Worlds 3 Popper 0

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THE MIND-BODY PROBLEM: A GUIDE TO THE CURRENT DEBATE
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The Mind-Body Problem contains recent essays by the key players in the field: Searle, Fodor, Honderich, Nagel, McGinn, Stich, Rorty and others. But there are a few interesting exceptions, for example Edelman, Popper, Putnam and Dennett. Nevertheless, these thinkers do get a mention here and there, and nearly all the exciting topical issues are dealt with, including externalism, functionalism, intentionality, Turing computational models, and the relationship between these philosophical problems and psychology.

The writers fall into three broad and vague categories: those who espouse a confident promissory physicalism; those who boldly assert the non-reducibility of the mental; and those who think the terms of the debate are unclear or have other reservations about making any speculative leaps.

On the physicalist side there are Lewis, Smart, Fodor, the Churchlands and Shoemaker. With the aid of a Coke-dispensing machine, Fodor contrasts logical behaviourism (which reduces the mental to input and output) and internal state functionalism (which includes internal processing and accounts for the interdefinability of mental states). As a counter to functionalism, Honderich provides a powerful defence of the existence of a mental content over and above any functionalist causal relations and introduces his Union theory.

I am particularly struck by the tendency to engage in an evasive stratagem when it comes to stating the physicalist thesis. Instead of a clear definitive position about what kind of physical science would achieve the hoped-for reduction, what I found was variations on Lewis's claim that the reduction would be effected by a "unified body of scientific theories of the sort we now accept". Materialism used to be a clear doctrine: a clockwork Universe of impenetrable particles. But materialism transcended itself. First through Newton's demolition of the Cartesian idea that matter was essentially extension by introducing gravity (action at a distance) and then through the field theories of Faraday and Maxwell, and more recently through Einstein's work, which undermined the "substance" view of matter, something that remained permanent while other changes occurred. John Wheeler once said "particle physics is not the right starting point for particle physics. Vacuum physics is". "Matter" is more accurately seen as a process that is one form of energy, and the physical world is now conceived as an interaction of processes rather than of things — talk of particles is shorthand.

The trouble with Lewis's phrase "of the sort we now accept", perspicuously focused on by the editors, is that it is open to endless shift as science progresses. Whatever new explanatory theories and concepts are developed, the physicalist can just call these "physical".

The Churchlands are very confident about a future physicalist reduction of the mental and their discussion of the reduction of temperature to molecular kinetic energy is helpful as a paradigm. However, they neglect to point out that this reduction is incomplete. It fails to account for the temperature of plasma, which consists of disintegrated atoms, and the behaviour of a system of particles is subject to what Donald T. Campbell calls "downward causation" — the structure of a star, for example, constrains the behaviour and even type of the constituent particles. The Churchlands also portray Newton's theory as a reduction of Kepler's laws, but, as first noted by Duhem (1906), Kepler's laws contradict Newton's theory because they assume that the planets do not interact. Popper (1972) pointed out that Kepler's laws can be derived from Newton's theory only if one assumes the planets have either equal or zero mass and also injects into Kepler's theory the post-Keplerian notion of gravity — that is, only by denying Newton's and Kepler's theories.

Some of those who express reservations about the possibility of a physical explanation or reduction reveal a misapprehension about the logic of debate. Nagel suggests that in the absence of a detailed physical reduction, one should not speculate either positively or negatively. But it is only speculation (plus refutation) that will take us beyond the known.

Of particular interest for psychologists is Stich's discussion of experimental studies of concept formation and use that show that people ordinarily do not construct concepts from necessary and sufficient conditions, but instead use prototypical cases or make up concepts according to the problem in hand. These facts, Stich says, undermine the traditional Socratic method of conceptual analysis, and indicate that there are no classical concepts. However, one can simply stipulate a concept by a set of necessary and sufficient conditions, as is done in science.

Searle is as bold as ever, and he gives a good argument that the terms of the debate are misleading. The following, Searle says, are not easily categorised in to mental or physical: balance-of-payments problems, ungrammatical sentences, reasons for being suspicious of modal logic, my ability to ski and points scored in football games.

Although a good snapshot of the mind-body debate I got the impression that insufficient attention is paid to the explanatory potential of the evolutionary perspective, a perspective developed by, among others, Dennett, Edelman, Campbell, Popper and Eccles. An important breakthrough here would be to show how abstract theories and arguments, as opposed to concepts, can evolve from rudimentary advantageous "fitting" or "matching" of biology and world.

Moreover, given the testable versions of emergentism by Stuart Kaufman and others, it is dismissed too easily. Also neglected is Popper's tripartite ontological division of the world into the three domains: world 1 (the world of physics), world 2 (the world of psychological states and dispositions) and world 3 (the world of objective theories and other abstract products of the human mind). It is not obvious, as Galen Strawson suggests, that one is a materialist simply by positing non-experiential phenomena. Each of the items in Searle's heterogeneous list could be accurately analysed in terms of these three domains. A score in a football game, for example, can be analysed, as a first step, into the physical marks or electronic states that code the score (world 1), the number understood as an abstract object with properties independent of its coding and the logical ramifications of this score for the game (world 3), and the psychological grasping of the score and its logical ramifications for the game and the individual player (world 2).

Ray Percival is organiser of an annual conference on the philosophy of Karl Popper.

Getting your ACT together

BY RICHARD COOPER

What is happening in the human head to produce

learning, and in such circumstances a change in attitude will