Chierchia (1998), I argue that bare plurals in Turkish are 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 (20a), the denotation of which is given in (22).

(22) $[\![(20a)]\!] = \textit{become-extinct}\ (\lambda s.\ \iota x\ [\textit{dinosaur}_s(x)])$

When plural kind terms combine with object-level predicates, they are type-shifted by the predicativization (*pred*) operator, which takes the extension of the kind (i.e., extension in whatever situation/world it is interpreted relative to) and returns the set of singular and plural entities that instantiate the kind (in that situation/world), as shown in (23) (Chierchia 1998, pg. 350). This is in line with the number neutrality of bare plurals made possible by the fact that plural kinds allow type-shifting to the properties that they are constructed from. So, in return, number neutral sets of instantiations may be retrieved from the corresponding kinds. In generic contexts, the Generic operator quantifies over these instantiations, as shown in (24) for (20b).

(23) 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.

(24) $[\![(20b)]\!] = \textit{Gen}\ s, x\ [^{\cup\cap}\textit{bear}(s)(x)]\ [\textit{aggressive}(s)(x)]$

When a kind-level argument combines with an object-level predicate in an episodic context, as in (20c), *Derived Kind Predication (DKP)* comes into the picture. DKP provides sort adjustment and introduces $\exists$ quantification over the instantiations of the kind provided by *pred* in a given situation, as shown in (25) (Chierchia 1998, pg. 364).

(25) a. DKP: If P applies to objects and k denotes a kind, then $P(k) = \exists x\ [^{\cup}k(x) \wedge P(x)]$
b. $[\![(20c)]\!] = \textit{mate.outside}\ (^{\cap}\textit{cat}) = \textit{DKP} \Rightarrow \exists x\ [^{\cup\cap}\textit{cat}(x) \wedge \textit{mate.outside}(x)]$

DKP results in the obligatory narrow scope interpretation of bare plurals in Turkish, as has widely been discussed in the literature for English. This is because the sort-adjusting $\exists$-quantification is introduced locally at the level of predication. For example, (26) means that there are no atomic or plural instantiations of the dog-kind barking in the given situation, i.e., there are no dogs barking. Crucially, it does not mean that there are some dogs that are not barking today, which would be possible if bare plurals could take scope over negation.

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

The fact that plural kinds allow type-shifting to sets of instantiations can be tested with *reciprocals* and the predicate *come from different regions* which require access to the parts of these instantiations to ensure distributivity.[8] The compatibility of bare plurals with them shows that plural kinds grant access to their instantiations for distributivity. (27) and (28) exemplify generic and episodic contexts, respectively. In both cases, the plural kind terms are type-shifted via *pred* denoting a set of singular and plural entities instantiating the kind in the relevant situation. The reciprocal and *come from different regions* distribute over these instantiations.

[8] Schwarzschild (1996) uses these tests to show that of collective/group terms do not allow access to the members comprising them. See the following section for the details.

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

(28) **Ayı-lar** bu hayvanat bahçesi-ne farklı bölge-ler-den gel-di.
bear-PL this zoo-DAT different region-PL-ABL come-PAST
'Bears came to this zoo from different regions.'
$\exists x\,[^{\cup\cap}bear(x) \wedge \forall y,z\,[y < x \wedge z < x \wedge y \neq z \rightarrow \iota r_1\,[region(r_1) \wedge$
$came.to.zoo.from(r_1)(y)] \neq \iota r_2\,[region(r_2) \wedge came.to.zoo.from(r_2)(z)]]]$

Notice that in (27) the most salient reading involves distributivity down to atomic instantiations of the kind, while in (28) 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.

Now let us see how Turkish bare plurals, unlike English bare plurals, can also be definites in object-level contexts. This is shown in (20c), but also holds for (26), (27), and (28). The explanation for this follows in the neo-Carlsonian approach, as discussed for other languages without determiners by Dayal (2004). The two principles relevant here are as follows:[9]

(29) 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 (29b), type-shifters apply in a certain order, as long as Blocking Principle is respected. English and Turkish bare plurals can both shift via *nom* to yield kind-level meanings and their DKP-based narrow scope existential readings. Only Turkish bare plurals can also shift via the covert *iota* operator and yield definite readings, as opposed to English where *iota* is blocked by the overt determiner *the*. 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.[10]

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, in line with their number neutrality. Unlike bare plurals in English, they can also undergo *iota* type-shifting to yield definite interpretations.

4.2. Singular Kind Terms

In this section, I will discuss the semantics of singular kind reference and its differences from plural kind reference, which constitute further evidence for the atomicity of bare singulars.

Just like bare plurals, bare singulars can also combine with kind-level and generic predicates, as shown in (30a) and (30b). 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 number neutral existential readings. Compare (30c) with (20c).

[9] 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.

[10] Revised Meaning Preservation applies to bare singulars, as well. I also set aside cases with bare plurals that do not refer to kinds like *parts of this machine* (Carlson 1977, Chierchia 1998, and Dayal 2013).

(30) a. **Dinozor**-un nesl-i 66 milyon yıl önce tüken-di.
dinosaur-GEN generation-3POSS 66 million year ago end-PAST
'The dinosaur became extinct 66 million years ago.'
Literally: 'The generation of the dinosaur ended 66 million years ago.

b. **Ayı** genelde saldırgan ol-ur.
bear generally aggressive be-AOR
'The bear is generally aggressive.'

c. **Kedi** dışarıda çiftleş-iyor.
cat outside mate-PROG
'The cat is mating outside.' Not: '(The) cats are mating outside.'

The lack of the existential reading with bare singulars is further shown by their inability to take scope under negation, as in (31), where they receive a singular and definite reading only.[11] The unavailability of this reading for bare singulars shows that kind reference achieved by bare singulars differs from kind reference achieved by bare plurals.

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

We can understand the kind reference of bare singulars if we take them to be more like definite singular kinds in English as *the dinosaur* in 'The dinosaur is extinct'. Dayal (2004) claims that although kinds overall are conceptually plural, singular kinds are grammatically impure atomic terms. They differ from plural kinds in not allowing type-shifting to sets of instantiations.

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 (33), collective nouns are not, as in (32), meaning that groups do not allow distributivity over the individuals that they consist of, as opposed to sums.

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

(33) 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$\oplus$b, a$\oplus$c, b$\oplus$c, and a$\oplus$b$\oplus$c), but their relation to these entities differ. The definite plural has them as its parts, represented by the part-of relation $\leq$, but the group term has them as its members, represented by $\downarrow$ in Landman

[11] In the preverbal non-case-marked argument position, bare singulars seem to have a narrow scope existential reading. In Section 5, 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 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.

(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 $\leq$ in *pred* (see (23) above). In contrast, she considers singular kind terms to be like groups, and claims that the relation between singular kinds and the specimens remain at the conceptual level. Unlike plural kind terms which are derived from a relevant property, singular kind terms directly refer to kinds in the taxonomic domain.

Dayal's proposal is based on the idea that common nouns are ambiguous in denoting properties of ordinary individuals and properties of taxonomic individuals, i.e., (sub-)kinds. Just like other determiners like *every*, *a* and also numerals, when the definite determiner in English combines with the latter, it yields taxonomic readings. Namely, definite singular kinds are derived compositionally from the regular definite determiner and a common noun that denotes a taxonomic property, i.e., $\iota X\ [P(X)]$, X ranging over entities in the taxonomic domain. Consider the following examples (Dayal 2004: pg. 423 & 424): (Adopting the convention in Dayal (2004), from now on singular kinds will be represented with capital letters.)

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

In (34), 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*, *AMERICAN LION*, etc. (34c) differs from (34a) and (34b) in that the existence of the definite determiner imposes a uniqueness requirement. In (34c), the taxonomic property *LION* combines with the taxonomic property *AFRICAN* the denotation of which includes all the African kinds, including *AFRICAN LION*. The intersection of the two yields the singleton set $\{AFRICAN\ LION\}$, which type-shifts via *iota* to refer to the unique African lion-kind.

The definite determiner can also combine with a taxonomic property if the domain of quantification only includes distinct kinds. Consider the interpretation of 'The lion is extinct.' as in (35) (Dayal 2004: pg. 426). Here, the domain of quantification is the set of taxonomic entities in (35b), 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 (35c). 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.

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

Let us now consider the behavior of singular kind terms in episodic contexts to see how the ambiguity of singular nouns plays a role in these contexts.

