

Pseudo-incorporation, Event Kinds, and Atelicity

Sinn und Bedeutung 29

Yağmur Sağ

September 17-19 2024

Rutgers University

The relationship between a verb and its DP argument plays a crucial role in determining the aspectual properties of the VP (Garey 1957, Verkuyl 1972, Dowty 1979, a.o.).

- ▶ Atelicity of a VP is known to be affected by the quantized vs non-quantized nature of the DP besides the lexical aspect of the verb (Krifka 1989, 1998):

E.g., with non-iterable achievements:

- (1) a. John killed **mosquitoes** for an hour.
b. John killed **two mosquitoes** (*for an hour).

- ▶ But the following contrast shows that it is not always the non-quantized nature of the DP that settles the atelicity of the VP:

- (2)
- a. John killed **mosquitoes** for an hour.
 - b. John killed **some mosquitoes** (*for an hour).

- ▶ This makes it difficult to define telic vs. atelic events, as the two sentences yield truth-conditional equivalence at first glance.

Alternative approaches capture this contrast by relying on ...

- ▶ scopal difference between bare plurals and indefinite DPs (e.g., Mittwoch 1982, Krifka 1998, Chierchia 2022; 2023, cf. Zucchi and White 2001, Champollion et al. 2017)
- ▶ treatment of for-adverbials within an event-level quantifier/modifier approach (e.g., Krifka 1989, cf. Dowty 1979).

Basically, (putting aside certain complications) ...

- ▶ Bare plurals drive an ultra-narrow scope reading (due to their kind-denoting nature: Carlson 1977, Chierchia 1998, Krifka 1998), and thus they are interpreted below the for-adverbial.
- ▶ Indefinite DPs must take wide scope over the VP and its modifier, i.e., for-adverbial.

This study

This study

- ★ analyzes data from Turkish where a similar complication exists, but this time between two DPs both deemed to take narrow scope, i.e., **pseudo-incorporated bare nouns** and **caseless indefinites**.
- ★ analyzes aspectual differences between singular and plural kind reference.
- ★ offers an event-kind-based analysis for pseudo-incorporation.

Main claim

- ★ Pseudo-incorporation (PI) is a phenomenon that establishes taxonomic event kinds via singular kind argumentation in the event kind domain.

Puzzle

PI and Caseless Indefinites

Turkish bare nouns and a/an indefinites with *bir* 'one' obligatorily take narrow scope when serving as caseless direct objects.

- (3) Ali **kitap** oku-ma-dı.
Ali book read-NEG-PST
'Ali didn't do book-reading.'
[$\neg > \exists$ (no books), $\# \exists > \neg$]
- (4) Ali **bir kitap** oku-ma-dı.
Ali one book read-NEG-PST
'It is not the case that Ali read a book.'
[$\neg > \exists$ (no books), $\# \exists > \neg$]

- ▶ Caseless bare singulars are well-known cases of PI in Turkish (e.g., Öztürk 2005).
- ▶ Caseless indefinites have been analyzed to undergo a Diesing style VP-level \exists -closure (Kelepir, 2001).

Sağ (2019; 2022):

- ▶ PI'ed bare singulars are **singular kind terms**.
- ▶ Following Dayal (2004): singular kind terms are group-like primitive entities; despite singularity in form, they are conceptually plural, holding a relation with atomic and plural object-level entities associated with kinds.
- ▶ This relation, i.e., *belong-to*, is established in PI, via a local \exists -closure, ensuring number neutrality and narrow scope.

- (5) a. Ali **kitap** oku-ma-dı.
Ali book read-NEG-PST
'Ali didn't do book-reading.'
- b. $\sim \neg \exists e. \exists y [belong - to(y, \iota x_k. book_k(x_k)) \wedge read(e) \wedge Th(e) = y \wedge Ag(e) = Ali]$
- (6) a. Ali **bir kitap** oku-ma-dı.
Ali one book read-NEG-PST
'It is not the case that Ali read a book.'
- b. $\sim \neg \exists e. \exists y [read(e) \wedge Th(e) = y \wedge book(y) \wedge Ag(e) = Ali]$

Sağ's PI analysis treats (5a) truth conditionally equivalent to (6a):

- ▶ Engaging in a book-reading event entails reading **at least one book**.

