Non-Reductive and Non-Eliminative Physicalism?

John Searle has argued that there is a simple solution to the age-old problem of the relationship between the mind and the body. It has been available to "any educated person" for about a century, ever "since serious work began on the brain." In one sentence: "Mental phenomena are caused by neurophysiological processes in the brain and are themselves features of the brain."[1]

Because mental phenomena have survival value, they "are as much a part of our biological natural history as digestion, mitosis, meiosis, or enzyme secretion." (p. 1) They are natural, and therefore in some important sense physical. Searle maintains that "Consciousness is a mental, and therefore physical, property of the brain.... The fact that a feature is mental does not imply that it is not physical; and the fact that a feature is physical does not imply that it is not mental." (pp. 14-15)

The mental and the physical are in the same `realm', that of nature. In some significant sense they are the same in kind. The traditional problems about how they interact, the curse of the older dualisms, are accordingly dissolved.

Searle's "rediscovery" of the mind involves three major stages:

I. FIRST STAGE: This consists of Searle's reasons for rejecting current versions of Materialism. They are well-known from his earlier writings, and are similar to arguments by others, such as Kripke and McGinn. So we shall not discuss them here. Suffice it to say that on Searle's view the mental aspect of the human self--made up of thoughts, feelings, beliefs, perceptions, etc.--really is a distinctive and irreducible facet of reality. It has its own intrinsic character and causal powers. Given this the only issues are how to position mental reality in the body and how to integrate it with the `physics' side of the body and its world.

II. SECOND STAGE: Searle locates the irreducible mental features of the self in or upon the brain. (Chapters 4 and 5) This is managed through a discussion of emergent properties and causality. In his concise statement:

"The brain causes certain `mental' phenomena, such as conscious mental states, and these conscious states are simply higher-level features of the brain. Consciousness is a higher-level or emergent property of the brain in the utterly harmless sense of `higher-level' or `emergent' in which solidity is a higher-level emergent property of H^2O molecules when they are in a lattice structure (ice), and liquidity is similarly a higher-level emergent property of H^2O molecules when they are, roughly speaking, rolling around on each other (water). Consciousness is a mental, and therefore physical, property of the brain in the sense in which liquidity is a property of a system of molecules." (pp. 14-15)

To clarify the role of causation, Searle invokes a distinction (p. 87) between two kinds of explanation of macro-events. He notes that many features of ordinary physical objects can be causally explained by the behavior of the smaller objects which make them up. The atomic or kinetic theory of matter standardly involves such explanations. Hence there will be different types or levels of explanation. Atomic or micro states may explain other micro states. Or they may explain the states of ordinary middle sized objects, or macro states. This latter Searle refers to as "bottom/up" explanation. Or macro states may explain other macro states, which he calls "left/right" explanation. Further, phenomena may have both a bottom/up and a left/right explanation. (It is worth noticing that in this discussion top/down or macro-micro causation is hardly noticed--an omission of some significance in view of how the mental features of the brain are supposed to influence behavior.)

An illustrative case Searle cites is a pot of water boiling on the stove. There are at least two responses possible in explaining why this water is boiling. A left/right explanation is that I put the pot on the stove

and turned on the flame. In this case an earlier macro event is used to explain a later macro event. But another explanation--bottom/up or micro-macro--would be that the water is boiling because the kinetic energy transmitted by the oxidization of hydrocarbons to the H^2O molecules that make up the water has caused them to move so rapidly that the internal pressure of the molecule movements equals and surpasses the external air pressure on the surface of the water, which external pressure is explained by the movements of the molecules that make up the air. Searle comments that "One of the chief lessons of atomic theory...is that many features of big things are explained by the behavior of little things." (pp. 87-88)

Accepting this chief lesson of atomic theory, what follows? How, in particular, do we get from the general point, "that many features of big things are explained by the behavior of little things," to Searle's particular claim that the physical micro states of the human brain cause, in the appropriate sense, its irreducibly mental properties, upon the reality of which he so strongly insists?

