

Philosophy of Language: Natural Language Ontology

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Handout 4

Implicit Arguments and Event Semantics

1. Summary of last session

1.1. A bit more on special quantifiers

Characteristics properties of special quantifiers and special pronouns

Semantic characterization:

Special quantifiers (and pronouns) can replace complements of nonextensional verbs without leading to the Substitution Problem, likewise for definite and bare plural and mass DPs with extensional verbs.

Syntactic structure of special quantifiers (see Moltmann 'Names, Light Nouns, and Countability'. *Linguistic Inquiry* [online first](#) February 2022)

Combination quantifier/pronoun- light noun *thing* (overt or silent)

A lot: a lot ~~thing~~

~~What: what-thing~~

Whatever: what-~~thing~~ – ever

Special Nouns

1. *Word*-NPs as x complements of verbs of saying (*the word 'help', only a single words, a few words*) *Words*-NPs with verbs of saying

(1) a. John said the word 'please' / * the expression 'please' / * the verb 'come.

b. John said / whispered / screamed / muttered a few words / * claimed a few worlds.

2. *Size, quality, weight* as head of predicative complements

(2) The door *is the same size, height, weight* as the other door.

3. Cognate objects: *think a thought, scream a scream*

Moltmann *Abstract Objects and the Semantics of Natural Language* (OUP 2013):

Special quantifiers can replace clausal complements, predicative complements, intensional DPs, direct quotes and measure phrases as complements without leading to the Substitution Problem.

Further generalization ('Names, Light Nouns, and Countability)::

Special quantifiers can replace definite and bare plural and mass DPs as well as simple number words in argument position without leading to the substitution problem.

The higher-order view of special quantifiers

Prior, Roselfeld, d'Ambrosio, and others:

Special quantifiers are higher-order quantifiers, ranging over denotations that are not first-order entities and cannot be referred to as such *even in the metalanguage*.

Higher-order quantification in the metalanguage: Williamson: 'Everything' (*Phil Perspectives* 15, 2003)

The Nominalization Theory of special quantifiers

Special quantifiers range over the sorts of things that a suitable nominalization would stand for.

Motivations for the nominalization analysis (Moltmann *Abstract Objects ...*):

1. Special quantifiers always permit first-order predicates of various sorts (adjectival or relative- clause modifiers). Those modifiers cannot be analysed within a simple higher-order analysis.
2. Special quantifiers permit the plural – unexpected on a higher-order quantification view.

The Nominalization of special quantifiers with attitude verbs

The light noun *-thing* forms a compound with the nominal root.

(3) a. John claimed something. John claim-made [some ~~claim~~-thing]

b. [claim-thing] = [claim_N]

(4) * [claim-proposition], * [claim-objects]

The general view

Attitude verbs are underlyingly light verb-noun combinations.

See also Hale/Kayser (2002) for a view of lexical decomposition of verbs in syntax.

For light nouns as heads of compounds see Moltmann 'Names, Light Nouns, and Countability'.

A nominalization analysis of predicative complements (suggestion)

(5) a. John is something.

b. For some noun / concept N, John is some N-thing

c. For some noun / concept N, John N-is some ~~N~~-thing.

d. [happy-thing] = [happiness]

e. * [happy-property]

The nature of the analysis

Higher-order-quantification, syntactic and semantic nominalization, incorporation:

Quantification over both predicate denotations and modes (kinds of modes)

2. Implicit arguments and event semantics

2.1. Motivations for the Davidsonian analysis

1. The inference of adverb drop

(1) a. John walked slowly.

b. $\exists e(\text{slowly}(e) \ \& \ \text{walk}(e, \text{John}))$

c. John walked.

2. Inference of deverbal nominalization

(2) a. John walked slowly.

b. John's walk was slow.

c. John's slow walk occurred.

(3) a. $[\text{John's walk}] = \iota e[\text{walk}(e, \text{John})]$

b. $\text{slow}([\text{John's walk}])$

3. The inference of adverb permutation (Landman 2000):

(4) John walked slowly with a stick.

John walked with a stick slowly.

(5) [*John's walk*] = $\lambda e[\text{walk}(e, \text{John})]$

2.2. The Neo-Davidsonian view (Parsons 1990)

Verbs are one-place predicates of events

Thematic relations connect individuals to events based on the syntactic position of the DPs referring to the individuals.

(6) a. John saw Mary.

b. $\exists e(\text{see}(e) \ \& \ \text{agent}(\text{John}, e) \ \& \ \text{theme}(\text{Mary}, e))$

Advantage

Easy representation of alignment of syntactic positions with roles of participants in the event.

Difficulty:

Can there be a seeing event without an agent and a theme?

Response: no, but lexical argument structure need not reflect the essential relations of an entity.

Modes (tropes) as implicit arguments of adjectives

(7) a. Mary is profoundly happy.

b. Mary is happy.

c. Mary's happiness is profound.

d. ??? The state of Mary's being is profound.

