Gerunds as *ad hoc* event kinds

Zi Huang

Presentation at DGfS Annual Meeting 2024
AG 9: The Spectrum of Kinds

29 Feb 2024

upf. **Universitat**
Pompeu Fabra
Barcelona

Verbal gerunds in English

POSS-*ing*: Justin's/his writing his thesis
ACC-*ing*: Justin/him writing his thesis

Verbal gerunds are only compatible with loose containers:
(Vendler 1967)

▶ Justin's writing his thesis surprised me/made me happy.

▶ Justin's writing his thesis is a fact/is probable/is unimaginable.

▶ I really appreciate Justin's writing his thesis.

Such containers are "loose" because they are also compatible with
most other nominalizations.

Data to be accounted for (Vendler 1967)

Verbal gerunds are incompatible with narrow containers:
(Eventive predicates, predicates of time, concrete properties...)

- ▶ #Justin's writing his thesis happened/occurred/took place in the office/during the pandemic.

- ▶ #Justin's writing his thesis started/ended during the pandemic.

- ▶ #Justin's writing his thesis took a very long time.

- ▶ #Justin's writing his thesis was extremely slow/was full of pain.

Narrow containers only take event-denoting expressions:

- ▶ The volcanic eruption happened 1000 years ago.

- ▶ Justin's submission of his thesis was quick/was enjoyable to watch.

What do verbal gerunds denote?

Narrow containers take events.
Narrow containers do not take verbal gerunds.

_____

Verbal gerunds do not denote events.
Then what do they denote?

Facts (Vendler 1967)
Propositional entities (Portner 1992)
States of affairs (Zucchi 1993)
Facts or possibilities (Asher 1993)
Event kind descriptions (Grimm & McNally 2015)
Kimian states (my thesis, taking corpus data into account)

Event kinds

Events can be seen as concrete objects and event kinds are an abstraction of events, typically expressed by VPs. (Carlson 2003)

Top-down formation of event kinds:
Move > Run > Run fast
Eat > Eat beans
Hunt > Lion-hunt

Event kinds are realized/instantiated by event tokens: $\mathbf{R}(e, e_k)$

The event kind analysis (Grimm & McNally 2015)

Justin's writing his thesis is a description of kinds that are writing, having Justin ($\mathbf{j}$) as the agent and his thesis ($\mathbf{t}$) as the theme.

$[\![\text{writing}]\!] = \lambda e_k[^{\cup}\mathbf{writing}(e_k)]$

$[\![\text{Justin's writing his thesis}]\!] =$
$\lambda e_k[^{\cup}\mathbf{writing}(e_k) \wedge \mathbf{Agent}(\mathbf{j}, e_k) \wedge \mathbf{Theme}(\mathbf{t}, e_k)]$

This denotation is turned into an entity when the verbal gerund serves as an argument: (below is a simplified representation)

$[\![\text{Justin's writing his thesis surprised me}]\!] = \exists e[\mathbf{surprise}(e) \wedge$
$\mathbf{Stimulus}(\ ^{\cap}(\lambda e_k[^{\cup}\mathbf{writing}(e_k) \wedge \mathbf{Agent}(\mathbf{j}, e_k) \wedge \mathbf{Theme}(\mathbf{t}, e_k)])\ , e) \wedge$
$\mathbf{Experiencer}(\mathbf{z}, e)]$

P1: These kind expressions can be very specific.

- **Restrictions on nominal kind formation**:
  - \# Tired lions are widespread.
  - \# The green bottle$_k$ has a long neck.

- **Restrictions on event kind formation**:
  - ▶ ***So* anaphora**: manner adverbs (e.g. *clumsily*) can make a kind, spatiotemporal modifiers (e.g. *on Monday*) cannot. (Landman & Morzycki 2003)
  - ▶ **Modifiers of German adjectival passive**: some modifiers make complex event kinds (*brewed in red wine, written in one night, cited by Chomsky*), some modifiers do not (*written slowly, opened by John*). (Maienborn, Gese & Stolterfoht 2016)
  - ▶ **Pseudo-incorporation**: only non-referential noun phrases can be incorporated and make subkinds.

