Online Workshop *Properties*

May 18, 2022

**Properties in the Ontology of Natural Language**

Friederike Moltmann

CNRS – Université Côte d’Azur

**1. The topic and the approach**

How exactly does natural language permit reference to properties?

What might this tell us about the (descriptive) metaphysics of properties

Descriptive metaphysics (Fine’s (2017) naïve metaphysics)

The metaphysics of what there appears to be, that is reflected in our intuitions, whether real or not.

Foundational metaphysics

The metaphysics of what there really is.

Why descriptive metaphysics? Descriptive metaphysics need to be pursued first, in order to clarify the notions presupposed by foundational metaphysics. (Fine 2017)

Natural language ontology

Descriptive metaphysics that gives priority to linguistically reflected intuitions.

It is descriptive metaphysics that makes full use of the methods of contemporary semantic and syntactic theory to uncover the ontology that we *implicitly accept* when using natural language.

Natural language ontology as a pursuit of interest in itself:

1. Part of linguistics (semantics – i.e. the metaphysically relevant part of semantics)
2. Helps sharpening or enriching our metaphysical intuitions.
3. Uncovering metaphysical notions actually reflected in linguistic data may present new solutions to metaphysical questions.

-----------------------------------------------------------------------------------------------------------------

**2. Property-referring terms in English (and natural language in general ?)**

In English, there are two sorts of terms for properties:

Bare adjective nominalizations: *wisdom, happiness, redness*

Explicit property-referring terms: *the property of wisdom, the property of being wise*

Explicit property-referring terms belong to the class of reifying terms (Moltmann 2013a):

Two types of reifying terms:

Type 1 reifying terms

(1) a. the color red

 b. the truth value true

 c. the concept horse

Type 2 reifying terms

(2) a. the property of wisdom

 b. the proposition that John is wise

 c. the fact that John is wise

 d. the possibility that John might be wise

Structure of reifying terms

Definite article – sortal noun – nonreferential(ly used) linguistic material

The general semantics reifying terms (roughly)

Reifying / abstracting an object on the basis of nonreferential linguistic material or content

----------------------------------------------------------------------------------------------------------------

**3. The Abstract-Objects hypothesis**

The common view in philosophy and linguistic semantics

Natural Language permits reference to a great range of abstract objects: properties, propositions, numbers, degrees, expression types, facts, abstract states.

(3) The Abstract-Objects Hypothesis (Moltmann 2013)

 Natural language does not involve reference to abstract objects in its core, but only in its

 periphery.

Reanalysis of expressions referring to abstract objects as expressions referring to particulars or pluralities of (actual or possible) particulars or as expressions that fail to have a referential function in the first place

Only in the periphery of language is reference to abstract objects possible, e.g. through reifying terms, which belong to the periphery, not the core of language.

Semantics of reifying terms:

Appear to introduce entities through some form of reification: e.g. abstraction (Frege, Hale 1987) or as pleonastic entities (Schiffer 1996).

*The property of wisdom*:

introduces a property object on the basis of a quality (a plurality of possible tropes)

(4) [1] [*the property of* N] is instantiated by (is had by) d iff d ‘has’ [N] (is a bearer of an

 instance of N)

 [2] [*the property of* N] is identical to [*the property of* N’] iff [N] = [N’].

*The property of being wise*:

1. Introduces object (by abstraction) on the basis of a concept or a predicate obtained by ‘denominalization’:

(5) [1] [*the property of* being A] is instantiated by (is had by) d in case [A] is true of d.

 [2] For a semantic property P, [*the property of* being A] is P in case [A] is P.

 [3] [*the property of* being A] is identical to [*the property of* being A’] iff A and A’ have

 the same application conditions.

2. Introduces pleonastic entity whose nature is exhausted by pleonastic equivalences such as:

(6) John has *the property of being happy* iff John is happy.

The issue:

Does this correspond to the *actual linguistic structure* of explicit property-referring terms and can this yield a *compositional semantics* for them?