The Atelicity Puzzle

Problem:

- ▶ PI and caseless indefinites differ in their compatibility with *for-adverbials* when used with non-iterable achievements
- ▶ despite both being restricted to narrow scope construals.

- (7) Ali bir saat boyunca **tavşan** öldür-dü.
Ali one hour for rabbit kill-PST
'Ali **did rabbit-killing** for an hour.' atelic
- (8) *Ali bir saat boyunca **bir tavşan** öldür-dü.
Ali one hour for one rabbit kill-PST
'*Ali **killed a rabbit** for an hour.' telic

The Atelicity Puzzle

Problem: The puzzle deepens with case-receiving, non-PI'ed singular kind arguments:

- ▶ Triggering a reading known as **representative object reading**, case-marked singular kind terms disallow for-adverbial modification with non-iterable achievements, similar to caseless indefinites.

- (9) Kurum bu bölge-de (*bir ay boyunca) beyaz aslan-ı
institute this region-in one month for white lion-ACC
keşfet-ti.
discover-PST
'The institute **discovered the white lion** in this region (*for a month).'

The Atelicity Puzzle

This contrasts with the PI'ed version:

- (10) Kurum bu bölge-de (bir ay boyunca) **beyaz aslan**
institute this region-in one month for white lion
keşfet-ti.
discover-PST
'The institute **did white lion-discovering** in this region (for a
month).'

My goal is ...

- ▶ to explain these disparities in aspectual specification
- ▶ to distinguish Pl'ed singular kind arguments from caseless indefinites and canonical singular kind arguments

Kind Argumentation & Atelicity

A comparable case from English:

- ▶ English bare plurals allow for-adverbial modification, like Turkish Pl:

(11) Ali killed rabbits for an hour.

(\approx Ali did rabbit-killing for an hour.)

- ▶ A widely accepted view: English bare plurals are kind terms (due to Carlson 1977).

Plural vs. Singular Kind Reference & Atelicity

Chierchia (2023) addresses a puzzle between plural and singular kind terms in English:¹

- ▶ Plural kind terms contrast with singular kind terms in atelicity:

- (12) a. **Horses** arrived in Australia with the first immigrants (for a few years).
b. **The horse** arrived in Australia with the first immigrants (*for a few years).

¹See also Chierchia (2022).

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To understand how the Turkish PI renders the VP atelic, let's focus on this contrast in English!

¹See also Chierchia (2022).

Plural Kind Reference

Chierchia (1998):

- ▶ English bare plurals are kind terms.
- ▶ **Kind reference** with plurals is derived via \cap .
- ▶ A kind, let us say the dinosaur kind, is a function from worlds w to the maximal entity satisfying the dinosaur property in w .
 $\rightsquigarrow \lambda w. \iota x. *dinosaur_w(x)$

For any P and w , where P_w is the extension of P in w

$$\cap P = \begin{cases} \lambda w. \iota x. P_w(x), & \text{if } \lambda w. \iota x. P_w(x) \text{ is in } K, \text{ the set of kinds} \\ \text{undefined,} & \text{otherwise} \end{cases}$$

\rightsquigarrow a function from properties to functions from worlds w to the maximal entity satisfying that property in w

Plural Kind Reference

- ▶ The reverse of \cap is \cup .
- ▶ takes the extension of the kind in w and returns the set of singular and plural entities that instantiate the kind in w .

Let k be a kind. Then for any world w , where k_w is the plural individual that comprises all of the atomic members of the kind

$$\cup k = \begin{cases} \lambda x. x \leq k_w, & \text{if } k_w \text{ is defined} \\ \lambda x. \text{FALSE}, & \text{otherwise} \end{cases}$$

Plural Kind Reference

In episodic predication:

- ▶ Derived Kind Predication (DKP)
- ▶ DKP provides sort adjustment by introducing a local (event-level) \exists -quantification over the instantiations of the kind provided by U in a given w .