(8) a. $\exists t(\text{happy}(t, \text{Mary}) \ \& \ \text{profound}(t))$ (Davidsonian analysis)

b. $\exists t(\text{happy}(t) \ \& \ \text{PRED}(t, \text{Mary}) \ \& \ \text{profound}(t))$ (Neo-Davidsonian analysis)

Contribution of *is*?? – See below!

3. States and the Kimian account of events

3.1 Kim's (1976) account of events as property exemplifications

(9) Kim's theory of events

For individuals d, d' , properties P, P' , and times t, t' ,

[1] $[d, P, t]$ exists iff P holds of d at t .

[2] $[d, P, t] = [d', P', t']$ iff $d = d', P = P', t = t'$.

(10) The semantics of event nominalizations

$[John's\ walk] = \lambda e[e = [John, [walk], t]]$

(11) a. John's slow walk

b. $\lambda e[e = [John, [walk], t] \ \& \ slow([John, [walk], t])]$

c. $[John, [slowly\ walk], t]$

(12) a. John's slow walk was John's walk.

b. The fact that John walked slowly is the fact that John walked.

3.2. Problems for the Kimian view: the distinction between facts and events

(13) a. Mary noticed part of that event.

b. ??? Mary noticed part of that fact.

(14) a. The meeting was in the room.

b. ??? The fact that they met was in the room.

(15) a. John's jump caused the table to break.

b. ??? The fact that John jumped caused the table to break.

(16) a. John saw Bill's jump.

b. ??? John saw the fact that Bill jumped.

(17) a. John's jump was high.

b. ??? The fact that John jumped was high.

(18) a. John's laughter was intense.

b. ??? The fact that John laughed was intense.

Verbs of description

(19) a. Mary described John laughter / John's jump.

b. ?? John described the fact that John laughed / the fact that John jumped.

A puzzle about verbs of description

(20) a. John described the object: he said it was a book.

b. ??? John described the book: he said it was a book.

Kim's theory of events as a theory of facts – non-worldly facts

Two views of facts

1. Facts as non-worldly (e.g. as propositions qua being true) (Strawson1950)

2. Facts as worldly, as part of the world (Austin1979)

3.3. States and the Kimian account of events

Kimian and Davidsonian states (Maienborn 2007)

Abstract and concrete states (Moltmann 2013)

Abstract state verbs

Know, own, owe, weigh, resemble, be

Concrete state verbs

Sit, stand, lie, sleep

Maienborn's observations about inacceptability of types of adverbial modifiers with abstract state verbs

Location modifiers:

(21) a. * John weighs 100 kilos in Germany.

b. * John owns the horse in Germany.

c. * John knows French in Munich.

(22) a. John was walking in Munich.

b. John slept in the house.

Manner modifiers:

(23) a. * John weighs 100 kilos with difficulty.

b. * John owns the horse with effort.

(24) a. John was walking in an unusual way.

b. John stood at the table with difficulty.

Instrumentals, comitatives:

- (25) a. ?? John knows French with Mary.
 b. ?? John owns the house with a pencil.
 c. John slept with a pillow.

Naked infinitival complements:

- (26) a. * John saw Bill weigh 100 kilos.
 b. * John saw Bill own the house.
 c. Mary saw John seep on the floor.

(27) A Kimian account of states

- a. For a property P, an object o, the state $s(o, P)$ obtains at a time t iff P holds of o at t.
 b. For properties P and P' and objects o and o', $s(o, P) = s(o', P)$ iff $P = P'$ and $o = o'$.

Maienborn

Abstract state verbs take abstract states as implicit (Davidsonian) arguments.

Nominalizations of stative verbs

Abstract state nominalizations:

- (28) a. ??? John's resembling Bill is striking / unusual.
 b. ??? John knowing French is profound / superficial.

Mode (trope) nominalizations:

- (29) a. John's resemblance to Bill is striking / unusual.
 b. John knowledge of French is profound / superficial.

Spatial modifiers do not show the difference:

Modes by nature do not in general allow for spatial modifiers:

- (30) a. ??? John's wisdom / nervousness / happiness was in France.
 b. ??? the cake's deliciousness on the table

But abstract states, like facts, cannot have parts nor can they be measured, unlike modes (tropes):

- (31) a. Part of John and Bill's resemblance is due to their genes.
 b. ??? Part of John and Bill's resembling each other is due to their genes.
 (32) a. Part of John's knowledge of French is due to his year as an exchange student.
 b. ??? Part of John's knowing French is due to his year as an exchange student.
 (33) a. There is more resemblance to Bill than resemblance to Mary.

- b. ??? There is more resembling Bill than resembling Mary
- (34) a. ??? part of John's being wise / nervous / intelligent
 b. part of John's wisdom / nervousness / intelligence
- (35) a. ??? There is more being wise in this book.
 b. There is more wisdom in this book.

