From numeral to indefinite: A kind-sensitive pathway in Turkish*

Metehan Eryılmaz,[1] Ömer Demirok[1] & Yağmur Sağ[2]

[1]Boğaziçi University, [2]Swarthmore College

1. Introduction

In articleless languages, bare nouns readily express definiteness, while indefiniteness tends to be marked by the numeral 'one,' often in a reduced or unstressed form. Turkish is one such language, where the indefinite article 'a/an' and numeral 'one' is collapsed into a single form *bir*. This ambiguity is illustrated in (1).

(1) Dün market-ten bir elma al-dı-m.
yesterday grocery-from BIR apple buy-PST-1SG
'Yesterday, I bought one/an apple from the grocery.'

Given this, an overarching question arises that needs addressing: what exactly is the semantic status of *bir* in its indefinite use? That is, has it grammaticalized into a *bona fide* indefinite article, or does it remain a numeral in disguise?

Our study, situated within the broader goal of understanding how indefinite forms are built in articleless languages, argues that at least in Turkish, *bir* has not yet developed into a true indefinite article. Rather, it has evolved into a distinct semantic category, separate from pure numerals. In particular, we argue that indefinite *bir*-NPs are, in fact, predicative and derive their existential force through type-shifting. Crucially, the primary function of *bir* in these constructions is to map a singular kind to a property of individuals that *belong-to* that kind and are of cardinality one (*à la* Sağ 2019, 2022).

This paper is organized as follows. In Section 2, we discuss three types of distributional facts concerning *bir*-NPs. Section 3 provides a general background for kind reference in Turkish. In Section 4, we present our semantic account of *bir*-NPs. 5 concludes the paper with a small discussion.

*We owe our thanks to Furkan Dikmen. During the initial stages of this study, he provided the core insight that *bir* may be involved in conversion from kind denotations (see also Martin (2022)). We are also grateful to the reviewers of and the audience at NELS 56 at NYU.

2. Empirical overview

In this section, we outline three distinct empirical observations concerning the distribution of *bir*-NPs: the syntactic position of *bir*, its semantic effects, and the existential force of *bir*-NPs.

2.1 The syntactic position of *bir*

In the most unmarked order, Turkish numerals precede NPs, hence appearing in the order Num » Adj » N, as shown in (2). This complies with Greenberg's (1963) U20, which posits the universal ordering of Dem » Num » Adj » N.[1]

(2) üç küçük kedi
three small cat
'three small cats'

However, unlike other numerals, *bir* seems to favor the immediately prenominal position in most contexts. A closer look reveals that *bir*'s position relative to the Adj is, in fact, correlated with whether it acts as an indefinite or a numeral (cf. Bayırlı 2018; see also Underhill 1976). In its indefinite use, *bir* necessarily appears in the immediately prenominal position, as in (3a), whereas in its numeral use it obligatorily precedes the Adj within the NP, as in (3b). Reversing the order of *bir* and the Adj in both (3a) and (3b) results in infelicity.

(3) a. Ağaç-tan kafama küçük **bir** elma düş-tü.
tree-from on.my.head small a apple fall-PST
'A small apple fell on my head from the tree.' cf. #**bir** küçük elma

b. Yanıma **iki** büyük armut, **bir** küçük elma al-dı-m.
with.me two big pear, one small apple take-PST-1SG
'I took two big pears and one small apple with me.' cf. # küçük **bir** elma

In the predicate position, the contrast is much sharper: *bir* must appear immediately before the noun, as shown in (4a). The numeral meaning of *bir* is disfavored in this position, rendering the *bir* » Adj » N order ungrammatical, as illustrated in (4b).

(4) a. Ezo tatlı **bir** kedi.
Ezo cute BIR cat
'Ezo is a cute cat.'

b. *Ezo **bir** tatlı kedi.
Ezo BIR cute cat
Int: 'Ezo is a cute cat.'

[1]Turkish also allows the Adj to precede the Num, in which case a small prosodic break between the Adj and the Num is noticeable, suggestive of its derived status.

2.2 Modification facts

In the previous section, we showed that *bir*, in its indefinite use, is immediately prenominal, requiring any modifier to precede it. However, this restriction holds only for object-level modification. With kind-level modification, by contrast, *bir* obligatorily precedes such modifiers. That is, whether *bir* in its indefinite use can precede adjectives hinges on kind- vs. object-level modification. Correspondingly, an adjective receives an object-level reading when it precedes *bir*, and a kind-level reading when *bir* precedes it. This results in a more fine-grained ordering of modifiers with respect to *bir*, as illustrated in (5).

