What is this thing called 'Commonsense Psychology'?

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Abstract

Many philosophers - Paul Churchland, among them - argue that commonsense psychology in terms of beliefs, desires and intentions is a proto-science ripe for replacement (or more optimistically, for vindication) by a more mature science. I set out and then criticize three arguments for the conclusion that commonsense psychology is a proto-science. I try to show that each of these arguments has a false premise that finds its place in a single metaphysical picture that I call "the physicalist picture." I sketch an alternative picture, "the Practical-Realist picture," that is more adequate to the richness of human life. Commonsense psychology is fully integrated into the Practical-Realist picture. Finally, I consider how my view fits with empirical psychology.

What is this thing called 'Commonsense Psychology'? The first matter to settle is what the issue is here. By 'commonsense psychology,' I mean primarily the systems of describing, explaining and predicting human thought and action in terms of beliefs, desires, hopes, fears, expectations, intentions and other so-called propositional attitudes. Although commonsense psychology encompasses more than propositional attitudes – e.g., emotions, traits and abilities are also within its purview – belief-desire reasoning forms the core of commonsense psychology. Commonsense psychology is what we use to explain intentional action as ordinarily described- e.g., Jack went to the store because he wanted some ice cream. Commonsense psychology also is used to explain mental states – e.g., Jill feared that she would be late because she thought that the meeting began at 4:00. Commonsense psychology is the province of everyone; we all use it all the time.

In recent years, commonsense psychology has been thought of as a kind of folk theory, a proto-science. The apparent alternative to regarding commonsense psychology as a proto-science is to regard it as a practice. So, I'll begin by setting out what I mean both by 'practice' and by 'proto-science.' A practice is a systematic activity, governed by rules or conventions, that groups of people engage in for a common purpose. Some of our practices involve giving causal explanations. Commonsense psychology is one such causally-explanatory practice. I can think of no reason to deny that commonsense psychology is (putatively) causally-explanatory without assuming too narrow a notion of causal explanation – as, for example, Gilbert Ryle did. So, here's how I understand the claim that commonsense psychology is a practice:

(A) Commonsense psychology is a practice iff groups of people engage in the activity of describing, explaining and predicting human thought and action in terms of propositional attitudes like belief, desire and intention.

I think that it is uncontroversial that commonsense psychology is a practice as specified by (A). The controversial issue is whether or not commonsense psychology is a proto-science. I shall consider something a proto-science just in case it is a system of describing, explaining and predicting that meets two conditions: (i) The first concerns the 'proto-' part of 'proto-science:' as *proto*, a proto-science was not self-consciously made up by anybody, nor is any special training needed for its application. (ii) The second condition concerns the 'science' part of 'proto-science': as *science*, a proto-science is subject to being falsified in toto by a mature science.

Let me say a bit more about the interrelated notions of a mature science and of falsification in toto. Although there is no agreement about what makes something a mature science, the paradigm case of a mature science is physics. Recently, philosophers have begun to consider evolutionary biology as a mature science. What appeals to philosophers about evolutionary biology is the fact that its categories are entirely mechanistic, and hence suitably related to the categories of physics. Taking a cue from evolutionary biology, I shall consider a science to be mature for purposes here if its categories are suitably related to physical categories (i.e., categories of physics). Although there is disagreement about what should count as 'suitably related to physical categories,' this much is clear: A mature science has categories that are not 'incommensurable' with those of physics.[1] On this conception of a mature science, which derives from the Physicalist Picture that I'll discuss later, parapsychology cannot be a mature science.

Another characteristic of a science (mature or not) is that it is subject to falsification in toto. A science would not be falsified in toto merely by discovery that some of its generalizations were incorrect. To be falsified in toto, a theory's taxonomy must be impugned. If a science is falsified in toto, then its central proprietary concepts (like *humors*) are thereby shown to be empty. So, if commonsense psychology were to be falsified in toto, then we should conclude that the concepts of the attitudes – belief, desire, and intention – actually applied to nothing. To say that a proto-science is falsifiable in toto is not to say that it will be falsified, but that it is in competition with mature sciences and hence is subject to falsification in toto by a mature science.

That commonsense psychology is a proto-science in this sense is a view shared by eliminative materialists (like Paul Churchland), who expect commonsense psychology to be falsified in toto by a mature neuroscience and by intentional realists (like Jerry Fodor), who expect commonsense psychology to be vindicated by a mature neuroscience. Of course, commonsense psychology could not be vindicated by a mature science unless it was also subject to falsification by that science. Here, then, is how I understand the claim that commonsense psychology is a proto-science:

1 'Incommensurable' is Paul Churchland's term. This characterization of a mature science is suggested by Churchland (1981). This conception of a mature science is driven by metaphysics, as we shall see when I discuss the Physicalist Picture.

(B) Commonsense psychology is a proto-science iff (i) it was not self-consciously made up by anybody, and no special training is needed for its use, and (ii) its descriptions, explanations and predictions of human thought and action are subject to being falsified in toto by a mature science.

Note that the claims that commonsense psychology is a practice and that commonsense psychology is a proto-science, as I construe them, are not contraries. Commonsense psychology could be both a proto-science and a practice. Although (A) and (B) do not rule out the possibility that commonsense psychology is both, I shall not offer this irenic conclusion. For while it is obvious that commonsense psychology is a practice as specified by (A), I shall argue that it is not a proto-science as specified by (B). I shall assume that the first condition for being a proto-science is satisfied – commonsense psychology was not self-consciously made up by anybody – and I shall argue that the second condition is not.