Derived Kind Predication

If P applies to objects and k denotes a kind, then

$$P(k) = \exists x [^U k(x) \wedge P(x)]$$

- (13) a. John killed $^{\cap}$ *mosquitoes* (for an hour).
b. $\exists e. \exists y [^U \cap \text{mosquitoes}(y) \wedge \text{kill}(e) \wedge \text{Th}(e) = y \wedge \text{Ag}(e) = \text{John}]$

Singular Kind Reference

Dayal (2004) draws a distinction between singular and plural kind reference.

- ▶ Plural kinds have an inner structure involving the property meaning (built on the set of object-level instances).
- ▶ But singular kinds are primitive entities that directly refer to a kind in a taxonomic hierarchy.

E.g., when we say 'the dog', we consider it within a hierarchical classification.

Taxonomic Kinds

- (14) a. $[[dog_{K,c}]] = \{DOG\}$
b. $[_{DP} \text{ the } dog_{K,c}] =$
 $\iota\{DOG\} = DOG$

- As in *the dog* is often regarded as man's best friend.



OR ...

- (15) $[[dog_{K,c}]] = \{BULLDOG, POODLE, GOLDEN.R, \dots\}$

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

In Dayal's analysis ...

An analogy with group terms

- ▶ 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.

Singular vs. Plural Kind Terms

Therefore, ...

- ▶ \exists -quantification over the sets of the members is also not available, hence no (DKP-based) existential reading.

(16) Nowadays, **cats** are ruining my garden. **narrow scope \exists**

(17) Nowadays, **the cat** is ruining my garden. **definite singular**

Plural vs. Singular Kind Reference & Atelicity

Now, let's go back the atelicity puzzle in kind reference:

- (18) a. **Horses** arrived in Australia with the first immigrants (for a few years).
- b. **The horse** arrived in Australia with the first immigrants (*for a few years).

Chierchia (2023):

A semantics for for-adverbials:

- * A blend of quantificational and measuring approaches to for-adverbials²
- * for-adverbials are event modifiers of $\langle\langle v, t \rangle, \langle v, t \rangle\rangle$ type expressions.³

(19) for an hour = $\lambda V.\lambda e. [\tau(e) = \text{1-hour} \wedge \forall t'[\Gamma(t', \tau(e)) \rightarrow \exists e'[\tau(e')t' \wedge V_w(e') \wedge \cup_w(V, e)]]]$, where
 $\Gamma(t', t) =_{df}$ t' is a cell in a contextually salient cover Γ of t .

²e.g., Quantificational approach: Dowty (1979); Moltmann (1991); Deo and Piñango (2011); Champollion (2013), a.o., cf. Measuring approach: Krifka (1998); Kratzer (2008); Landman and Rothstein (2012a,b); Champollion (2016), a.o.

³They also have an interval-oriented interpretation, which doesn't concern us today.

The “Same Participant” Constraint

- ★ The “same participant” constraint on the (event-oriented) use of for-adverbials⁴:

(20) for an hour (V) = $\lambda e. V(e)$ and e lasts one hour and for each temporal cell of a salient cover of $\tau(e)$ (the run-time of e), there is an event e' in V with **the same participants** as those in every other cell of $\tau(e)$ and e is the sum of all such events e' .

$\leadsto e = e_1 \oplus e_2 \oplus e_3$, where e lasts for an hour and e_1 , e_2 , and e_3 share the same participants.

⁴See Champollion et al. (2017) for a similar yet different approach. This constraint might be a property of a more general class of phenomena related to atelicity.

The “Same Participant” Constraint

The “same participant” constraint on the use of for-adverbials

(21) Two V -events e and e' have the same participants relative to V in w iff:

For any core thematic role Θ which is necessarily defined relative to V , $\Theta_w(e) = \Theta_w(e')$

where a theta role Θ is necessarily defined relative to V iff for any world w and any event e such that $V_w(e) = 1$, $\Theta_w(e)$ is defined.

