

## References

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**The Walls of Plato's Cave: The Science and Philosophy of Brain, Consciousness and Perception** by John Smythies. Avebury Press. 1994. \$63.95. ISBN 1-85628-882-X

This is certainly one of the four or five most arresting and compelling books written on the nature of consciousness, the mind/brain problem, and human personality. Whether one agrees or not with the author's main thesis (and this reviewer does), it is difficult to read this book and not have a profound respect for the author whose life of dedicated research in science and philosophy informs and advances the discussion at every turn. On all fronts, and by every conceivable standard, it is indeed a very impressive achievement. As such, the book is a clean refutation of eliminative materialism, strict (or neural) identity theory, functionalism and the fairly traditional understanding of Cartesian dualism which has it that minds exist as distinct from bodies but are not extended in space (141). It is also a sustained defense of a form of mind/body dualism in which minds and consciousness (ontologically distinct and irreducible to properties of brains) are extended in a higher-dimensional universe that causally interacts with brains (and vice versa). Smythies, dualism differs from Cartesian dualism, as it is usually understood, principally in that minds and consciousness are extended in space in something of a parallel universe, are quasi-material objects, are currently hidden from contemporary physics and will remain hidden until such time as a matured physics will be able to geometrize adequately objects existing in n-dimensional spaces and causally interacting with physical objects (brains) in our conventional three-dimensional universe. Sometimes Smythies suggests that, from our currently scientifically accessible universe, consciousness and minds are unextended (161), and in that sense hidden to contemporary physics; at other times, he suggests that they really are extended, like a hidden lobe of the brain, but hidden because in another dimension that is hidden to contemporary physics (6). Either way, it is a non-reductive dualism that lends itself to a materialistic world-view without adopt-

ing the usual and fashionable forms of materialism that typically gravitate toward eliminative materialism, reductive materialism, neural-identity theories, or functionalism... all of which Smythies subjects to a devastating and well-informed refutation. Dualism is usually scorned or derisively dismissed in contemporary scientific and philosophical circles because it is conceived of as asserting that minds and consciousness are more like nothing than they are like something; and this form of dualism is, rightly or wrongly, attributed to Descartes. For philosophers such as John Searle, for example, the only form of mind-body dualism is Cartesian as just described, it implies spiritualism, and goes counter to everything we know in science and neurophysiology (see Searle, *The Rediscovery of Mind* and my review of the book in this journal vol. 9:3, p. 420). It's a pity Searle did not read this book before pontificating on the death of dualism. Smythies offers his brand of dualism as a scientifically confirmable thesis that only awaits the advances in physics of the sort Penrose and Linde believe will come. Until such time it is a perfectly sensible hypothesis in the presence of the demonstrable failure of every other available form of materialism and dualism. This is heady stuff!

Methodologically, the book is dedicated to the principle that it is basically a scientific question, what consciousness is and what the mechanisms are by which it is produced or causally related to brains. Presumably this does not mean that the only legitimately answerable questions about the nature and function of consciousness are those that can be answered by the methods of the natural sciences as we currently understand them. Although Smythies suggests as much in the opening paragraph of the introduction, it is probably wiser to construe his claim as a claim that because consciousness is some form of an extended physical object, the proper domain to discuss it is in the domain of natural science — if, that is, we want to make progress in understanding it as a physical phenomenon, even if it is currently hidden to natural science in a spatial dimension not now accessible to contemporary physics. Smythies makes it clear that he does not propose in this book to go over the arguments why we should adopt a purely materialist and mechanistic position and use only testable scientific hypotheses. On his view, the Churchlands have already made these arguments, and history shows that only this method produces results (3). That proposed justification may be a bit excessive, incidentally, especially since his refutations of the fashionable forms of materialism and his reasoned rejection, for example, of Lycan's scornful attack on Cartesian dualism, are basically philosophical (144). At any rate, he then goes on to characterize the source of the problems affecting minds and perception:

The problems of mind and perception arise mainly because we have two quite different ways of gaining information, or scientific data, about reality. By introspection we gain information (A) about the phenomenal contents of our own consciousness. This is carried out by introspectionist psychologists such as Galton, Kluver, Vernon, Gregory, Ramachandran and myself. By exteroception we gain information (B) about events in the external world including brains. *The mind-brain problem is really a matter of how we*

*integrate the mass of scientific data and theories contained in A with the mass of scientific data and theories contained in B. The real problem of perception and of mind and consciousness —and by 'real' I mean one that can address the issues in a manner that leads to progress — is how do we relate introspection and exteroception?*

More on this later.

Consciousness, therefore, cannot be understood or fathomed without a clear understanding of the nature and function of the brain and the ways in which it affects what we regard as mental states and human behavior. Hence, the first six chapters (approximately the first 120 pages) are chock full of, and devoted to, relating and understanding the evidence about mental states and consciousness gleaned from introspective psychology, neuroscience, cognitive science, and the integration of all three sciences. It is a world of information full of wonderful insights on the latest and best research on the brain and on consciousness.

The seventh chapter is largely philosophical in that it reviews traditional mind-brain theories such as Behaviorism, Identity Theory, Eliminative Materialism, Functionalism, Cartesian Dualism, Bohr's theory of Mind-Brain Complementarity. What is interesting about this chapter is that it argues very convincingly that, regardless of what others have said and argued, there is not one shred of evidence that mental events or consciousness are identical with some state of the brain, or that they are biological states caused by the brain. It's a pity that Smythies did not have a chance to subject his penetrating analysis to John Searle's recent book, (review in this journal, vol. 9:3, p. 420).