After arguing that commonsense psychology is not a proto-science, I want to expound and defend the view that commonsense psychology is a practice – a causally-explanatory practice, but a practice nonetheless. Commonsense psychology is not a would-be scientific theory that could be falsified in toto or replaced by a mature scientific theory. Rather, it is part and parcel of the comprehensive commonsense framework of persons and medium-sized objects in terms of which we all make our way in the world.

Here is my plan. First, I shall set out and then criticize three arguments for the conclusion that commonsense psychology is a proto-science. I shall try to show that each of these arguments includes a premise that embodies what I take to be a mistaken conception of one or another important feature of our world. Each of these mistaken conceptions – concerning properties of physical things, causal explanation, and belief attribution – in turn, finds its place in a single metaphysical picture that I'll call 'the Physicalist Picture.' After sketching and commenting on the Physicalist Picture, I shall sketch an alternative picture, 'the Practical-Realist Picture,' which I think is more adequate to the richness of human life. Commonsense psychology is fully integrated into the Practical-Realist picture. At the end, I shall turn briefly to consider how my view fits in with empirical psychology.

1. Three Arguments

I realize the danger of putting arguments in the mouth of an opponent only to show that they are unsound. I have two excuses: first, I've heard arguments like the ones that I'll present actually offered and I know of no better arguments for construing commonsense psychology as a proto-science; and second, the flaws in these arguments (if I'm right) are interestingly related; for they all are part of a metaphysical picture that is taken for granted by large segments of the philosophical community.

Argument #1: (1) Commonsense psychology purports to explain actions. (2) Actions are properties of human agents, who are wholly physical. (3) The instantiation of any property of a wholly physical thing is ultimately explainable by a

physical science. So, (4) Actions are ultimately explainable by a physical science. (5) If actions are ultimately explainable by a physical science and commonsense psychology purports to explain actions, then commonsense psychology is subject to being falsified in toto by a physical science. Therefore, (6) commonsense psychology is a proto-science.

Reply to Argument #1: The third premise – that the instantiation of any property of a wholly physical thing is ultimately explainable by a physical science – should be rejected. I cannot think of any sense of 'explainable' in which the instantiation of any property of a wholly physical thing is ultimately explainable by a physical science. A wholly physical thing, as I construe it, is an object composed of physical particles and nothing else. If all the properties of a physical thing depended entirely on the physical properties of the particles that made it up, then perhaps the premise that any property instantiation is explainable by a physical science would be true. But many properties of medium-sized objects do not depend on the physical properties of the particles that make up the objects. For example, my car has the property of being worth only its blue-book value. You have the property of attending a philosophy conference. High government officials have the property of being indicted. The painting *Starry Night* has the property of having been painted by van Gogh.

I have three comments about such properties: (1) These properties are explanatory: my car's being worth only its blue-book value explains why the insurance company won't pay to have it repaired; the indictment of high government officials explains why they have been dropped from the A-list of parties in Washington, and so on.

(2) These properties are not taxonomic in any physical science; they appear in no scientific theory. More to the point, we have no idea how these properties are related to fundamental physical properties like spin and charge. And even if the upper-level properties supervene on fundamental physical properties, these upper-level properties do not supervene on the fundamental physical properties of the particles that compose them. For all these properties are relational. There could be molecule-for-molecule duplicates, one of whom is indicted and the other of whom is not. Therefore, the property of being indicted, if it supervenes on fundamental physical properties at all, does not supervene on the properties of the particles of the person who is indicted, but on the properties of particles flung far and wide. And I strongly doubt that we would ever know on which properties of which physical particles the property of being indicted did supervene. And if we have no clue about the physical properties on which a relational property is supposed to supervene, then it is idle to insist that physical science can explain the instantiation of that relational property.

(3) Furthermore – and this is the third comment – it does not matter that the instantiation of the properties of medium-sized objects is not explainable by a physical science. The explanatory import of these 'upper-level' properties like being indicted depends only on their relations to other properties at the same level (like incurring high legal fees and being dropped from the A-list for dinner parties), not on their relations to 'lower-level' physical properties. So, I take it that the third premise of Argument #1 – The instantiation of any property of a whol-

ly physical thing is ultimately explainable by a physical science – is false, and the argument is unsound.[2]

Argument #2: (1) Commonsense psychology purports to provide causal explanations. (2) All purported causal explanations can be falsified in toto by a mature science. (3) If commonsense psychology purports to provide causal explanations that can be falsified in toto by a mature science, then commonsense psychology is a proto-science. So, (4) Commonsense psychology is a proto-science.

Reply to Argument #2: The second premise – that all purported causal explanations can be falsified in toto by a mature science – should be rejected. Many ordinary commonsensical causal explanations are neither verifiable nor falsifiable by a mature science. This is so because the very existence of the phenomena that are explained by commonsense explanations often depends on rules, conventions and/or practices. And there is no good reason to suppose that the rules, conventions and practices presupposed by the phenomena explained by commonsense explanations will be accommodated by a mature science, whose categories are commensurable with those of physics. I'll elaborate.

Consider these explanations: 'Our team lost the game because the quarterback fumbled as he was about to cross the goal line in the final seconds.' 'We missed the first movement because we got stuck behind an accident on Main Street.' 'The plea-bargaining session resulted in a sentence of life in prison without parole.' (I take it as obvious that these explanations are putative causal explanations; if you disagree, choose your own causal explanations of the phenomena in question.)