The “Kinds as Direct Arguments” Approach

Abandoning DKP for plural kind terms:

- ★ “Kinds as Direct Arguments” Approach: Kinds can directly bear thematic roles (Landman and Rothstein, 2012a,b)⁵

$$(22) \quad \llbracket \text{kill mosquitoes} \rrbracket = \lambda e[\text{kill}(e) \wedge \text{Th}(e) = \cap \text{mosquitoes}]$$

- ★ This allows bare plurals to meet the “same participant” constraint, as each cell of $\tau(e)$ has the same kind as the theme argument.
 \rightsquigarrow the parts of an e in *for an hour*(V), i.e., e_1 , e_2 , and e_3 , are all killing mosquitoes events

⁵There is more to this, ask me if interested!

Plural Kind Argumentation

Chierchia outlines **three axioms** for plural kind argumentation:

⁶The idea is adopted from (Landman and Rothstein, 2012a,b).

Chierchia outlines **three axioms** for plural kind argumentation:

- ▶ **Exemplification:** Having a kind argument entails that the event has parts in which instances of the kind are the thematic arguments.⁶

$$\Theta_w(e) = \bigcap P \rightarrow \exists e' \exists x [e' \subseteq e \wedge \bigcup P_w(x) \wedge \Theta_w(e') = x]$$

A *killling mosquitoes* event has parts involving instances of the mosquito kind.

- (23) $\exists e [kill(e) \wedge Th(e) = \bigcap mosquitoes]$ entails:
 $\exists e \exists y [\bigcup mosquitoes(y) \wedge kill(e) \wedge Th(e) = y]$

⁶The idea is adopted from (Landman and Rothstein, 2012a,b).

- ▶ **Antitotality:** There is no suggestion that the whole kind is involved.

Plural Kind Argumentation

- ▶ **Antitotality:** There is no suggestion that the whole kind is involved.
- ▶ **Progressivity:** In all w' 's inertial for w there is a continuation of e in w' ; in absence of external factors, e would tend to go on (Dowty 1979, Landman 1992).

$$\Theta_w(e) = \bigcap P \rightarrow \forall w' [I_w(w') \rightarrow \exists x [\bigcup P_w(x) \wedge C_{w'}(e)(e') \wedge \Theta_{w'}(e') = x]]$$

where $I_w(w') = w'$ is inertial for w ; $C_{w'}(e)(e') = e'$ is a continuation of e in w .

Singular Kind Reference

Chierchia (2023):

- ▶ Singular kind argumentation lacks the three axioms of plural kind reference:

- (24)
- a. **Horses** arrived in Australia with the first immigrants (for a few years).
 - b. **The horse** arrived in Australia with the first immigrants (*for a few years).

- ▶ **No exemplification, totality:** In (24b), the protagonist is the kind; a *representative* sample of the horse kind's arrival in Australia concerns the kind as a whole.

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- ▶ **No exemplification, totality:** In (24b), the protagonist is the kind; a *representative* sample of the horse kind's arrival in Australia concerns the kind as a whole.
- ▶ **No progressivity:** This event is not prolongable; the kind has already arrived (cannot keep arriving).

Singular kind argumentation is inherently unsuitable for atelic modification with non-iterable achievements due to ...

- ★ the same participant constraint of for-adverbials.
- ★ lacking the three axioms associated with plural kind reference.

Back to Turkish

The **caseless indefinite** in (25) is forced to have an anomalous reading due to the “same participant” constraint (killing the same rabbit iteratively).

- (25) *Ali bir saat boyunca **bir tavşan** öldür-dü.
Ali one hour for one rabbit kill-PST
'*Ali killed a rabbit for an hour.'

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Ali one hour for one rabbit kill-PST
'*Ali killed a rabbit for an hour.'