(5) object-level modifiers $<$ ***bir*** $<$ kind-level modifiers $<$ noun

To better illustrate these facts, let us consider the sentences in (6). In the context given below, (6a) is true, where *uzman* 'skillful' describes a property of Ayla as a doctor. However, in the same context, (6b) is not true, where *uzman* means 'specialist', denoting a subkind of doctors. Based on this, we can conclude that adjectives below *bir*, as in (6b), cannot have an object-level interpretation.

> **Context:** Although Ayla hasn't completed her residency, and isn't a specialist yet, she is very skillful.

(6) a. Ayla uzman **bir** doktor.
Ayla expert BIR doctor
Ayla is a skillful doctor.

b. #Ayla **bir** uzman doktor.
Ayla BIR expert doctor
'Ayla is a specialist doctor.'

Now let us take a look at the sentences in (7). Similarly, in the context below, (7b) is true, where the adjective *beyaz* specifies a sub-kind of lion species, whereas (7a) is false, where *beyaz* describes a property of the particular lion seen. This shows us that adjectives above *bir*, as in (7a), cannot have a kind-level interpretation.

> **Context:** We saw a white lion by species, but it wasn't white in color due to a genetic condition.

(7) a. #Orman-da beyaz **bir** aslan gör-dü-k.
forest-in white BIR lion see-PST-1PL
'We saw a white lion in the forest.'

b. Orman-da **bir** beyaz aslan gör-dü-k.
forest-in BIR white lion see-PST-1PL
'We saw a white lion in the forest.'

2.3 The existential force of *bir*-NPs

The existential interpretation of *bir*-NPs exhibits variation depending on case marking. In case-marked argument positions, *bir*-NPs are interpreted as strong indefinites, as shown in (8). Consistent with cross-linguistic patterns, they exhibit both scopal interaction and

exceptional scope.[2] For example, in (8), *bir*-NP can take scope outside of the conditional, giving rise to an exceptional wide scope reading, or it can be interpreted inside the conditional, yielding a narrow scope reading.

(8) Eğer **bir çocuğ-a** yardım edersen, sana minnettar ol-acağ-ım.
if BIR child-DAT help.COND.2SG you.DAT grateful be-FUT-1SG
Reading 1: There is a child and if you help her, I will be grateful to you. $\exists >$ if
Reading 2: If you help any child, I will be grateful to you. if $> \exists$

This contrasts with case-marked bare NPs, which gain a definite interpretation, as shown in (9).

(9) Eğer **çocuğ-a** yardım edersen, sana minnettar ol-acağ-ım.
if child-DAT help.COND.2SG you.DAT grateful be-FUT-1SG
'If you help the child, I will be grateful to you.'

On the other hand, in the caseless direct-object position—taken to be VP-internal in Zidani-Eroglu (1997), Kelepir (2001), Öztürk (2005)—strong indefiniteness no longer holds. In other words, narrow-scope interpretation is the only available reading for *bir*-NPs. As shown in (10), a wide-scope interpretation for *bir hata* 'a typo' is not possible.

(10) Editör metin-de **bir hata** bul-a-ma-dı.
editor text-in a typo find-ABIL-NEG-PST
'The editor couldn't find any typo in the text.'
($\neq$There is a typo that the editor couldn't find.)

To summarize, we aim to account for three core properties of *bir*-NPs in their indefinite ('a/an') use. First, *bir* is merged into a position lower in the nominal structure than numerals. Second, *bir* may precede a sub-kind-denoting adjective, but not an object-level one. Lastly, the strong indefinite interpretation is dependent on case marking.

3. Background on kind reference in Turkish

As demonstrated above, the position of *bir* within the NP is systematically conditioned by whether the adjective receives a kind-level or object-level interpretation. To better understand the source of this sensitivity, we now turn to the nature of kind reference in Turkish.

[2] With accusative case, indefinites receive a (partitive-)specific reading, as shown in (i) (cf. 8) (Enç 1991). (This is the case even under narrow scope; see Kelepir (2001)). Kelepir (2001) argues that accusative-marked indefinites have an existential presupposition, which gives rise to their specificity effect. Since this phenomenon is tangential to our analysis, we set aside accusative-marked *bir*-NPs in what follows.