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

The sentence in (36a) is a statement about a unique contextually salient dog, where the singular

noun *dog* denotes a set of ordinary dog individuals. In contrast, (36b) is a statement about the rat-kind. In order for (36b) 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. There are some crucial features of these readings that we can use to guide us. One can think of the event as involving the total participation of the species or as involving some type of radical change of state for the species. For example, (36c) 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 ordinary definites or bare plurals can:

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

While (37a) is about a single mouse engaging in the same event multiple times, (37b) is about different instantiations of the mouse-kind engaging in distinct events of entering. It is in this sense that I take the representative object reading, as in (36b) and (36c), to be different from the DKP-based readings of plural kind terms in episodic contexts, as in (37b).

The nature of the representative object reading will be clearer in Section 5.4.1, but for now I adopt the following generalization reached in Dayal (2004): Singular kind terms in English are compatible with episodic contexts only if they refer to the whole species as a singleton representative/prototypical object. Namely, they are atomic terms whose only instantiation sets (if available at all) include this individual. This corresponds to singularity in syntactic terms, but they remain true to the notion of kind, being conceptually plural. Thus, the object-level readings of singular kind terms are derived by directly ensuring that the property set of this representative object includes only the properties that are associated with the kind itself.

The same facts hold for singular kind terms in Turkish. Since Turkish lacks an overt definite marker, they are realized in bare form to which the *iota* operator applies covertly. I also provide further evidence with respect to their impure atomicity by applying the distributivity tests introduced in the previous section. For example, in (38), the singular kind term *ayı* is used in an episodic context and it is incompatible with the predicate *come from different regions* (cf. with (28)). Notice also that its English counterpart is equally bad as reflected in the translation.

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

The sentence in (38) shows that singular kind terms do not allow distributive predication to entities we intuitively associate with them. Otherwise, they would yield grammatical results with these tests, just like plural kind terms. Since singular kinds are impure atomic, the denotations of bare singulars in object-level contexts as in (30c) must be derived independently of their kind reference. Following Dayal, I take bare singulars to be ambiguous in denoting atomic sets of ordinary and taxonomic/kind individuals. In cases like (30c), bare singulars denoting atomic properties of ordinary objects are type-shifted via *iota* to yield singular definite readings, as shown in (39a). However, in cases like (30a), *iota* combines with a bare singular denoting an atomic property of kinds to yield a singular kind interpretation, as shown in (39b). Furthermore, when a singular kind term refers to the species under the representative object reading,

as exemplified in (40), its taxonomic denotation comes into play.

(39) a. $[\![(30c)]\!] = mate.outside(\iota x\ [cat(x)])$
b. $[\![(30a)]\!] = become\text{-}extinct(\iota X\ [DINOSAUR(X)])$

(40) **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 object per situation, as shown in (41a) (Dayal 2004: pg. 431). This is also the case in Turkish, as exemplified in (30b) above. Furthermore, the fact that singular kind terms block access to the instantiations also holds for generic contexts, as evidenced by their incompatibility with reciprocals (cf. with (27)).[12]

(41) a. The dog barks when it is hungry.
b. *__Kedi__ birbiri-ne saldır-ır.
cat each.other-DAT attack-AOR
Intended: 'Cats attack each other./*The cat attacks each other.'

It is worth highlighting the implications for the number neutral view of bare singulars. If bare singulars were number neutral, we would expect them to have plural kind reference. Namely, bare singulars would undergo type-shifting by *nom* to refer to kinds and get instantiated by *pred* 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. The strict singularity of bare singulars and number neutrality of bare plurals in Turkish defended here on the other hand finds support from the phenomenon of reference to kinds.

To sum up, 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. Turkish bare singulars denote 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 combining with the overt definite article in these cases.

4.3. Comparing Singular and Plural Kind Reference

We have seen the arguments for distinguishing between plural and singular kind terms with respect to their relationship to the ordinary entities that they are conceptually connected to. In formal terms we can distinguish between them by positing two different relations, to explain the differential behavior of singular and plural terms presented in Sections 4.1 and 4.2.

Drawing on the familiar analogy to sums and groups, I keep the the *part-of/instantiation-of* 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

[12]Unlike (41b), the generic version of (38) 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.

latter as a *belong-to* relation, i.e., $belong\text{-}to(y,x^K)$, where x^K is a kind and y is an individual corresponding to the specimens of that kind. So, a formula $belong\text{-}to(y,x^K)$ is true iff *y belongs to/is a member of* the kind x^K. In other words, although singular and plural kind terms are associated with the same set of atomic and plural entities, their relation to these entities differ.

Notice also that while the *part-of/instantiation-of* relation is reflected by *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. However, in Section 5, I argue that the *belong-to* relation is established in the grammar in two cases; one happens in PI and the other in the predicate position.

So far, I have shown that plural and singular kind terms differ in Turkish analogously to English with respect to object-level individuals associated with them. Now, I would like to point out some respects in which reference to kinds in the two languages are different. There are two contrasts, in particular, that are revealing. The first contrast bears on the idea that kind referring nouns are names of kinds. As Carlson (1977) observed, (42) seems to reflect this fact transparently (Krifka et al. 1995: pg. 65; see also Langford 1949 and Heyer 1985). An alternative case to (42) involves the *dediğin* 'that you call' construction exemplified in (43). Surprisingly, however, this is only possible with the singular kind term:

(42) The liger is/ Ligers are so called because it is/ they are off-spring of a lion and a tiger.

(43) **Bilgisayar(*-lar)** dediğin Charles Babbage tarafından icat ed-il-di.
computer-PL that.you.call Charles Babbage by invent-PASS-PAST
'The kind that you call 'the computer' was invented by Charles Babbage.'

The second contrast has to do with the predicate *invent*, which comes with an unexpected restriction on singular vs. plural kinds, as shown in (44a). Krifka et al. (1995) relate the oddity of plural kind terms in this context to the object position since they are acceptable if passivized, as in (44b). In Turkish, though, plural kind terms are ungrammatical with *invent* as opposed to singular kind terms regardless of their structural position, as illustrated in (45).[13]

(44) a. Charles Babbage invented the computer/?computers.
b. The computer was/Computers were invented by Charles Babbage.

(45) a. Charles Babbage **bilgisayar(*-lar)-ı** icat et-ti.
Charles Babbage computer-PL-ACC invent-PAST
'Charles Babbage invented the computer.'
b. **Bilgisayar(*-lar)** Charles Babbage tarafından icat ed-il-di.
computer-PL Charles Babbage by invent-PASS-PAST
'The computer was invented by Charles Babbage.'

Both contrasts point to a cross-linguistic difference between Turkish and English. I conclude that Turkish canonically uses the singular term for kind reference, while placing some restrictions on the contexts in which plural kind terms can be used. The *dediğin* construction shows that bare plurals cannot name a kind, in the sense required by the *so-called* construction. The unacceptability of plural terms with the verb *invent* shows a restriction in a similar sense. This dispartiy can be understood better if we pursue Jesperson (1927) in that singular kind terms

[13]The plural form means that different types of computers were invented by Charles Babbage.

are names of kinds associated with kinds themselves, whereas plural kind terms reflect the relation between kinds and their instantiations in grammatical terms. I am aware that this way of thinking does not fully account for the English case, but it offers a principled explanation for the differences between singular and plural kind terms in Turkish, opening a new path to understanding the nature of kind reference from a cross-linguistic perspective. The effects of this asymmetry will also be visible while accounting for the apparent number neutrality of bare singulars in Section 5.4.2 and 5.8, but before going on let me present the proposal in a nutshell.

In the case of an invention, the instantiations of the kind are not relevant because the invention of a kind is not directly associated with its instantiations. If you invent the computer, you actually create a concept of the computer kind. Manufacturing machines that would instantiate the computer kind comes as a subsequent step. That is, kinds can be independent of their instantiations, and in such cases the singular kind term is chosen over the plural form in Turkish. In an extinction context, though, we can either refer to the kind directly with the singular form or we can make reference to the kind indirectly deriving it from the totality of its instantiations with the plural form. Because for a kind to be extinct all of the members of the species have to die, reference to the kind can plausibly be derived from its instantiations.

While the deeper reasons for cross-linguistic differences must be left to a later date, I will show in the next section the utility of taking singular kind terms more like proper names that refer to kind individuals directly as opposed to their plural counterparts, which represent a derived/indirect way of referring to kinds.

5. Explaining Neutrality

In this section, I turn to the three contexts in which Turkish bare singulars have number neutral interpretations: the non-case marked object position, the existential copular construction, and the predicate position. In Section 3, I have categorized the former two as instances of pseudo-incorporation (PI), and pointed to a special copular semantics for the latter. I will now elaborate on the explanation for each case, using the kind level character of bare singulars to derive their number neutral reading.