P1: These kind expressions can be very specific.

▶ **Verbal gerunds have specific participants and take all kinds of modification**:
Justin's submitting his thesis in bed five minutes before the deadline right after he woke up from a nightmare
Yet they do not become token-denoting.

$[\![\text{Clay('s) winning the game yesterday}]\!] =$
$\lambda e_k[\mathbf{win}(e_k) \wedge \mathbf{Agent}(\mathbf{c}, e_k) \wedge \mathbf{Theme}(\mathbf{g}, e_k) \wedge$
$\forall e, i[\mathbf{R}(e, e_k) \text{ at } i \to \tau(e) \subseteq \mathbf{y} \text{ at } i]\!]$ (Huang 2023)

P2: There is usually only one token event.

An expression cannot denote a kind if there is only one individual in its extension (Chierchia 1998), but verbal gerunds, especially POSS-*ing*, are often used in such occasions:

Justin's falling asleep last week in the semantics class upset me.

[...] in the hope that Edward would eventually get launched again on crusade, a hope stimulated by his taking the cross in 1287 when he vowed to depart in June 1293 and by the fall of Acre in 1291. (BNC)

P3: They are incompatible with narrow containers.

\# Justin's writing his thesis was painfully slow.

$^{\cap}(\lambda e_k[^{\cup}\mathbf{writing}(e_k) \wedge \mathbf{Agent}(\mathbf{j}, e_k) \wedge \mathbf{Theme}(\mathbf{t}, e_k)])$ is not an event and therefore not the type of entity that can *happen* or be *slow*.

▶ What about $\lambda e_k[^{\cup}\mathbf{writing}(e_k) \wedge \mathbf{Agent}(\mathbf{j}, e_k) \wedge \mathbf{Theme}(\mathbf{t}, e_k)]$
 and $[\![happen]\!] = \lambda P \lambda e_k \exists e[\mathbf{R}(e, e_k) \wedge P(e_k) \wedge \mathbf{happen}(e)]$?

▶ Bare plural in English: *Armed conflicts took place yesterday.*
 But not all kind expressions give existential readings.

▶ Grimm & McNally (2015): verbal gerund + narrow container is
 forced to be understood as a generalization, but it is
 pragmatically odd to claim that all the events of the kind
 Justin's writing his thesis were painfully slow.

▶ How do loose containers work?

The proposal

Assuming that we don't want to abandon the kind analysis:

1. Verbal gerunds can be very specific.
   They are ad hoc kinds .

2. Verbal gerunds can be used to talk about tokens.
   They are *ad hoc* kinds, and sometimes are built upon
   event tokens . We use them to express generalizations (even if
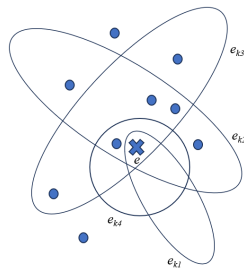   *surprised me* does not look like one).

3. Verbal gerunds are incompatible with narrow containers.
   Narrow containers cannot support a meaningful generalization.

→ Verbal gerunds are a consistent way of forming *ad hoc* event
   kinds.

Ad hoc kinds (1): Similarity

There is an entity that you create a kind for.

In the nominal domain, this way of kind formation is based on similarity, making use of anaphors and demonstratives: *this kind of lions*, *such a lion*. (Umbach & Gust 2014)

$[\![\text{such a car}]\!] =$
$\lambda Q[\exists x[\mathbf{sim}(x, x_{target}, F) \wedge \mathbf{car}(x) \wedge Q(x)]]$

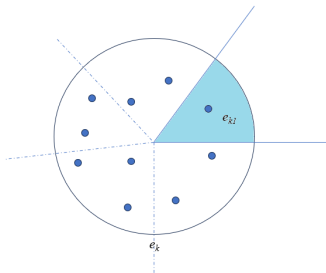The properties that make this kind are implicit.