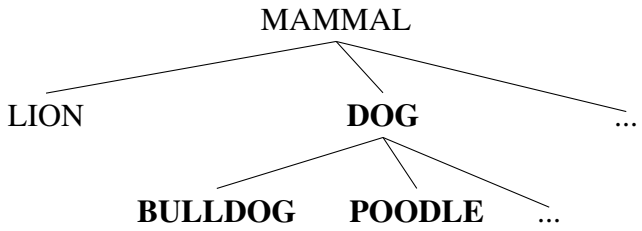
(i) Editör metin-de bir hata-yı bul-a-ma-dı.
editor text-in BIR typo-ACC find-ABIL-NEG-PST
'There is a typo such that the editor could not find it.'
($\neq$The editor couldn't find any typo in the text.)

Like many languages, Turkish uses both singular and plural terms for kind reference. This is illustrated in (11).

(11) a. **Dinozor(-lar)** 250 milyon yıl önce evrimleş-miş-tir.
dinosaur-PL 250 million year ago evolve-ANT-GNR
'The dinosaur/Dinosaurs evolved 250 million years ago.'
b. **Ayı(-lar)** genelde saldırgan ol-ur.
bear-PL generally aggressive be-AOR
'The bear is/Bears are generally aggressive.'

Singular and plural kind terms have some well-attested differences, such as the incompatibility of singular forms with distributive predicates and reciprocals. Building on these contrats, Dayal (2004) argues for a distinction between the two forms of kind reference. Plural kind terms have an inner structure, which involves the property meaning built on the set of object-level instances (Carlson 1977, Chierchia 1998, Krifka 2003). Singular kind terms, on the other hand, are primitive and directly refer to a kind in a taxonomic hierarchy, as exemplified in (12).

(12)



Dayal further argues that singular nouns are ambiguous in denoting an atomic property of object-level individuals and an atomic property of kind-level, i.e., taxonomic, entities. Under the taxonomic interpretation, a singular noun like *dog* can refer to the unique dog kind through its combination with the definite article, as in (13a), or characterize an atomic set whose members are subkinds of the dog kind (e.g., bulldog, poodle, etc.), as in (13b), therefore allowing quantification over subkinds. (Following common practice, kind-level individuals are represented with capital letters.)

(13) a. The dog evolved from the wolf.
$[\![dog_k]\!]$ = {DOG}
b. Every dog is easy to train.
$[\![dog_k]\!]$ = {BULLDOG, POODLE, GOLDEN.R, ...}

Following Dayal's view, Sağ (2019, 2022) argues that Turkish singular nouns are also ambiguous between atomic properties of object-level individuals and of singular kinds. In articleless languages like Turkish, definiteness is assumed to be possible through the covert *iota* operator, and therefore, singular nouns can have definite reference at both object and kind-level contexts, as shown below.

(14) Köpek beni yala-dı.
dog me lick-PST
'The dog licked me.'

a. $[\![köpek]\!] = \{\text{Fido}\}$
b. ι: $\lambda P.\ \iota x.\ P(x)$, defined iff there is a unique x in P
c. $\iota([\![köpek]\!]) = \text{Fido}$

(15) Köpek kurt-tan türe-miş-tir.
dog wolf-ABL evolve-ANT-GEN
'The dog evolved from the wolf.'

a. $[\![köpek_k]\!] = \{\text{DOG}\}$
b. $\iota([\![köpek_k]\!]) = \text{DOG}$

In Dayal's analysis, kinds overall are conceptually plural, but singular kind terms are *grammatically impure atomic* terms. They hold a relation with specimens at the *conceptual* level and differ from plural kind terms in not allowing type-shifting to sets of object-level entities. As a result, reciprocals, as in (16b), and distributive predicates, as in (16a), cannot access the sets of members of the kind (Sağ 2022: 761 & 764).

(16) a. **Ayı*(-lar)** bu hayvanat bahçesine farklı bölge-ler-den gel-di.
bear-PL this animal garden.DAT different region-PL-ABL come-PST
'Bears/*The bear came to this zoo from different regions.'

b. **Kedi*(-ler)** birbirine saldır-ır.
cat-PL each other attack-AOR
'Cats attack each other. / *The cat attacks each other.'

