

2008

THE JAMES BACKHOUSE LECTURE

Faith hope & doubt in times of uncertainty

Combining the realms of scientific and spiritual inquiry

George Ellis

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About the author

George Ellis is Professor emeritus of Applied Mathematics, University of Cape Town, south Africa, and previous Head of the Department of Applied Mathematics. His professional research work includes relativity theory and cosmology, complexity studies, the functioning of the brain and science policy. His academic positions have included being a university lecturer at Cambridge University and visiting professor at the University of Texas, University of Chicago, University of Hamburg, Boston University, University of Alberta, University of london (Queen Mary) and International School of Advanced Studies (sissA), Trieste. He is a past president of the international society of relativity and Gravitation and of the Royal Society of South Africa, and is a Fellow of the Third World Academy of Science and of the Royal Society (london). He has been awarded the Star of South Africa Medal by President Nelson Mandela, the order of Mapungubwe by President Thabo Mbeki, and the Templeton Prize (2004). His books include *The large scale structure of space time* with Stephen Hawking and *On the moral nature of the universe* with Nancey Murphy. He joined the Religious Society of Friends in 1974, and has been Chairman of Quaker Service, Western Cape, and of the Quaker Peace Centre Board. He has been Clerk of the Cape Western Monthly Meeting (CWMM) and of southern African Yearly Meeting (1986-8). His web page is at:

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Abstract

The rise of science over the past 300 years has led to an increasing series of attacks on religious faith, renewed with vigour in recent times, in particular by Richard Dawkins, Peter Atkins, Daniel Dennett and Viktor Stenger. Doubt about faith and religion has been strengthened by such attacks, so what are the intellectual resources and sources of spirituality that can sustain us in these times of uncertainty?

First we need to consider the nature and limits of science: what we learn from it, and what we cannot learn from it. Science discovers the physical context of life and the nature of physical causality. Reductionists tell us this is the only kind of causality there is (using the phrase ‘nothing but’ to emphasise their viewpoint), but this is wrong: there are other forms of causality in action in the world, in particular, whole-part causation and human intentionality. Non-reductionist views of science will take them into account, thus freeing us from the straightjacket of strong reductionist worldviews. The desire to free us from irrationality leads to the myth of pure rationality, suggesting pure reason alone is the best basis for a worthwhile life. But this is a completely inadequate understanding of causation on which to base a full life. rationality, faith, hope and doubt as well as imagination, emotions and values are all important in a full understanding of human choices and decisions. They all interact with each other and are causally important in the real world. The key one is values, related to aesthetics and meaning (*telos*): this is what ultimately guides our choices and actions, and so shapes both individual lives and society.

Many important human endeavours and understandings of necessity remain outside the domain of science; these include the key issues of ethics, aesthetics, metaphysics, and meaning. I will discuss each of these briefly, and how they transcend scientific views. The source of values is a key point, and the various scientific proposals in this regard are all partial and inadequate. I propose there is a moral reality as well as a physical reality and a mathematical reality underlying the world and the universe, and that human moral life is a search to understand and implement that true nature

of morality. I suggest the nature of that moral reality is centred in love, with the idea of *kenosis* ('letting go') playing a key role in the human, moral, and spiritual spheres because of its transformational qualities. This is only one of many intimations of transcendence available to us: these entail qualities in which much more than is necessary is present in the real world in which we live, an abundance leading to wonder and reverence as we realise and appreciate them. An integral view of existence takes these qualities into account. I suggest that true spirituality lies in seeing the integral whole, which includes science and all it discovers, but also includes deep views of ethics, aesthetics, and meaning, seeing them as based in and expressing the power of love. Science can be powerful in the service of this integral view, but must not attempt to supplant it.

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1 The attacks on faith

The rise of science over the past 300 years has led to an increasing series of attacks on religious faith, seen by some as a defence of rationality, against superstition and irrationality. This has been renewed with vigour in recent times, in particular by Richard Dawkins¹, Daniel Dennett², and Viktor Stenger³. The swelling of atheist literature is a reaction to a worldwide rise in fundamentalist religion. Doubt about faith and religion has been strengthened by such attacks. What are the intellectual resources and sources of spirituality that can sustain those of faith in these times of uncertainty?

One view⁴ is that science has its proper place in dealing with mechanisms—how things work—while religion has its proper place in dealing with completely different issues: meaning, ethics, and metaphysics. Hence there is no possibility of conflict between them, as they deal with quite separate domains. However, this does not seem right: there are at least some places where there are indeed potential or actual conflicts between them. The Dawkins-Dennett-Stenger school claims they do indeed deal with overlapping issues, and there are irreconcilable differences between them when they do so, with science winning all the time. Others⁵ have claimed that consonance between science and religion is possible; indeed, they fit together in a complementary way to give an overall view of all reality, with basic agreement in the areas where there are overlaps. This is my view, which I will support in what follows. As I will point out, this means that some of the strong claims of reductionist science (reducing humanity to nothing but a conglomeration of particles and forces) must be wrong; science and rationality are not the answer to all our needs, as some claim.⁶ Faith and hope, religious understanding, and spirituality are important aspects of a full humanity.

2 Issues of conflict

Some issues have been problematic for centuries, and remain so. some used to be areas of conflict, but are no longer so, others are the site of active conflict, with much debate taking place at present. in this section i will briefly outline what i see as the main issues of each kind. This sets the scene for the later discussion.

2.1 Miracles and prayer

A very longstanding question is how miracles and prayer relate to the regularities of nature. The current science and religion debate adds nothing new to this old theme, and i will not comment on it further. (A lot of the debate hinges on how one regards biblical reports of what happened in the past—an issue in literary understanding rather than the nature of science.)

2.2 A start to the universe?

In the past, one conflict concerned the origins of the universe. There is no reason to question that the universe expanded from a hot Big Bang era at early times. During this expansion from a temperature of about 10^{12} degrees—1 followed by 12 zeros—to the present day, a sequence of physical processes took place that are well understood: nuclear synthesis, the decoupling of matter and radiation, the formation of early stars and galaxies, supernova explosions at the end of the lives of first generation stars, second generation stars, planets and other things, which are pretty much understood.⁷ But what is not so clear is what happened before this hot Big Bang epoch. Did the universe have a beginning, or has it lasted for ever? This is still uncertain. it will not be clear till we fully understand quantum gravity—if we ever do. We are certainly not yet there.

It was taken by some that if you could prove the universe had a beginning, this would vindicate biblical claims and so would be good for religion. on the other hand, if you could prove that the universe did not have a beginning, this would be bad for religion—as with Fred Hoyle's theory of

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