The Davidsonian argument of *be*

Be takes abstract states as implicit arguments.

Being happy: abstract state (of being a bearer of a mode)

Happiness: mode (trope) or kind of mode (trope)

- (36) a. Mary is happy
 b. [*be happy*] = {<e, x> | $\exists t(e = s(\text{'BEING BEARER OF'}, x, t) \ \& \ \text{happy}(x, t))$ }

Likewise for *have*.

Accounting for the two nominalizations

Resemble = be similar to

Know = have knowledge

Nominalize either *be* or *similar*, and either *have* or *knowledge*.

That is, nominalization can refer to the (implicit) argument of *be* / *have* (abstract state) or *similar* / *knowledge* (mode or similar entity).

4. Limits of the Davidsonian view and possible alternatives

Stacking of adverbials without permutability

- (37) a. The ball suddenly rolled quickly.
 b. John spoke very slowly with patience.
 c. Mary danced slowly very elegantly.

Peterson's (1997) solution

- (38) $\exists e' \exists e(\text{suddenly}(e') \ \& \ \text{quickly}(e', e) \ \& \ \text{roll}(e, \text{the ball}))$

That is, adverbials denote two-place relations between events (or modes of events) and events.

Adverbials taking scope over negation – negative events?

- (39) a. John intentionally did not get up before 8am.

- b. John frequently does not get up before 8 am.

Scope of universal quantifier and adverbial

- (40) a. John carefully eliminated every mistake.
 b. John intentionally mentioned every participant.
- (41) a. John eliminated every mistake carefully.
 b. John mentioned every participant intentionally.

Seems to require event argument position for quantifiers

- (42) $\exists e'(\text{carefully}(e') \ \& \ \text{every}(e', [\text{mistake}], \{x \mid \exists e(\text{eliminate}(e, \text{John}, x))\}))$

Alternative to the proliferation of event argument positions

Events in the role of truthmakers

The notion of truthmaking (Armstrong 1997, 2004, Mulligan/Simons/Smith 1984, Moltmann 2007, Fine 2017)

An event e is a *truthmaker* of a sentence S ($e \Vdash S$) iff S is true in virtue of S and e is wholly relevant for the truth of S .

As bearers of truthmaking conditions also structured propositions $\langle P, d \rangle$, for a property P and an entity d .

Stacked adverbials using truthmaking only

- (43) $e \Vdash \text{The ball suddenly rolled quickly}$ iff $\exists e' \exists e''(e \Vdash \langle [\text{suddenly}], e' \rangle \ \& \ e' \Vdash \langle [\text{quickly}], e'' \rangle \ \& \ e'' \Vdash \langle [\text{roll}], \text{the ball} \rangle)$

Stacked adverbials keeping Davidsonian event arguments

- (44) $e \Vdash \text{The ball suddenly rolled quickly}$ iff $\exists e' \exists e''(e \Vdash \langle [\text{suddenly}], e' \rangle \ \& \ e' \Vdash \langle [\text{quickly}], e'' \rangle \ \& \ e' \Vdash \langle [\text{roll}], e'', \text{the ball} \rangle)$

Adverbials taking scope over universal quantifiers with truthmaking

- (45) $e \Vdash \text{John carefully eliminated every mistake}$ iff there is an event e' such that:
 $e \Vdash \langle [\text{carefully}], e' \rangle \ \& \ e' \Vdash \text{John eliminated every mistake}$

Standard truthmaking conditions

- (46) a. $e \Vdash A \vee B$ iff $e \Vdash A$ or $e \Vdash B$

b. $e \Vdash \exists x S$ iff for some substitution instance S' of S with respect to 'x', $e \Vdash S'$

(47) $e \Vdash S \ \& \ S'$ iff there are entities e , e' , and e'' such that $e = \text{sum}(\{e', e''\})$, and

$e' \Vdash S$ and $e'' \Vdash S'$.

Armstrong (1997, 2004) on truthmakers of universally quantified sentences

(48) $e \Vdash \text{Every } A \text{ is } B$ iff there are events e' and e'' such that $e = \text{sum}(\{e', e''\})$ and for

any substitution instance S of *every A is B*, there is an event e''' such that $e''' < e''$ and

$e''' \Vdash S$ and $e' = \text{ALL}(e'', \text{sum}(\{e \mid e \Vdash S', \text{ for some substitution instance } S' \text{ of } \text{every } A \text{ is } B\}))$.

5. Summary

- Events as implicit arguments of verbs or as the only arguments of verbs
- Modes (tropes) play the same role of implicit arguments in adjectives.
- States arguably act as implicit arguments of stative verbs, but a distinction between abstract states and concrete states needs to be drawn
- Davidsonian events do not suffice to account for the way adverbials apply. Possible solutions: add events in the role of truthmakers

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