Sağ (2019, 2022) calls the relation that singular kind terms bear to atomic and plural object-level entities associated with kinds the *belong-to* relation, as defined in (17).

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

She further argues that the *belong-to* relation is established in certain constructions in Turkish, such as copular structures, where a bare singular appears as a singular kind-denoting predicate, as well as in pseudo-incorporation structures. Example (18) illustrates this with a copular construction, where the bare singular *çocuk* 'child' appears in predicate position.

(18) *Kind-specification in predicate position*
Ali (ve Merve) **çocuk**.
Ali and Merve child
'Ali is a child./ Ali and Merve are children.'

In (18), the copula acts as a null operator, taking as its arguments a singular kind term (*çocuk*) and a subject term—singular or plural—, and forms the *belong-to* relation between the referents of the two. Sağ refers to this phenomenon as *kind-specification*. The semantic denotation of the copula is given in (19a), and the meaning of (18) with a singular subject term (*Ali*) is presented in (19b).

(19) a. $[\![\text{COP}]\!] = \lambda x_k \lambda y.\ belong\text{-}to(y, x_k)$
b. $[\![Ali\ çocuk_k\ \text{COP}]\!] = belong\text{-}to(Ali, \iota x_k.\ child_k(x_k))$

It is possible to have kind-specification with plural subject terms as well, given that sum individuals (*Ali and Merve*) also belong to kinds. This explains why bare singulars are compatible with plural subjects in predicate position. The denotation of the sentence in (18) with a plural subject term is shown in (20).

(20) $[\![Ali\ ve\ Merve\ çocuk_k\ \text{COP}]\!] = belong\text{-}to(Ali \oplus Merve,\ \iota x_k.\ child_k(x_k))$

Bare singulars in predicate position exhibit contrasts in modification depending on the nature of the modifier. Sağ shows that, under taxonomic modification, bare singulars are compatible with both singular and plural subjects, aligning with their kind denoting nature in this position. An example is given in (21), where the taxonomic (kind-level) adjective *pratisyen* 'practitioner' modifies the bare singular *doktor* 'doctor'. The result is compatible with either a singular subject (*Ali*) or a plural subject (*Ali ve Mehmet*).

(21) *Taxonomic (kind-level) modification*
Ali (ve Mehmet) pratisyen **doktor**.
'Ali is a practitioner doctor.'
'Ali and Mehmet are practitioner doctors.' (Sağ 2022: 779)

However, when bare singulars in predicate position receive object-level modification, the predication is only compatible with singular subjects. This is shown in (22), where the adjective *yakışıklı* 'handsome' modifies the bare singular *doktor* 'doctor', which, in this case, denotes an atomic property at the ordinary object level. In contrast to (21), only the singular subject *Ali* is compatible with the modified predicate while the plural subject *Ali ve Mehmet* is not.[3]

(22) *Object-level modification*
Ali (*ve Mehmet) yakışıklı **doktor**.
'Ali is a handsome doctor.'
*'Ali and Mehmet are handsome doctors.' (Sağ 2022: 779)

[3]What counts as object-level vs. kind-level modification depends on the noun and the context. With this in mind, object-level modification of bare singulars is generally degraded in predicate position. However, inserting *bir* between the adjective and the noun improves acceptability (e.g., *Ali yakışıklı bir doktor*), aligning with the analysis of *bir* proposed in this paper. Predicate position then most naturally allows a bare singular in its kind-level denotation, though a full account of this pattern lies beyond the scope of the present discussion.

With the general properties of kind reference in Turkish in view, we are now in a position to develop our analysis of *bir*.

4. Analysis

We adopt Sağ's (2019, 2022) proposal that Turkish singular nouns are ambiguous between atomic properties of object-level individuals and of singular kinds. For present purposes, the key ingredient of this analysis is the claim that the *belong-to* relation between a singular kind and its members can be established in predicate position via the copula in Turkish.

Specifically, we argue that *bir* in its indefinite use has a similar function: it applies to a property of a singular kind to return an atomic property of individuals that belong to that kind (cf. Martin 2022). We further propose that this property encodes *one-ness*. The denotation of *bir* is given in (23a), along with the meaning of *kedi* 'cat' denoting a property of a singular kind in (23b).

