

From Numeral to Indefinite: A Kind-Sensitive Pathway in Turkish

The 56th Annual Meeting of the North East Linguistics Society
NYU

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Oct 17-19, 2025

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What is this talk about?

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, collapsing the indefinite 'a/an' and numeral 'one' into a single form *bir*.

Overarching questions:

- * What exactly is the status of *bir* in its indefinite use?
- * Has it grammaticalized into a *bona fide* indefinite article, or does it remain a numeral in disguise?

Preview: Our Proposal

- ▶ In Turkish, *bir* has **not yet** developed into a true indefinite article.
- ▶ But it has evolved into a **distinct semantic category**, separate from pure numerals.
- ▶ Indefinite *bir*-NPs are **predicative**, deriving existential force via type-shifting.

Preview: Our Proposal

- ▶ In Turkish, *bir* has **not yet** developed into a true indefinite article.
- ▶ But it has evolved into a **distinct semantic category**, separate from pure numerals.
- ▶ Indefinite *bir*-NPs are **predicative**, deriving existential force via type-shifting.

Core claim

- ★ The primary role of *bir* is to **map a singular kind** to a property of individuals that *belong to that kind* and are of cardinality one.

(à la Sağ 2022)

1. Empirical overview
 - The syntactic position of *bir* in its indefinite vs. numeral use
 - Some kind-sensitive modification facts
 - The existential force of *bir*-NPs
2. Background: kind reference in Turkish
3. The core analysis
4. Discussion & concluding remarks
 - Comparing indefinite vs. numeral *bir*
 - Diachronic implications

Distribution of *bir*-NPs

The Syntactic Position of *bir*

- ▶ Turkish numerals precede NPs, appearing in the unmarked order
Num » Adj » N:¹

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

¹ This complies with Greenberg (1963)'s U20 (Dem » Num » Adj » N).

The Syntactic Position of *bir*

- ▶ On the surface, *bir* seems to favor the immediate prenominal position, unlike other numerals.
- ▶ But *bir*'s position relative to the adjective is, in fact, correlated with whether it acts as an indefinite marker or numeral.²

- (2) a. Ağaç-tan kafama küçük **bir** elma düş-tü.
from.tree on.my.head small BIR 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, BIR small apple take-PST-1SG
'I took two big pears and one small apple with me.'

cf. # küçük **bir** elma

² Underhill, 1976; cf. Bayırlı, 2017

The Syntactic Position of *bir*

- ▶ This nature of *bir* is sharply observed in the predicate position, where *bir* must be immediately prenominal.
- ▶ The numeral meaning of *bir* is dispreferred in this position. Hence, the *bir* » Adj » N order is ungrammatical.

- (3) 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.'

Modification Facts

- ▶ We have seen data showing that modifiers precede *bir* in its indefinite use.
- ▶ However, this is only true for object-level modification: *bir* has to precede kind-level modifiers.

(4) object-level modifiers < **bir** < kind-level modifiers < noun

- ▶ An adjective receives an object-level reading when it precedes *bir*, and a kind-level reading when *bir* precedes the adjective.

Modification Facts

- Adjectives below *bir* cannot have an object-level interpretation.

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

✓

✗

- (5) a. Ayla uzman **bir** doktor. b. Ayla **bir** uzman doktor.
 Ayla expert BIR doctor Ayla BIR expert doctor
 Ayla is a skillful doctor. 'Ayla is a specialist doctor.'

(5a): True, *uzman*: 'skillful' (a property of Ayla as a doctor)

(5b): False, *uzman*: 'specialist' (a subkind of doctors)

Modification Facts

- Adjectives above *bir* 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.

- (6) 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.'