Ad hoc kinds (2): Partition

You partition a kind and get the subkind you need.

In the nominal domain, this is realized via relative clauses: *the lions that eat people* (cf. *the lions that eat deer/gazelles/...*). (Mendia 2019)

⟦the lions that eat people⟧ = $\lambda z[^{*}\mathbf{lion}(z) \wedge \mathbf{eat\text{-}people}(z)]$

The properties that make this kind are explicit.

Bottom-up formation of event kinds

Similar to the partition method:
Specifying an event kind with participants, manners and
spatiotemporal information. (Is this partitioning?) The properties
that make this kind are in the descriptive content.

$[\![$Justin's writing his thesis$]\!]$ =
$\lambda e_k[^{\cup}\mathbf{writing}(e_k) \wedge \mathbf{Agent}(\mathbf{j}, e_k) \wedge \mathbf{Theme}(\mathbf{t}, e_k)]$

The kind may be based on token events:
$\lambda e_k[^{\cup}\mathbf{writing}(e_k) \wedge \mathbf{Agent}(\mathbf{j}, e_k) \wedge \mathbf{Theme}(\mathbf{t}, e_k) \wedge \mathbf{R}(\mathbf{e}, e_k)]$

Where does the event token come from?

POSS-*ing* is referential. (my thesis)

Observations from Portner (1992):

▶ POSS-*ing* presupposes the existence of a corresponding token event:
I did not imagine Justin's criticizing my friend.
→ Justin criticized my friend.
cf. I did not imagine Justin criticizing my friend.

▶ When there is no corresponding token event, POSS-*ing* is presupposed to be familiar in the discourse:
I prevented Justin's criticizing my friend.
→ The possibility of Justin criticizing my friend is under discussion

POSS-*ing* is referential

Annotation task with 200 POSS-*ing* instances from BNC:

- ► Does POSS-*ing* always have a corresponding event token?
  35.5% of the POSS-*ing* instances do not.

- ► Is POSS-*ing* given in the discourse?
  About half of the POSS-*ing* instances are not given. 10% do not
  have a token event and yet are entirely new.

Referentiality does not correlate with factivity or discourse givenness,
but only with syntactic structure. (De Cuba & Ürögdi 2010)
POSS-*ing* is referential in virtue of being definite.

Referentiality here suggests there is something to build the kind with.

Creating *ad hoc* event kind from token

Event token $\mathbf{e}$ in the common ground or only known to the speaker.

- ▶ Create a kind expression from a token: $\lambda P \lambda e_k [P(e_k) \wedge \mathbf{R}(\mathbf{e}, e_k)]$

- ▶ Find a kind: $\lambda e_k [^\cup \mathbf{writing}(e_k) \wedge \mathbf{R}(\mathbf{e}, e_k)]$

- ▶ Specify the kind description with participants and modification, making sure that (1) the kind is identifiable enough for the hearer, even if $\mathbf{e}$ is not known to them (2) $\mathbf{e}$ is still an instantiation of the resulting kind:
  $\lambda e_k [^\cup \mathbf{writing}(e_k) \wedge \mathbf{Agent}(\mathbf{j}, e_k) \wedge \mathbf{Theme}(\mathbf{t}, e_k) \wedge \mathbf{R}(\mathbf{e}, e_k)]$
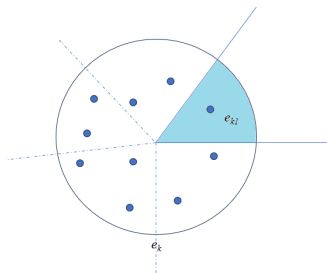
What about ACC-*ing*?

ACC-*ing* can be as specified as POSS-*ing*, but ACC-*ing* is not referential:

I imagined Justin singing in his bedroom at midnight.
  → Justin probably never did that, and that does not have to be in the common ground.

The kind is not created from a token, but the rest is the same as POSS-*ing*.

What about narrow containers?