----------------------------------------------------------------------------------------------------------------

**4. Reference to tropes / modes in natural language**

Adjective nominalization / quality noun + specifier / complement:

(7) a. the wisdom of Socrates, Socrates’ wisdom

 b. the beauty of the landscape

1. Properties of concreteness: perceivable, entering causal relations
2. Bearer-dependent (??? *Socrates’ wisdom is Plato’s wisdom*)
3. May be located in time (but not directly in space)
4. Enter similarity relations on the basis of instantiating the same property (*Socrates wisdom is the same as Plato’s wisdom*)

--------------------------------------------------------------------------------------------------------------

**5. Qualities or kinds of tropes (or modes) vs. property objects**

Terms for qualities:

1. Bare adjective nominalizations (*wisdom*) or bare quality nouns (*beauty*)
2. *The quality of patience, the virtue of humility*

Existence predicates:

(8) a. Wisdom exists.

 b. The property of wisdom exists.

Episodic, ‘stage-level’ predicates:

(9) a. John found wisdom.

 b. ?? John found the property of wisdom.

Intensional predicates:

(10) a. Mary needs wisdom.

 b. ?? Mary needs to property of being wise.

Characterizing, ‘individual-level predicates:

(11) a. Wisdom is admirable.

 b. ??? The property of wisdom is admirable.

Frequency predicates:

(12) a. True wisdom is rare.

 b.??? The property of being truly wise is rare.

Generalization

A quality cannot bear a property as a whole; only property objects can.

Qualities obtain their properties from instances (tropes / modes), in the way that corresponds to a particular predicate type.

Qualities as Aristotelian universals, property objects as platonic universals?

How should one conceive of qualities formally?

Two suggestions

1. Qualities as entities that cannot bear properties themselves (Moltmann 2006)
2. Qualities as (modalized) pluralities of tropes (modes) (Moltmann 2013a)

-----------------------------------------------------------------------------------------------------------------

**6. The semantics of explicit property-referring terms**

Sortal nouns in the periphery of natural language:

The noun *property* itself allows for non-ordinary, philosophical uses, having a particular philosophical conception of properties in mind, not so e.g. the construction of predication.

Complex property-referring terms:

Two constructions:

(13) a. the property of *being wise*

 b. the property of *wisdom*

Property objects introduced by abstraction or as pleonastic entities?

The compositional semantics cannot involve abstraction from predicates or concepts:

(14) a. \* the property wise

 b. the concept horse

 c. \* the concept wise

General observation:

The complement of *property* may involve disjunctions, conjunctions, quantifiers (unlike quality terms):

(15) a. the property of being long or green

 b. the property of being round and square

 c. the property of being proud of someone

 d. the property of being admired by everyone

Hypothesis

Property objects are introduced on the basis of the content of sentences containing a variable.

Representation by λ-expressions:

(16) λx[long(x) v green(x)]

Other languages:

Property noun may take infinitival clauses, e.g. German:

(17) die Eigenschaft, weise zu sein.

 the property to be wise

Infinitival clauses are most commonly treated as property-denoting (Chierchia 1984):

(18) a. John hopes [PRO to become wise]

 b. hope(John, λx[wise])

But the hypothesis cannot be correct:

*Property* does not permit *eventive predicates*:

(19) a. ??? the property of walking home

 b. ??? the property of writing a book

 c. ??? the property of meeting Mary

 d.??? the property of becoming wise

And does not permit *concrete-state verbs*:

(20) a. ??? the property of sitting in the chair

 b. ??? the property of standing in the corner

Property only allows *abstract-state verbs*:

(21) a. the property of owning several homes

 b. the property of resembling a film star

 c. the property of knowing several languages

The distinction between concrete and abstract states (Maienborn 2007, Moltmann 2013b)