✗

✓

(6a): False, *beyaz*: 'white' (a property of that particular lion)

(6b): True, *beyaz* 'white' (specifies a subkind of lion species)

The Existential Force

The existential interpretation of *bir*-NPs varies with case-marking:

- ▶ *bir*-NPs are interpreted as strong indefinites in case-marked argument positions.³
- ▶ They show scopal interaction and exceptional scope.⁴

- (7) Eğer *bir çocuğ-a* yardım ed-er-se-n, sana minnettar
if BIR child-DAT help-AOR-COND-1SG you.DAT grateful
ol-acağ-ım.
be-FUT-1SG
(i) There is a child and if you help her, I will be grateful to you.
(ii) If you help any child, I will be grateful to you.

³ This is unlike bare NPs in the same position, which are always definite.

⁴ With accusative, indefinites receive a (partitive-) specific reading even under narrow scope (Enç, 1991); we omit this as tangential to our analysis.

- ▶ In caseless direct-object position⁵, strong indefiniteness no longer holds.
- ▶ Narrow-scope interpretation is the only available reading.

(8) 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.'
(≠There is a typo that the editor couldn't find.)

⁵ taken to be VP-internal in Kornfilt (1984), Zidani-Eroğlu (1997), Kelepir (2001), and Öztürk (2005)

- ▶ Our aim is to account for the three main properties of *bir*-NPs in their indefinite (a/an) use:
 1. *bir* is merged lower in the nominal structure than numerals,
 2. *bir* can precede a sub-kind-denoting adjective but not an object-level adjective,
 3. strong indefinite interpretation hinges on case marking.

Kind Reference in Turkish

As in many languages, Turkish uses both singular and plural terms for kind reference.

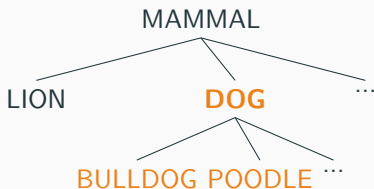
- (9) **Dinozor(-lar)** 250 milyon yıl önce evrimleş-miş-tir.
dinosaur-PL 250 million year ago evolve-PERF-GEN
'The dinosaur/Dinosaurs evolved 250 million years ago.'

- ▶ Singular and plural kind terms have some well-attested differences (e.g., the incompatibility of sg form with distributive predicates).
- ▶ Based on these differences, Dayal (2004) draws a distinction between the two forms of kind reference.
 - ▶ Plural kind terms have an inner structure involving the property meaning (built on the set of object-level instances).⁶
 - ▶ Singular kind terms are primitive and directly refer to a kind in a taxonomic hierarchy.

⁶ Carlson 1977; Chierchia 1998; Krifka 2003

Taxonomic Kinds

- (10) a. $\llbracket dog_{k,c} \rrbracket = \{DOG\}$
b. $[_{DP} \text{ the } dog_{k,c}] =$
 $\iota\{DOG\} = DOG$



- As in *the dog evolved from the wolf*.

OR ...

- (11) $\llbracket dog_{k,c} \rrbracket = \{BULLDOG, POODLE, GOLDEN.R, \dots\}$

- As in *every dog is easy to train*.

Singular Kind Terms

In Dayal's analysis, kinds overall are conceptually plural, but singular kind terms are grammatically impure atomic terms.

- ▶ They hold a relation with the specimens at the *conceptual* level.
- ▶ They differ from plural kind terms in **not** allowing type-shifting to sets of object-level entities.

The *belong-to* Relation

Sağ (2019, 2022):

- ▶ Turkish singular nouns are ambiguous between atomic properties of object-level individuals and of singular kinds (following Dayal's view on English nouns).
- ▶ The relation that singular kind terms hold with atomic and plural object-level entities associated with kinds is called *belong-to*.
- ▶ The *belong-to* relation is **established in certain constructions** in Turkish, e.g., via the copula when a bare singular appears as a singular kind in the predicate position.⁷

⁷ Also in pseudo-incorporation.