He provides us with no transition. He simply states that "we know for a fact that this occurs in human brains, and we have overwhelming evidence that it also occurs in the brains of many species of animals." (p. 89)

But surely there lies here a major issue. How, precisely, do we know that consciousness is `in' the brain? We do not experience it as being there, nor do others examining our brain--no matter how fine the level of their analysis. And the question becomes all the more urgent when Searle admits that we still "do not know the details of how brains cause consciousness." But is it only the "details" that are lacking? Two pages later he comments rather more strongly that "We are at present very far from having an adequate theory of the neurophysiology of consciousness." (p. 91) But is this quite strong enough? The very phrase, "the neurophysiology of consciousness" (emphasis added), seems wrong. Isn't it heavily question begging, or even an outright oxymoron?

Several dubious assumptions seem to hover over Searle's discussion. For example, that we know in general how brains cause consciousness, and are only lacking the details; that we have a theory of `the neurophysiology of consciousness', just not an adequate one; that it is only "at present" that we are very far from an adequate theory of `the neurophysiology of consciousness'. Such language surely is unwarrantedly hopeful.

If, on the other hand, this seems excessively skeptical, perhaps we should consider certain specific issues about the alleged parallel between a mass of H^2O and its states of solidity, liquidity and boiling, on the one hand, and the brain and its presumed mental properties or states on the other.

1. To begin with, it should be noted that we do have a pretty good story about what the atoms, molecules, etc., do to produce the solidity, liquidity, boiling of the H^2O. But in the case of the brain and its alleged emergent properties of consciousness, there is just no story at all. At best we have a rather crude set of brute correlations indirectly established. The kinetic theory of matter does not by itself provide such a story. And Searle has nothing whatsoever to say about how the micro states of the brain, being what they are, go about producing the alleged states of the brain which make up the conscious life of the individual, being what it is. This surely is because in all the astonishingly active field of brain research there is nothing available on this point. Quite naturally, then, Searle himself doesn't even try. What might mislead one is the fact that we are finding out more and more of what goes on in the brain, and of what is happening when certain mental events are occurring (or mental properties are being instanced).

2. Also, it makes a certain sense that the molecular states of H^2O, given what we take them to be, would, under specifiable conditions, produce solidity, liquidity, boiling, etc., given what they are. There is something about the molecular states that `fit them' for their macro-role. By contrast, there is nothing about the micro-processes of the brain which would "make sense" of the macro phenomena of consciousness that is alleged to `emerge' from them. There is nothing about brain cell activity that would naturally associate it with intentionality, moods, qualia or subjectivity as these are present on the mental side of our life.[2]

3. A striking lack of parallelism between the H^2O cases and the brain is the following: We have absolutely no theory independent knowledge that the brain has the properties Searle assigns to it, as we do that the water is boiling, solid or liquid. We do not, for example, perceive or sense mental features to be in our head, much less on or in our brain. And objective observers (physiologists, brain surgeons, etc.) do not find them there. They have to ask us, or otherwise infer, what experiences are occurring at the same time as the brain states they may observe or instigate in us.

The claim that it is the brain that `has' the properties of intentionality, qualia, etc. is driven only by theory, and cannot be confirmed independently of the theory. No doubt we "educated people" currently have a vague but powerful picture of where, alone, the mind could get onto the train of physiological events that supposedly govern the body from the brain. But that hardly amounts to evidence.

4. Finally, does solidity etc. relate back to the micro states of water as the alleged emergent properties of the brain surely must, on Searle's view, relate back to the micro states of the brain? He wants the mental states of the brain to govern behavior causally. Will they, on his naturalist view, do this by causing the molecular makeup of cells in the brain to go through certain processes? Macro/micro causation? My impression is that they must, and that this is one reason why he is so confident that the mental states are in the brain in the first place. But then we surely have another strong disanalogy between solidity, etc. and the micro-states of H^2O. [3]

So all told we have substantial reason to worry about the alleged parallel between admitted cases of emergent properties in physical theory and the case of the brain and its (supposed) mental states. We know a lot more about the brain than we used to, but it still is not clear what a "neurophysiology of consciousness" would even mean. Vast accumulations of physical facts about the brain and its body unfortunately do not change this.

