

Realism and Idealism

External Realism

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What is metaphysics?

- ▶ Metaphysics is the attempt to:
 - ‘give a general description of the whole of the Universe’
(Moore)
 - ‘describe the most general structural features of reality by pure reflection’ (Dummett)
 - ‘understand how things in the broadest possible sense of the term hand together in the broadest possible sense of the term’
(Sellars)
- ▶ All emphasise the *generality* of the pursuit.
- ▶ The subject of this course is more general still:
metametaphysics.

Metametaphysics

- ▶ Metaphysics investigates questions such as:
 - What is the nature of causation?
 - In what sense does time flow?
 - How is it that some objects are more similar than others?
 - Do objects/ people maintain their identity over time?
- ▶ Metametaphysics does not attempt to answer these questions but to explore how we should go about answering them.
- ▶ In this way, metametaphysical views can apply equally to any of them, or to ethics, aesthetics, etc.
- ▶ We'll take the nature of the external world as our standard example.

Realism

- ▶ One very natural framework within which we can tackle metaphysical questions is *external realism*.
- ▶ The term is used constantly by philosophers, and thoroughly ambiguous.
- ▶ It has (at least) the following meanings when applied to a particular theory T :
 - Ontological** The entities quantified over in T exist.
 - Epistemological** We have knowledge of the claims made in T .
 - Semantic** The claims made in T are true.
 - Psychological** My beliefs about the claims of T are truth-apt.
 - Mind-independence** The entities quantified over in T would exist even if there were no minds.
 - Objectivity** The claims made in T are true independently of anyone's beliefs about them.
- ▶ Let's try to get this bundle of thoughts into some order.

Three principles

- ▶ A major figure in these lectures will be Hilary Putnam (see esp. chs 1–3 of his *Reason, Truth and History*), who has presented the most forceful arguments against external realism.
- ▶ Tim Button (in his *The Limits of Realism*) presents Putnam as characterising external realism with 3 principles:
 - Independence** The world is (largely) made up of objects that are mind-, language-, and theory-independent.
 - Correspondence** Truth involves some sort of correspondence relation between words or thought-signs and external things and sets of things.
 - Cartesianism** Even an ideal theory might be radically false.
- ▶ Let's look at each in more detail. Our presentation will largely follow Button's.

Independence

- ▶ **Independence** The world is (largely) made up of objects that are mind-, language-, and theory-independent.
- ▶ *Some* objects are clearly dependent on the existence of people, but *most* of the universe is not.
- ▶ This principle is generally accepted as *necessary* for external realism.
- ▶ Some, such as Michael Devitt, also claim that it is *sufficient*.

Correspondence

- ▶ **Correspondence** Truth involves some sort of correspondence relation between words or thought-signs and external things and sets of things.
- ▶ If the realist accepts the principle of Independence, it is very natural to also accept correspondence.
- ▶ E.g. an atomic sentence ' Rt_1, \dots, t_n ' is true just when the relation expressed by ' R ' holds between objects named by ' t_1 ', ..., ' t_n ', taken in that order.
- ▶ This is a modest form of correspondence: we needn't invoke *states of affairs* or *truthmakers*. And we needn't commit ourselves to there being One True Theory.
- ▶ We are, however, ruling out deflationism about truth for the external realist.

Cartesianism

- ▶ **Cartesianism** Even an ideal theory might be radically false.
- ▶ This may be the least obvious ingredient, but it is a natural fit with Independence and Correspondence.
- ▶ If truth consists in correspondence, and falsity in failure or correspondence, then we have no guarantee that our best scientific theory is true.
- ▶ It could be that our theory that has the best explanatory and predictive powers, and is the most elegant, is nevertheless false. This could be for mundane reasons like our limitations, or because we are BIVs.
- ▶ To think that our best scientific theory must be true entails a rejection of realism.

External realism formalised: syntax

- ▶ Putnam suggested a helpful way of making external realism clearer still. We use the apparatus of *model theory*.
- ▶ Recall that a *theory* is a deductively closed set of sentences of a formal language.
- ▶ In this case, let's say that our theory is expressed in language \mathcal{L} , with the following vocabulary:

Names 't₁', 't₂', ...

Predicates 'R₁', 'R₂', ...

Functors 'f₁', 'f₂', ...

