

A Devil's Chaplain. Selected Essays by Richard Dawkins. London Weidenfield and Nicholson 2003.264

The recent collapse of Pan pharmaceuticals provoked immediate reactions from the alternative medicine industry. A parade of spin doctors and quacks beat their breasts about potential damage to a billion dollar *Australian* industry if customers lost confidence in efficacy of the products. Rapacious self interest and exploitation of the gullible, masquerading as a patriotism, is standard practice in Australian business and also plays an essential role in sustaining many hours of prime time current affairs television. (Hours later, at three in the morning the insomniac, whose herbal remedy did not work, encounters the same A Current Affair "story" about naturopathic remedies in an infomercial, sandwiched between the abdominisers and the religious fruitcakes). The public relations emergency was even more serious than usual in this case because the alternative medicine industry is sustained by a combination of desperation, misinformation, irrationality and placebo effects. Hence the rush to reassure the gullible that manufacturing standards are actually *very strict*, so that improper dosage of the active ingredients is a rarity. Of course what the industry lacks is an assurance that those strictly regulated ingredients actually *work*. As Richard Dawkins points, out such an assurance would be the death knell for the industry. Since if they could be shown to work in double blind random controlled trials they would no longer be alternative. Conventional medicine would simply adopt them as part of a normal therapeutic regime. That is why the involvement of science in alternative medicine stops at dressups. Plastic hair nets, computer screens and lab coats stand in for evidence and analysis.

The alternative medicine industry is just one of the subjects explored in this collection of essays by Richard Dawkins. He is a

distinguished biologist and evolutionary theorist whose popular exposition of his subject is unparalleled, not least for being correct and not avoiding the difficult and technical issues. His uninflected prose in *The Selfish Gene* and *The Extended Phenotype* is a perfect example of the elegant and economical explanation of difficult and important ideas. Compare the shockingly bloated last will and testament of Stephen Jay Gould, Dawkins' American equivalent, or even Daniel Dennett's *Darwin's Dangerous Idea* which, while not in the same class for flatulence, does meander a little.

However this book is journalism, a task which the occupant of an Oxford chair created specifically to promote the understanding of science cannot avoid. Dawkins thus has to extend his gifts to the short opinion piece, book review, biographical sketch or contretemps. He is very good at skewering opponents and displaying the absurdities of, say, fundamentalism or varieties of postmodernism. (Both in their own strange way suffering from a deliberate refusal to evaluate a text against events and processes in the actual world). And he also manages to convey his wonder at the complexity and beauty of the natural world. But will he make science more popular, as opposed to making it more accessible to those who already have an interest?

I suspect not because the book is in essence a demonstration of the virtues of rational thought, and most people react to rational thought as a vampire to the cross. This is especially so in debates where it is needed most: cloning, abortion, global warming, the environment, economic policy. These debates are almost always treated by protagonists as ideological battles between, say, economic rationalism and socialism, or science and religion, technology and the environment, economic development and respect for culture, the West v the rest etc etc.

Dawkins can't bear this type of ideological bullshit, whether or not the bullshitter is a fellow scientist, creationist, politician or

moralist. One can see this in his arguments with Stephen Jay Gould, who differs with Dawkins over important aspects of evolutionary theory. Gould thinks that species, not individuals are selected, by evolution, that evolution is not incremental, and that it has no role to play in psychological explanation. Dawkins patiently exposes the fallacies on which these views depend but his courtesy runs out when he calls the Gould's views on the Burgess shale a "sorry mess". Stephen Pinker was even more severe to Gould in his recent *The Blank Slate* correctly linking Gould's hostility to evolutionary psychology to his residual Marxism, which only shows that even scientists are not immune to ideology when the ideology is important enough to them.

These selective failures of reasoning by scientists ought to engage Dawkins more. His mission is to increase scientific understanding, which is as he says, not a body of beliefs or mastery of a set of facts but a way of gathering, confirming and refuting evidence using the procedures of rational inquiry. Nowadays we use computer models and MRI scanners but the project is the same as Galileo's. Yet despite its explanatory success the proportion of people, including scientists, who refuse to apply basic standards of empirical inquiry to their own beliefs is as small as ever. In fact there is a depressing phenomenon, the Templeton prize which

"honors and encourages the many entrepreneurs trying various ways for discoveries and breakthroughs to expand human perceptions of divinity and to help in the acceleration of divine creativity. Their various methods, particularly through scientific research, serve to supplement the wonderful ancient scriptures and traditions of all the world's religions..."

The only surprise here is that L Ron Hubbard hasn't been "honored" along with Freeman Dyson Paul Davies and the rest of the "eminent" scientists. The combination of entrepreneurship and extraterrestriality is just his speciality.

In fact every recipient of the prize is "honored" for a confused and confusing version of the argument from design. i.e. the universe looks as though it was designed, so it was. Hume solved this one

in the 18th century “I would fain know why it does not make as good a sense to say that things fall into order of themselves and their own nature”. Especially since we now know a lot more about the nature of things and the ways they fall into order. Cleaning out this intellectual Augean stable is beyond even Dawkins although he might be tempted by the fact that this year’s winner is described as a “distinguished evolutionary scientist”.

In the meantime Dawkins polemical abilities are better employed in tasks like the chapters of this book in which he explains why genes are best thought of as encoding information in a computational sense. As he says, they function as a recipe not a blueprint for the development of an organism, which means that accusations of genetic determinism or atomism (a gene or gene complex for every phenotypical trait) miss their mark. You can’t pick out the bit of the chocolate cake which is the result of the instruction to add sugar and you can’t isolate bits of organisms and trace them back to a genetic instruction to build this or that bit. Yet almost every popular discussion of the human genome project starts with the misleading assertion that the blueprint for the human organism has been discovered. No wonder Dawkins says science journalism is too important to be left to journalists. Some of his this indignation should be directed at the scientists who provide the press releases the journalists faithfully transcribe.

Dawkins main passion, apart from indignant rage at the spread of unreason, is for education. With the theory of evolution all of biology falls into place. Genetics, paleontology, embryology and zoology all combine in an elegant synthesis. To understand that synthesis we have to understand that the appearance of design in nature results from the interaction with their environments of simple molecular replicating devices over geological time scales. (Think, to win the Templeton prize all Dawkins would need to do is to put a not in front of this sentence!) He says it is a shame that evolution is not taught as a subject at school or university for

without it people get only a sample of relevant facts from within some other discipline rather than the intellectual satisfaction of a rational unifying explanation.

But is that what his opponents are looking for? Probably not, but as he says at one point “The real world, properly understood in the scientific way, is beautiful and unfailingly interesting. Its worth putting in some proper effort to understand it properly, undistracted by false wonder and pseudoscience.”