

# Lecture VIII

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# Meanings of 'real'

- We continue exploring scientific realism.
- So, it is natural to ask just what people mean by 'reality' or 'real'.
- 'Real' may be thought to be an ambiguous word.
- 'Real hero' may mean something totally different from 'real entity'.

# The predicate 'real'

## Austin's proposal

- 'Real' is not ambiguous.
- 'Real x' is different from 'blue x'.
- To assert 'x is real' is to deny that 'x is not real'.
- But what the negation means depends on the context.

Now, if we say 'Electrons are real', what contrast do we intend?

# Materialism

- There is a definite number of bees in the hive.
- Or there is a definite number of electrons in a volume.
- But there is no definite number of lines in the magnetic field.
- So, some theoretical entities are real, but fields are not real.
- But: there is a strong tradition in physics getting it the other way round.

# Causalism

- Real entities have causal effect on observable phenomena.
- But what is a cause?
- There must be a distinction between regularities and causal processes.
- A perfect regularity might not reflect a causal relation.
- Causalism can be useful in social sciences, too.

# Pragmatism

- (Note Peirce's anticipation of Austin's proposal.)
- Peirce's criterion: 'real' means whatever will be reached at the end of the enquiry.
- There is no certainty attached to our claims in any particular case.
- But there will be a convergence of different opinions.
- However, such convergence cannot be achieved, for example, by indoctrination: such method will not be stable, as dissidents will emerge.
- Stability will be delivered by measurement.

# James and Dewey

- (Terminology: Peirce later called his view 'pragmaticism' to distinguish himself from James' 'pragmatism'.)
- There is no guarantee that the convergence will happen in the long run.
- Whatever works is real and true.
- Dewey: truth = warranted assertibility.

# Internal realism

- Metaphysical realism: there is a correspondence between my beliefs and reality.
- Whether or not my beliefs cohere with one another is a fact relevant to the probability of my beliefs coming out **true**.
- Internal realism: the world comes pre-formatted into objects and properties.
- A complete adequate theory of everything will be guaranteed to be true.

# Total description

- Is total description possible?
- Any particular description we consider will always be incomplete.
- There is no one fixed totality of objects.

# Löwenheim–Skolem theorem

- Suppose you have a formal theory about a certain group of individuals (say, cats).
- Then you could think that your theory describes exactly cats.
- But according to the Löwenheim–Skolem theorem, there can be a different interpretation of your theory that describes a different group of individuals that fits your theory.
- This is a threat to scientific realism.
- Your theory can does not uniquely pick out the objects that make up the world.