Losing the football game, missing the first movement of a symphony, being sentenced to life in prison without parole – these are the kinds of things that we want to explain in everyday life. The very existence of each of these *explananda* depends on rules, practices, or conventions. Apart from rules of football, there would be no such phenomenon as losing a game. Apart from practices of performing symphonies and practices of going to concerts, there would be no such phenomenon as missing the first movement to be explained. Apart from legal practices, there would be no such phenomenon as being sentenced to life in prison. In the absence of rules, practices and conventions, what we want to explain would disappear. Therefore, a putative explanation of any of these things in terms of physical motions, say, without reference to rules, practices and laws, is no explanation of what we set out to explain – losing a football game, missing the first movement or being sentenced to life in prison – at all.

Since these *explananda* could not exist without rules, conventions and practices, their commonsense explanations are not in competition with explanations of a mature science that lacks access to rules, conventions or practices. There are at least two reasons to doubt that rules, conventions or practices – and the phenomena that presuppose them – would be visible to a mature science. First, the rules, conventions and/or practices that make possible the *explananda* are highly complicated but tacitly understood background assumptions, and it is unlikely

2 Note that my argument against the third premise does not require rejection of global supervenience.

that these complicated background assumptions can be explicitly specified, even in commonsense terms. Think of an actual case. A friend of yours did not get tenure. What's the explanation? Try to specify in any terms all the background assumptions that go into explaining a tenure decision. It is obvious that the official criteria of teaching, research and service do not begin to tell the story. And besides, what counts as teaching, research and service? And further, what counts as acceptable levels of teaching, research, and service? It seems hopeless (and needless) to try to spell out the background assumptions without which there is no explanation of your friend's not getting tenure. But if the rules, conventions and/or practices presupposed by commonsense explanations can not be explicitly specified at all, even in commonsense terms, then they cannot be explicitly specified in the terms of a mature science. A mature science is in no position to replace commonsense explanations of rule-dependent phenomena if it cannot specify in its own terms the rules, conventions and practices that make the phenomena possible.

But there is a deeper reason to doubt that a mature science will ever be able to define in its own terms the rules, conventions and practices presupposed by the phenomena that commonsense explanations explain. For even if we could explicitly specify the relevant rules, conventions and practices on which commonsense explanations depend, the categories of rules, conventions and practices prima facie seem incommensurable with the categories of physics. On the other hand, the categories of a mature science are commensurable with the categories of physics. It is difficult to envisage how the phenomena that we want to explain – phenomena defined by categories incommensurable with those of physics – could be the *same* phenomena as those defined by categories commensurable with those of physics.

Explanations of a mature science can falsify such commonsense explanations only if either the mature science can explain the same things as the commonsense explanations or the mature science can replace the commonsense explanations. If a mature science is unable to define rules, conventions and practices in its own terms, then it cannot explain phenomena whose existence depends on rules, conventions and practices; nor can it replace commonsense explanations of such phenomena. (A physical explanation of the motion of medium-sized objects could not serve the same explanatory purposes as a commonsense explanation of, say, the legislature's cutting the budget for the state university system.) In that case, the second premise of Argument #2 – All purported causal explanations can be falsified in toto by a mature science – is false, and Argument #2 is unsound.

To say that these commonsense explanations cannot be verified or falsified by a mature science is not to say that they are incorrigible. Close attention to instant replay might well justify correction of the explanation of the loss of the game. The quarterback didn't just fumble the ball; he was clipped. And the explanation of being late to the concert may be falsified by discovery that there had not been an accident; the traffic jam was caused by road repair. Any of our explanations – scientific or otherwise – is defeasible. The question at issue concerns whether commonsense explanations are always subject to defeat by explanations of a mature science, and I have argued that they are not.

Perhaps someone will object that we often replace commonsense explanations

by what we might roughly think of as physical explanations with the same *explananda*. Suppose that we commonsensically explain Jill's getting sick by her eating some wild mushrooms. Then, a biologist comes along and gives a detailed biological explanation showing that Jill's digestive system underwent just the kinds of changes brought on by ingesting mushrooms of that type. Now we have a mature scientific explanation of the same event of Jill's getting sick. Is this a case where a commonsense explanation is falsified by a mature-scientific explanation? No. There is no competition between the two explanations; we do not have to choose one over the other. The biological explanation doesn't falsify the original commonsense explanation; if anything, it verifies it.

My opponents who endorse the claim that all purported causal explanations can be falsified in toto by a mature science would quickly agree, and go on make the further pair of claims: (1) that the biological explanation grounds or secures the commonsense explanation, and (2) that all commonsense explanations stand in need of such grounding in 'deeper' explanations of a mature science. Then, they would conclude that a commonsense explanation is vindicated if there is an appropriate 'deeper' mature-scientific explanation of the same *explanandum*; otherwise, the commonsense explanation is in error. So, they claim, any commonsense explanation is subject to falsification in toto by a mature science whether it is actually falsified or not.

Now I would agree that *sometimes* a 'deeper' mature-scientific explanation can falsify a commonsense explanation. Indeed, the mushroom explanation is a case in point. If the biological explanation of Jill's getting sick was not traceable to eating those mushrooms but to a spasm, then the commonsense explanation in terms of mushroom eating would have been falsified. But what I have just argued against is the much broader claim that all purported causal explanations can be falsified in toto by a mature science. The broad claim just falls out of the Physicalist Picture that I will criticize shortly. But for now, just recall my earlier argument and note that there are countless counterexamples to the broad claim: e.g, 'Sprewell was suspended because he attacked the coach.' This explanation simply does not stand in need of grounding in any 'deeper' mature-scientific explanation. We may be wrong that the suspension resulted from Sprewell's attacking the coach; but if we are, our error will not be revealed by a 'deeper' explanation from a mature science.[3] In sum, we have ample reason to declare Argument #2 unsound.