Kind Specification in the Predicate Position

- (12) Ali (ve Merve) **çocuk**.
Ali and Merve child
'Ali is a **child**./ Ali and Merve are **children**.'

$$\llbracket \text{COP} \rrbracket = \lambda x_k \lambda y. \text{belong-to}(y, x_k)$$

$$\llbracket \text{Ali child} \rrbracket = \text{belong-to}(\text{Ali}, \iota x_k. \text{child}_k(x_k))$$

$$\llbracket \text{Ali and Merve child} \rrbracket = \text{belong-to}(\text{Ali} \oplus \text{Merve}, \iota x_k. \text{child}_k(x_k))$$

Taxonomic modification

- (13) Ali (ve Mehmet) pratisyen **doktor**.
'Ali is a practitioner doctor.' OR
'Ali and Mehmet are practitioner doctors.'

Object-level modification

- (14) Ali (*ve Mehmet) yakışıklı **doktor**.
'Ali is a handsome doctor.'
'Ali and Mehmet are handsome doctors.'

Analysis

Our Claim

- ▶ *bir* (in its 'a/an' use) applies to a property of a singular kind to return an **atomic property** of individuals that *belong to* that kind (cf. Martin, 2022).
- ▶ This property encodes **one-ness**, distinguishing it from atomic properties of ordinary objects denoted by bare singulars.

Bir and the *belong-to* Relation

kedi 'cat'

$$\llbracket \text{ked}i \rrbracket = \lambda x. \text{cat}(x) \rightsquigarrow \{a, b, c\}$$

a set of atomic cat individuals

vs.

bir kedi 'BIR cat'

$$\llbracket \text{bir} \rrbracket = \lambda P_k. \lambda y. \exists x_k [\text{belong-to}(y, x_k) \wedge P_k(x_k) \wedge \mu_{\text{card}}(y) = 1]$$

$$\llbracket \text{kedi}_k \rrbracket = \lambda x_k. \text{cat}_k(x_k) = \{\text{CAT}\}$$

$$\begin{aligned} \llbracket \text{bir kedi}_k \rrbracket &= \lambda y. \exists x_k [\text{belong-to}(y, x_k) \wedge \text{cat}_k(x_k) \wedge \mu_{\text{card}}(y) = 1] \\ &\rightsquigarrow \{a, b, c\} \end{aligned}$$

a set of individuals that belong to the cat kind (i.e., CAT), each with cardinality 1, i.e., atomic

Modification Facts, Explained

Because *bir* applies to the kind-level denotation of nouns in its indefinite ('a/an') use, it is expected to attach lower than an object-level modifier.

object-level modifiers < **bir** < taxonomic modifiers < noun

bir uzman doktor: a specialist doctor

uzman **bir** doktor: a skillful doctor

(15) başarılı **bir** uzman doktor
'a successful specialist doctor'

(16) a. ??uzman **bir** başarılı doktor
int: 'a successful specialist doctor'
int: 'a skillful, successful doctor'
b. uzman ve başarılı **bir** doktor
'a skillful and successful doctor'

The predicative nature of *bir*-NPs explains why strong indefinite readings arise only in case-marked positions.

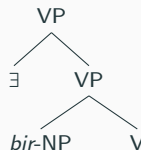
For this, we adopt a two-layered verbal structure:⁸

- ▶ **The lexical domain of VP:** hosting certain caseless arguments (e.g., pseudo-incorporation)
- ▶ **The VP-external functional domain:** canonical arguments (e.g., definiteness, (specific) indefinites, proper names) are introduced (via theta role assigning little *v* heads) and receive case

⁸ Öztürk 2005; Kornfilt 2020; Sağ 2022; Sağ et al. 2025

- In the VP-internal (caseless) position, *bir*-NPs acquire a narrow scope existential reading via VP-level $\exists$ -closure, as per Heim (1982) and Diesing (1992).⁹

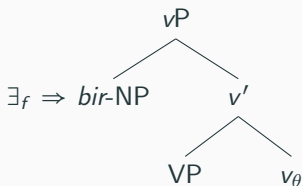
- (17) Editör metin-de *bir hata* bul-a-ma-dı.
editor text-in BIR typo find-ABIL-NEG-PST
'The editor couldn't find any typo in the text.'
(≠There is a typo that the editor couldn't find.)



