

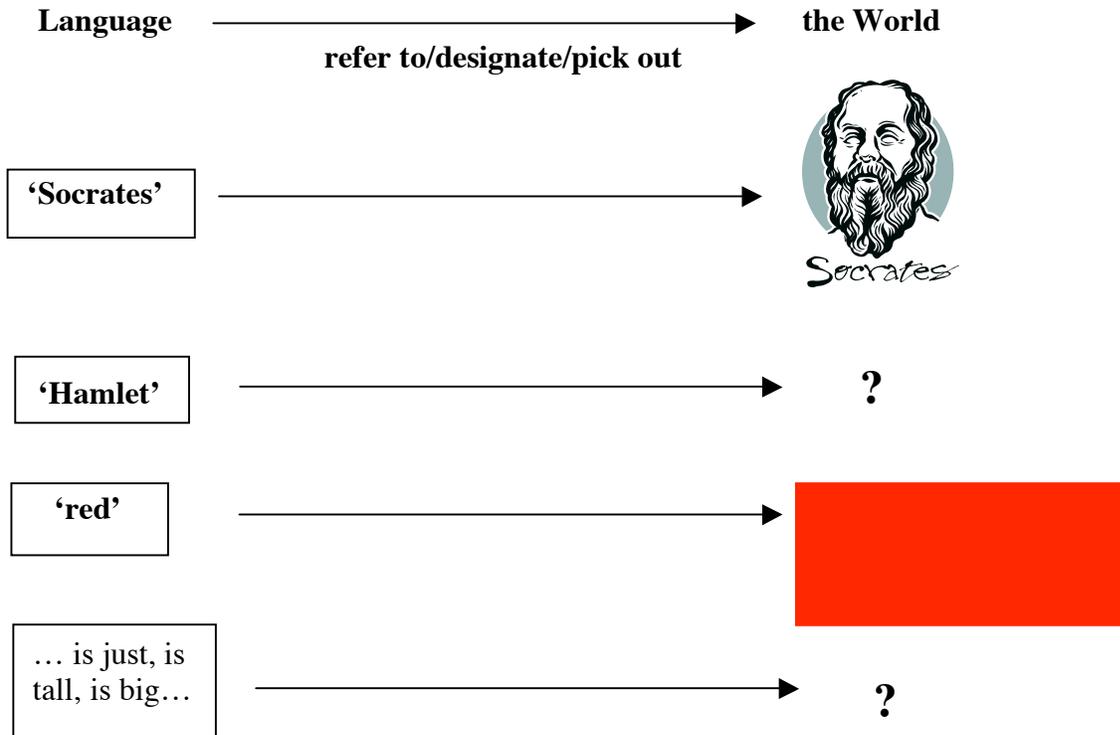
PHIL 420: Metaphysics

Handout 6

Professor JeeLoo Liu

[Preliminary]

§ Name and Reference



§ Predicates Meet Properties

David Lewis: “New Work for a Theory of Universals” (p. 194)

It is properties that we need... to provide an adequate supply of semantic values for linguistic expressions. Consider such sentences as these:

- (1) Red resembles orange more than it resembles blue.
- (2) Red is a color.
- (3) Humility is a virtue.
- (4) Redness is a sign of ripeness.

Prima facie, these sentences contain names that cannot be taken to denote particular, individual things. What is the semantic value of these words?? If we are to do compositional semantics in the way that is best developed, we need entities to assign as semantic values to these worlds entities that will encode their semantic roles.”

D. H. Mellor: Properties and Predicates

§ Mellor's Basic Assumptions

1. [Realism about universals] – Properties and relations exist, just as the particulars exist which have those properties and relations.
2. [Anti-Nominalism] – Universals are not to be understood semantically as the meanings, references, or extensions of predicates.
3. [There is an automatic road from property to predicate, but not the other way around] – To every property there corresponds a possible predicate applying to all and only particulars with that property, but it is not obviously true that to every actual predicate there corresponds a single property or relation.

Q: How do universals relate in general to our predicates, and how in particular do they relate to what those predicates mean?

