

20. Eliminative materialism

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1 What is eliminative materialism?

Churchland offers a very clear formulation of his view, which I quote here:

Eliminative materialism is the thesis that our commonsense conception of psychological phenomena constitutes a radically false theory, a theory so fundamentally defective that both the principles and the ontology of that theory will eventually be displaced, rather than smoothly reduced, by completed neuroscience. Our mutual understanding and even our introspection may then be reconstituted within the conceptual framework of completed neuroscience, a theory we may expect to be more powerful by far than the common-sense psychology it displaces, and more substantially integrated within physical science generally. (p. 67)¹

The general strategy is this: folk psychology is a theory, and like any theory, it can be wrong. Churchland thinks that in the future, folk psychology will be proved wrong.

2 Folk psychology is a theory

Churchland builds his case that folk psychology is a theory by comparing it with other theories, like physical theories, and showing that it bears interesting resemblances:

1. Commonsense psychology allows us to make predictions and explanations of great generality of the behavior of other people. These explanations make reference to desires, beliefs, etc. of the agents whose behavior they predict. These explanations depend on the existence of law-like generalizations holding among external circumstances, internal states (beliefs, desires, etc.) and over behavior. We can call this system of law-like generalizations *folk psychology*. Folk psychology is similar to scientific theories in that it formulates law-like generalizations that attempt to explain and predict the behavior of the objects in a certain domain. In the case of folk psychology, it attempts to explain people's behavior. Churchland assumes Lewis's account of the definition of theoretical terms, so he takes it that terms like 'belief', 'desire', and the like, are functionally defined by the generalizations of folk psychology.

¹All quotes from Churchland, P. 1981. "Eliminative materialism and the propositional attitudes", *Journal of Philosophy*.

2. We can understand our conviction that other people have minds as an explanatory hypothesis arising from folk psychology. The function of this hypothesis (in conjunction with the laws of folk psychology) is to provide explanations of an individual's continuing behavior. The hypothesis is credible insofar as it has proved superior to competing hypotheses.
3. Physical theories often postulate abstract entities in the interest of generality and explanatory power. For instance, Physics appeals to the following kinds of expressions: '... has a mass in kilograms of n ', 'has a temperature in Kelvin of n ', etc. This leads to the following:
 - a. Once we substitute the variable n with a number, we get a particular predicate that states a relation between an object and that number.
 - b. The argument place in these predicates is open to quantification. This allows for the expression of generalizations concerning the law-like relations holding between numbers and objects in nature. For instance, for all x, f, m , if x has a mass of m and x suffers a net force of f , then x accelerates at a rate of f/m .

Now let's compare this with the kind of expressions and generalizations of folk psychology. Recall that folk psychology uses the following kinds of expressions '... believes that p ', '... wishes that q ', and the like:

- a'. Once we substitute the variable p with a proposition, we get a particular predicate that states a relation between an object and that proposition.
- b'. The argument place in the predicates of folk psychology is open to quantification. This allows for the expression of generalizations concerning the law-like relations holding between objects and propositions. For instance, for all x, p , if x fears that p , then x desires that $\neg p$.

These similarities strongly suggest that folk psychology is a theory.

Once we assume that folk psychology is a theory, we can take a new perspective on the mind-body problem. The answer to the mind-body problem depends on how the ontology of folk theory (the kind of entities it is committed to) is related to the ontology of completed neuroscience. Identity theory predicts that folk psychology is completely reducible to neuroscience. Dualism rejects this, and the functionalist also rejects this, if only because she thinks that the phenomena characterized by folk psychology is an abstract organization of functional states.

The eliminative materialist also thinks that there won't be a reduction from folk psychology to neuroscience, but for different reasons. He thinks that folk psychology is radically inadequate, it is just too defective as a theory to survive reduction to neuroscience. He thinks that folk psychology will ultimately be displaced.