(23) a. $[\![bir]\!] = \lambda P_k.\lambda y.\exists x_k\ [belong\text{-}to(y,x_k) \wedge P_k(x_k) \wedge \mu_{card}(y) = 1]$
b. $[\![kedi_k]\!] = \lambda x_k.\ cat_k(x_k) = \{\text{CAT}\}$

When applied to (23b), *bir* returns the characteristic function of a set of individuals that belong to the cat kind, each with cardinality one, that is, atomic members of the kind. The denotation of *bir kedi* is given in (24).

(24) $[\![bir\ kedi_k]\!] = \lambda y.\exists x_k\ [belong\text{-}to(y,x_k) \wedge cat_k(x_k) \wedge \mu_{card}(y) = 1] = \{a,b,c\}$
a set of individuals that belong to the cat kind, each with cardinality 1

Although their extension overlaps with that of bare singulars when the latter denote at the ordinary object level, *bir*-NPs differ in imposing an explicit *one-ness* condition. In contrast, bare singulars merely denote atomic properties of individuals without encoding a cardinality constraint, as shown in (25). This distinction will be crucial below.

(25) $[\![kedi]\!] = \lambda x.\ cat(x) = \{a,b,c\}$

4.1 Explaining the distributional/modificational facts

In Section 2, we showed that modifiers above *bir* can only have object-level interpretations, whereas those below it are necessarily interpreted as kind-level modifiers. The account we propose for *bir* captures this empirical fact. Since *bir* applies to the kind-level denotation of nouns in its indefinite use, it is expected to attach lower than an object-level modifier. The position of *bir* relative to object-level and taxonomic (kind-level) modifiers presented in (5) is repeated in (26).

(26) object-level modifiers $<$ ***bir*** $<$ taxonomic modifiers $<$ noun

Our analysis is further supported by the data given in (27), where two adjectives co-occur. Since *uzman* (which we gloss as 'expert') can mean *specialist*, it can function as a taxonomic modifier for the doctor kind and can appear below *bir*. In contrast, *başarılı* 'successful' does not have this use when modifying the noun *doktor*, that is, it can only function as an object-level modifier. Hence, it occurs in a licit position in (27a). On the other hand, in (27b), *başarılı* 'successful' appears below *bir*, a position only available to taxonomic modifiers. As a result, (27b) is semantically ill-formed.

(27) a. başarılı **bir** uzman doktor
successful BIR expert doctor
'a successful specialist doctor'
b. #uzman **bir** başarılı doktor
expert BIR successful doctor
Int. 'a successful specialist doctor'
Int. 'a skillful, successful doctor'

Accordingly, we also predict the felicity of (28), where both *uzman* and *başarılı* appear above *bir*, and therefore, only the object-level interpretation is available for them.

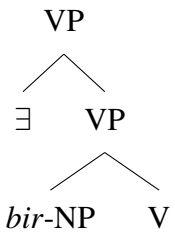
(28) uzman ve başarılı **bir** doktor
expert and successful BIR doctor
'a skillful and successful doctor'

4.2 Explaining the existential force of *bir*-NPs

The predicative nature of *bir*-NPs explains why strong indefinite readings arise only in case-marked positions. To capture this, we adopt a two-layered verbal structure (Öztürk 2005, Kornfilt 2020, Sağ 2022, Sağ et al. 2025). The first layer is the lexical domain of VP, which hosts certain caseless arguments, such as those involved in pseudo-incorporation. The other is the VP-external functional domain, where canonical arguments, such as definites, (specific) indefinites, and proper names, are introduced by theta-role assigning little *v* heads and receive case.

Following Zidani-Eroglu (1997), Kelepir (2001), we assume that caseless *bir*-NPs in VP-internal positions denote properties and acquire a narrow scope existential reading via VP-level ∃-closure, as per Heim (1982) and Diesing (1992). This is shown in (29).

(29) *bir-NP in VP-internal position*



Example (30) illustrates one such case, where the *bir*-NP (*bir hata* 'a typo') is in the VP-internal position and only the narrow scope reading is possible.

(30) Editör metin-de **bir hata** bul-a-ma-dı.
editor text-in BIR typo find-ABIL-NEG-PST
'The editor couldn't find any typo in the text.'
($\neq$ There is a typo that the editor couldn't find.)