Section 5.1 reviews Turkish PI. Section 5.2 discusses PI with atomic properties as proposed by Dayal (2011, 2015) and shows the need for a parametric analysis. Section 5.3 presents the new PI analysis forming an analogy with English weak definites. Section 5.4 compares PI-ed and canonical arguments. Section 5.5 examines subject PI. Section 5.6 recaps the discussion on PI and Sections 5.7 and 5.8 proceed to the existential copular construction the predicate position.

5.1. The Nature of Turkish Pseudo-incorporation

I start by elaborating on PI in Turkish, briefly mentioned in Section 3. On the syntactic side, PI-ed bare singulars contrast with canonical arguments in not bearing case-marking and requiring to be linearly adjacent to the verb, though this is rather a liberal obligation in Turkish since movement is allowed for pragmatic purposes. Furthermore, although PI-ed bare singulars seem to form a unit with the verb, they retain their independent phrasal status at the same time, evidenced by the fact that they can receive modification, as we have seen previously (Taylan 1984, Arslan-Kechriotis 2006, Öztürk 2005). Despite their non-canonical properties, PI-ed bare singulars must still be syntactic arguments of verbs, because an extra object with the same thematic role cannot be added to the structure, as shown in (46) (Öztürk 2005: pg. 111). This contrasts with PI in Chamorro, where theme-doubling is possible (Chung and Ladusaw 2004).

(46) *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 by a contrast with unergative constructions which lack an object position. When an unergative verb is causativized in Turkish, the agent receives accusative case-marking, as in (47a). However, when a transitive verb is causativized, the agent receives dative case-marking, as in (47b) (Öztürk 2005: pg. 109). When an incorporating verb is causativized, the agent receives dative case-marking on a par with transitive verbs, as in (47c) (Öztürk 2005: pg. 109). Öztürk explains this on the view that PI-ed bare singulars are structurally associated with the accusative case although not receiving it themselves. This can be considered as further support for their syntactic argument status.

(47) 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.'

On the semantic side, non-case marked bare singulars bear the three hallmarks of PI, i.e., name-worthiness, number neutrality, and narrow scope interpretation (Bittner 1994, van Geenhoven 1998, Chung and Ladusaw 2004, Farkas and De Swart 2003, Dayal 2003, 2011, 2015, among others).[14]. I established the first two when I introduced PI in Turkish in Section 3. Recall that name-worthiness posits some restrictions on the modification of PI-ed bare singulars, which further restrains the cases where non-case marked bare singulars can yield a number neutral reading. Additionally, PI-ed bare singulars yield a narrow scope interpretation with respect to other scope taking elements in the structure. The example in (48) shows this effect for negation.

(48) Ali **kitap** oku-**ma**-dı.
Ali book read-NEG-PAST
'Ali didn't do book-reading.' (no books)

To sum up, bare singulars occurring in the non-case marked direct object position exemplify an instance of PI carrying the most notable characteristics of it both in syntactic and semantic terms. The next step is to explain how number neutrality is made possible by this construction.

5.2. Towards an Analysis

Dayal (2011, 2015), mainly focusing on PI in Hindi, but also drawing on data from Hungarian, claims that singular nouns involved in PI denote atomic properties. In this section, I summarize this account and show that a parametric analysis is required for PI based on data from Turkish.

Dayal takes verbs to have an incorporating version besides their canonical transitive form. The incorporating version takes an atomic property, rather than an individual as its internal theme

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

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):

(49) $[\![mouse-catch]\!] = \lambda y \lambda e.\ mouse\text{-}catch(e) \wedge Agent(e) = y]$, 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 (cf. Sadock 1980, Bittner 1994, van Geenhoven 1998, Farkas and De Swart 2003.) 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 one 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 shows this point with a contrast in Hungarian PI yielded 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 is derived from the interaction with aspectual specification.

These effects when applied to Turkish reveal a surprising cross-linguistic difference. 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 (50), where the PI-ed bare singular yields a number neutral reading, evidenced by the follow-up in (50b). This shows that the number neutrality of PI cannot be dependent on aspectual specification in Turkish.

(50) 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 (51a). Similarly, PI is also available for matching players, as in (51b). These facts also clearly show that PI-ed bare singulars in Turkish can yield number neutral readings independent of the aspectual specification.

(51) 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. This means that a parametric analysis for PI is inevitable.

5.3. Pseudo-incorporation with Singular Kind Terms

I argue that (i) PI in Turkish denotes sub-event types in line with Dayal (2011, 2015), but with singular kind arguments rather than modifiers as atomic properties of ordinary individuals, and that (ii) the number neutral reading is due to the conceptual plurality of singular kind terms.

In Section 5.3.1, I discuss the similarities between Turkish PI-ed bare singulars and English weak definites. Based on this analogy, in Section 5.3.2, I build my analysis for Turkish PI.

5.3.1. Analogy with English weak definites

The phenomenon of PI has been extended to the so-called *weak definites* in English by Carlson and Sussman (2005) and Carlson (2006). Their move is motivated by the fact that weak definites are not associated with uniqueness despite their definite status, but instead can yield a number neutral interpretation. For example, (52a) could be true in a situation where John reads one or multiple newspapers when he gets home. Similarly, (52b) could mean that Mary took the train A half of her way to Brussels, and the train B in the other half.

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

Building on Carlson and Sussman (2005) and Carlson (2006), Bosch and Cieschinger (2010), Aguilar-Guevara and Zwarts (2010), and Schwarz (2014) offer different analyses for the semantics of weak definites. Among them, Aguilar-Guevara and Zwarts analyze them as singular kind terms. They show that weak definites have a narrow scope interpretation, as in (53), where *the hospital* allows a distributive interpretation. Crucially, they also show that only sub-type forming adjectives are acceptable with the weak definite reading, as shown in (54) (pg. 180-1).

(53) Every boxer was sent to the hospital.

(54) 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, but she also needs to be engaged in a stereotypical activity there, like undergoing an examination or being a doctor there. Namely, weak definites need to obey name-worthiness.

The behavior of weak definites as laid out above is very similar to PI. Indeed, I argue that Turkish PI should be analyzed in a unified way with weak definites of English. As stated above, Aguilar-Guevara and Zwarts analyze weak definites as singular kind terms in light of Dayal's (2004) view of singular kinds and they link the restriction in modification to this. Namely, since singular kind terms are built on taxonomic properties, they can only receive modification that is taxonomic in meaning. That is why only adjectives establishing sub-types are acceptable with the weak definite interpretation. For example, the adjective *new* in (54) is considered as operating at the level of ordinary objects since *the new hospital* does not denote a type of the hospital kind in that particular event. In contrast, the adjective *medical* can easily 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, I have followed Dayal (2011 in that the restriction in modification with PI is an effect of the name-worthiness requirement. 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 atomic properties as in Hindi and Hungarian. However, the singular kind analysis capturs the fact that ordinary and sub-type forming adjectives yield different number interpretations for non-case marked bare singular objects in Turkish. As discussed previously, while *religious book-reading* is a good candidate for PI, *old (worn-out) book-reading* is not. The modification of *book* with *old* in the non-case marked direct object position is only possible when contrastively focused, but when that happens the bare singular is only interpreted as strictly singular, differing from *religious book*. I repeat the relevant examples below.

(55) a. İçeri girdiğimde Ali *dini/ **eski* **kitap** oku-yor-du.
inside when.I.entered Ali religious old book read-PROG-PAST
'When I entered inside, Ali was doing religious/*old book-reading.'

b. İçeri girdiğimde Ali *ESKİ* **kitap** oku-yor-du, yeni değil.
inside when.I.entered Ali old book read-PROG-PAST new NEG
'When I entered inside, Ali was reading an old book/#old books, not new.'

The contrast between *old* and *religious* then derives as follows: The bare singular *book* in *religious book* is a PI-ed singular kind term and *religious* is as a taxonomic modifier for the book-kind in a reading context by name-worthiness. Namely, the taxonomic modification of *book* with *religious* denotes a sub-kind of the book kind, i.e., the religious book-kind, for a reading activity. It yields a number neutral reading since although singular kind terms are grammatically atomic they are conceptually plural being associated with atomic and plural individuals that belong to the kind. We will see the technical details of this in the following section.[15] On the other hand, the adjective *old* with a meaning like *worn-out* does not establish a type of the book kind in a reading context, hence it can only operate at the level of ordinary objects. As a result, it cannot modify the singular kind term *book* and be a part of PI.

