

BOOKS & ARTS

Reason to fight back

A stout defence of the evidence-based approach from attacks on all sides.

The March of Unreason: Science, Democracy, and the New Fundamentalism

by Dick Taverne

Oxford University Press: 2005. 320 pp.

£18.99, \$29.95

John Durant

The barbarians are at the gate — and what a motley crew they are! Alongside religious fundamentalists of all sorts there are purveyors of alternative medicines, organic farmers, eco-warriors and even a few postmodernist philosophers and sociologists, who have had the temerity to call for wider public consultation over science and technology policy. What unites all of these apparently disparate people, according to Dick Taverne, is their disregard, or even disdain, for the “evidence-based approach” of science, and their wish to elevate “unreason” (in the form of various kinds of dogma, mysticism or personal prejudice) above reason in the conduct of human affairs.

The March of Unreason is a bracing affirmation of Enlightenment values against any and all nay-sayers. In a semi-autobiographical prologue, Taverne recounts his early conversion to the cause of environmentalism in the 1960s, and his subsequent disillusionment as reasonable and pragmatic concerns for the welfare of the environment steadily lost out to more extreme and ideologically driven forms of ‘eco-fundamentalism’. Green warriors, he tells us, have fostered public suspicion about science and mistrust of experts, to the point where scientists have come to blame themselves for public ignorance of, or misgivings about, their work. All this, Taverne argues, constitutes a direct threat to both science and democracy, because “the scientific method and democracy are natural allies and unreason is their common enemy”.

There is much to agree with and even to admire in Taverne’s wide-ranging and trenchant observations. Certainly, contemporary society is now less straightforwardly optimistic about, and deferential towards, science and technology than it was in the past. But for all the apparently more questioning and critical attitudes, our culture also indulges a surprising amount of pure hokum. For example, pharmaceutical companies are required to spend millions of dollars testing new drugs, but practitioners of alternative medicine are free to purvey all manner of herbs, potions and other



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The needs of the developing world may be trampled under foot by protesters against transgenic crops.

nostrums (including pure water!) that have never been properly tested.

Before happily concluding that alternative treatments generally make great placebos and may thus potentially benefit many patients, we would do well to recall Taverne’s warnings: choosing ineffective alternative therapies over effective conventional ones can be dangerous; and further, many alternative therapies are worse than ineffective as they have various (often poorly characterized) clinical effects that can cause direct harm to those who take them. There should not be one rule for conventional medicine and another for alternative medicine; all candidate treatments should be tested as rigorously as possible for safety and effectiveness.

Similar comments can be made about much that Taverne has to say about food and farming. In recent years, conventional farming has come in for growing criticism, and the flood of (generally unsubstantiated) claims for the virtues of organic farming has risen to a virtual torrent. A key ingredient in the considerable success of the organic-food lobby has been the vilification of genetically modified (GM) food. It is true that early applications of GM technology in Western Europe and North America offered few serious benefits to consumers (who in any case enjoy an abundance of food and food choices in the supermarket), but the emergence of what Taverne would call fundamentalist opposition to GM technology

in agriculture could do serious harm to the prospects of many people in the developing world.

In the late 1990s I chaired a series of public debates about GM food across Britain. I watched as public opinion turned inexorably away from GM food and towards organic farming. The only time I saw an audience pause and begin to move the other way was when an academic plant scientist described his public-domain research using GM technology to create new root-worm-resistant varieties of staple crops that might constitute a lifeline for marginal farming communities in the Caribbean. Relatively rich environmentalists in the developed world will have a great deal on their consciences if their lobbying efforts against GM food impede or prevent vitally important biotechnological research that might otherwise have provided real help to farmers in poorer parts of the world.

In these and other ways, then, *The March of Unreason* is to be applauded. Nevertheless, the book has some real weaknesses. In the main, these come from trying to squeeze too many different issues into the strait jacket of “reason versus unreason”. It is one thing, perhaps, to criticize various kinds of religious fundamentalism as enemies of the “evidence-based approach”. But when religious fundamentalists are lumped together with radical environmentalists, animal-rights activists, homeopathic medical practitioners, organic

farmers, anti-globalization campaigners and various kinds of academic philosopher and sociologist, one wonders whether the epithet "unreason" has lost its critical edge. What do all these different groups really have in common? Are they on the same side, intellectually or practically speaking? And if so, what side is it?

The problem is at its most severe where Taverner deals with intellectual criticism of various types of scientific and science-policy practice. Noting the call for "more democratic science", he concedes that the public and its representatives have an important role to play in the development of science. But (in an argumentative style that is repeated throughout the book), having conceded this important point, he immediately undermines it by blaming those who are working to make science more responsive to public interests and concerns for having "driven scientists onto the defensive". This charge immediately reduces what is an important area of constructive debate, about the way that science policy should be conducted in advanced democracies, to an

'us versus them' or (even worse) a 'reason versus unreason' stand-off.