Case-marked (*bir*-)NPs, however, are introduced above the VP. In the VP-external position, any predicative NP, including *bir*-NPs, must undergo type-shifting to saturate an argument position (or merge with an overt D category). Dayal (2004) argues that type-shifters apply in a fixed order known as *Revised Meaning Preservation*. As shown in (31), in this hierarchy, the *iota* type-shift is ranked above the existential type-shift $\exists_f$ (choice-function-based $\exists$, in the sense of Reinhart 1997).

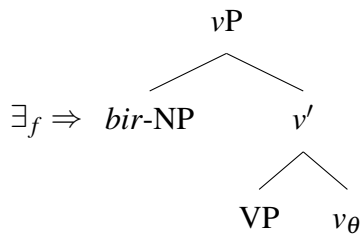
(31) *Revised Meaning Preservation*[4]
$^{\cap}, \iota > \exists_f$

Bare nouns can be definite through ι type-shifting, as discussed first in Section 3, but they are incompatible with strong indefinite readings, as the $\exists_f$ type-shifter is ranked lower in (31), making ι the privileged option. This is seen in (32), where the case-marked bare NP *çocuğa* 'child' is necessarily interpreted as a definite. This sentence is infelicitous if Cem didn't help a particular child but helped another one, which would be possible if the bare noun could also gain a strong indefinite interpretation.

(32) Cem **çocuğ-a** yardım et-me-di.
Cem child-DAT help-NEG-PST
'Cem didn't help the child.' ι type-shifting $\rightarrow$ ✓
($\neq$ Cem didn't help a child.)

We argue that with *bir*-NPs, the type-shifter has to be $\exists_f$. Crucially, we claim that the *oneness* (cf. Martí 2020, Scontras 2022) contributed by *bir* blocks ι type-shifting for *bir*-NPs, enabling the lower ranked $\exists_f$ type-shift and yielding a strong indefinite interpretation. This is illustrated in (33).

(33)



[4]The *nom* operator $^{\cap}$ is defined only for plural properties, and hence, is irrelevant to our account.

As shown in (34), *bir çocuğa* receives a strong indefinite reading, as evidenced by its felicity in a context where Cem did not help a particular child but helped another one. This indicates that $\exists_f$ type-shifting is available for *bir*-NPs, which under (31) is possible only when ι type-shifting is blocked.

(34) Cem **bir çocuğ-a** yardım et-me-di.
Cem BIR child-DAT help-NEG-PST
'Cem didn't help a child. $\exists_f$ type-shifting $\rightarrow$ ✓

We tie this blocking effect to a broader incompatibility between definiteness and *one*, as definite articles typically resist numeral 'one' in their restrictors, as shown in (35), modulo contrastive or exhaustive interpretations. We propose that this is due to the *Minimize Restrictors!* constraint (Schlenker 2019), given in (36).

(35) # the **one** book

(36) *Minimize Restrictors!*
A definite description *the A B* is deviant if A is redundant, i.e. if:
a. *the B* is grammatical and has the same denotation as *the A*, and
b. *A* does not serve another purpose (Schlenker 2019)

Minimize Restrictors!, therefore, excludes redundant restrictors in definite descriptions, unless they serve an independent pragmatic function, as illustrated in (37). This correctly predicts the oddness of the adjective in (38).

(37) A is banned if:
$[\![the\ B]\!] = [\![the\ A\ B]\!]$ (unless A has another pragmatic function.)

(38) [John's (**#blond**) father] has arrived.

In line with this, we argue that *Minimize Restrictors!* accounts for why ι type-shifting is blocked for *bir*-NPs. The object-level meanings of bare singulars and *bir*-NPs have the same extension; they both characterize a set of atomic individuals, as shown in (39).

(39) $[\![kedi]\!] = [\![bir\ kedi_k]\!] = \{a, b, c\}$

If ι type-shifting were to apply to *bir* $kedi_k$, it would give rise to a *Minimize Restrictors!* violation as it has a superfluous *one-ness* restriction, introduced by *bir*. Since ι type-shifting is blocked for *bir*-NPs, $\exists_f$, ranked lower in (31), becomes available. As for object-level bare singulars, such as *kedi* 'cat', however, ι type-shifting is not blocked, as they lack the *one-ness* contributed by *bir*. This prevents $\exists_f$ type-shifting from applying to them. Consequently, only a definite interpretation is available with bare singulars.