The reason why *old book* in (55b) is acceptable under contrastive focus is not obvious. It could not be explained with a local ∃-closure applying at the level of the verb (cf. Diesing 1992), but it must have a source from the semantics of focus-marking. Otherwise, it would be available regardless of contrastive focus. One explanation would be in line with Rooth (1985), who argues that focus-marked elements introduce sets of alternatives and the union of these

[15] A reviewer questions whether *dini* 'religous' could be forming a compound with *kitap* 'book'. There are some tests to distinguish noun phrases modified by adjectives from compounds. For example, while compounds do not allow the indefinite article *bir* to intervene between the first and second elements, e.g. **yün bir çorap* 'a woolen sock' an adjective+noun combination does. *Dini* patterns with the latter, e.g. *dini bir kitap* 'a religuous book'.

alternatives brings with it an existential presupposition (cf. Krifka 1992, and von Vintel 1994). No matter how one analyzes this case, since it is not an instance of PI, the modification of *book* with the object-level adjective *old* is not ruled out. In this case, *book* denotes an atomic property of ordinary objects, and therefore, it cannot yield a number neutral interpretation.

Before proceeding with the details below, I will address an issue that seems to cast doubt on the conclusion reached above: object-level modification of a non-case-marked bare singular is possible in generic contexts. Compare *eski kitap* 'old book' in (55a) with the one in (56).

(56) 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 represented in (57). In the generic case, though, the number neutrality arises since the singular term is in the restrictor of the Generic operator, as shown in (58). 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.[16]

(57) Ali *eski* **kitab-ı** oku-du.
Ali old book-ACC read-PAST
'Ali read the old (worn-out) book.'
read (*Ali*, ιx [*old*(*x*)∧ *book*(*x*)])

(58) *Gen s*, *x* [*s* is a reading situation & *x* = ιy [*old*(*y*) ∧ *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 the taxonomic and object-level modifiers for independent reasons.

I now return to the details of taxonomic modification. It is usually available with adjectives rather than more complex structures like postpositional phrases and relative clauses. However, what kind and structure of modification counts as taxonomic depends on the noun that is modified and the predicate, regulated by the name-worthiness requirement of PI, as mentioned above (e.g., **old book read* vs. *old book sell/buy*). In addition, it is possible for some participial relative clauses to function as taxonomic modifiers, as in (59) (Öztürk 2005: pg. 40).

(59) Ali *oku-yacak* **kitap** al-dı.
Ali read-FUT book buy-PAST
'Ali bought a book/books to read (for spare-time reading.)'

Here, *okuyacak* 'to read' is not an object-level but a taxonomic modifier based on a purposive classification, because it adds the meaning 'for spare-time reading'. Since books have different types based on different purposes, such kind of a classification would not be odd to consider as sub-kind forming for the book kind. So, books for spare-time reading would be one kind, and books for studying, books for coloring, etc. would be other kinds of books in these terms.

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

I suggest that *okuyacak* 'to read' can modify at the taxonomic domain since it 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 out of it for modification, but they are interpreted in their base position, as illustrated in (60). This contrasts with externally headed relative clause structures which require adjunction to a matching external NP.

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

This makes it possible for the bare singular *kitap* 'book' to be interpreted as part of the PI meaning, *book-reading*, hence as a singular kind, even if it raises out of 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 (61). The result can denote any of the book kinds like novels, comics, etc. each of which goes under the category of books for spare-time reading.[17]

(61) The unique (sub-)kind X s.t. there is at least one world w" that is a possible development 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).

To wrap up, considering the facts stated above, I claim that PI-ed bare singulars in Turkish are singular kind terms as argued for weak definites in English by Aguilar-Guevara and Zwarts (2010). Below, I show how they participate in PI.

5.3.2. The analysis

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.[18] 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.

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

Sharing the intuition behind this account, I provide a different analysis for the semantics of PI building on Dayal (2011, 2015), though it can be considered as applying to weak definites of English, as well. I claim that PI-ed bare singulars are semantic (thematic) arguments in line with their syntactic argument status. However, they need to be kept apart from canonical, 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

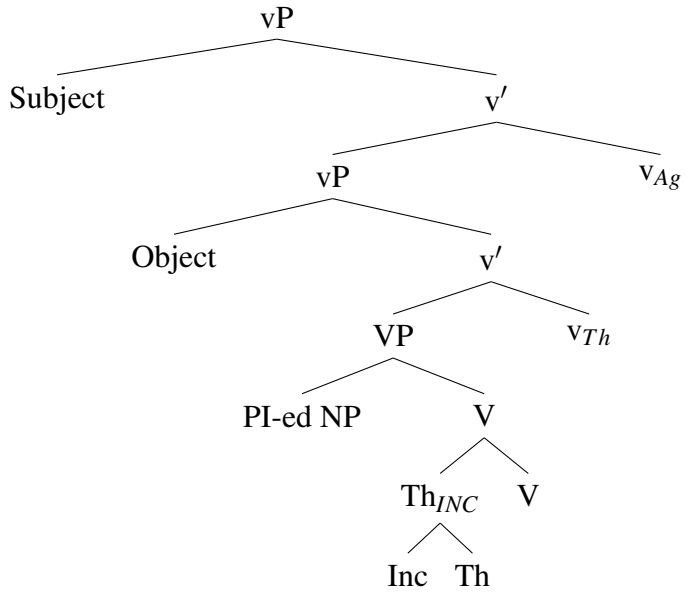
[17] Since the singular kind term is interpreted internally inside the relative clause, the arguments introduced above it do not affect the taxonomic interpretation of the relative clause. E.g., *Ali akşamları çocuklarına okuyacak kitap aldı.* 'Ali bought a book/books to read to his kids in the evenings.'

[18] 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.

functional domain where canonical arguments are introduced and assigned case marking.[19]

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}.[20]

(63)



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 individuals 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:

(64) a. $[\![Th]\!] = \lambda V_{\langle v,t\rangle} \lambda x \lambda e.\ V(e) \wedge Th(e) = x$

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

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

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. The name-worthiness condition of PI is treated as a presupposition about genericity following Dayal (2011, 2015). The incorporation is defined iff the application of Th_{INC} to the verb and its singular kind argument relates to a generic proposition with a canonically recognizable type of events.

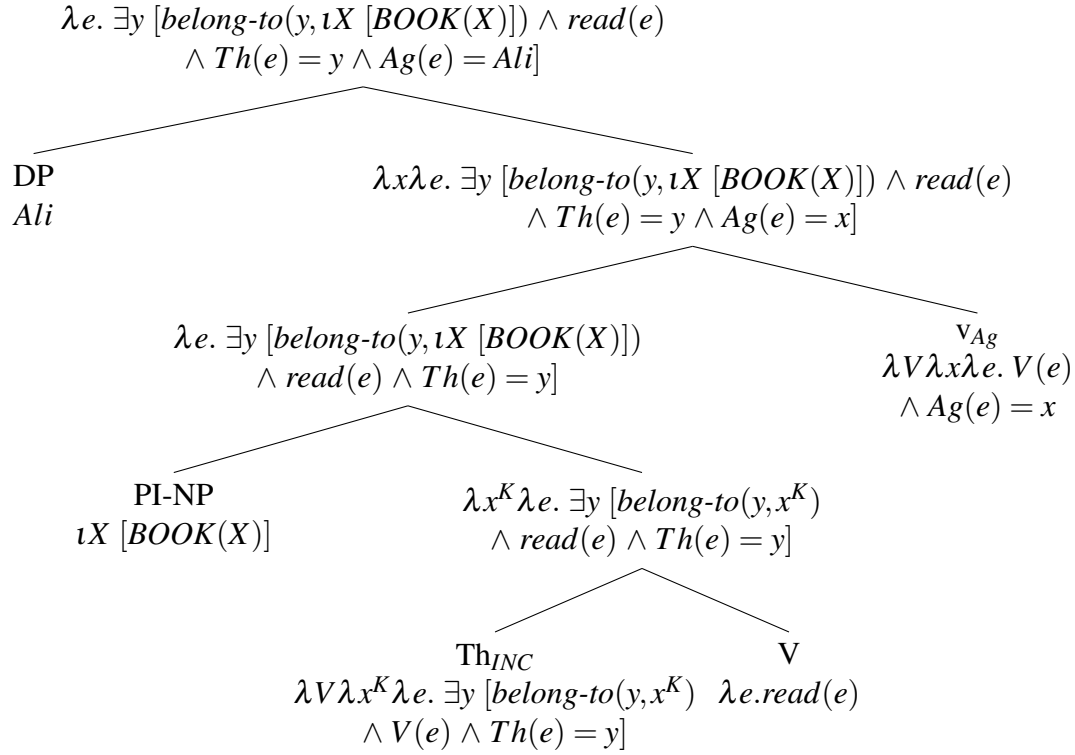
Here is how *Ali kitap okudu* 'Ali did book-reading' is derived: Syntactically, the singular kind

[19]The representation in (63) 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.

