

ENS course 'Reference to Abstract Objects'

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handout 2

Reference to Abstract Objects

- on abstract objects in general
- on kinds of abstract objects
- on ways of introducing abstract objects

1. Notions of abstractness

[1] abstract: not in time and space

concrete: in time and space

[2] abstract: not accessible to empirical observation

concrete: accessible

[3] abstract: not related to causal relations

concrete: events are related to causal relations

[4] abstract: no intrinsic change

concrete: intrinsic change possible

[5] abstract: exist necessarily

concrete: exist contingently

Special case: universals

- have instances (abstract or concrete ones)

inherent / Aristotelian universals (Aristotle):

transcendent / Platonic universals (Plato)

predicative?

2. Kinds of abstract objects

Application of criteria

[1] mathematical objects: numbers, geometrical figures

all criteria fulfilled

[2] properties:

- the meaning of predicates
- what is common among different objects
- what makes objects cause something, what is involved in change

criteria fulfilled depending on whether Aristotelian or Platonic

[3] facts:

(1) a. The fact that John or Mary became ill. (fact constituted by a disjunction)

b. ? The fact that Mary loves John lasted two years.

c. ?? John observed the fact that Mary became ill.

events as concrete:

(2) a. The event of John or Mary's becoming ill. (event constituted either by Mary or by John)

b. Mary's love for John lasted two years.

c. John observed Mary's becoming ill.

not related to causal relations?

necessarily existent?

[4] propositions:

- the meaning of sentences
- the objects of belief

not in space and time, not observable, not changeable, necessarily existents

3. The problems of abstract objects

concrete objects: part of the empirical world, indispensable

abstract objects:

- Epistemological problem: how can we have knowledge of things we cannot observe
- How can the relation between concrete and abstract objects be understood
- How can the existence of abstract objects be justified? Are abstract objects needed to give a full account of the world, especially given principles of ontological economy?

4. Philosophical approaches to abstract objects:

4.1. Abstract objects needed for purely metaphysical reasons

purely metaphysical grounds for positing abstract objects:

- as relata of causal laws (Armstrong)
- to reconstruct the notion of a possible world
- to make sense of relations of similarity, of what different objects may have in common
- to make sense of the notion of change

general grounds for positing or not positing abstract objects:

- to make sense of our most fundamental intuitions about the world (descriptive metaphysics)
- to provide a basis of empirical sciences (revisionary metaphysics)

4.2. Other reasons: natural language and mathematics

In natural language and in mathematics reference to abstract objects is pervasive.

How to make sense of such reference to abstract object?

perhaps no real reference to abstract objects is made:

- fictional discourse
- pretend reference
- referential terms are used only within the system (Carnap), need not necessarily refer
- 'referential' terms are in fact not referential
- referential terms do not in fact refer to abstract objects, but to concrete ones (e.g. *the number of planets*)

5. Reducing abstract objects to concrete objects

5.1. Properties

nominalism:

originally: properties are, in a way, just predicates

conceptualism: properties are (psychological) concepts

platonism: properties are (irreducible) objects

versions of nominalism:

[1] properties are nothing but predicates

Properties are 'shadows of predicates'.

Predicates have simply application conditions, which tell whether they are true or false of an object.

[2] properties are classes of concrete objects

properties are classes of possible concrete objects (Lewis)

[3] resemblance nominalism:

resemblance as primitive

properties as classes of resembling objects

properties as classes of possible resembling objects (Gonzales-Pereyra)

[4] concept nominalism:

Properties are mental entities / types of mental entities (graspable by different people).

trope theories:

Properties are in fact concrete:

they are concrete properties, particularized properties, tropes: Williams, Bacon, Campbell

humility: the universal

John's humility, the humility of that gesture: tropes

Properties as sets of tropes: as sets of resembling tropes

5.2. Making sense of predication

(3) John is tall.

nominalist views:

The predicate *tall*:

[1]: has just application conditions: is true of some objects, false of others

John is tall is true iff *tall* holds of John.

[2]: denotes class of possible objects

John is tall is true iff John is an element of the extension of *tall*.

[3]: denotes class of resembling objects

[4]: denotes mental concept.

trope theoretic views:

1. *tall* denotes set of resembling tropes

John is tall is true if there is a tallness trope which inheres in John.

2. *tall* act as existential quantifier ranging over concrete tropes, predicable entities

5.3. Properties and referential terms

Apparent reference to properties with referential terms:

(4) a. Humility is a virtue.

reduction to statement involving concrete objects only:

(4) b. Humble people are virtuous people.

problem:

- some people may not be virtuous.

(4) c. Humble people qua big humble are virtuous.

(5) a. Humility is admirable.

b. Humble people are admirable people

trope reduction:

(6) a. The humility of things and people is admirable.

b. John's humility is admirable.

But:

(7) Humility is my favourite character trait.

no trope-based account possible

Humility as a (generic) quantifier ranging over tropes: Ockham

Or else as a term standing for a concept: again Ockham

Ockham: nominalist, trope theorist, and conceptualist

5.4. Different kinds of universals

(8) a. Humility is hard to find.

b. ? The property of being humble is hard to find.

(9) a. Penguins are hard to find.

b. ? The property of being a penguin is hard to find.

Aristotle's inherent universals:

- exist only if instances exist

- multiply located

- inherit properties from instances:

(10) a. Penguins exist.

b. ? The property of being a penguin is hard to find.

(11) a. Penguins are everywhere.

b. ? The property of being a penguin is everywhere.

(12) a. Penguins are unable to fly.

b. ? The property of being a penguin is unable to fly.

(13) a. Penguins are widespread.

b. ? The property of being a penguin is widespread

other differences:

(14) a. The property of blue and green is conjunctive.

b. ?? Blueness and greenness is conjunctive.

(15) a. The property of being empty is complex / quantificational.

b. ?? Emptiness is complex / quantificational.

The property of being P: inherits properties from the logico-semantic context in which P occurs.

P-ness: inherits properties from the instances of P

6. Two ways of introducing abstract objects on the basis of concrete ones

Question of departure:

What properties does the abstract object have given the entities on the basis of which it is introduced?

Aristotelian universals: inheritance of properties from instances

Abstract objects share properties with concrete objects!

Objects introduced by contextual definition, by principles of abstraction:

Have the properties fixed by the contextual definition

Objects introduced by contextual definition have no other properties than what is fixed by or derivable from the contextual definition

They are 'light objects' (Wright)

the number of planets:

Frege:

the number of F = the number of G iff there is a bijection from the Fs to the Gs

Problem:

Identity defined only for two number terms. Nothing is said about

'the number of Fs = Julius Cesar'

→ the 'Julius Cesar Problem'

last time:

The number of planets refers to a number trope, the instantiation of having eight members by the collection of planets:

Reference to a concrete object:

Reference to an object entirely independent of the description used, of the way it is 'introduced'.

Object has lots of properties independently of any way of introducing it / talking about it.

Other light objects:

Events on Kim's proposal: events as property instances – in a certain sense:

D, d' objects, P, P' properties, t, t' times:

An event [d, P, t] is identical to an event [d', P', t'] iff $d = d'$, $P = P'$, and $t = t'$, and

An event [d', P', t'] exists iff P' holds of d' at t'.

Nothing is said about the identity of [d, P, t] with some object k !

more common view of events today:

- Davidson: events as arguments of predicates
- events as the things in the world that make sentences true

On both views events are not abstract.

facts:

as 'light objects', introduced by a true sentence ...

but: Fact would exist even if sentence had not been used

propositions:

introduced by sentences or their content

as contents of sentences → could be light objects

as objects of belief → a story is needed! ...