So far, I've said almost nothing about commonsense psychology – explanations of human thought and action in terms of propositional attitudes like belief, desire and intention. The reason that I haven't said much about psychology so far is that the first two arguments for the view that commonsense psychology is a proto-science depend on general ideas about properties of physical things and about causal explanation. The third argument, however, specifically concerns the character of commonsense psychology.

3 Even if it were discovered that the basketball authorities who suspended Sprewell just used the attack as a pretext and suspended because they didn't like his name, say, that discovery would not be within the purview of a mature science. The evidence that the proffered explanation was wrong would come from diaries and tapped phone calls, not from neurophysiology.

Argument #3: (1) Beliefs are, or are constituted by, brain states. (2) Neuroscience determines what brain states there are. (3) If beliefs are, or are constituted by, brain states and neuroscience determines what brain states there are, then commonsense psychology can be falsified in toto by neuroscience. So, (4) Commonsense psychology is a proto-science.

Reply to Argument #3: The first premise – that beliefs are, or are constituted by, brain states – should be rejected. And it should be rejected even in its weakest form – that token beliefs are constituted by token brain states, where two tokens of the same belief may be or be constituted by tokens of different neural types. Although this premise is almost universally held by mainstream philosophers of psychology, I demur. Beliefs, as I have argued at great length elsewhere, are not brain states.[4] Here's a sketch of an argument: There would be no empirical reason to think that beliefs were brain states unless neuroscientists actually were able to identify particular neural tokens (either local and discrete or global and distributed) as tokens of the belief that p (for any belief that p). In order to identify a particular neural token as a token of a particular belief, neuroscientists must have an identifying description of the neural token in question; the identifying description must allow neuroscientists to pick out tokens as satisfying that description independently of their being tokens of a particular type of belief. That is, there must be an answer in principle to the question: Which neural tokens are a token of the belief that p? If this question in principle has no answer, then it seems to me totally vacuous to say that beliefs are brain states. It is my empirical conjecture that, for many if not all beliefs that p, neuroscientists never will be able to identify particular neural tokens as tokens of the belief that p.

It's hard to see how functionalism can be any help here. Functionalism gives a quick answer to the question 'which neural token is a token of the belief that p?' The functionalist answers that the neural token is of a type that has all the same causes and effects that belief that p has. In order to ascertain whether a neural token has the same causes and effects that a belief that p has, neuroscientists must antecedently have an account of the causes and effects of the belief that p. But since what causes and effects a belief that p has is determined in large measure by the believer's other attitudes, I strongly doubt that there will ever be actual analyses of beliefs in terms of their causes and effects. In that case, it would be no help to neuroscientists to be told that the neural tokens that are tokens of the belief that p are the ones that have the same causes and effects as the belief that p.

So, it is reasonable to doubt that neural tokens will ever be identified as tokens of beliefs of various types. And if neuroscientists do not identify particular neural tokens as tokens of beliefs of various types, then we have no empirical reason to suppose that beliefs are, or are constituted by, brain states. The only other possible reason that I can think of to suppose that beliefs are brain states is that that conception allows commonsense psychology to be proto-scientific and

4 Baker (1994), Baker (1995) and "Are Beliefs Brain States?" a paper delivered at a conference entitled "Explaining Beliefs: Lynne Baker's Theory of the Attitudes" sponsored by the Dutch Research School of Philosophy, May 13-14, 1997.

hence to fit into the Physicalist Picture that I'll describe momentarily. But, of course, such reasoning would be blatantly circular. So, we should reject the first premise of Argument #3 – that beliefs are, or are constituted by, brain states – and declare Argument #3 unsound.

2. The Physicalist Picture

The three premises of the three arguments that I have criticized have something important in common. They are all part of a particular picture of reality that holds in thrall many philosophers all the time, and almost all philosophers some of the time. I'll call this picture 'the Physicalist Picture of reality.' One of the most influential exponents of this picture is Paul Churchland. Claiming that 'the network of principles and assumptions constitutive of our common-sense conceptual framework can be seen to be a speculative and as artificial as any overtly theoretical system,' Churchland concludes that 'our common-sense framework must acknowledge its vulnerability to the same sorts of criticism that decide theoretical questions generally.' He goes on:

> Excellence of theory emerges as the fundamental measure of all ontology. The function of science, therefore, is to provide us with a superior and (in the long run) perhaps profoundly different conception of the world, even at the perceptual level. (Churchland, 1979, p. 2)

As Wilfrid Sellars famously put it, transforming the maxim of Protagoras: '[I]n the dimension of describing and explaining the world, science is the measure of all things, of what is that it is, and of what is not that it is not.' (Sellars, 1963, p. 173)

According to the Physicalist Picture, all phenomena fit into a single causal structure of microphysics – 'one size fits all.' The picture of causation, to put it crudely, is something like this: x's having F at t causally explains y's having G at t' in virtue of there being an underlying spatiotemporal story that connects x's having F at t and y's having G at t'. The particles (or molecules or something else that's clearly physical) that account for x's having F at t must be connected, step by step, through the temporal interval between t and t' and the spatial interval between x's location at t and y's location at t', to the particles that account for y's having G at t'. With this picture of causation, it is little wonder that physicalists worry about how beliefs can be causally explanatory. At a minimum, beliefs, if there are any, must be particular states of the brain that literally produce actions.