#Justin's submitting his thesis took place in bed/was joyful.

Conflicts took place in this country.
Cats played in my yard.
#The cat_k played in my yard.
This kind of cats played in my yard.

A simple solution: Verbal gerunds, like definite singular in English, do not permit access to event tokens.

Grimm & McNally (2015): "pragmatically, it is unlikely that all (normal instances of the kind) occur at midnight or are fast, slow, etc., which is what predication to an event kind would entail."

Gerunds being opaque

Even if there is only one relevant event in the context, what exactly
"disturbed me" is pointed out by the descriptive content:
→ Justin's eating the steak (C) didn't disturb me, but his eating the
steak with his hands (B) disturbed me.
→ Justin's eating the steak (C) didn't disturb me, but his devouring
my dinner (A) disturbed me.
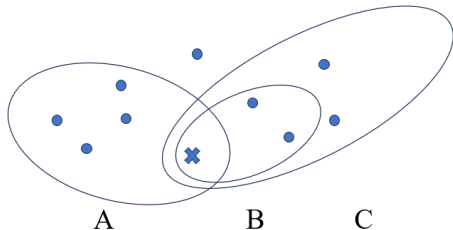
Properties

Things have *k*-properties (principled connections, determined by the type of thing they are) and *t*-properties (statistical connections, properties that they happen to have), which human conceptual systems can distinguish. (Prasada & Dillingham 2006)

Dogs have four legs by virtue of being dogs.
#Barns are red by virtue of being barns.

$\rightarrow$ *Ad hoc* kinds can be very heterogenous except for the properties that they are built with—which are their *k*-properties.

Gerunds being opaque

If something is true of an *ad hoc* kind, it is true because of the
defining property of that kind, similar to a disposition reading.

▶ I like the lions that eat people (by virtue of them being lions and
eating people).

▶ Justin's writing his thesis surprised me (by virtue of it being
Justin writing his thesis).

▶ #Justin's writing his thesis was slow (by virtue of it being Justin
writing his thesis) → No. It was slow because you observed a
particular instance of it.

Verbal gerunds are *ad hoc* event kinds

1. Why can gerunds be so specific?
   They are *ad hoc* kinds. They are as specific as necessary.

2. Why do we use kind expressions when only one event is involved?
   To attribute the truth of the statement to specific properties.

3. What about narrow containers?
   They assert properties that cannot be attributed to the kind.

4. How do we form *ad hoc* event kinds?
   (Find a target event.) Find a kind. Make that kind specific.

5. The same can be accounted for using an intensional analysis, such as Portner (1992).
   Yes, but we can also do things with just kinds.

Thank you! Danke!

Selected references

▶ Grimm, S., & McNally, L. (2015). The *-ing* dynasty: Rebuilding the semantics of nominalizations. In S. D'Antonio, M. Moroney, & C. R. Little (Eds.), *Proceedings of the 25th Semantics and Linguistic Theory Conference (SALT)* (Vol. 25, pp. 82102). Ithaca, NY: LSA and CLC Publications.

▶ Mendia, J. A. (2019). Reference to *ad hoc* kinds. *Linguistics and philosophy*, 43, 589-631.

▶ Umbach, C., & Gust, H. (2014). Similarity demonstratives. *Lingua*, 149, 74-93.

▶ Vendler, Z. (1967). *Linguistics in philosophy*. Ithaca, NY: Cornell University Press.

Degrees as kinds?

Degrees are kinds of Davidsonian states (Anderson & Morzycki 2015); amount interpretations of relative clauses are a form of kind interpretation (Mendia 2019).

- ▶ It would take us years to drink the (amount of) champagne that they spilled that night.

Can gerunds possibly be interpreted as degrees? In what dimensions? Credibility? Truthfulness? Probability?
Degree/manner reading more accessible when a manner is specified.

- ▶ Justin's quietly sitting there and listening to me was surprising.

But gerunds are not used as manner/degree expressions:
#Simba was reading more quietly than Justin's quietly sitting there.