5. Discussion & Concluding Remarks

We distinguish *bir*-NPs from bare singulars by the *one-ness* specification encoded in their denotation. Even though *bir* contributes cardinality information (i.e., *one-ness*) to the NP, its indefinite use differs from its numeral counterpart, and the two should not be conflated.

Following Sağ (2024, 2025), we assume that numeral constructions involve a covert or overt cardinal head (the latter realized as *tane*), which combines with a number *n* and an atomic property to yield a property of individuals whose non-overlapping parts correspond in cardinality to *n*, as given in (40) (building on the accounts in Ionin and Matushansky (2006), Scontras (2022)). In its numeral use, *bir* denotes the number one ($[\![bir]\!] = 1$) and composes with this cardinal head, as shown in (41) (cf. (24)).

(40) $[\![\text{CARD}]\!] = \lambda P_{AT} \lambda n \lambda x.\ \exists S\ [\prod(S)(x) \wedge |S| = n \wedge \forall s \in S\ P(s)]$

a. $\prod(S)(x) = 1$ iff S is a cover of x, and $\forall z, y \in S\ [z = y \vee \neg\exists a\ [a \leq_i z \wedge a \leq_i y]]$

b. A set of individuals C is a cover of an individual X iff X is the sum of all members of C: $\sqcup C = X$

(41) **bir** $\text{CARD}_{\emptyset/tane}$ **kedi** 'one cat' (numeral use)
$[\![bir\ \text{CARD}\ kedi]\!] = \lambda x.\ \exists S\ [\prod(S)(x) \wedge |S| = 1 \wedge \forall s \in S\ cat(s)] = \{a, b, c\}$

While *bir kedi* has the same extension under its numeral and indefinite uses—both denoting a set of atomic individuals—the two differ in their semantic composition. In the indefinite use, this set consists of atomic individuals that belong to the cat kind (i.e., CAT). By contrast, the numeral version in (41) denotes a set of individuals x divisible into non-overlapping 1 cat individual such that the sum of this individual is x (i.e., x is atomic).[5]

The distinction between the indefinite and numeral uses of *bir* becomes clear with the overt cardinal head *tane*. Two diagnostics illustrate this contrast (Kratzer 1998, Chierchia 1998, Dayal 2004, Sağ 2019), as shown in (42). First, only the indefinite use, where the cardinal head is absent, is licensed in generics, rendering the numeral use infelicitous when numeral meaning is irrelevant. Second, under negation, the numeral *bir* gives rise to emphatic (even-like) readings, while the indefinite use takes plain narrow scope, as in (43).

(42) Bir (#tane) köpek genellikle et ye-r.
BIR CARD dog usually meat eat-AOR
'A dog usually eats meat.'
#'One dog usually eats meat.'

(43) Şu anda bu odada bir (tane) fare yok.
now this room BIR CARD mouse not.exist
Numeral (with *tane*):'There is *not even a single/one mouse* in this room right now.'
Indefinite: 'There is *no mouse* in this room right now.'

[5] Sağ (2025) argues that numeral constructions with *tane* have a built-in existential force (via a choice function) while the form with the covert CARD is inherently predicative, a distinction we set aside here.

To zoom out, assuming a diachronic cline where indefinite markers evolve from the numeral 'one' (Perlmutter 1970, Givón 1981, Haspelmath 2001, Herslund 2012, Hwaszcz and Kędzierska 2018), our study highlights a pathway whereby numerals in articleless languages can evolve into indefinite markers by going through a semantically distinct, kind-sensitive stage, as in (44).

(44) numeral » **a kind-sensitive predicativizer** » indefinite

Crucially, we have shown that Turkish *bir* is currently in the intermediate stage—a snapshot of grammatical change in progress. However, more crosslinguistic work is needed to determine whether this pathway is typologically robust across articleless languages.

As a final remark, it is possible that the puzzling use of the indefinite article in the predicate position in English, as in *Ezo is *(a) cat*, may be a historical remnant of the same process. Our proposal, thus, might be an answer to why even a language with a fully developed article system—historically derived from 'one'—requires the article in this position.

References

Bayırlı, İsa Kerem. 2018. Adjective ordering in Turkish. *Turkic Languages* 22.

Carlson, G. 1977. Reference to kinds in English. Doctoral dissertation, University of Massachusetts, Amherst.

Chierchia, Gennaro. 1998. Reference to kinds across language. *Natural Language Semantics* 6:339–405.