This picture of causation and of causal explanation is at its best in explaining the motion of billiard balls, but it fits almost none of the causal explanations that we successfully rely on all the time. We explain why the Dow Jones Industrial Average goes up by citing the Federal Reserve's decision not to change interest rates. We do not even have an outline of an underlying story involving a trajectory of particles (or molecules or something else clearly physical) from the spatiotemporal point of the decision to the spatiotemporal point of the increase in the Dow Jones Industrial Average. (The idea that these events even have spatial locations is picture-driven.) The causal explanation of the increase in the Dow Jones Average is not threatened by the unavailability of any underlying physical

story. Or again: We explain why King Henry VIII was excommunicated by the Pope by citing his (unapproved) divorce from Catherine of Aragon and marriage to Anne Boleyn. Again, our lack of knowledge of any underlying spatiotemporal story of physical particles in no way impugns the explanation.

Here is a suggestion as an alternative to the picture of causation that the physicalist picture gives us. Maybe 'causation' does not denote a single phenomenon; maybe 'causation' is just the word that we use when we think that we have found an explanation of a certain sort. The kinds of things that count as causes in economics may not be the same kinds of things that count as causes in the law, which in turn may differ still from the kinds of things that count as causes Newtonian mechanics. A causal explanation is one that satisfies certain interests, and these interests are satisfied differently in different domains.[5] Thus, different kinds of things count as causes in different domains.

Moreover, if the physicalist picture is correct, then it must also account for our errors: the picture must describe what was really going on when we were in gross error, and explain how we could have made such errors. For example, on the Physicalist Picture, eliminative materialism – the view that nobody ever had a belief, desire or intention – is a live option. If eliminative materialism turned out to be true, then the Physicalist Picture must provide a correct account of how people could have mistakenly thought that they had beliefs and so on – -without implying that they believed that they had beliefs. What is really going on when people profess to have beliefs and attribute beliefs to others? The suggestion that we should regard professions and attributions of belief instrumentalistically is to no avail: What is the correct scientific account of professions and attributions of beliefs and other attitudes, construed instrumentalistically? There is no reason to think that the Physicalist Picture has the resources to answer these questions or to give an account of the 'errors' (if such they are) of commonsense.

The physicalist starts with a theoretical picture based on a philosophical idea of fundamental physics. He looks to see what general principles – like the causal closure of the physical and strong supervenience of all properties on microphysical properties – this picture implies. Then, for any putative kind of phenomenon, he checks to see how it fits the picture. If he cannot imagine how some putative phenomena are situated in the microphysical world, then he deems such putative phenomena unsuited for 'serious science.' And according to the physicalist, nothing unsuited for serious science can play an ineliminable role in the single complete description and explanation of all phenomena.

If the physical sciences were the ontological arbiter, then I would agree with Churchland that commonsense psychology would fare poorly. One of Churchland's central reasons for taking commonsense psychology – or 'folk psychology' as he calls it – to be false is its resistance to integration into what he calls 'the greatest theoretical synthesis in the history of the human race.' Churchland's com-

5 Schematically: A causal explanation purports to explain one event B in terms of another event A, where event A precedes event B, the occurrence of event A does not entail the occurrence of event B, and in the context, event B would not have occurred if event A hadn't occurred but given event A in the context, B was guaranteed to occur. For different domains, different kinds of counterfactuals are relevant in the last two clauses.

plaint is that commonsense psychology 'is no part of this growing synthesis [of the physical sciences]. Its intentional categories stand magnificently alone, without visible prospect of reduction into that larger corpus.' (Churchland, 1981, p. 75)

Although I think that Churchland is right about the poor prospect of reduction, the requirement of reduction has no plausibility apart from the Physicalist Picture – for which I see no convincing argument. The success of the physical sciences in their own domains provides no reason to suppose that they determine whether or not there are tables and chairs, or persons with intentional states. The fact that we do not know how to connect the (putative) domains of commonsense psychology and neuroscience casts no doubt on commonsense psychology.

The Physicalist Picture is so engrained in us that we hardly even notice it. Even so, it is just that: a picture. It is not dictated by reason or experience. (Certainly not experience!) As Wittgenstein would say, a picture holds us captive. And in view of its inadequate conception of causal explanation and of its inability to account for the 'errors' of commonsense, it is reasonable to attempt to break its grip by posing an alternative picture.

3. The Practical-Realist Picture

The Practical-Realist Picture incorporates a comprehensive commonsense conception of reality, whose ontology includes medium-sized objects and animals and persons with intentional states. This commonsense conception, which is shared by all people everywhere, has its own integrity, regardless of the deliverances of the sciences. On the Practical-Realist Picture, what goes on in the world – what we want to describe, predict and explain – is governed not only by laws of nature, but also by laws of society and rules and conventions. Many of the events that (we suppose) occur could not (really, literally, could not) occur in the absence of laws of society, rules and conventions: getting married, paying a fine for late taxes, applying to graduate school, hitting a home run, picking up milk at the store, cashing a check – almost all the things that actually make up our lives. (In other societies, lives are made up of different, but equally normative and intentional, activities.) These events and activities, which are all interwoven into the fabric that is our commonsense conception of reality, presuppose intentionality and normativity. The commonsense conception is riddled with intentionality and normativity through and through.

