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Scientism: The New Orthodoxy

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Scientism: The New Orthodoxy, edited by Richard N. Williams and Daniel N. Robinson, London, Bloomsbury, 2015, viii + 200 pp., ISBN 9781472571106, £64.99, US$112.00 (hardback); ISBN 9781474287944, £24.99, US$39.95 (paperback)

Scientism is one of the more elusive participants in contemporary intellectual life. It is hard to pin down exactly and its card-carrying defenders are few and far between. Perhaps it's an overstatement to suggest that it is 'the new orthodoxy', but it certainly is an influential presence. It rears its head in popular science writing, in dismissive comments about the humanities, culture, or religion, and in far-reaching optimism about the potential of science to address humanity's greatest challenges (for examples, see de Ridder 2014).

The editors of the present collection, then, are to be commended for engaging scientism critically. They show how philosophy is highly relevant to contemporary culture. If you believe, as I do, that the influence of scientism is pernicious, then it is important to get clearer on what it is, where and how it exerts its influence inside and outside the academy, and what its problems are. The volume contains contributions on all these issues, and more. As far as I know, it is the first of its kind, although I'm aware of two more currently in preparation: Boudry and Pigliucci (forthcoming) and de Ridder, Peels, and van Woudenberg (forthcoming).

The volume consists of eight essays, preceded by an introduction by Richard N. Williams. Daniel N. Robinson criticises scientism for ignoring the inevitable role of human intentionality and interpretation in science and scientific explanation. Lawrence M. Principe delves into the history of one of scientism's cherished myths—that of a deep and long-standing conflict between science and religion—and shows that this conflict is mostly a late-nineteenth-century invention that served ideological purposes. Bas C. van Fraassen compares the naturalistic with the empiricist stance and ends up recommending the latter. Peter M. S. Hacker looks at neuroscience as an area where scientism is rampant, arguing that parts of the field are riddled with conceptual confusions and misguided experimental work. Richard Swinburne mounts an intriguing argument against physical determinism from epistemic principles that must be presupposed in scientific practice. Roger Scruton holds a passionate plea for the kind of understanding the humanities, properly conceived, can provide and insists that such understanding is beyond the reach of scientific methods. Kenneth F. Schaffner provides an overview of recent work in the field of neuroethics. Finally, James K. A. Smith draws attention to accounts of science in which science is portrayed as a cultural institution that depends significantly on interpretation, social construction, and implicit practical know-how, thus throwing cold water on the idea that science is exclusively in the business of unearthing bare objective truths.

I will focus my remarks on four essays that address scientism and its problems most directly. In his introduction, Williams urges that we should not confuse science with scientism. Scientism adds (controversial) epistemological and ontological claims to science. All forms of scientism, says Williams, are committed to at least the following four things: (1) only scientific knowledge is real knowledge, (2) hence the methods of the natural sciences are universally applicable, (3) we can trust science to solve humanity's problems, and (4) naturalism or materialism is true. While (1) and (2) indeed strike me as core tenets of scientism, I do not see why adherents of scientism need to be very optimistic about science's problem-solving potential. From (1) and (2), it follows only that we ought to look to science to solve problems, but nothing guarantees that solutions will be forthcoming. As to (4), I think it would have been useful to distinguish between epistemological and ontological forms of scientism. The former would make only a claim about science as an exclusive source of knowledge and let

the chips fall where they may on the metaphysics, while the latter would hold that only those things exist that science acknowledges. I found Williams's further suggestions that scientism is wedded to various speculative Enlightenment ideas far less compelling and sometimes even confusing. For instance, the claim that 'scientism entails acceptance of a particular, quite literal reading of… "Cartesian dualism"' (11) seems downright false. Just like physicalists and naturalists, adherents of scientism reject any form of mind–body dualism.