But how do we explain the disparity between **PI'ed and canonical singular kind argumentation?**

- (26) Kurum bu bölge-de (bir ay boyunca) **beyaz aslan**
institute this region-in one month for white lion
keşfet-ti.
discover-PST
'The institute **did white lion-discovering** in this region (for a
month).' ↷ Pl'ed sg kind

PI aligns with plural kind argumentation in following the three principles:

1. **Exemplification:** The protagonist of a *white lion-discovering* event is some members of the white lion kind
2. **Antitotality:** not the whole kind (the kind itself might have been found in this region earlier).
3. **Progressivity:** The event has the potential to continue.

Pl'ed Singular Kind Argumentation

With the case-marked singular kind term, the property is attributed to the entire kind, requiring that the kind had **not** been found in this region earlier.

- (27) Kurum bu bölge-de (*bir ay boyunca) **beyaz aslan-ı**
institute this region-in one month for white lion-ACC
keşfet-ti.
discover-PST
'The institute **discovered the white lion** in this region (*for a
month).'
↷ canonical sg kind

Key Question:

- ▶ What aspect of PI leads to this notable shift in singular kind argumentation?

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Additionally,

- ▶ Our PI analysis needs an adjustment akin to the “kinds as direct arguments” approach to explain compatibility with for-adverbials
- ▶ BUT in a distinct way from plural kind argumentation.

Name-worthiness: PI is allowed if the result conveys a canonical event type, limiting the PI'ed noun to sub-kind denoting modification (Mithun 1984, Dayal 2011).

- ▶ Turkish bare plurals do **not** undergo PI, one reason being that they lack name-worthiness (Sağ 2019; 2022).

(28) Ali *eski* **kitap??(-lar)** oku-du.

Ali worn.out book-PL read-PST

PI (no PL): ??Ali did worn-out book-reading.

No PI (with PL): ✓ Ali read worn-out books.

(29) Ali *dini* kitap(-lar) oku-du.

Ali religious book-PL read-PST

PI (no PL): ✓ Ali did religious book-reading.

No PI (with PL): ✓ Ali read religious books.

Pseudo-incorporation & Event Kinds

- ★ Event kinds e_k (type v_k) as a primitive (taxonomic) category distinct from event tokens e (type v)
- ★ Verbs denote properties of event kinds and event tokens:⁷

(30) a. $\llbracket read_{kind} \rrbracket = \lambda e_k. read_k(e_k)$
 b. $\llbracket read_{token} \rrbracket = \lambda e. read(e)$

⁷Landman and Morzycki (2003), Schäfer (2007); Gehrke and McNally (2011), Anderson and Morzycki (2015), Schwarz (2014), Gehrke (2015), Sağ (2018); Luo (2022)

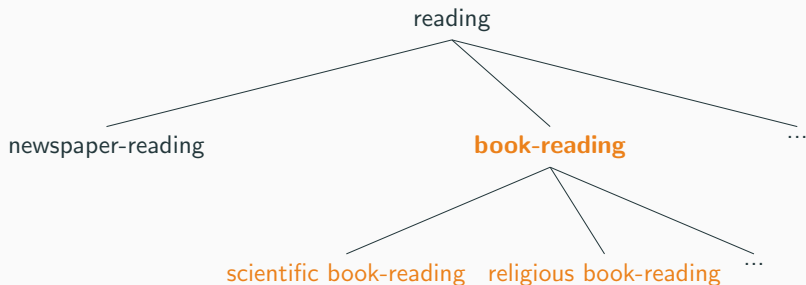
Claim:⁸

- ★ Similar to event tokens, argument saturation is also possible within event kinds and the result denotes the property of a sub-event kind.
- ★ This is manifested as PI in languages like Turkish.

⁸That PI denotes event kinds/types has been argued earlier, e.g., see Carlson (2003), Dayal (2004), Carlson et al. (2014), Schwarz (2014), Gehrke (2015), Sağ (2018), Luo (2022).