What we call 'commonsense psychology' is an abstraction from the whole well-integrated commonsense conception. (What developmental psychologists call 'folk physics,' and 'folk biology,' as well as 'folk psychology' are also abstracted out of this global commonsense conception.) Commonsense psychology can not be extricated from the total commonsense conception, leaving the rest of the commonsense conception intact. From the realization that normativity and intentionality are presupposed by the commonsense conception, it is but a short step to seeing that the ontology of commonsense psychology is too. If nobody had beliefs, desires, or intentions, then there would be no laws of society, or rules or conventions. And if there were no laws of society, or rules or conventions, then much of what we suppose to occur would not really occur: Indeed, there would be no community of scientists. In the absence of beliefs and desires, there would

be no such mundane events as going to the movies, applying for a job, or buying a house. The world of daily activities that presuppose the attitudes – what happens in the office, in the laboratory, on the tennis court, in the sports-utility vehicle – would be wholly illusory. Since many of the events and activities that fill the commonsense world could not occur in a world without attitudes, commonsense psychology (with its concepts of attitudes) cannot simply be removed leaving the rest intact. So, denial of commonsense psychology would lead to denial of the commonsense conception. (Churchland, 1986, pp. 252-259.

The Practical-Realist picture shows why commonsense psychology is not proto-science: commonsense psychology is a nondetachable part of the whole commonsense conception of reality, which makes possible the activities of everyday life from getting a job to paying off your debt to sending in an absentee ballot. As long as people are the kinds of beings who seek to survive and to flourish, and have the capacity to make and discuss long-range strategies for survival and flourishing, and as long as the way to survive and to flourish is to interact with medium-sized objects (natural and artifactual) and with other people with attitudes, the commonsense conception of reality (and with it commonsense psychology) will be indispensable. (Understanding AIDS at the level of the HIV virus without returning to the commonsense-conception level of dirty needles and unsafe sex would not help stem the spread of the disease.) That we have purposes and make plans is nonoptional for us; it would seem that the commonsense conception, with its integrated commonsense psychology, is also nonoptional as long as we have purposes and plans that can be fulfilled only by interacting with medium-sized objects and with other people with intentional states.

Let me contrast the Practical-Realist Picture and the Physicalist Picture. The basic contrast concerns the empirical nature of the commonsense conception. Both the Physicalist and the Practical Realist construe the commonsense conception to be subject to empirical confirmation, but they differ in what they require for empirical confirmation. The Physicalist has a much more metaphysical notion of what counts as empirical. What is empirical in the Physicalist's sense is what is subject to integration into the physical sciences. What is subject to integration into the physical sciences may or may not actually be integratable into the physical sciences. But from the Physicalist's perspective, putative explanatory phenomena that are not integratable into the physical sciences are simply deemed false – empirical but false. There is not a consensus about what is to count as integration into the physical sciences, but, as I mentioned earlier, part of the idea is this: The categories in terms of which we classify empirical phenomena must be explicable in terms of the categories of the physical sciences. If the categories of commonsense psychology resist such integration, then the Physicalist deems commonsense psychology empirical but false.

The Practical Realist has a more pragmatic notion of what counts as empirical. According to the Practical Realist, phenomena are empirical when they are confirmable or disconfirmable by observation. (The Practical Realist can agree with Patricia Churchland that observation terms are 'semantically embedded in a network of corrigible assumptions,' but the relevant corrigible assumptions are as likely to depend on ordinary practices and commonsense generalizations as on particular scientific theory. (Churchland, 1986, 252-9)). Anyone, without any

special training or credentials, can confirm that traffic is heavy on Friday afternoons before a holiday weekend or that people resent being insulted. Such generalizations are confirmed in the course of ordinary life by all of us, scientist and nonscientist alike. They are empirical in the Practical-Realist's sense and are warranted as long as they reliably enable us to accomplish our aims – regardless of the ultimate outcome of any science. When David went out to slay Goliath, he did not need to wait for a more theoretical physics to be justified in selecting a stone instead of a twig for his slingshot. The justification available to David for selecting a stone was as complete as it would be today: knowledge of microphysics would neither add to his grounds nor undermine them. In the Practical-Realist sense of 'empirical,' we are all empiricists without any special scientific training. What is empirical in this sense underwrites our know-how about getting along in everyday life.

According to Practical Realism, since commonsense psychology is an inextricable part of the whole fabric of the everyday world, including natural language, the only wholesale empirical falsification to which it would be subject would be massive failure in its use. As long as commonsense psychology remains reliable and indispensable, it is empirically secure. It is confirmed every time we invite guests to dinner and they come, every time someone returns the call after we leave a message on her answering machine, every time an elected representative answers our letter of protest; commonsense psychology is empirically confirmed millions of times a day, day in and day out. On the Practical-Realist Picture, a mature science, no matter what its character, offers no challenge to this kind of empirical confirmation.

One way to put the difference between the Physicalist Picture and the Practical-Realist Picture is this: The Physicalist Picture requires vertical integration of knowledge; no alleged fact is secure until it is grounded in a 'deeper' physical fact, all the way down to the level of fundamental physics. The categories in terms of which we classify phenomena require 'vindication' by the physical sciences. By contrast, the Practical-Realist Picture requires only horizontal integration of knowledge. Although vertical integration of knowledge is welcome, it is neither necessary nor common. Alleged facts at the level of commonsense typically are secured by their connections to other facts at the same level. (But not always: we thought that he hit the wall because he wasn't paying attention, but we later discovered that he had had a heart attack.)

