

Explanation in Neuroscience and Folk Psychology

Brad Weslake

University of Rochester

`bradley.weslake@rochester.edu`

`http://mail.rochester.edu/~bweslake/`

The Question

Question₁ Do minds exist?

What do you mean by “minds”?

What do you mean by “exist”?

“A camera-proud boy at the Zoo snaps an eagle, a snake, and an octopus. He then follows a finger-post marked ‘Mammals’; but though he photographs successfully a lion, a wolf and an otter, etc., he looks in vain for a mammal to photograph” (Ryle).

Question₂ Do beliefs and desires exist?

Some Quick and (Too) Easy Answers

Common Sense I am more certain of it than any argument you could produce to the contrary.

Problem: Science often overturns what is pre-theoretically “obvious”.

Self Refutation If you deny it, you express the belief that there are no beliefs, and so refute yourself.

Problem: The argument is question-begging.

“The anti-vitalist says that there is no such thing as vital spirit. This claim is self refuting [. . .]. For if the claim is true, then the speaker does not have vital spirit, and must be dead. But since dead men tell no tales, they do not tell anti-vitalist ones either. One cannot reason with dead men”. (Churchland)

An Argument Against Belief and Desire

- 1 The nature of belief and desire is specified by a folk theory of the mind (folk psychology).
- 2 Folk psychology is false.
- 3 Therefore beliefs and desires do not exist.

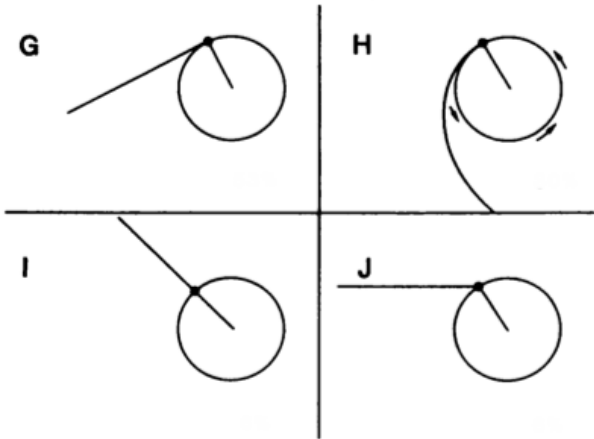
The position this argument motivates is *eliminative materialism*, or *eliminativism* for short.

Is Folk Psychology a Theory?

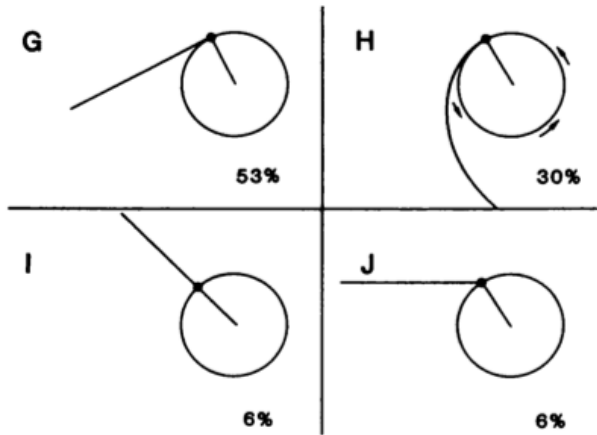
Folk Theories There is accumulating empirical evidence that we have folk theories for many different domains. (Worrying here is that most of the others are internally inconsistent and pretty badly mistaken).

Linguistic Analogy In the same way that our grammatical judgements reveal an implicit grasp of grammatical principles, our folk psychological judgements reveal an implicit grasp of folk psychological principles.

Folk Physics: Prompt



Folk Physics: Results



Folk Psychology: Prompt

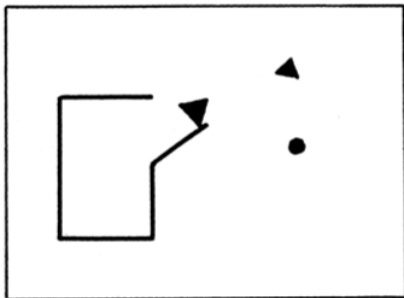


FIG. 1. EXPOSURE-OBJECTS DISPLAYED IN VARIOUS POSITIONS
AND CONFIGURATIONS FROM THE MOVING FILM.
Large triangle, small triangle, disc and house.

Folk Psychology: Results

“A man has planned to meet a girl and the girl comes along with another man. The first man tells the second to go; the second tells the first, and he shakes his head. Then the two men have a fight, and the girl starts to go into the room to get out of the way and hesitates and finally goes in. She apparently does not want to be with the first man. The first man follows her into the room after having left the second in a rather weakened condition leaning on the wall outside the room”.

What are the Commitments of Folk Psychology?

Some candidates (in increasing order of contentiousness):

Explanation Beliefs and desires *explain behaviour*.

Causal Structure Beliefs and desires are causally involved in some actions, but not in others.

Sentential Structure Belief and desire have an internal structure isomorphic to the sentences we use to characterise them. That is, the difference between the belief 「the hat is on the cat」 and the 「the cat is on the hat」 is that the same constituents are differently arranged. On this view, folk psychology is committed to a *language of thought*.

Is Folk Psychology Theoretically Stagnant?

Problem₁ Folk psychology has widespread explanatory failings (mental illness, sleep, creativity, memory, learning, perception. . .).

Reply₁ Folk psychology is domain specific. And in its appropriate domain—rational action—it is extremely impressive.

Problem₂ Folk psychology has not progressed in 2500 years.

Reply₂ Perhaps this is because it is true in the appropriate domain. Just like the theory that heavy objects will fall.

Is Folk Psychology Wrong about Cognitive Structure?

- Problem₃** Our best neuroscientific and cognitive scientific models of the mind make it highly unlikely that cognitive states exhibit either **Sentential Structure** or **Causal Structure**.
- Reply₃** So much the worse for the claim that **Sentential Structure** and **Causal Structure** are commitments made by folk psychology. That is, so much the worse for the claim that folk psychology relies on *their being literally true*.

Folk Psychology as an Idealised Theory

The textbook explanation of Boyle's Law, $PV = k$, makes the following idealisations:

- Molecules are point-sized.
- Molecules exert no long range forces on one another.
- Collisions between molecules and container boundaries are perfectly elastic.
- Molecules do not collide with one another.
- Molecules are governed by classical mechanics.

Note: None of this entails that molecules do not exist.

Idea: **Sentential Structure** and **Causal Structure** are idealisations—genuinely explanatory, though literally false.

Avoiding The Greatest Catastrophe

Jerry Fodor:

“if commonsense intentional psychology really were to collapse, that would be, beyond comparison, the greatest intellectual catastrophe in the history of our species; if we’re that wrong about the mind, then that’s the wrongest we’ve ever been about anything”

Conclusion

If beliefs and desires never explain actions it’s a catastrophe—but if it turns out that the folk psychological characterisation of beliefs, and the explanations they provide, are highly idealised? It would have have been highly surprising if they *weren't*.