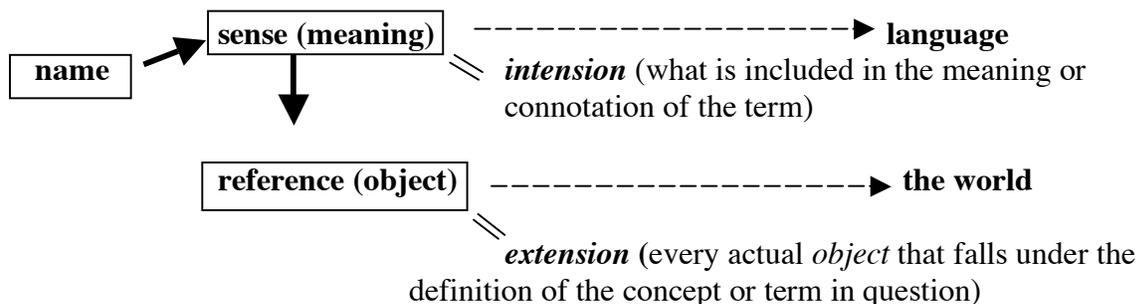
4. The existence of properties is *tenseless* – it includes past, present and future, but not modal – it is about the actual world, not possible worlds.
5. [Anti-Conceptualism] – Actual properties do exist, whether or not they ever have been or ever will be conceived of by us or by any other thinkers. → Properties are not merely our conceptual constructions.

§ Mellor's Rejection of Nominalism

[Mellor's First Argument against Nominalism]

1. Nominalism claims that properties just are the meanings of our predicates.
2. But if properties *just are* the meanings of our predicates, then they could not *give* our predicates their meanings.
3. Properties do *give* meaning to predicates, since they are *what the predicates refer to*.
4. Therefore, properties cannot merely *be* the meanings of predicates.
5. Therefore, nominalism is wrong.

* Note: Frege's *sense* and *reference*



[Mellor's Second Argument against Nominalism]

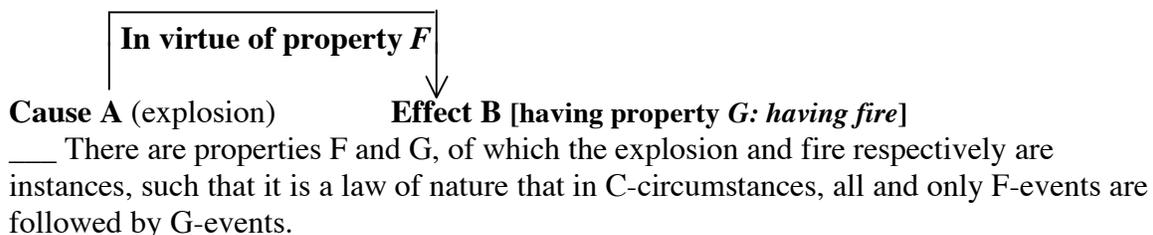
1. When we talk about Mars, it is taken for granted that the planet Mars has independent existence and identity, which gives our word 'Mars' its meaning.
2. If it is the actual planet which gives the name 'Mars' its meaning, then it is also the actual property *red* which gives the word 'red' its meaning.
3. Therefore, we must assume the independent existence and identity of the property *red*.

Q: Why should we posit *real* properties?

Mellor: I take the main reasons for believing in contingent universals (i.e., universals that do not exist necessarily – unlike Plato's Forms) to be roles they play in causation and in laws of nature, and those laws are what I take to give those universals their identity.

§ Properties and Causation

*** Causation links facts (Armstrong's *states of affairs*) which have properties that are included in laws of nature. Hence, causation is always governed by laws.**



*** But:**

1. **Causation does not entail deterministic laws, because it does not require causes to be either sufficient or necessary for their effects.**
2. **Singular causation only entails physical probabilities, not determination. The cause does raise the effect's chances, but need not raise them to 1, and it need not raise them from 0. [Discuss]**

e.g., In normal circumstances (in the presence of oxygen...) fires have a greater chance of occurring when explosions do than when they do not.

*** Properties are identified *a posteriori* by scientific theories, construed as Ramsey sentences: i.e., as saying for example that *there are* properties *C*, *F*, and *G*, such that in *C*-circumstances all *F*-events have such-and-such a chance of being followed by *G*-events.**

If we stated all the laws there are in a single Ramsey sentence Σ , then properties Σ would quantify over are *all the properties there are*.