[20]The VP internal position is not only dedicated to PI, but in fact it hosts non-specific direct object arguments in general. We discuss this in Section 5.4.2.

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 (65), which is existentially closed, as shown in (66).

(65)



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

Informally, (66) 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.

Now, let us take a moment to see what this account implies for the nature of singular kind terms. It is clear by now that singular kind terms stand in a conceptual relation with their members, which I have captured through the *belong-to* relation, but it is not established in the grammatical component contrasting with the characteristics of plural kind terms. Here, I argue that in fact the grammar resorts to this relation in two cases and one of them is PI, as reflected in the analysis given above, and this is what makes the number neutral interpretation available.[21]

Since the number neutrality is not dependent on aspectual specification in Turkish, it arises in telic as well as atelic aspect. For the same reason, PI with verbs like *compare*, *match*, etc. is also possible.[22] Furthermore, PI yields a narrow scope reading because the theme of the event is introduced through an $\exists$-quantification over the individuals that belong to the referent of the singular kind term 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

[21] Mithun (1984) shows that kind-referring nouns are normally incorporated in languages having incorporation. Following Mithun, Krifka et al. (1995) argue that incorporated nouns refer to kinds, and noun incorporation is a syntactic device to stay in the kind-oriented mode. This idea is very similar to what is proposed here.

[22] 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.

event quantifier always taking narrow scope with respect to the other quantificational elements. For example, (67) 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.

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

Note that PI is similar to DKP in some sense but they are not the same phenomena. DKP applies to plural kind terms built on the instantiation operator *pred* which is always available whenever plural kinds occur with object-level predicates. Thus, DKP is a free process with no positional restrictions. It can occur in case-marked argument positions and does not require adjacency. In contrast, the *belong-to* relation applying to singular kinds is not established in the grammar unless they undergo 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 with object-level predicates, 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 5.4.2.

Before concluding, let me briefly compare my analysis with Aguilar-Guevara and Zwarts's analysis. Like 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 singular kind terms hold with respect to the specimens is different from the one associated with plural kind terms. While the former is a *belong-to* relation, the latter is an *instantiation-of* relation that is captured by the *pred* operator, which is a recasting of Carlson's (1977) *R* relation. Instead, my account reflects this difference. Second, in my account the *belong-to* relation is introduced by the incorporating thematic function, while Aguilar-Guevara and Zwarts establishes *R* through an implicit thematic relation.[23]

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.

5.4. Differences between Pseudo-incorporated and Canonical Arguments

In this section I first examine the differences between PI-ed singular kind terms and canonical arguments that receive case and have a freer status in the structure. Then, I discuss bare plurals occurring in the non-case marked direct object position and show that they are not PI-ed arguments. We will see that some aspects of their behavior follows from treating them as canonical arguments undergoing DKP as well as from being in competition with singular kind terms.

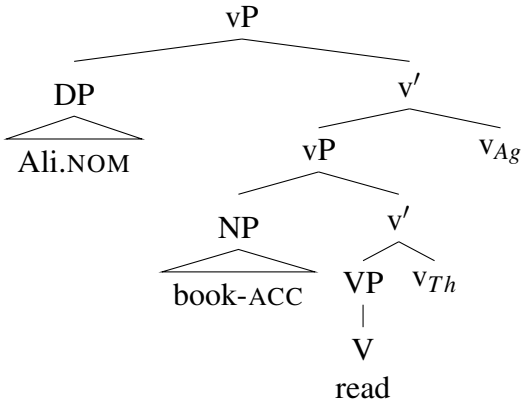
[23]Furthermore, differing from Aguilar-Guevara and Zwarts's account, the *belong-to* relation is accompanied by an $\exists$-quantification over the members of the kind. They avoid it because weak definites do not introduce discourse referents at the ordinary object level. As pointed out in fn 14, this paper does not address the (non-)referentiality issue of Turkish PI and as observed in Seidel (2018b, 2018a) there are cases where PI-ed bare singulars introduce discourse referents and there are cases where they do not. Completely avoiding $\exists$-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 $\exists$-quantification in their analysis.

5.4.1. Case-marked arguments and pseudo-incorporated bare singulars

Canonical arguments are introduced in the functional domain by regular thematic functions and receive case. For example, the bare singular *kitap* 'book' in (68a) denotes an atomic property undergoing *iota* type-shifting to denote a definite singular 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.

(68) a. Ali **kitab-ı** oku-du.
Ali book-ACC read-PAST
'Ali read the book.'
$\exists e\,[read(e) \wedge Th(e) = \iota x\,[book(x)] \wedge Ag(e) = Ali]$

b.



Compare this to (65) where PI-ed singular kind terms are introduced inside the VP. The argument saturation with PI-ed singular kind terms has rather a mediator status. It indirectly makes it possible to identify the theme of the event, and the purpose of this indirect identification is to yield canonically recognizable type of events.

Besides the difference in case-marking, PI-ed bare singulars contrasts with canonical arguments in requiring to be adjacent to the verb. We will see in the following section that adjacency and the lack of case-marking pertain to non-specificity of direct objects in general rather than just being restricted to an instance of this issue, PI (Enç 1991 and Heusinger and Kornfilt 2005). Thus, they are a reflection of a more general phenomenon.

There is an interesting fact related to case marking on proper names that turns out to be quite revealing. Although proper names generally receive case-marking, there are some cases where they appear non-case-marked. Famous book and movie/series names constitute a good example for this, as in (69) (*Çalıkuşu* is a famous Turkish novel).

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

I propose that (69) is an instance of PI where the proper name *Çalıkuşu* gains a kind interpretation, representing the content of a famous novel as an abstract concept. The well-knownness of the novel warrants the construal of an event-type that is the reading of this novel. Namely, *Çalıkuşu* in (69) undergoes PI as a book-kind, conveying a sub-type of reading events, Çalıkuşu-reading. Hence, it appears without case-marking. This does not mean that all proper names referring to some famous entity can be PI-ed. For example, although commemorating Atatürk, the founder of the Republic of Turkey, is a name-worthy and typical event for the people of Turkey, the proper name *Atatürk* cannot be PI-ed. Instead, it has to receive the accusative

case, as shown in (70). 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, unlike the case in famous books and movies that have contents as instantiations. The contrast between (69) and (70) supports the claim that PI is really a matter involving kind terms.

(70) 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.'

Let us now compare PI-ed singular kind terms with singular kind terms that are canonical arguments, receiving case. We have already seen examples of the latter in Section 4.2: In (71a), the singular kind term is an argument to a kind-level predicate. In (71b), it is an argument to an object-level predicate, referring to the computer kind under a representative object reading.

(71) 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 both cases, the argument saturation is canonical in that it occurs through the regular Th function, rather than Th_{INC}. PI contrasts with (71b) in that it does not yield a representative object reading and with (71a) in that a PI-ed singular kind term refers to the kind that the theme of the event is associated with. In (71a) and (71b) the theme of the event is the kind individual itself, but in the case of PI, it is an object-level entity that is in the *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:

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

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

In (72), the singular kind term *ayı* 'the bear' is a canonical direct object to an object-level predicate if it is accusative case-marked, as shown in (72a). 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 bears 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 (72b). 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 (73) represents the interaction of this singular kind term with a universal quantifier in both configurations. Imagine a context where there are a few foundations that are 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 $\exists$-quantification as part of the event meaning, we get the relevant reading in (73b).

In contrast, the accusative case-marked version of (73), represented in (73a), 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, expectedly 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 it is returned. Then, another foundation brings probably a different group, but it is also returned. This continues until each foundation happens to bring the bear kind to the zoo. It does not describe a situation where each foundation brings a different part of the same representative group. This is reminiscent of the case we have seen in Section 4.2: Singular kind terms are incompatible with distributive predicates, as repeated in (74).

(74) ***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 (74) follows from the representative object reading, but it can be made grammatical if the singular kind term is PI-ed instead, as in (75). This is possible because *from different regions* modifies the event of bear-bringing, not the singular kind, in (75). That is, (75) refers to distinct events of bear-bringing each of which is done from different regions, and each bear-bringing event involves different members of the bear kind as its theme.

(75) 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.'

To wrap up, we have discussed the differences between case-marked canonical arguments and PI-ed bare singulars. Below, I show that plural kind terms are not PI-ed in Turkish.