Whereas on the Physicalist Picture, the whole commonsense conception is up for grabs pending the outcome of science, on the Practical-Realist Picture, scientific activities – like other human activities – themselves presuppose the commonsense conception. In that case, no science is in an epistemic position to falsify the commonsense conception in toto. Not only is the commonsense conception required for anything to count as the writing of a grant proposal, but also it is required for anything to count as an experiment. To conduct an experiment, a scientist must have beliefs about what would happen in various circumstances – how a pointer would move on a dial if this or that were the case, how a person would respond if confronted with this or that situation, etc. There is no 'context of justification' in science apart from background assumptions that presuppose the commonsense conception. Without the commonsense conception, there

would be no theorizing, no confirming or disconfirming hypotheses, no hoping for a Nobel prize – indeed no Nobel prizes.

The enduring lesson from Thomas Kuhn is that science cannot be understood apart from scientific practice. And scientific practice cannot be understood apart from scientists' ambitions and frustrations – part of the ontology of commonsense psychology. The most technical article, filled with equations, is incomprehensible without an enormous amount of background knowledge, not just about the mathematics of the equations, but about how this attempt to solve a certain problem fits in with other attempts to solve it – i.e., about the community of scientists. (The notion of an attempt to solve a problem itself falls within commonsense psychology.) As an institution, or a collection of institutions, science itself is unintelligible apart from the commonsense conception. So, rather than saying with the Physicalist that the commonsense conception is at risk from science, the Practical Realist would say that scientific activity is possible only in the context of the commonsense conception.

4. A Challenge from Researchers in Psychology?

Finally, I want to turn to the question of the relation of this Practical-Realist view of the commonsense conception, with its built-in commonsense psychology, to what professional research psychologists actually say. Many well-respected developmental psychologists construe commonsense psychology to be a theory. For example, in his widely admired, *The Child's Theory of Mind*, Henry M. Wellman says, 'I contend that our naive understanding of mind, our mentalistic psychology, is a theory. It is a naive theory but not unlike a scientific theory.' (Wellman, 1990, p. 2) (This view is now commonly called the 'theory-theory.'[6]) '[S]ubscribers to a theory,' Wellman says, 'share a basic conception of the phenomena encompassed by the theory, a sense of how propositions about these phenomena are interdependent, and consequently what counts as a relevant and informative explanation of changes and relationships among the various phenomena.' (Wellman, 1990, p. 7)

On Wellman's view, commonsense psychology is a framework theory that defines the ontology (and hence the domain) and a causal-explanatory scheme for more specific theories. The ontology/domain of commonsense psychology is mind, as ordinarily understood; and the causal-explanatory framework is belief-desire reasoning. (Wellman, 1990, p. 127) Wellman takes it to be fairly easy to establish that adults' understanding is a theory in the above sense, and this theory is taken to be manifest in naive psychology. Wellman says: 'The notions invoked there – thoughts, dreams, beliefs, and desires – form an interconnected coherent body of concepts; they rest on, or indeed define, basic ontological conceptions; and the theory provides a causal-explanatory account of a domain of phenomena: human action and thought.' (Wellman, 1990, pp. 9-10)

The goal of Wellman's book is to show that young children (age 3) also have this theory. To do this, he presents data about 3-year-olds' 'initial understanding

6 The label comes from Morton (1980); but Morton himself rejected this construal of commonsense psychology.

of this coherent theory;' he provides data to show that 3-year-olds appreciate the ontological distinction between physical and mental, between a chair and a thought about a chair; and he shows that 3-year-olds understand beliefs and desires as causing overt actions, in the sense of 'joining them in a causal reasoning scheme.' (Wellman, 1990, p. 63) As someone outside psychology, I find Wellman's descriptions of both adults' and children's use of commonsense psychology convincing. As far as I'm concerned, he makes his case for holding that young children make basic ontological distinctions and explain human action and thought in terms of an interconnected coherent body of concepts like thoughts, dreams, beliefs and desires. Also, I certainly agree that there is an interconnected coherent body of concepts that includes the notions of thoughts, dreams, beliefs, and desires, and that these concepts define basic ontological categories, and that they provide a causal-explanatory account of a domain of phenomena: human action and thought.

But it is important to note that theories as characterized by Wellman – whose characteristics are 'coherence, basic ontological prescriptions, and causal-explanatory dictates' (Wellman, 1990, p. 152) – may have nothing to do with science in any constrained sense of the word. Hegel's theory of the Absolute, Calvin's theory of predestination, Aristotle's theory of tragedy, and Plato's theory of the forms are all characterized by coherence, basic ontological prescriptions, and causal-explanatory dictates (and hence are theories in the above sense), but their connection to any disciplinary science is somewhat tenuous, to say the least.

I am unsure whether Wellman takes commonsense psychology to be proto-science in my sense or not. On the one hand, Wellman acknowledges that 'non-scientific theories also exist, run and operated by cultures of knowing and language communities other than groups of cooperating scientists.' (Wellman, 1990, p. 151) And although everyday knowledge, he says, is theorylike in some respects, he warns against assimilating it to a scientific theory. (Wellman, 1990, pp. 123ff.) On the other hand, Wellman appeals to the 'theory-theory' construal of commonsense propounded by philosophers like Paul Churchland for support of his (Wellman's) view that commonsense psychology is a theory. (Wellman, 1990, pp. 94-95) And, as we have seen, Paul Churchland is an ardent champion of the view that commonsense psychology is a proto-science in the sense that I am concerned to combat. But the point of this discussion of Wellman is that commonsense psychology may be a theory in virtue of its coherence, ontology and causal explanatoriness, without being scientific or proto-scientific in the sense under discussion.