*** Note: Ramsey-sentence**

1. What is a Ramsey-sentence?

A Ramsey-sentence is a formalized and generalized sentence, which defines each theoretical term through the functional role of the entity (a physical part or a mental state) picked out by the term. Once a theory is “Ramsefied”, it would bind all its theoretical terms in an inter-defined logical system that is based on a network of causally related entities.

Ramsey-sentence is often used to support functionalism in that any mental term (such as ‘having pain’), once “Ramsefied,” would then become a theoretical term being defined causally-functionally without appealing to any other mental term. This would prove that all our mental terms are definable functionally.

2. How to form a Ramsey-sentence

To form a Ramsey-sentence, we start with an ordinary theory which contains some theoretical terms (T-terms). We need to define these theoretical terms without making it a circular definition.

Step 1 (empirical theory, assumed true): [here the two T-terms are the carburetor and the ignition chamber]

Car Theory: ...and the **carburetor** mixes *gasoline* and *air* and sends the mixture to **the ignition chamber**, which in turn...and that *makes the wheels turn*.

Step 2 (substitution of variables for T-terms):

A carburetor = an x_1 such that $\exists x_2$ (...and x_1 mixes *gasoline* and *air* and sends the mixture to x_2 , which in turn...and that *makes the wheels turn*.)

An ignition chamber = an x_2 such that $\exists x_1$ (...and x_1 mixes *gasoline* and *air* and sends the mixture to x_2 , which in turn...and that *makes the wheels turn*.)

Step 3 (quantification of the variables):

$\exists x_1 x_2$ (...and x_1 mixes *gasoline* and *air* and sends the mixture to x_2 , which in turn...and that *makes the wheels turn*.)

This is called a Ramsey-sentence (after Frank Ramsey). In this way, we are able to define each T-term without presupposing knowledge of any other T-term.

3. What is the function of a Ramsey-sentence?

Mellor: Scientific theories apply new predicates to unobservable entities, like photons, to explain observable, for example optical, phenomena. How do these predicates acquire empirical meaning? Ramsey’s drastic answer in ‘Theories’ (1929) is that there are no such predicates: we use ‘is a photon’, ‘has frequency n ’, and so on not as predicates but as existentially bound variables. That is, a theory tacitly starts with quantifiers,

‘properties exist – call them “being a photon”, etc. – such that ...’, followed by the explicit theory, in two parts. Its *axioms* link its predicate variables to each other, while its *dictionary* links them to observable predicates like ‘is red’. Thus if ‘*a*’, ‘*b*’ and ‘*g*’ are our theoretical predicates, ‘the best way to write our theory seems to be ... $(\exists a,b,g):\text{dictionary.axioms}$ ’. This, which is now called the ‘Ramsey sentence’ of the theory, eliminates its problematic predicates while keeping its structure and observable consequences. (<http://www.rep.routledge.com/article/DD056SECT5>)

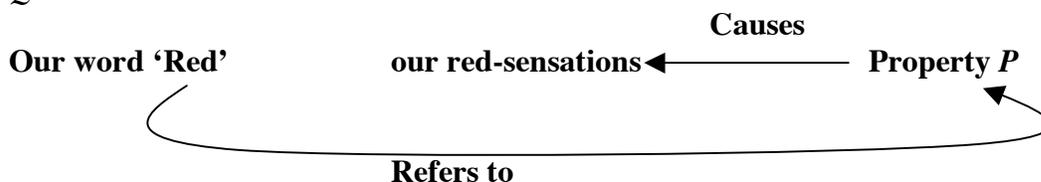
§ Predicates → Properties

Suppose I see that some thing, *a*, is red, i.e., that the predicate ‘is red’ applies to it. What has happened? Clearly something about *a* has caused me to believe this. But what? In particular, is it just the fact that *a* has the property of being red? But what does this question mean? What is it for *a* to have the property of being red? What is it indeed for there to be such a property?