5.4.2. Are plural kind terms pseudo-incorporated?

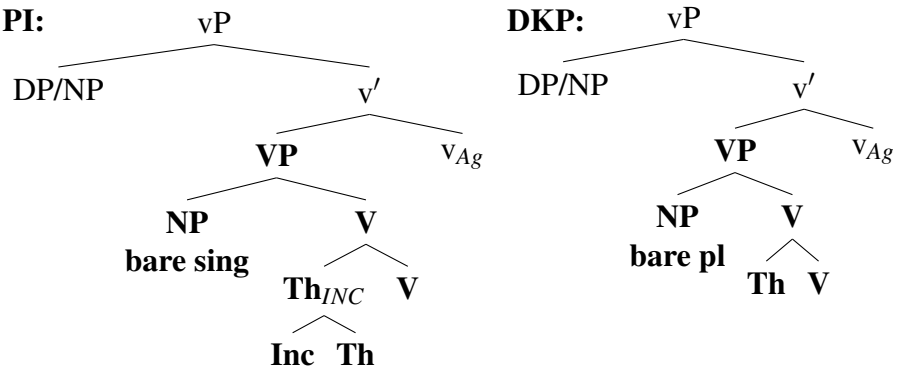
A question arising from the discussion above is whether Turkish plural kind terms can also be PI-ed. To address this, let us consider the behavior of non-case-marked bare plural objects, which, like PI-ed objects, occur immediately preceding the verb. They are awkward at best, and ungrammatical if they are intended to convey a sub-event type reading, as in (76). This is similar to what we have seen with the thematic arguments of the verb *invent* in Section 4.3. Therefore, it further reveals the difference between singular and plural kind terms.

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

The reason bare plurals are not completely ruled out in this position is because they can function as a canonical argument undergoing DKP, hence being interpreted as a narrow scope existential. However, this is only possible if plurality is emphasized in a contrastive way (e.g., *Ali kitap yazmadı, KİTAPLAR yazdı.* 'It is not the case that Ali did book-writing, Ali did BOOKS-writing.'), or in exaggeration contexts where abundance in number is emphasized.[24]

Presumably, a PI-ed singular kind term and a non-case-marked bare plural direct object with a DKP-based existential reading occupy the same syntactic position where case-marking is not available, i.e., the VP internal domain. In this case, there seems to be some kind of a competition between PI and DKP, with the former being privileged and blocking the other.

(77)



When PI is not possible as in the case of ordinary object-level modification (cf. (55b)), DKP of bare plurals is good in this position without contrastiveness or emphasis on the plurality:

(78) Ali *eski* **kitap-lar** oku-du.
Ali old book-PL read-PAST
'Ali read old books.'
$\exists e \exists y\, [read(e) \wedge {}^{\cup\cap}old\text{-}book(y) \wedge Th(e) = y \wedge Ag(e) = Ali]$

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., ${}^{\cap}old\text{-}book$. When this kind individual combines with the object level verb *oku* 'read' DKP applies drawing on *pred*. DKP is not conditioned by name-worthiness, hence *old books reading* is acceptable, in contrast to its PI counterpart.

Note that in the case-marked argument positions, whether they undergo DKP or *iota* type-shifting, plurals are perfectly fine without yielding a contrastive reading or an emphasis on plurality. This is because PI is not available in these cases. More precisely, the DKP of bare plurals is odd in the non-case-marked direct object position only, the place where PI occurs.

I argue that PI blocks DKP because the *belong-to* relation applying to singular kind terms have a privileged status over the *instantiation-of* relation applying to plural kind terms via *pred*. The rule in (79) ensures that PI will apply over DKP, letting DKP to apply only when PI is not available in the same syntactic position.[25]

[24] 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.

[25] In Section 5.8, we will see the same blocking effect in the predicate position, too, and elaborate on the issue.

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

The fact that bare plurals can occur in the non-case-marked direct object position requiring to be adjacent to the verb does not mean that they are PI-ed, since these properties are not only inherent to PI.[26] A good way of supporting this idea would be to find contrasts between PI of singular kinds and DKP of plural kinds, especially in terms of the hallmarks of PI, 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. Number neutrality might be considered as a distinctive property, though. We have already seen in Section 2.2 that bare plurals in Turkish are number neutral but they receive a multiplicity reading in positive contexts due to a conversational implicature. So, (78) 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. This shows that DKP and PI are distinct phenomena.[27]

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 adverbs, always have to occupy an immediate pre-verbal position and cannot precede a case-marked argument, as in (80). However, in the case of PI, they have to precede the PI-ed bare singular, as shown in (81) (Öztürk 2005, Aydemir 2004, and Kamali 2015).

(80) 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.'

(81) 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 (82). Instead, as in (83a), these modifiers modify the bare plural rather than the verb (Aydemir 2004). Notice that if the sentence has a bare singular instead, as in (83b), *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.

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

[26]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.

[27]Furthermore, 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 14.

(83) 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 (81) 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 are not PI-ed.[28]

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-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.[29]

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 the need that they be caseless and not undergo case-driven movement, e.g., passivization.[30]

To sum up, we have discussed the syntactic and semantic differences of PI-ed bare singulars from (non-)case-marked canonical arguments. In the following section, I analyze subject PI.

[28]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 because of semantic reasons.

[29]Aydemir (2004) also argues that while PI supports atelicity, non-case marked indefinite objects are compatible with telicity. Kamali (2015) observes that there are cases where the opposite of this generalization holds depending on the aspectual properties of the verbs. In fact, we have seen in Section 5.2 that PI can occur in telic contexts.

[30]Note also that the requirement that PI-ed nouns be caseless is a parametric issue as Baker (2014) claims; while in some languages like Turkish and Tamil (Baker, 2014) they do not carry case-marking, in some other languages like Hungarian (Kiss, 2002), they receive accusative case marking.

5.5. Subject Pseudo-incorporation

I have argued that bare singulars in argument positions, as opposed to those in the non-case-marked direct object position, are singular definites. I have also argued that bare plurals do not lend themselves to PI. A striking confirmation of these claims comes from examples such as (84) that may at first seem to pose a challenge for the position I have staked out:

(84) 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 (84).[31] 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 (84) and (85) (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 the *iota* type-shift to yield a singular definite subject.

(85) **Arı** Ali-yi sok-tu.
bee Ali-ACC sting-PAST
'The 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 (86a), whereas PI-ed subjects remain non-case-marked, as in (86b) (Johanson 1977, Kornfilt 1984, 1997, 2009, Heusinger and Kornfilt 2005).

(86) 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 further piece of support. Recall that PI-ed bare singulars do not take object-level modifications but take taxonomic-level modifications depending on the activity type, leading to sub-kind level interpretations. In the case of (84), it is possible to have European-bee stinging, but not broken-wing bee stinging, as shown in (87). (The adjective *siyah* 'black' in (87b) defines the European honey bee.)

(87) 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.'

[31] 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.'

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 (84) also fall into the same analysis proposed for object PI. As in object PI, PI-ed subjects are introduced inside the VP, hence, 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 (85), the subject cannot be a PI-ed subject. Namely, a caseless argument cannot be preceded by a case-marked argument due to their 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 (88).[32] Based on this, the syntax and semantics of (84) are illustrated in (89), 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.

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

(89) a. $[_{vP}\ [_{NP}\ Ali.\text{ACC}]\ [_{v'}\ [_{VP}\ [_{PI-NP}\ bee]\ [_{V}\ [_{AgINC}\ Inc\ Ag]\ [_{V}\ sting]]]\ v_{Th}]]$
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 (85), both the subject and object DPs are canonical arguments introduced at the functional domain receiving 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.

Because the number neutrality of PI-ed subjects stems from singular kind reference, as is the case with object PI, it is independent of aspectual specification. This is evidenced by (90), which is true if single or multiple bees are involved in the stinging event happening in a second.

(90) Ali-yi bir saniye-de **arı** sok-tu.
Ali-ACC one second-LOC bee sting-PAST
'Ali got bee-stung in one second.' (one or more bees)

Recall that PI-ed bare singulars obligatorily take scope under other quantifiers. Accordingly, if (84) 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 event quantifier always takes narrow scope with respect to the other quantificational elements, this $\exists$-quantification is also interpreted under these quantificational elements.

[32] 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 taxonomic modification only. How case-marking is retained in the latter needs explanation, but we could say that *Inc* also applies to the goal function.

Recall further that PI in Turkish does not apply to bare plurals. As predicted, the plural version of (84) 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* in episodic contexts. The fact that they are not PI-ed is evidenced by their obligation to receive the genitive case in nominalized clauses (cf. with (86b)):

(91) 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 bees/the bees stung Ali.' (canonical subject)

DKP of a bare plural subject does not compete with a singular kind term, since PI does not occur in case-marked argument positions. So, bare plural subjects are still good in the preverbal position without the restrictions observed in their object counterparts discussed previously.