Both Robinson and Scruton make a forceful case for the inevitability of intentional explanation, interpretation, and judgement in understanding individual and collective human behaviour. Robinson's argument hinges on *explanation*. There are hosts of meaningful explanatory questions about individual and collective human behaviour. The best answers to these questions refer to human strivings, meaning, reasons, and other aspects of human mental life, and not law-like generalisations or information about brain states, molecules, or atoms. Scruton mounts a defence of the traditional role of the humanities as dealing with matters of culture, meaning, normativity, and learned judgement. It is of the essence of human beings that they have a conscious, subjective, first-person perspective on themselves and the world around them. From this perspective, the world of the 'spirit' arises. The crucial problem for scientism is that, while the first-person perspective is in principle inaccessible to the third-person methods of science, it cannot be ignored if we are to make sense of who we are. Thus, scientism becomes a procrustean bed when it seeks to tackle questions in the domain of the humanities: 'The science precedes the question, and is used to redefine it as a question that the science can solve' (137). Neuroscientific approaches to art and memetics are telling examples of misguided scientistic approaches. Robinson's and Scruton's arguments should certainly appeal to the unprejudiced and fair-minded reader. They might not speak to the scientistically inclined, because they seem to foreclose any possibilities for constructive interaction between the sciences and humanities. Although it is difficult to say in advance what such interactions would look like, it seems to me that there are good examples in, e.g., moral psychology and the philosophy of emotions.

Hacker helpfully summarises some insights from his earlier joint work with Max Bennett on the history and philosophy of neuroscience. Neuroscientists—and neuroscientistically minded philosophers—are prone to saying things like 'The brain decides' or 'Memory is stored at synaptic connections'. This is confused: *people* make decisions, not any of their parts. Memory is knowledge retained, and to know something is to have a complex set of abilities that cannot meaningfully be said to be stored at synapses. Such conceptual confusions are rampant in neuroscience and its popularising depictions. Naturally, they give rise to numerous mistaken claims and misguided experiments. I could not agree more with Hacker that neuroscience needs to pay far more attention to conceptual clarity. But I also found myself with a lingering suspicion. Suppose all of this were taken care of. Would all apparent threats from neuroscience to our freedom, selfhood, and rationality *ipso facto* have dissolved? I fear not. So there will be argumentative work left even when we've taken Hacker's lessons to heart.

I have three more critical observations about the volume as a whole. First, since scientism is so hard to pin down, more could have been done to get clearer on what forms it takes, so as to scrutinise it at a finer-grained level of analysis. Second, I wish the editors had been more successful in making all of their contributors interact with scientism directly. In spite of their other merits, the chapters by van Fraassen, Swinburne, and Schaffner do not even *mention* it. Some of the material in them may well be relevant to an assessment of scientism, but readers are left to work out the connections themselves. Third, an unfortunate oversight on the part of the editors (and contributors) is the absence of references to extant literature on scientism. Scientism may be somewhat elusive, but it's not as if no philosophers have written on it. In particular, we find sustained discussions of scientism—sometimes even reflected in book or chapter titles

—in the works of Mary Midgley, Tom Sorrell, Susan Haack, Mikael Stenmark, John Dupré, and, more recently, Alexander Rosenberg and Don Ross, James Ladyman, and David Spurrett. Yet none of them is discussed in the present volume.

I don't want to end on a critical note, however. *Scientism: The New Orthodoxy* is a rich and rewarding collection of essays from a wide range of perspectives. I can easily envision parts of it being taught—perhaps alongside more fundamental work in philosophy of science and epistemology—in upper-level undergraduate or graduate seminars that want to engage contemporary intellectual life and the relations between science and philosophy. I hope it finds a wide readership among philosophers and other humanities scholars, as well as among scientists and the broader public.

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Philosophy and the Precautionary Principle: Science, Evidence, and Environmental Policy, by Daniel Steel, Cambridge, Cambridge University Press, 2015, xvi + 256 pp., ISBN 9781107078161, £64.99, US$99.99 (hardback)

Some principles in environmental policy are more straightforward than others. The precautionary principle (PP), undoubtedly very relevant where science, uncertainty, and values meet environmental policy, is one of those that suffer from controversies from all quarters: on how it is defined, on what is or isn't included in the definition, on when and how it is applied or not applied, and even if it should be applied. In fact, investigating the PP unveils unexpected complexity when one tries to underpin all its possible definitions, elements, interpretations, implementations, uses and abuses, and not least its implications. Furthermore it involves not only several disciplines but also their interfaces, namely science, policy, economy, law, politics, and not least philosophy. This book helps to clarify the discussion with its rather comprehensive analysis of many of the themes relevant to a better understanding of the PP. Philosophy certainly has an important role in contributing to diminish PP's apparent fuzziness by discussing it thoroughly with sound arguments. This