External realism formalised: semantics

- ▶ A *model*, \mathcal{W} , of our theory will consist in:

Domain A non-empty set W .

Objects An object $t^{\mathcal{W}} \in W$ for each name t of \mathcal{L} .

Sets A set $R^{\mathcal{W}} \subset W^n$ for each n -place predicate R of \mathcal{L} .

Functions A function $f^{\mathcal{W}} : W^n \rightarrow W$ for each n -place functor f of \mathcal{L} .

- ▶ We then go on to define logical consequence, logical truth and validity in the usual post-Tarskian way.

A natural construction

- ▶ For the external realist, our model \mathcal{W} represents the mind-independent world. Its domain W is the set of objects in this world, and its subsets and functions represent various properties of the world.
- ▶ It also captures Correspondence. When the external realist says that a term ' t ' refers to object o , we can say that ' t ' denotes $t^{\mathcal{W}} = o$.
- ▶ For an atomic sentence, ' $Rt_1\dots t_n$ ' is true iff $\langle t_1^{\mathcal{W}}, \dots, t_n^{\mathcal{W}} \rangle \in R^{\mathcal{W}}$.
- ▶ Finally, a theory will have many models, and \mathcal{W} is just one of them. Since we can always state falsehoods about the world, and since there is always the possibility of a better model, Cartesianism is respected.
- ▶ This machinery for discussing issues relating to realism has become absolutely standard. We may call it *orthodoxy*.

The model-theoretic argument: permutations

- ▶ With this machinery in place, we can give Putnam's argument against external realism.
- ▶ A *permutation* is a bijection from a set onto itself: each object in the set gets mapped to an object in the set (possibly itself), and no two objects get mapped to the same object
- ▶ Consider the toy example of set $\{1, 2, 3, 4, 5\}$ under a permutation:

$$1 \Rightarrow 1$$

$$2 \Rightarrow 4$$

$$3 \Rightarrow 5$$

$$4 \Rightarrow 3$$

$$5 \Rightarrow 2$$

Permuting the world

- ▶ Our model \mathcal{W} of the external world has as its domain a set of objects W .
- ▶ This set can be permuted.
- ▶ Let's call the permuted set P . It is identical to W , by extensionality, but the objects have been systematically shuffled.
- ▶ Let's call the new theory \mathcal{P} . Since \mathcal{W} and \mathcal{P} are *isomorphic*, they make exactly the same sentences true or false.
- ▶ We could, therefore, regard either of these as giving the reference relation:
 - ' t ' refers to $t^{\mathcal{W}}$
 - ' t ' refers to $t^{\mathcal{P}}$
- ▶ Similarly for the truth-conditions of sentences:
 - ' $Rt_1...t_n$ ' is true iff $\langle t_1^{\mathcal{W}}, \dots, t_n^{\mathcal{W}} \rangle \in R^{\mathcal{W}}$
 - ' $Rt_1...t_n$ ' is true iff $\langle t_1^{\mathcal{P}}, \dots, t_n^{\mathcal{P}} \rangle \in R^{\mathcal{P}}$

From permutations to indeterminacy

- ▶ These results can be used to formulate *indeterminacy* arguments external realism.
- ▶ The external realist claims that the world is largely independent of us and our sentences are true just if they correspond to this external world.
- ▶ What the model-theoretic argument shows is that, if there is any way to make the theory true, then there are many ways of making the theory true.
- ▶ For any intended interpretation, we can find a permuted interpretation that renders precisely the same sentences true.
- ▶ Therefore, there seems to be an indeterminacy in the correspondence relation that the external realist requires.

Correspondence Truth involves some sort of correspondence relation between words or thought-signs and external things and sets of things.

Completeness

- ▶ Putnam offers another argument: if a theory is consistent, then it has a *numerical* model.

Completeness Any consistent, countable set of sentences has a model whose domain only contains natural numbers.

- ▶ Usually, the intended model and the permuted numerical model will be different.
- ▶ But, again, they each make exactly the same sentences true.

A response

- ▶ The obvious response for the external realist to make here is that, yes, there are wacky models in the vicinity but these are *unintended*.
- ▶ The model with the numerical domain, or the one where the names are shuffled, are obviously not the ones that capture the correspondence relation for English.
- ▶ Of course, the external realist must explain quite how one model gets isolated as the intended model.