Those of us who seriously advocate closer public engagement in science and science policy-making are not motivated by anti-scientific or antirational sentiments. Rather, we recognize that making decisions about how to conduct and apply science and technology in advanced industrial societies is a complex and difficult business. Experts of various sorts have essential roles to play, and so too do democratic representatives. But it is increasingly becoming clear that the establishment of sustainable policies in socially sensitive areas of science and technology is facilitated by the engagement of others in the process — such as special-interest groups, stakeholder groups and citizens' groups.

Frankly, tarring efforts to achieve wider engagement in science and technology policy-making with the broad brush of 'antiscience' or 'unreason' is simply not helpful. ■

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tions of Çatalhöyük and its remarkable finds, but does not answer them. He explains the significance of Çatalhöyük as the earliest known site with domesticated cattle (a conclusion contradicted by recent zooarchaeological analyses). Although Çatalhöyük was an unusually dense settlement with bull's horns embedded in some walls, and some female figurines, no credible hypothesis is ever offered for the meaning of these odd features. In fact, the reader never learns much about the life of those who lived there, despite the astonishing number of human skeletons buried under the floors of houses. All this extraordinary evidence begs for an explanation.

There are also myriad questions about Mellaart. In the bizarre 'Dorak affair', Mellaart was purportedly shown a treasure trove of looted artefacts from northern Turkey by a mysterious woman who subsequently disappeared. Only Mellaart's drawings and descriptions of the artefacts remained. An inquiry conducted by the British Institute at Ankara exonerated Mellaart from any involvement in looting, but even so, Mellaart's excavation was shut down in 1965.

In 1989, Mellaart, together with carpet specialists Belkis Balpinar and Udo Hirsch, published *The Goddess from Anatolia* (Eskenazi), which included stunning reconstructions of 44 wall paintings from Çatalhöyük. Why had there been no word of such glorious art before? Blatant discrepancies between the book's claims and Mellaart's earlier pronouncements cast doubt on the paintings' very existence. Early reports described only red and black paint, not the striking blue in the new reconstructions. Rooms identified in the book as having magnificent wall paintings had been earlier declared by Mellaart to have no paintings. No excavator remembered seeing the fragments upon which Mellaart's reconstructions were based. All corroborative evidence had been destroyed by fire in 1967, Mellaart told Balter. As Carl Lamberg-Karlovsky remarked: "Bluntly put, there is no objective reason to believe that these 'new' wall paintings exist." Further, Mellaart proposed that

At the trowel's edge

The Goddess and the Bull: Çatalhöyük: An Archaeological Journey to the Dawn of Civilization

by Michael Balter

Free Press: 2005. 416 pp. \$27, £18.99

Pat Shipman

This book is about neither a goddess nor a bull, unless Michael Balter is using a metaphor too subtle for me to appreciate. Indeed, *The Goddess and the Bull* is not really about the archaeological site of Çatalhöyük either. After much thought, I believe this is actually a post-processual book about archaeology.

Post-processualism is a concept developed by Ian Hodder, a Cambridge-trained archaeologist who now works at Çatalhöyük in Turkey. In its early formulation, Hodder suggested that the best way to approach archaeology is "characterized by debate and uncertainty about fundamental issues that may have been rarely questioned before". He added that archaeologists "move backwards and forwards between theory and data, trying to fit or accommodate one to the other in a clear and rigorous fashion, on the one hand being sensitive to the particularity of the data and on the other hand being critical about assumptions and theories." Post-processual archaeology is a dialogue, not a diatribe.

So too is this book, which provides a great deal of information: about archaeological theory, methodology and traditional interpretations of Çatalhöyük, one of the famous (or infamous) sites that inspired the concept of the Neolithic revolution. There have been decades of excavation by the original site director,

James Mellaart, and by more than 100 specialists under Hodder's modern (or post-modern) direction. The most recent excavation, which began in 1993, is Hodder's brave attempt to integrate his theoretical stance with field practice. The new methodology includes ongoing and constantly changing "interpretation at the trowel's edge", with computer diaries written by the excavators, video recording of discussions about interpretation and methodology carried out in the trenches, and constant interactions among scientists, locals, politicians, goddess-worshippers, carpet scholars and other groups who claim some 'ownership' of Çatalhöyük's past. It is fair to say that Hodder's task has been difficult and complex.

Balter raises many compelling questions about the differing and changing interpreta-



The horns of a dilemma: what is the meaning of this painting of a red bull found at Çatalhöyük?

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