Dayal, Veneeta. 2004. Number marking and (in)definiteness in kind terms. *Linguistics and Philosophy* 27:393–450.

Diesing, Molly. 1992. *Indefinites*. Cambridge, MA: MIT Press.

Enç, Mürvet. 1991. The semantics of specificity. *Linguistic inquiry* 1–25.

Givón, Talmy. 1981. On the development of the numeral 'one' as an indefinite marker. *Folia Linguistica Historica* 2:35–53.

Greenberg, Joseph H. 1963. Some universals of grammar with particular reference to the order of meaningful elements. In *Universals of Language*, ed. by Joseph H. Greenberg, 73–113. Cambridge, MA: MIT Press.

Haspelmath, Martin. 2001. The grammaticalization of indefinite pronouns. In *Indefinite Pronouns*, 129–156. Oxford University Press.

Heim, Irene. 1982. The semantics of definite and indefinite noun phrases. Doctoral dissertation, University of Massachusetts, Amherst.

Herslund, Michael. 2012. Grammaticalisation and the internal logic of the indefinite article. *Folia Linguistica* 46:341–358.

Hwaszcz, Krzysztof, and Hanna Kędzierska. 2018. The rise of an indefinite article in Polish: An appraisal of its grammaticalisation stage. *Studies in Polish Linguistics* 13:93–121.

Ionin, Tania, and Ora Matushansky. 2006. The composition of complex cardinals. *Journal of Semantics* 23:315–360.

Kelepir, Meltem. 2001. Topics in Turkish syntax: Clausal structure and scope. Doctoral dissertation, Massachusetts Institute of Technology.

Kornfilt, Jaklin. 2020. DOM and DSM in Turkish. In *New Perspectives on Differential Argument Marking*, ed. by András Bárány and Laura Kalin, 127–174. Berlin, Boston: De Gruyter.

Kratzer, Angelika. 1998. Scope or pseudoscope? Are there wide-scope indefinites? In *Events and Grammar*, ed. by Susan Rothstein, volume 70, 163–196. Dordrecht: Springer.

Krifka, Manfred. 2003. Bare NPs: Kind-referring, indefinites, both, or neither? In *Proceedings of SALT 13*, 180–203.

Martí, Luisa. 2020. Numerals and the theory of number. *Semantics & Pragmatics* 13:1–57.

Martin, Joshua. 2022. Compositional routes to (non)intersectivity. Doctoral dissertation, Harvard University.

Öztürk, Balkız. 2005. *Case, referentiality, and phrase structure*. Amsterdam: John Benjamins Publishing Company.

Perlmutter, David. 1970. On the article in English. In *Progress in linguistics*, ed. by Manfred Bierwisch and Karl E. Heidolph, 233–248. The Hague: Mouton.

Reinhart, Tanya. 1997. Quantifier scope: How labor is divided between QR and choice functions. *Linguistics and Philosophy* 20:335–397.

Sağ, Yağmur, Ömer Demirok, and Muhammet Bal. 2025. A novel architecture for pseudo-incorporation. *Natural Language & Linguistic Theory* 43:2871–2934.

Sağ, Yağmur. 2019. The semantics of number marking: Reference to kinds, counting, and optional classifiers. Doctoral dissertation, Rutgers University.

Sağ, Yağmur. 2022. Bare singulars and singularity in Turkish. *Linguistics and Philosophy* 45:741–793.

Sağ, Yağmur. 2024. Cardinality and (in)definiteness. In *Proceedings of Sinn und Bedeutung 28*, 756–774.

Sağ, Yağmur. 2025. On the (non)optionality of the Turkish classifier tane. *Natural Language & Linguistic Theory* 43:907–964.

Schlenker, Philippe. 2019. Minimize restrictors! In *Proceedings of Sinn und Bedeutung 9*, 385–416.

Scontras, Gregory. 2022. On the semantics of number morphology. *Linguistics and Philosophy* 45:1165–1196.

Underhill, R. 1976. *Turkish Grammar*. MIT Press.

Zidani-Eroglu, Leyla. 1997. Exceptionally case-marked NPs as matrix objects. *Linguistic Inquiry* 28:219–230.

Metehan Eryılmaz, Ömer Demirok & Yağmur Sağ
metehan.eryilmaz@bogazici.edu.tr, omerfaruk.demirok@bogazici.edu.tr,
ysagpar1@swarthmore.edu