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.

5.6. Interim Summary

We have seen that Turkish bare singulars occurring as non-case marked direct objects are instances of PI. The main contribution has been to show that PI needs a parametric account hinging on a comparison of Turkish with Hindi and Hungarian (Dayal 2011, 2015). Based on the similarities with weak definites with PI and building on Dayal's (2011, 2015) and Aguilar-Guevara and Zwarts's (2010) analyses, I have argued that PI alternatively occurs with singular kind terms, and this is the way used in Turkish.

In a nutshell, Turkish PI occurs through an Inc head that denotes an incorporation function, *Inc*. It takes a thematic function, Th or Ag, restricts the domain of individuals they operate on to singular kinds only, and introduces the *belong-to* relation between the theme/agent of the event and the the singular kind. Crucially, PI is one of the two places where the grammar resorts to the *belong-to* relation that conceptually holds between the referents of singular kind terms and individuals we intuitively associate with them. Number neutral interpretation arises because the set of individuals that belong to a kind include both atomic and plural individuals.

I will now examine the other two cases where bare singulars receive a number neutral interpretation i.e., the existential copular construction and the predicate position.

5.7. 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. The relevant example is repeated below.

(92) Oda-da **fare** var.
room-LOC mouse exist
'There is a mouse/are 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 (92) but plurals, indefinites, numerical and universally quantified expressions, definites, demonstratives, pronouns, and proper names can also be pivots, as shown in (93). Namely, Turkish existential clauses are unrestricted in that respect and do not show a definiteness effect (cf. Kelepir 2001).[33]

[33] Arguing against the lack of the definiteness effect, a reviewer points out that with the "unexpected" pivots, the construction is not genuinely existential, but receives a possessive meaning. However, the possessive reading

(93) 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 a strict word order relation between the locative phrase and the pivot in these structures evidenced by the fact that the sentence becomes ungrammatical if the pivot is left-dislocated (Taylan 1984). However, as is the case with PI-ed bare singulars, separation of the pivot from the copula can be successful for pragmatic purposes 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, Chen 2008, 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, and it would be misleading to treat bare singulars as properties in this construction for the following reason.

Bare singulars cannot be modified at the ordinary object level when they convey a number neutral reading in this construction, similar to PI-ed bare singulars.[34] This type of modification is only possible if they are interpreted as singular definites, as in (94a). However, taxonomic modification does not obligate a definite interpretation, as shown in (94b). These facts would not be expected if bare singulars denoted properties restricting the ∃-quantifier in this construction.

(94) a. Kutu-da *eski/ büyük/ kırmızı* **kitap** var.
box-LOC old big red book exist
'This box has the old/big/red book.'
Not: 'There is an old/big/red book/are old/big/red books in this box.'
b. Kutu-da *dini/ tarihi/ bilimsel* **kitap** var.
box-LOC religious historical scientific book exist
'This box has the religious/historical/scientific book.'
'There is/are a religious/historical/scientific book/books in this box.'

I conclude that bare singulars in the existential copular construction occur as singular kind terms or as property denoting. In the latter case, they are type-shifted via *iota* to yield a definite reading. That is, they cannot serve as the property denoting restrictor to the existential quantifier presumably introduced by the existential copula and yield a standard indefinite reading.

I claim that in the existential clauses of Turkish, the existential copula denotes a property of existing/being present and the pivot is a subject bearing the theme role on a par with unaccusative constructions. This explains the unrestricted nature of the pivot and the lack of the definiteness

arises when the locative phrase is animate like a human, and it applies to all pivots, not just to the unexpected ones. 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, as argued below, applying to this case as being present at one's possession.

[34]I assume that *old* is not interpreted with a taxonomic meaning, i.e., ancient/historical. The facts regarding contrastive focus and generic contexts discussed in Section 5.3.1 hold here, as well. 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 taxonomic function yielding a number neutral reading. This also holds for the adjectives *big* and *red*. My point is that the taxonomic readings of these adjectives require significant contextual support, but with modifiers in (94b), the sentences yield a number neutral reading even in out of the blue contexts.

effect 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. 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 subtype 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 (92) 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]

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

b. $[\![(92)]\!] = \exists e\ \exists y\ [belong\text{-}to(y, \iota X\ [MOUSE(X)]) \wedge exist(e) \wedge Th(e) = y \wedge Loc(e) = \iota x\ [room(x)]]$

Similar to the case discussed in Section 5.5, all the pivots except for the pivot occurring as a singular kind term receive the null nominative case marker, and this difference becomes visible by the genitive case marking in nominalized embedded clauses, as shown below.

(96) 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 is a mouse/are 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 not clear to me at this point. This is not the case with regular unaccusative constructions. We could assume that just like non-case-marked direct objects in general, i.e., PI-ed bare singulars, weak indefinites, and bare plurals undergoing DKP, all pivots are introduced in VP-internally instead of being introduced 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 shown above unexplained because VP internal arguments, both objects and subjects, as shown during the analysis of PI, do not receive case (cf. Kelepir 2001). In our case, it is syntactically evident that all pivots except for singular kinds 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.[36]

With this analysis at hand, we expect bare singulars in the existential copular construction to convey narrow scope readings due to PI as opposed to the other pivots.[37] For example, in (97), 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.

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

[36]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.

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

(97) 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.'
$\forall y\,[place.of.house(y) \rightarrow \exists e\,\exists y\,[belong\text{-}to(y, \iota X\,[MOUSE(X)]) \wedge exist(e)$
$\wedge\, Th(e) = y \wedge Loc(e) = \iota x\,[room(x)]]$

If the singular kind term was not PI-ed, we would not expect a narrow scope reading. As a canonical kind-denoting argument, the bare singular would yield the implausible reading 'The mouse (as representative of the mouse kind) is such that it exists everywhere in the house.'[38]

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 kind terms with their members through the *belong-to* relation established as part of PI semantics.

5.8. Singular Kind Reference in the Predicate Position

Finally, let me address the number neutrality of bare singulars in the predicate position. 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:

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

In Section 3, we have seen that this use of bare singulars is restricted in terms of modification. We have established above that the denotation of bare singulars can be ascertained on the basis of taxonomic vs. object level modification. This diagnostic also applies to the case under discussion. When bare singulars in the predicate position are modified at the ordinary object-level, they are only compatible with singular subjects, as repeated in (99a). If the adjectival modifier is taxonomic yielding a sub-kind interpretation then the predication is compatible with both singular and plural subjects, as repeated in (99b).[39]

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

The former is expected since bare singulars denote atomic properties of ordinary individuals, compatible with object level modifiers. Thus, they can only be predicated of singular subjects.[40] In parallel with PI, the latter can be explained if bare singulars can also appear as singular kind terms in the predicate position, being only compatible with taxonomic modifiers.

The next question is how the predication occurs when bare singulars are singular kind terms, but not property denoting elements. Since shifting to a property type is not possible for singular

[38]Note that 'The mouse (as a kind) exists everywhere' in its global interpretation is good both in English and Turkish because this is a kind-level predication where the singular kind term refers to the totality of the mouse kind directly, not as a representative object, and this totality is widespread everywhere.

[39]The possibility of *pratisyen doktor* being a compound is eliminated for the indefinite article can intervene between the two words, e.g., *Pratisyen bir doktora ihtiyacımız var.* 'We need a practitioner doctor'. See ft 15.

[40]Bare singulars in the predicate position resist complex modifiers like relative clauses, either being interpreted as definite or requiring the indefinite form. This paper does not offer an explanation for this. The aim is to show that modification of bare singulars when available yield interesting predictions regarding the number interpretation.

kind terms, it 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 holding between a singular kind and individuals that are members of this kind to be established in the grammatical component. This is achieved by the copula playing the role of a null operator that takes a singular kind term and a subject term and establishes the *belong-to* relation between the two.[41] I will call this phenomenon *kind specification*. Given that members of kinds can be both atomic and plural individuals, kind specification can be achieved with both singular and plural subjects. This explains the compatibility of bare singulars with plural subjects in the predicate position. The denotation that the copula has in this construction is given in (100a). The denotations of *Ali çocuk* 'Ali is a child' and the sentence in (98) are given in (100b) and (100c).[42]

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

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 kind 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 (99a).