Concrete (Davidsonian) states

spatio-temporally located, have a particular manifestation, may be perceivable

Abstract (Kimean) states

not spatio-temporally located, no particular manifestation, not perceivable, cannot bear any properties but mind-related properties

Davidsonian event semantics

(22) a. John walked

 b. ∃e(walk(e, John))

Copula sentences: quantification over abstract states and tropes/modes:

(23) a. John is wise

 b. ∃e∃t(is(e, John, t) & wise(t, John))

The verbs *have* and *be* generally take abstract states as implicit arguments:

(23) a. the property of having wisdom

 b. the property of having siblings

 c. the property of having solved an important mathematical problem

Some minimal pairs:

(23) a. the property of being the cause of a commotion

 b. ??? the property of causing a commotion

(24) a. the property of being the agent of a speech

 b. ??? the property of speaking

(25) a. the property of being an experiencer of pain

 b. ?? the property of experiencing pain

Analysis

Gerunds stand for implicit event arguments of the main verb

*Property* requires abstract states (or qualities) and maps them onto property objects, by retrieving the property/trope/mode-component of abstract states.

-------------------------------------------------------------------------------------------------------------

**7. General point**

Natural language imposes no constraints on naturalness, sparseness of properties or ‘qualities’, and no constraint on conjunctive, disjunctive or quantificational, or relational properties. But a philosopher can legitimately use the noun property to convey a restricted notion of property, taking advantage of the core-periphery distinction.

-----------------------------------------------------------------------------------------------------------------

**References**

Carlson, G. N. (1977): *Reference to Kinds in English*. Ph.D. thesis. University of

 Massachusetts at Amherst. Published 1980, Garland. New York.

Chierchia, G. (1984): *Topics in the Syntax and Semantics of Infinitives and Gerunds*. Ph.D.

 Dissertation, University of Massachusetts, Amherst.

Davidson, D., (1967): ‘The Logical Form of Action Sentences’, in N. Rescher (ed.): *The*

 *Logic of Decision and Action*, Pittsburgh: Pittsburgh University Press, pp. 81–95.

Dummett, M. (1973): *Frege. Philosophy of Language*. Vol. 1. Duckworth, London.

Fine, K., (2017): ‘Naïve Metaphysics’. *Philosophical Issues* 27.1., pp. 98-113.

Hale, B. (1987): *Abstract Objects*. Blackwell, New York.

Kim, J., (1976): ‘Events as Property Exemplifications’, in M. Brand and D. Walton (eds.):

 *Action Theory*, Dordrecht: Reidel, pp. 310-326.

Maienborn, C. (2007): ‘On Davidsonian and Kimian States’, in I. Comorovski and K. von

 Heusinger (eds.), *Existence: Semantics and Syntax*. Springer, pp. 107-130.

Moltmann, F. (2004): ‘Properties and Kinds of Tropes: New Linguistic Facts and Old

 Philosophical Insights’. *Mind* 113, 1-43.

------------------ (2013a): *Abstract Objects and the Semantics of Natural Language*.

 Oxford UP.

----------------- (2013b): 'On the Distinction between Abstract States, Concrete States, and

 Tropes'. In A. Mari / C. Beyssade / Del Prete, F. (eds): Genericity. Oxford University Press,

 Oxford, pp. 292-311.

------------------ (2020): 'Abstract Objects and the Core-Periphery Distinction in the

 Ontological and Conceptual Domain of Natural Language'. In Falguera, J. L. / C. Martínez

 (eds.): *Abstract Objects. For and Against*. Synthese Library, Springer, Dordrecht, 2020,

 255-276.

------------------ (2022): ‘Natural Language Ontology’. *Stanford Encyclopedia of Philosophy*

 (to appear).

Schiffer, S. (1996): ‘Language-Created, Language-Independent Entities’. *Philosophical*

 *Topics* 24 (1), pp.149-167.

Strawson, P. (1959): *Individuals. An Essay in Descriptive Metaphysics*. Methuen, London.