Taxonomy of Event Kinds

Taxonomy of reading event kinds:

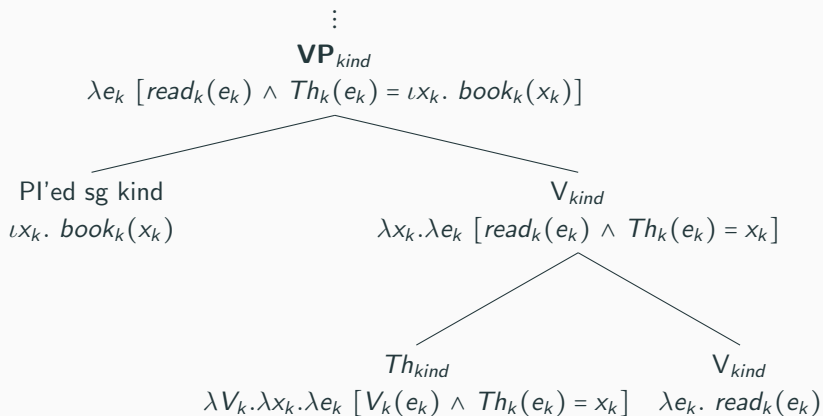


~> Sub-event kinds are achieved through PI via a thematic function θ_{kind} defined on sg kinds and event kinds.

e.g., theme introducing Th_{kind}

Book-reading Event Kind

[[*kitab oku-*]] 'book read':



For canonical argumentation, event-kinds type-shift to event tokens via **Event Tokenizer (ET)**:

(31) ET: $\lambda V_k. \lambda e. \exists e_k [belong\text{-}to(e, e_k) \wedge V_k(e_k)]$

- ▶ ET takes an event-kind property V_k of type $\langle v_k, t \rangle$, \exists -closes it, and returns a property of event tokens V of type $\langle v, t \rangle$ that *belong to* the event kind.
- ▶ As event kinds are taxonomic, they hold a *belong-to* relation with event tokens, akin to singular kinds.

Event Tokenization:

- ▶ for every thematic kind argument that the event kind has (if any), there is an object-level member or members of that kind, which bear the corresponding thematic role in the event token domain.

$$(32) \quad \forall e_k \forall x_k \forall \theta_k [\theta_k(e_k) = x_k \rightarrow \exists e, \exists y, \exists \theta_t [belong\text{-}to(e, e_k) \wedge belong\text{-}to(y, x_k) \wedge correspond\text{-}to(\theta_t, \theta_k) \wedge \theta_t(e) = y]]$$

- ▶ E.g., involvement in a book-reading event kind requires a reading event token with at least one book as its theme.

Two levels of Argumentation

[[*Ali kitap okudu*]] 'Ali did book-reading':

$$(33) \quad \exists e. \exists e_k [\textit{belong-to}(e, e_k) \wedge [\textit{read}_k(e_k) \wedge \textit{Th}_k(e_k) = \iota x_k. \textit{book}_k(x_k)] \wedge \textit{Ag}_t(e) = \textit{Ali}]$$

\rightsquigarrow Ali is involved in an event token of a book-reading event kind as an agent.

entails:

$$(34) \quad \exists e. \exists y [\textit{read}(e) \wedge \textit{belong-to}(y, \iota x_k. \textit{book}_k(x_k)) \wedge \textit{Th}_t(e) = y] \wedge \textit{Ag}_t(e) = \textit{Ali}]$$

\rightsquigarrow Ali's involvement in a book-reading event kind requires a reading event token with at least one book as its theme.

Narrow Scope:

- ▶ PI'ed sg kind argumentation occurs at the event kind level, embedded within the \exists -closure of the event token.
- ▶ Since event (token) quantification takes the narrowest scope, the PI'ed NP is necessarily interpreted low.

Narrow Scope:

- ▶ PI'ed sg kind argumentation occurs at the event kind level, embedded within the \exists -closure of the event token.
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Name-worthiness:

- ▶ gains an explanatory status: not an *ad hoc* condition on PI, but follows from PI denoting event kinds (Gehrke, 2015).
- ▶ Kinds are name-worthy in denoting classes of objects exhibiting regular behavior in nature (Carlson, 1977).
- ▶ Likewise, event kinds represent well-established/typically encountered classes of events.