3 Why folk psychology could turn out to be false.

One of the main ways of evaluating a theory is by assessing its degree of coherence and continuity with well-established theories in related domains. In the case of folk psychology, we should evaluate how well it coheres with evolutionary theory, biology or neuroscience, for instance.

Churchland tries to make a case that, if we subject folk psychology to the normal standards that we use to evaluate other theories, it's very likely that it won't meet them:

- (a) Folk psychology has no good explanation of phenomena that should be in its domain of enquiry: mental illness, creativity, intelligence, sleep, perceptual illusions, memory, and language acquisition, have escaped the grasp of folk psychology. Failures on such scale suggest that folk psychology is, at best, a superficial theory of a deeper and complex reality.
- (b) Folk psychology has not made any significant advances in a very long time. Instead, some phenomena previously taken to be in its domain are now recognized to belong to the domain of other sciences. For instance, we no longer explain rain or bad weather in intentional terms. Churchland claims that FP hasn't advanced in more than two thousand years, and this is too long a period of infertility, given that it has failed to account for so many phenomena in its domain. This gives us good reason to think that it lacks the conceptual resources required to give a better explanation.
- (c) Folk psychology fares very poorly when it comes to theoretical integration. We can tell a coherent story about humans from the perspective of natural history and the physical sciences. We can give a story encompassing a large number of disciplines that mesh well together. However, the concepts of folk psychology don't seem to be part of this growing synthesis. Intentional categories are not part of our best psychological and neuroscientific explanations of human behavior. Though this may not rule out reduction, the stagnation and lack of explanatory power of folk psychology make things look less promising.

4 Arguments against elimination

The normativity of folk psychology

Folk psychology is a characterization of an ideal mode of internal activity. It describes what it is to be rational in the administration of beliefs and desires. Normative theories are not the kinds of things that can be substituted by scientific theories. Even as a descriptive theory, it is useful to understand our actions as rational except for the times when some physical malfunction occurs. Such defects are best explained by empirical theories.

Response

The fact that folk psychology ascribes the relevant regularities only to ideal agents doesn't mean it is a normative, rather than an empirical theory. Compare with the laws of ideal gas, which are not usually taken to be normative in any interesting sense. The normative dimension enters because we value most of the patterns ascribed by folk psychology.

Moreover, folk psychology gives us a very minimal and superficial notion of rationality. Finally, it's not clear that folk psychology gives us a good account of cognitive virtue. Folk psychology postulates propositions and propositional attitudes, seemingly modeled on the ways in which we use language. But language is a relatively new evolutionary development, so it is mysterious how it can explain more basic kinds of cognitive virtue: capacity to make good inferences, learning, etc.

The abstract nature of folk psychology

Folk psychology attempts to describe our internal states in ways that don't make any reference to their physical constitution. Because of the real possibility of multiple realizability, we can't elim-

inate the functional characterization that folk psychology makes possible in favor of any particular theory about physical substrates.

Response

Churchland points out that in a lot of cases, assuming that the objects postulated by a certain theory are functionally defined may not save the theory from elimination. Compare modern chemistry with alchemy. Alchemy posited four different basic things with certain features that, when combined, gave raise to all the features of material things. One reason why alchemy was eliminated was the simplicity and explanatory efficacy of modern chemistry. Another reason had to do with grain: alchemy just seemed to count too many things on the same category, but chemistry showed that the categories of alchemy were not fine-grained enough to capture the nature of the phenomena it attempted to explain.

However, alchemist could have become functionalists: they could have said that the four basic elements in their theory were not meant to stand in a one-one correspondence with their physical implementation, but rather, that they were functionally defined. They could have added that chemistry fails to capture the kind of abstract organization that alchemy captures, and the multiple realizability of their four basic categories.

Of course, we should reject this line of response in the case of alchemy, and so, Churchland claims, we should reject this line of response in the case of folk psychology. Crucially, though, eliminative materialism is not committed to the rejection of functional theories.