[Mellor’s view]

1. The extension (what the term refers to in the world) of our predicate ‘is red’ cannot simply be the property *P*, since there are many actual extensions while there is only one *P*.
2. Also, *P* cannot be the set of all *P*-things, since there could be more or fewer *P*-things (e.g., red things), than there actually are.
3. Mellor’s answer: ‘Red’ gets its sense from a kind *K* of visual sensations which *P*-things give us when they make us call them red, so that ‘Red’ refers to the property of things which causes us to get sensation of a kind *K*: namely, *P*.

Q: What does he mean?



→ Mellor’s causal theory of reference

4. Being *P* must make a difference to how things look to us, but the difference need not be the same for everyone (e.g. for colorblind people).
5. I can learn to apply ‘is red’ by learning to associate it with whatever kind of visual sensations I get from the things which existing users tell me are called red. It is this learned use of the predicate that fixes which kind (or kinds) of sensation this will be for me, not the other way round.
6. And what fixes this learned use, and hence the extension of ‘is red’, is the property *P*: since instances of *P* are in fact what we learned to respond to by calling them red.

7. It is no part of our concept of red that all red things share any one property, let alone the property *P*. And rightly so, since there need be no such (single) property that all red things share.
8. *Red* is the result of various factors – reflections, ambiance, etc., there is thus no such property as RED, i.e., no property that all red things share.
9. It is the similarity of those sensations that makes us call all the different things that cause them red, not that of the properties which make those things give us those sensations. It doesn't matter whether we actually have the same sensations. We learn by examples, being corrected by existing users of the predicate.
10. Finally, contra Armstrong, there are no complex properties – be they negative, disjunctive or even conjunctive.

Q: Do you agree with Mellor that what we refer to when we use the predicate 'is red' is whatever that causes our red-sensations?

§ Real Properties

(JeeLoo☺) By extension of the example of *red*, we can speculate that for Mellor, whatever cause our sensations are real properties; furthermore, whatever that have causal powers or make causal differences in any other object are also real properties. This seems to be an application of the Eleatic Principle. He would also agree that whatever that have causal powers must feature in some causal laws. In this respect, he is agreeing with Armstrong too.

Mellor (p. 266): "This gives us reason to think that the simple predicates we use in our law statements – e.g., those ascribing masses, temperatures, energies, chemical and biological kinds, mental states and kinds of sensation – correspond to properties."

➔ **These are then the real properties.**

§ Review questions for Mellor:

1. Explain Mellor's *causal theory of reference* for the predicate 'Red' and the property *red*. Do you think his theory avoided the one-many problem (one property over many instantiations)? Can you think of any counterexamples to his view? Elaborate on your reasons.
2. Do you think that Mellor has successfully provided an argument for the existence of *some* properties? What is the criterion he uses for the properties that have independent existence and identity? How good is his criterion? Elaborate on your evaluation of his view.
3. [Optional]: Do you see any connection between Mellor's causal theory of reference and Locke's causal theory of perception?

Study questions for Essay 6:

1. (Chapter 1) Based on figure 1.2 on p. 18, explain his four-category ontology in detail.
2. (Chapter 2) How does Lowe explain the distinctions between *instantiation*, *characterization*, and *exemplification*? What does he claim to be the advantages of his four-category ontology? Do you agree with him?
3. (Chapter 6) In order to answer such questions: 'What are properties?' and 'Do they exist?', which two sets of conditions must we give account of according to Lowe? Try to formulate these two sets of conditions yourself (you may consult his view, or that of Armstrong and/or Mellor).

Optional: Start working on your view (in place of Essay 6)

Possible paper topic: (At this stage you won't need to worry about citation. Just try to get your thought organized.)

Topics 1-4: See [Handout 5]

5. Should we allow conjunctive properties if we don't allow disjunctive and negative properties? What kind of reasons would motivate us to accept conjunctive properties? What kind of criteria should we set for conjunctive properties if we do allow them?
6. Are mental properties "real" properties (then you'll have to define your criteria for "real properties")? Do mental properties have any causal powers? If 'being evil' is a determinable, and there are all those determinates (Hitler's killing millions of Jews, the terrorists' bombing a crowded area, etc.), then wouldn't it be the determinates that have causal powers while 'being evil' itself becomes a redundant property?
7. What is the road from predicates to properties? Under what conditions (criteria) can we say that there is a certain property corresponding to a predicate? Under what conditions (criteria) can we say that a certain property is *real*?