⁹ following Zidani-Eroğlu (1997) and Kelepir (2001).

- ▶ In the VP-external position, any predicative NP, including *bir*-NPs, must undergo type-shifting to saturate an argument position.
- ▶ With *bir*-NPs, the type-shifter has to be $\exists_f$ (choice-function-based $\exists$; Reinhart, 1997).

(18)



Dayal (2004):

- ▶ Type-shifters apply in a fixed order, with *iota* ranked above $\exists_f$.

(19) **Revised Meaning Preservation**¹⁰

$\cap, \iota > \exists_f$

¹⁰ The *nom* operator $\cap$ is defined only for plural properties; hence, irrelevant here.

Type-shifting: Revised Meaning Preservation

- Bare nouns can be definite via ι type-shifting but are incompatible with strong indefinite readings, as the $\exists_f$ type-shift is lower-ranked.

(20) Mete **çocuğ-a** yardım et-me-di.

Mete child-DAT help-NEG-PST

'Mete didn't help the child.'

$\iota > \exists_f$

(≠Mete didn't help a child.)

if Mete didn't help a particular child but helped another one

Strong indefiniteness, Explained

Proposal:

- ▶ The *one-ness*¹¹ contributed by *bir* blocks ι type-shifting for *bir*-NPs, enabling the lower ranked $\exists_f$ type-shift and yielding a strong indefinite interpretation.

- (21) Mete *bir* *çocuğ-a* yardım et-me-di.
Mete BIR child-DAT help-NEG-PST
'Mete didn't help a child.

$\iota > \exists_f$

✓ if Mete didn't help a particular child but helped another one

¹¹ cf. Martí 2020; Scontras 2022

Minimize Restrictor

Observation: incompatibility between **definiteness** and **one**

- ▶ definite articles typically resist numeral **one** in their restrictors:

(22) #*the one book*
(modulo contrastive or exhaustive interpretations)

Proposal: This is the action of *Minimize Restrictors!* constraint (Schlenker, 2019), which bans any expression **A** if

(23) $\llbracket \text{the } B \rrbracket = \llbracket \text{the } A B \rrbracket$
(unless **A** has another pragmatic function.)

For example:

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

- ▶ We argue that MR! accounts for why ι type-shift is blocked for *bir*-NPs.
- ▶ Object-level meaning of bare singulars in Turkish and *bir*-NPs have the same extension, both characterizing a set of atomic individuals.

$$(25) \quad \llbracket kedi \rrbracket = \llbracket \textit{bir} \textit{kedi}_k \rrbracket \rightsquigarrow \{a, b, c\}$$

!!SAME EXTENSION!!

- ▶ If ι type-shift were to apply to $\llbracket \textit{bir} \textit{kedi}_k \rrbracket$, it would incur a MR! violation, for it has a superfluous *one-ness* restriction.
- ▶ Since ι is blocked on *bir*-NPs, the lower-ranked $\exists_f$ type-shift becomes available.

Further Discussion & Concluding Remarks

Indefinite vs Numeral *bir*

- ▶ We set apart *bir*-NPs from bare singulars by the *one-ness* specification encoded in their denotation.
- ▶ Despite contributing a cardinality information to the NP, the indefinite and numeral uses of *bir* should not be conflated.
- ▶ Numerals denote numbers and combine with a (covert or overt, i.e. *tane*) cardinal head that applies to object-level properties in Turkish.¹²

bir kedi_k ‘a cat’ (indefinite use)

vs.

bir CARD_{Ø/tane} kedi ‘one cat’ (numeral use)

¹² following Scontras (2022) and Sağ (2025); see also Ionin and Matushansky (2006).