Pseudo-incorporation & Atelicity

Puzzle, revisited

Let's recall the puzzling data:

- (35) Kurum bu bölge-de (bir ay boyunca) **beyaz aslan**
institute this region-in one month for white lion
keşfet-ti.
discover-PST
'The institute **did white lion-discovering** in this region (for a
month).' \leadsto Pl'ed sg kind
- (36) Kurum bu bölge-de (*bir ay boyunca) **beyaz aslan-ı**
institute this region-in one month for white lion-ACC
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'The institute **discovered the white lion** in this region (*for a
month).' \leadsto canonical sg kind

The “Same Participant” Constraint

We need a little adjustment to the “same participant” constraint of for-adverbials:

- (37) Two V -events e and e' have the same participants relative to V in w iff:
- i. For any core thematic role Θ which is necessarily defined relative to V , $\Theta_w(e) = \Theta_w(e')$, or
 - ii. For any core thematic role Θ which is necessarily defined relative to V_k of V , $\Theta_w(e_k) = \Theta_w(e'_k)$

where a theta role Θ is necessarily defined relative to V iff for any world w and any event e such that $V_w(e) = 1$, $\Theta_w(e)$ is defined, and a theta role Θ is necessarily defined relative to V_k iff for any world w and any event e_k such that $V_{k,w}(e_k) = 1$, $\Theta_w(e_k)$ is defined

beyaz aslan *keşfet* 'white lion discover'

Pl'ed sg kind

$$(38) \quad \llbracket [VP_{token} \text{ ET } [VP_{kind} \text{ discover the white-lion}]] \rrbracket = \\ \lambda e. \exists e_k [\textit{belong-to}(e, e_k) \wedge [\textit{discover}_k(e_k) \wedge Th_k(e_k) = \\ \iota x_k. \textit{white-lion}_k(x_k)]]$$

- ▶ compatible with for-adverbial, which modifies VP_{token}
- ▶ satisfies the “same participant constraint”: Each cell of $\tau(e)$ involves the same singular kind argument at the event kind level.
 \rightsquigarrow the parts of an e in *for an hour* (V), i.e., e_1 , e_2 , and e_3 , are all event tokens the white-lion discovering event kind.

ET bestows PI with the three axioms:

- ▶ **Exemplification:** ensured via (32), repeated below:

$$(39) \quad \forall e_k \forall x_k \forall \theta_k [\theta_k(e_k) = x_k \rightarrow \exists e, \exists y, \exists \theta_t [\text{belong-to}(e, e_k) \wedge \text{belong-to}(y, x_k) \wedge \text{correspond-to}(\theta_t, \theta_k) \wedge \theta_t(e) = y]]$$

- ▶ **Antitotality:** While the singular kind is involved in the taxonomy of the event kind, it is (some) members of the kind that are involved in the corresponding event token.
- ▶ **Progressivity:** One could continue engaging in the (episodic) event tokens of the *white lion-discovering* event kind in this region perpetually.

Worth highlighting:

- ▶ PI (i.e., *white-lion discovering*) is predicted to be infelicitous with for-adverbials if only a single event token *e* of discovering a white lion entity is involved.
- ▶ While this *e* is a token of the *white lion-discovering* event kind, for-adverbials require the event to have temporal parts.
- ▶ And each of these temporal parts need to satisfy a token of this event kind.

Canonical Singular Kind Argumentation & Atelicity

beyaz aslan-ı *keşfet* 'discover the white lion':

canonical sg kind

$$(40) \quad \llbracket [VP_{token} [VP_{token} ET [VP_{kind} \text{discover}]] \text{ the white-lion-ACC}] \rrbracket = \\ \lambda e. \exists e_K [\text{belong} - \text{to}(e, e_K) \wedge \text{discover}(e_K)] \wedge \\ Th_T(e) = \iota x_K [\text{white} - \text{lion}_K(x_K)]]$$

contrast with PI: $[VP_{token} ET [VP_{kind} \text{discover the white-lion}]]$

- ▶ The singular kind is introduced after the *discovering event kind* is tokenized.
- ▶ This triggers a representative object reading.
- ▶ The for-adverbial yields deviance because the same kind is being discovered iteratively in the event token domain (by the “same participant” constraint).