III. THIRD STAGE: But suppose we grant that the mind has been successfully positioned `in' the brain. Does this actually dissolve the traditional problems of interaction and yield a solution to the mind-body problem?

Searle makes a great deal of the point that human beings are continuous with the rest of nature. Hence the biologically specific characteristics of human animals, including the `mental', are biological phenomena like any other. Only "the outmoded dualistic/ materialistic assumption that the `mental' character of consciousness makes it impossible for it to be a `physical' property" (p. 91) prevents us from treating consciousness as a `physical' property.

It seems that being a biological or life-relevant feature of the animal organism is precisely what it is for consciousness to be physical, on Searle's view. Consciousness does not need to "be naturalized," then, as so much contemporary writing would have it, for "it is already completely natural..., a natural biological phenomenon." (p. 93) The traditional mind/body problem "was based on the false belief that consciousness is not a part of the natural world." (p. 93)

But suppose all of this is granted. Would it dissolve the mind/body problem as Searle promises? I cannot see how. For it will still remain a puzzle as to how a (mental) state, not consisting of mass, motion, etc., can have and transmit energy to states that do consist of them, and conversely. And that, surely, is the essential problem for Dualism.

The mental features do work, on Searle's view. This means that they must embody energy. But it is, he holds, not an energy analyzable in the physicist's terms of mass, motion, etc., for then it surely would be reducible. How all of this is to make up a coherent physicalism/naturalism is very far from clear. True, the mental properties are no longer supposed to be properties of a mental substance. What older philosophers called "transient causality," with its special problems involving substances, has perhaps been replaced by "immanent causality."[4] But the

basic issues about two different kinds of energy and how they interact--even though "immanently," within the confines of one substance--remain.

What then does Searle's claim (pp. 14-15, 91, 100) that the mental is physical amount to? Nothing more than that mental states have an explanatory role in the understanding of human life. But of course that is something Descartes et. al. not only did not deny, but insisted upon.

Successfully avoiding Descartes' problems with interaction at least requires making out some main details of any admitted `mental' influence on the brain, and vice-versa. As we have seen, Searle does not accomplish this. But in the absence of such details one can--as Searle repeatedly does--only rest the case for the naturalness and physicalness of the mental upon the validity and supposed unity of something called "our scientific world view." And here lies the most puzzling part of the argument for Searle's non-reductive and non-eliminative physicalism.

For what, really, is "our scientific view of the world," as he calls it, which every informed person with her wits about her now believes to be true. He speaks of a view of the world which includes "all of our generally accepted theories about what sort of place the universe is and how it works." (p. 85) "It includes," he continues, "theories ranging from quantum mechanics and relativity theory to the plate tectonic theory of geology and the DNA theory of hereditary transmission," etc. We might imagine a very long conjunctive sentence--containing the specific theories he has in mind as conjuncts--that would, supposedly, express the world view in question.

But this will hardly do. Such specific scientific theories as just mentioned cannot provide an ontology: cannot--or at least do not--determine what it is to exist and cannot provide an exhaustive list of what ultimate sorts of things there are. Their existential claims are always restricted to specific types of entities as indicated in their basic concepts.

To suppose that a given scientific theory or conjunction of such theories provided an ontology would be a logical mistake, a misreading of what the theories say. Those theories, and the bodies of knowledge wherein they are situated, actually say nothing whatsoever about the universe or about how it--the whole `thing'--works. That is a merely semantical point about the meaning or logical content of the claims or sentences that make up the sciences. It is to be established or refuted by examining those claims and sentences. It turns out that they do not even mention the universe as the totality of all that exists.