The distinction between the two uses of *bir* becomes especially clear when the cardinal head is overt (i.e., in the presence of *tane*).

- ▶ E.g., only the indefinite use (no cardinal head) is licensed in generics, rendering the numeral use infelicitous when numeral meaning is irrelevant.¹³

(26) **Bir (#tane) köpek** genellikle et yer.
'A dog usually eats meat.'
'One dog usually eats meat.'

¹³ based on Kratzer (1998); Chierchia (1998); Dayal (2004); Sağ (2019).

Diachronic Implications

Assuming a diachronic cline where indefinite markers evolve from the numeral 'one' (Perlmutter, 1970; Givón, 1981):

- ▶ Our study highlights a pathway whereby numerals in articleless languages can evolve into indefinite markers via a semantically distinct, kind-sensitive stage.

numeral >> **a kind-sensitive predicativizer** >> indefinite

- ▶ 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.

A Note on English Indefinites

The puzzling use of the indefinite article in the predicate position in English may be a historical remnant of this very process.

(27) Ezo is *(a) cat.

- Our proposal thus might be an answer to why even a language with a fully developed article system (retaining its origin from *one*; Perlmutter, 1970) requires the article in this position.

Thank you!

Special thanks to the NELS reviewers for their feedback and to Furkan Dikmen for valuable discussions.



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References

- Bayırlı, I. K. (2017). *The Universality of Concord*. Ph.d. thesis, Massachusetts Institute of Technology.
- Carlson, G. (1977). *Reference to kinds in English*. Ph. D. thesis, University of Massachusetts, Amherst.
- Chierchia, G. (1998). Reference to kinds across Language. *Natural Language Semantics* 6(4), 339–405.
- Dayal, V. (2004). Number marking and indefiniteness in kind terms. *Linguistics and Philosophy* 27, 393–450.
- Diesing, M. (1992). *Indefinites*. Number Vol. 20 in Linguistic Inquiry Monographs. MIT Press.

- Enç, M. (1991). The semantics of specificity. *Linguistic Inquiry* 22(1), 1–25.
- Givón, T. (1981). On the development of the numeral ‘one’ as an indefinite marker. *Folia Linguistica Historica* 2(1), 35–53.
- Greenberg, J. H. (1963). Some universals of grammar with particular reference to the order of meaningful elements. In J. H. Greenberg (Ed.), *Universals of Language*, pp. 40–70. Cambridge, MA: MIT Press.
- Heim, I. (1982). *The Semantics of Definite and Indefinite Noun Phrases*. Ph.d. thesis, University of Massachusetts, Amherst.
- Ionin, T. and O. Matushansky (2006). The composition of complex cardinals. *Journal of Semantics* 23(4), 315–360.
- Kelepir, M. (2001). *Topics in Turkish syntax: Clausal Structure and Scope*. Ph. D. thesis, Massachusetts Institute of Technology.

- Kornfilt, J. (1984). *Case marking, agreement, and empty categories in Turkish*. Ph.d. thesis, Harvard University.
- Kornfilt, J. (2020). DOM and DSM in Turkish. In A. Bárány and L. Kalin (Eds.), *New Perspectives on Differential Argument Marking*, pp. 127–174. Berlin, Boston: De Gruyter.
- Kratzer, A. (1998). Scope or pseudo-Scope: are there wide-scope indefinites? In S. Rothstein (Ed.), *Events in Grammar*, pp. 163–196. Dordrecht: Kluwer.
- Krifka, M. (2003). Bare NPs: kind-referring, indefinites, both, or neither? In *Proceedings of SALT 13*, pp. 180–203.
- Martí, L. (2020). Numerals and the theory of number. *Semantics & Pragmatics* 13(3), 1–57.
- Martin, J. (2022). *Compositional routes to (non)intersectivity*. Ph. D. thesis, Harvard University.