To sum up: Many psychologists accept the theory-theory view of commonsense psychology. The theory-theory either entails that commonsense psychology is falsifiable in toto by a mature science or it does not. Suppose not; in that case, on the theory-theory view, commonsense psychology would not be a proto-science, and I would have no quarrel with calling it a 'theory.' On the other hand, suppose that the theory-theory did entail that commonsense psychology is falsifiable in toto by a mature science. I agree with Churchland that the only likely candidate to falsify commonsense psychology would be neuroscience. So if, as my empirical conjecture claims, neuroscientists will never find particular neural tokens that could plausibly be identified with tokens of various beliefs, then

(according to the theory-theory) commonsense psychology will have been falsified in toto. Now consider the consequences for developmental psychology: what would be left for developmental psychology to study? The *data* to be explained by developmental psychology themselves presuppose that the categories of commonsense psychology are not empty. For example, there has been a great deal of study of pretense in children. But pretense presupposes belief: A child could not pretend that the cup is full if she had no beliefs about the cup. So, if commonsense psychology were to be falsified in toto, then developmental psychologists would find that their objects of study – what they want to explain – had disappeared. So, I think that developmental psychologists who endorse the theory-theory as expounded by Paul Churchland and Stephen Stich are in danger of losing their domain.

5. Conclusion

Let me conclude with two quick comments. First, in claiming that it is not a proto-science, I am not denying that commonsense psychology can be studied scientifically. I take it that human sexual behavior should be regarded as practice, and not as proto-science; but few would deny that human sexual behavior is susceptible to scientific investigation. Likewise, commonsense psychology – which also should be regarded as practice and not as proto-science – is subjected to scientific investigation. Developmental psychologists have made discoveries about young children's acquisition of abilities and concepts that are constitutive of commonsense psychology.[7] Social psychologists have come up with some surprising empirical findings about people's propensities to make faulty inferences, about the effect of people's gender or race on judgments made about their personalities and character, about the basis for people's belief-desire explanations of others' actions and so on.[8] But none of this study impugns the categories of commonsense psychology; indeed, the hypotheses in developmental and social psychology are themselves couched in terms of the categories of commonsense psychology. Since the psychological hypotheses are not couched in terms of categories of a more mature science, they have no bearing on the relation between commonsense psychology and a mature science.

Second, if there ever is a science of human behavior, it will either incorporate propositional attitudes (or their functional equivalents), or it will fail to explain everyday behavior: taking a taxi, having a party, pursuing a graduate degree and so on. It is these things that commonsense psychology explains so well. And if a so-called 'science of human behavior' fails to explain our everyday affairs, then it will not have falsified commonsense psychology; it will have just changed the subject.[9]

7 In addition to Wellman, see, for example, Gopnik and Meltzoff (1997); Astington (1993); Bartsch and Wellman (1995); Keil (1989); Carey (1985); Astington, Harris, and Olson, eds. (1988); Wellman and Inagaki, eds. (1997).

8 E.g., see Nisbet and Ross (1980); Kahnemann, Slovic and Tversky (1982); Fiske (1993);Kelley (1973).

9 I gave this paper at the University of Michigan in March, 1998. Thanks to my commentator, James Woodbridge, and to Gareth B. Matthews for helping with a draft of this paper.

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References

Astington, J., Harris, P. and Olson, D. eds. (1988), *Developing Theories of Mind,* Cambridge: Cambridge University Press.

Astington, J. (1993), *The Child's Discovery of the Mind,* Cambridge MA: Harvard University Press.

Baker, L.R. (1994), "Attitudes as Nonentities," *Philosophical Studies* **76**, 175-203.

Baker, L.R. (1995), *Explaining Attitudes: A Practical Approach to the Mind,* Cambridge: Cambridge University Press.

Bartsch, K. and Wellman, H. (1995), *Children Talk About the Mind,* Oxford: Oxford University Press.

Carey, S. (1985), *Conceptual Change in Childhood,* Cambridge MA: MIT/Bradford.

Churchland, P.M.(1979), *Scientific Realism and the Plasticity of Mind* Cambridge: Cambridge University Press.

Churchland, P.M. (1981), "Eliminative Materialism and the Propositional Attitudes," *Journal of Philosophy* **78**, 67-90.

Churchland, P.S. (1986), "Reply to Wilkes," *Inquiry* **29**, 252-9.

Fiske, S. (1993), "Social Cognition and Social Perception," *Annual Review of Psychology* **44**, 155-194.

Gopnik, A. and Meltzoff, A. (1997), *Words, Thoughts and Theories,* Cambridge MA: MIT/Bradford.

Kahnemann, D., Slovic, P. and Tversky, A. (1982), *Judgment Under Uncertainty: Heuristics and Biases,* Cambridge: Cambridge University Press.

Keil, F. (1989), *Concepts, Kinds and Cognitive Development,* Cambridge MA: MIT/Bradford.

Kelley, H. (1973), "The Processes of Causal Attribution," *American Psychologist* **28**, 107-128

Morton, A. (1980), *Frames of Mind,* Oxford: Clarendon Press.

Nisbet, R. and Ross, L. (1980), *Human Inference: Strategies and Shortcomings of Social Judgment,* Englewood Cliffs, NJ: Prentice-Hall.

Sellars, W. (1963), "Empiricism and the Philosophy of Mind," in *Science, Perception and Reality* London: Routledge and Kegan Paul.

Wellman, H.(1990), *The Child's Theory of Mind,* Cambridge MA: MIT/Bradford.

Wellman, H. and Kayoko, I., eds. (1997), *The Emergence of Core Domains of Thought: Children's Reasoning About Physical, Psychological, and Biological Phenomena* (New Directions for Child Development, No. 75, Spring 1997), San Francisco, Jossey-Bass Publishers.