Thus there is no "scientific world view," if we mean by that that there is a theory of reality as a whole that has the characteristics of a scientific theory, or that is contained within the sciences, i. e., included within the propositions that make up a scientific body of knowledge or some conjunction of such bodies--say physics, chemistry and biology. Nor is there if we mean that some view of reality as a whole is advanced by some science or a combination of sciences, or is necessitated, even heuristically, by some science or combination of sciences. That is why Searle's book, which claims to represent the alleged scientific world view, is not itself a scientific book and would not normally be used as a text in a science course.

No doubt the old, and as yet unresolved, problem of demarcation of the scientific from the unscientific comes into play here.[5] It is a distressing fact that the word "scientific" has no rigorous meaning in our intellectual culture. But on any clear meaning that could be given to it, the phrase "scientific world view" is certain to make little sense. In any case a "world view" is not a part of the knowledge content of any science or conjunction thereof, and is not a part of what you teach when you teach them.

Searle nevertheless says that "According to the atomic theory of matter, the universe consists entirely of extremely small physical phenomena that we find it convenient, though not entirely accurate, to call `particles'." (p. 86)

But could he possibly find the place in some comprehensive scientific text or treatment, or some technical paper, where it is demonstrated or assumed by the science that all that exists consists of `particles'? Would

he care to mention the name of the physicist who established this "obvious fact of physics"? Exactly where in the "atomic theory of matter" is the claim about what "the universe consists entirely of" to be found?

"After all," he says, "do we not know from the discoveries of science that there is really nothing in the universe but physical particles and fields of forces acting on physical particles?" But he does not point out when, where, how and by whom this "discovery of science" was made. Was it made?

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So Searle does not show that the mental is a feature of the brain, nor that, if it were, and played an evolutionary role as well, it would be physical in any sense that would make its causal position viz a viz the body something which could be integrated into physics as commonly understood.

NOTES

1. John R. Searle, The Rediscovery of the Mind, (Cambridge, MA: MIT Press, 1992), p. 1. Return to text.
2. So it isn't just that we as a matter of fact lack an account of how micro brain states produce or sustain mental states. These two kinds of states--in contrast to the micro and macro states of H^2O, for example, which exhibit a certain degree of qualitative homogeneity, with respect to space and motion--seem to offer no qualitative starting points which would make sense of the micro producing the (alleged) macro mental states. I do not mean this as an objection to the possibility of interaction between the mental and the physical in general, but only as a point of disanalogy between the accepted cases of emergent properties of physical objects and the case which Searle wants us to accept.

   This is an old point, found for example in the 1886 lectures by John Tyndall, on the limitations of Scientific Materialism. (See the lecture on "Scientific Materialism" in Volume II of his Fragments of Science.) Tyndall comments that "The chasm between the two classes of phenomena" is such that we might establish empirical association between them, but it "would still remain intellectually impassable. Let the consciousness of love, for example, be associated with a right-handed spiral motion of the molecules of the brain, and the consciousness of hate with a left-handed spiral motion. We should then know when we love that the motion is in one direction, and when we hate that the motion is in the other; but the `WHY' would remain as unanswerable as before.". Return to text.
3. Solidity does not have its effects upon and through the block of ice by bringing about changes in the molecular structure of the ice. Perhaps there are somewhere instances of physical macro states of physical objects that do causally govern the micro states of those objects. But solidity or liquidity, in any case, is of no use in explaining what is going on at the micro level of the mass of ice or water concerned, nor is further macro behavior of the ice or water explained by how the solidity or liquidity effects or works through its micro states. For them the causal structure looks much more classical Epiphenomenalism. But on Searle's view the emergent mental properties of the brain must explain its physical micro processes in crucial cases, and thereby the bodily macro behaviors, such as lifting an arm to vote, dependent upon those processes. Return to text.
4. On this distinction see, for example, the discussion in A. E. Taylor, Elements of Metaphysics, 6th edition, (London: Methuen & Co. LTD, 1921), pp. 183-197. Return to text.
5. See Karl Popper, The Logic of Scientific Discovery, (New York: Basic Books, 1959), pp. 34-39 and many subsequent discussions.