I will now show that just as in PI, kind specification also reveals the difference between singular and plural kind terms. We would expect plural kind terms to appear in the predicate position in two ways. One is to occur as properties, the other as definites, undergoing type-shifting via *iota*. However, the first option is unavailable as evidenced by (101) which means 'Ali and Mehmet are the doctors.', not 'Ali and Mehmet are doctors.', receiving an equative interpretation.[43]

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

This does not mean that bare plurals can only be definites in the predicate position since they can also receive a predicative interpretation if they are modified, as shown in (102a). However, for this, they should receive an ordinary object level modification. Under taxonomic modification, as in (102b), the bare plural receives an equative reading, just like in (101).[44]

(102) a. Ali ve Mehmet *yakışıklı* **doktor-lar**.
'Ali and Mehmet are (the) handsome doctors.'

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

[42] This use of bare singulars in the predicate position can also be found in Romance and Germanic languages like Dutch, French, Spanish, and German, although it is more restricted compared to the ones in Turkish. See de Swart et al. (2007) for an account of them which is in similar lines with the analysis given here.

[43] 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.

[44] As pointed out in fn 4, 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. Note that this is 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.

b. Ali ve Mehmet *pratisyen* **doktor-lar**.
'Ali and Mehmet are the practitioner doctors.'

What prevents bare plurals from having property denotations unless they are modified at the ordinary object level? Notice that ordinary object-level modification is exactly the case that a singular kind term is not capable of. In other words, bare plurals are only allowed to occur as properties in the predicate position when singular kind terms cannot occur there. They are resorted to only in case of a need. This is reminiscent of the competition between plural kind terms undergoing DKP and PI-ed singular kind terms which was discussed in Section 5.4.2. I have argued that PI blocks DKP since the *belong-to* relation has a privileged status over *pred* when it is available in grammar, and I have stated this constraint as a rule, which I repeat below.

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

Clearly, this constraint applies in the predicate position, too. One way for bare plurals to have a property denotation is through their kind reference, i.e., by 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 (103). 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. Therefore, no competition arises. 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 use even when kind specification is still available.

The crucial question, though, is why there is a competition between the *instantiation-of* relation conveyed by *pred* and the *belong-to* relation after all. In both kind specification and PI, the two opponents compete for the same syntactic position. In the former case, the competition occurs in the predicate position, that is the complement position of the copula. In the latter case, it occurs in the non-case-marked direct object position, that is the complement position of the verb. Although the exact reason behind this competition is obscure at this point, it is unsurprising to see that plural kind terms systematically have an under-privileged status with respect to singular kind terms. As discussed in Section 4.3, in Turkish singular kind terms are a direct way of referring to kinds, whereas plural kind terms represent an indirect, derived way of kind reference formed through instantiating entities, which is subject to some contextual restrictions. Recall that this disparity has been observed in their ability to name kinds and to be an argument to the verb *invent*. We have seen that singular kind terms are capable of these in Turkish, but plural kind terms are not. From an intuitive point of view, singular kind terms seem to have an ontologically privileged status compared to plural kind terms. Thus, it is not unexpected that the relation that they hold with respect to the members of the kind they denote takes over the instantiation operation *pred* when a competition takes place between the two.

6. Consequences for Numeral Semantics

There remains one notable fact about Turkish that the view of bare singulars adopted here has direct bearing on, which needs to be addressed before concluding. Numerals in Turkish are incompatible with plurals as opposed to languages like English, as shown below.

(104) iki kitap(*-lar)
'two books'

On one view of the semantics of numerals, where numerals are treated as restrictive modifiers in the sense of Link (1987), English numeral constructions are straightforward to account for. Namely, a numeral that is of type $\langle e,t\rangle$ intersects with a plural and denotes a set consisting of only individuals with the relevant cardinality (see also Partee 1987, Link 1983, Link 1987, Landman 1989, among others). In this analysis, the fact that numerals combine with a singular noun in Turkish would be an argument for the number neutral analysis of Turkish bare singulars. Indeed, Bale et al. (2010) propose precisely that.

However, there is an alternative view where numerals combine with atomic properties, hence take the singular nouns as the core. Ionin and Matushansky (2006) argue that English *-s* in numeral constructions is number agreement rather than a genuine plural marker. They claim that true plurals cannot combine with numerals because only individuals of the same cardinality can be counted. A plural noun such as *books* denotes a set of individuals x, where each x is a plurality of books, and these pluralities do not necessarily have the same cardinality. Namely, *books* in *two books* has to be semantically singular, only denoting a set of atomic individuals. On the other hand, languages like Turkish lack this number agreement in their numeral constructions (cf. Scontras 2014 and Martí 2017).[45] So, in their view, numerals are modifiers of type $\langle\langle e,t\rangle,\langle e,t\rangle\rangle$ the lexical complement of which has to be atomic. Their illustration is given in (105) (Ionin and Matushansky 2006: pg. 321). Informally, $[\![\textit{two books}]\!]$ is stated as in (106).

(105) a. $[\![\textit{two}]\!] = \lambda P\, \lambda x\, \exists S\, [\prod (S)(x) \wedge |S| = 2 \wedge \forall s \in S\, P(s)]$
b. $\prod (S)(x) = 1$ iff S is a cover of x, and $\forall z, y \in S\, [z = y \vee \neg\exists a\, [a \leq_i z \wedge a \leq_i y]]$
c. A set of individuals C is a cover of a plural individual X iff X is the sum of all members of C: $\sqcup C = X$

(106) $\lambda x \in D_e$. x is a plural individual divisible into 2 non-overlapping individuals p_i such that their sum is x and each p_i is a book.

It is worth pointing out that Ionin and Matushansky's view of numerals is motivated on independent grounds. As they show, complex numeral constructions like *two hundred books* can only be given a compositional account if counting takes atomic properties. Treating numerals as predicates faces the problem that the predicate modification would result in incorrect truth-conditions. Namely, the NP *two hundred books* would denote the empty set since for no x it is the case that the set of atoms is equal to both two and hundred simultaneously.

The same holds for Turkish, as well. Thus, I argue, contra Bale et al. (2010), that not only are counting constructions amenable to an account of Turkish bare singulars as atomic properties, they are further evidence for it (see XXX).[46]

7. Conclusion

This paper has explored the semantics of bare singulars in Turkish, which are unmarked for number, but receive both singular and in certain constructions number neutral readings. With an aim to address this challenge, I have pursued an approach where they are taken to be fundamentally singular terms as unmarked nouns of English, showing that singularity is not only a way of naming their morphologically unmarked status, but also a semantic property of them. This is based on their singular interpretation in case-marked argument positions and their singular kind reference, which has a grammatically impure atomic but conceptually plural nature,

[45] Other languages that Ionin and Matushansky (2006) cite to pattern as Turkish are Hungarian and Welsh.

[46] In Turkish *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.

contradicting with plural kind reference (Dayal 2004). This approach contrasts with the previous accounts where bare singulars in Turkish are argued to denote number neutral sets, inclusive of atoms and pluralities (Bliss 2004, Bale et al. 2010, and Görgülü 2012).

I have proposed that the perceived number neutrality of bare singulars in certain constructions, i.e., the non-case-marked argument position, the existential copular construction, and the predicate position, follows from their singular kind reference. The first two are analyzed as instances of the phenomenon called pseudo-incorporation, which I have argued to occur through an incorporating thematic function that defines the kind that 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 the establishment of a *belong-to* relation that conceptually holds between the referents of singular kind terms and the object-level entities we intuitively associate with them. I have also analyzed the number neutral interpretation of bare singulars in the predicate position as being a result of a phenomenon that I have called kind specification. Similar to PI, in kind specification, a special copular semantics establishes a *belong-to* relation between the referent of a singular kind term and the referent of a singular or plural subject term. Crucially, we have seen that the establishment of the *belong-to* relation bleaches the application of *pred* to plural kind terms, resulting in a privileged status for bare singulars over bare plurals in these constructions.

I have also shown that bare plurals of Turkish are like English bare plurals in denoting number neutral sets, but we have also seen several respects in which bare plurals of the two languages differ from each other when they denote kinds. Nevertheless, the core idea of this study is that the correlation between morphological and semantic (un-)markedness is manifested asymmetrically in Turkish aligning with English.

Finally, I have discussed the consequences of my study for the semantics of numerals which lend themselves better to Ionin and Matushansky's (2006) view where they are treated as functions combining with atomic properties.

Ultimately, the present view can shed light on other languages where singular forms sometimes behave like singular terms and sometimes like plural terms, despite the presence of a morphological singular/plural distinction. Western Armenian (e.g. Bale et al. 2010, 2014), Persian (e.g. Modarresi 2014), and Hungarian (e.g. Farkas and De Swart 2003) can be taken as examples for this typology and are worth considering under the approach pursued here.

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