Conclusion

Adopting an event-oriented approach to for-adverbials, together with a “same participant” constraint imposed on their use, ...

- ▶ We analyzed aspectual distinctions among caseless indefinites, PI'ed and canonical singular kind arguments, as well as plural kind arguments.
- ▶ At the heart of these distinctions is a two-layered argument structure differentiating between event kind-level (i.e., PI) and event token-level argumentation.

- ▶ **Take-home message:** Taxonomic kind reference is not only applicable in the domain of objects, but also in the domain of events, playing a crucial role in aspectual specification of verbal complexes.
- ▶ We have opened the realm to new exploration possibilities. More work is needed to understand the nature of kind reference in the domain of events, especially in languages that don't feature PI.

Thank you!

Special thanks to Gennaro Chierchia, Veneeta Dayal, Ömer Demirok, Muhammet Bal, Mark Baker, Simon Charlow, and the Linguistics communities at Harvard and Rutgers for their valuable discussions and feedback. I am also grateful to the audience of the Linguistics Colloquium Talks at the University of Maryland for their insightful comments.

On Abandoning DKP

Carlson (1977): Kind argumentation cannot be purely kind-oriented (example from Chierchia 2022):

(41) This morning, dugongs_i were letting themselves_i die, because they were trapped.

Therefore, Chierchia offers a blend of the “kinds as direct arguments” approach and DKP:

- Whenever a kind is a direct thematic argument of an event instances of kinds are introduced simultaneously as thematic arguments of sub-events.⁹

(42) $\llbracket \text{Birds are chirping} \rrbracket = \exists e' [Ag(e') = \cap \text{birds} \wedge \text{chirp}(e') \wedge \exists y [\cup \cap \text{birds} \wedge \exists e'' [e'' < e \wedge Ag(e'') = y \wedge \text{chirp}(e'')]]]$

⁹Note: A for-adverbial looks for such plural events e' to return an e which is the sum of plural e' 's.

A Two-layered Verbal Structure

Building on Öztürk (2005) and Sağ (2022):

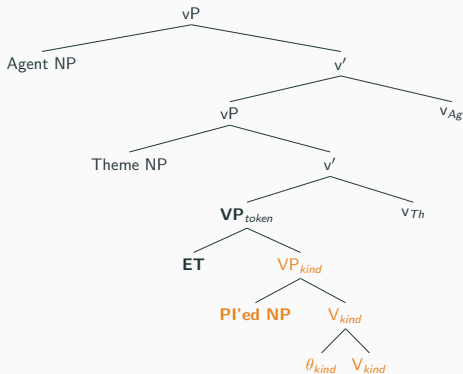
1. **Lexical domain of VP:**

hosts caseless arguments,
including event-kind level
argumentation (PI)

2. **VP-external functional domain:**

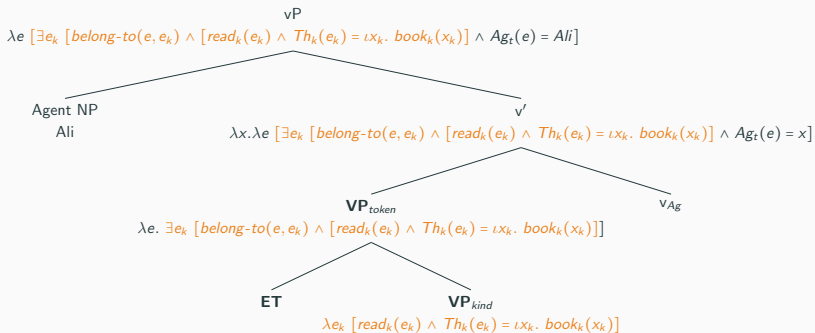
canonical/event token-level
arguments are introduced and
receive case

- themes via a little v_{Th}
- agents via a higher little v_{Ag}



Two levels of Argumentation

[[*Ali kitap okudu*]] 'Ali did book-reading':



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