- Öztürk, B. (2005). *Case, referentiality, and phrase structure*. Amsterdam: John Benjamins Publishing Company.
- Perlmutter, D. (1970). On the article in English. In M. Bierwisch and K. E. Heidolph (Eds.), *Progress in Linguistics*, pp. 233–248. Moulton.
- Reinhart, T. (1997). Quantifier scope: how labor is divided between or and Choice Function. *Linguistics and Philosophy* 20, 335–397.
- Sağ, Y. (2025). On the (non)optionality of the turkish classifier tane. *Natural Language & Linguistic Theory* 43(2), 907–964.
- Sağ, Y., Ö. Demirok, and M. Bal (2025). A novel architecture for pseudo-incorporation. *Natural Language & Linguistic Theory* 43(4), 2871–2934.
- Sağ, Y. (2019). *The Semantics of Number Marking: reference to kinds, counting, and optional classifiers*. Ph. D. thesis, Rutgers University.

- Sağ, Y. (2022). Bare Singulars and Singularity in Turkish. *Linguistics and Philosophy* 45(4), 741–793.
- Schlenker, P. (2019, August). Minimize Restrictors! (Notes on Definite Descriptions, Condition C and Epithets). *Proceedings of Sinn und Bedeutung*, 385–416 Pages. Artwork Size: 385-416 Pages Publisher: Proceedings of Sinn und Bedeutung.
- Scontras, G. (2022). On the semantics of number morphology. *Linguistics and Philosophy* 45(5), 1165–1196.
- Underhill, R. (1976). *Turkish Grammar*. MIT Press.
- Zidani-Eroğlu, L. (1997). *Indefinite Noun Phrases in Turkish*. Ph. D. thesis, University of Wisconsin-Madison.

Indefinite vs Numeral *bir*

bir kedi 'a cat' (indefinite use)

$$\llbracket \text{bir} \rrbracket = \lambda P_k. \lambda y. \exists x_k [\text{belong-to}(y, x_k) \wedge P_k(x_k) \wedge \mu_{\text{card}}(y) = 1]$$

$$\begin{aligned} \llbracket \text{bir kedi}_k \rrbracket &= \lambda y. \exists x_k [\text{belong-to}(y, x_k) \wedge \text{cat}_k(x_k) \wedge \mu_{\text{card}}(y) = 1] \\ &\leadsto \{a, b, c\} \end{aligned}$$

a set of individuals that belong to the cat kind (i.e., CAT), each with cardinality 1, i.e., atomic

bir CARD_{Ø/tane} kedi 'one cat' (numeral use)

$$\llbracket \text{bir} \rrbracket = 1$$

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

$$\begin{aligned} \llbracket \text{bir CARD kedi} \rrbracket &= \lambda x. \exists S [\Pi(S)(x) \wedge |S| = 1 \wedge \forall s \in S \\ &\quad \text{book}(s)] \leadsto \{a, b, c\} \end{aligned}$$

a set of individuals x divisible into non-overlapping 1 individual p_i such that its sum is x and p_i is a cat.

Accusative-marked indefinites

Accusative-case-marked indefinites always yield a specific indefinite interpretation.

- (28) 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.'
(≠The editor couldn't find a typo in the text.)

- ▶ Enç (1991): indefinites are partitive specific when acc-marked.
- ▶ Keleşir (2001): acc-marked indefinites rather have an existential presupposition, thus yielding a specificity effect.

More on Indefinite vs Numeral *bir*

The distinction between the two uses of *bir* becomes especially clear when the cardinal head is overt (i.e., in the presence of *tane*).

- ▶ E.g., the numeral use gives rise to emphatic readings with negation, while the indefinite use simply takes neutral scope under negation.¹⁴

(29) Şu anda bu odada **bir (tane) fare** yok.

Numeral use (with *tane*): 'There is **not even a single/one mouse** in this room right now.'

Indefinite use: 'There is **no mouse** in this room right now.'

¹⁴ based on Kratzer (1998); Chierchia (1998); Dayal (2004); Sağ (2019).