Chapter Eight explores Smythies' own view, briefly described above, which, after a critical discussion of Cartesian dualism, he characterizes as "The Theory of Extension". In this chapter also we see well developed the views of mathematical physicists, Roger Penrose and Andre Linde, both of whom assert that contemporary physics is not complete and needs to be radically expanded to include consciousness, so as to provide a unified scientific theory of reality that includes consciousness. As Penrose and Linde both note, this revolution cannot come about until the concept and geometry of space is radically reconceptualized. Here, with the help of others, Smythies argues for an expanded physics in which consciousness and mental events are "ontologically distinct from, but causally related to brain events... These causal relations may be expressed in multidimensional (real space) tensor field theory — a simple development from the present tensor field theory used in neuroscience" (6). He goes on to say that the new theory — call it the 'Theory of Extension' — can be interpreted as suggesting that "the brain possesses an extra lobe — the 'Cryptic' lobe — hidden from exteroception by its location in hyperspace (relative to the space of the rest of the brain) but whose interior is freely observable in the form of the phenomena of consciousness portrayed by the TV-like representative mechanisms of perception on the walls of Plato's cave" (6).

Whereas Chapter Eight is on Theories of Space and Time and how

Smythies' views on dualism relate to that topic, Chapter Nine raises interesting hypotheses on how exactly to test The Theory of Extension. The closing chapter then outlines the advantages of The Theory of Extension, or Smythies' special form of dualism.

This is the sort of book about which one could talk all day. But space is limited here. As provocative and as rich as this book is (and I have not even begun to describe the contents and the subtlety of the argumentation), there are some interesting questions that it might be useful to probe just a bit more fully than the text seems to allow. First of all, if, as Smythies says in the ultimate theory he proposes along with Penrose and Linde, that mental events are "ontologically distinct from, but causally related to, brain events," it seems to capture the dualistic view offered and defended by the later Broad (see *Lectures In Psychical Research*) and others, including myself (see my *Death and Personal Survival*, Rowman and Littlefield, 1992, p.259ff) to the effect that mental events or minds are in some crucial sense distinct from brains but, insofar as they must have some causal interaction, probably share some properties in common with simple material objects in 3D space without being wholly material objects. Such a view is not by any means traditionally materialistic since it insists that minds and brains are ontologically distinct entities — minds being in crucial ways distinct from brains — however we suppose minds to have occurred or been caused. Moreover such a view is plausibly construed as a form of Cartesian dualism, but for the fact that most philosophers understand the latter to embrace the views that consciousness, mental events and minds have no extension. But if we grant the equally plausible view that all Descartes meant to assert was that there were two quite different substances here in 3D space, one not totally reducible to the other and that the mind was so constituted that in being so different from the body (or brain) was naturally not measurable in 3D space and hence not corruptible as such objects are, we might just as well read Smythies' proposal as a form of Cartesian dualism. Ultimately, of course, it makes little difference what label we put to it so long as we understand exactly what is implied by it. This is not to offer a problem with Smythies' proposal, but it is to offer a plausible way to read Descartes that makes Smythies' proposal look more like a very close relative of Cartesian dualism. I find it hard to believe that Descartes thought of material substance as more like nothing than something: in that case, his view would amount to the thesis that the non-extensional nature of minds means no more and no less than that this real stuff cannot be measured or accessed in 3D space. But perhaps that is taking too charitable a view of what Descartes was up to. A small historical point.

Secondly, there may be some confusion, even when all is said and done, about what Smythies means by consciousness. What, after all, does Smythies mean by saying that mental events are "ontologically distinct from but causally related to brain events?" Here again, this sounds like a form of Cartesian dualism in which mental events (however they are caused) are not simply biolog-

ical states (as that would make them ontologically of the same stuff as brain states) and do not reduce readily and simply to a form of matter (although they would surely have some properties that are material because otherwise the causal relationship they have with brain states would not be understandable in natural science). If Smythies does adopt this form of Dualism (call it non-traditional Cartesian dualism), it would raise a question of just what Smythies means when he says he is a materialist, as he does on page three. For those of us who find materialism objectionable, the term designates the view that mental events are no more and no less than brain states or biological states caused by brain states. On this view, consciousness and the whole of human personality disappears with the death of the brain. It may seem obvious to some that human consciousness, and, by implication, at least some part of a person's identity disappears with the death of consciousness. I take it, however, that that is just what Descartes was intent on denying. Is that what Smythies sees as implied by his proposal offered in the last chapter, should it prove to be confirmed in natural science? If so, then consciousness or mental events really are just part of an unseen lobe of the brain but no different in kind than any other lobe to be found there. That's classical materialism straight up and on the rocks. I suspect that Smythies' view is the sophisticated form of Cartesian Dualism not unlike C. D. Broad's later view and allows for the *post mortem* survival of human consciousness — and to the extent that one's consciousness is identifiable with one's personality, human personality.

But all this is just chatter. This is a wonderful book and I strongly recommend it to anybody interested in the nature of human personality and what is implied and promised by all the available views.

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**How the Leopard Changed its Spots** by Brian Goodwin. New York: Charles Scribner's, 1994. 252 pp. \$23 (c).

(Brian Goodwin is professor of biology at the Open University, England, and author of *Temporal Organization in Cells and Analytical Physiology*, and co-author with Gerry Webster of *Form and Transformation: Generative and Relational Principles in Biology*.)

The beginning of modern biology can be dated with some precision to 1859 and the publication of Darwin's *Origin of Species*. For 125 years, the mechanism of natural selection, Darwin's vision of life as a chance variation in the hereditary material of organisms and the preservation of better variants in "survival of the fittest", has served as the only explanatory thesis for life on earth — for its array of forms and behaviors, its origins and extinctions. To paraphrase Keats, "Darwin is truth, truth Darwin. That is all ye know on earth, and all ye need to know."