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## SCIENCE AND RELIGION

### Scientist Seeks to Link Science to Breadth of Human Experience

The origin of the universe, the firebombing of Dresden, and a mother's love were all featured in a rainy March night's discussion of "Physics, Metaphysics, and Meaning," the latest installment in the public lecture series presented by AAAS's Program of Dialogue on Science, Ethics, and Religion (DoSER). The talk, delivered by keynote speaker George Ellis of the University of Cape Town, South Africa, outlined a sweeping world view that joins current scientific paradigms with ethics and the search for meaning in human life.

Ellis, a Professor of Applied Mathematics, has written over 200 technical papers in the area of cosmology, and is a colleague of well-known cosmologist Stephen Hawking, with whom he co-authored the book *The Large Scale Structure of Space-Time*. Not content to focus his efforts solely in science, however, Ellis is also active in developmental and peace projects in South Africa, and was awarded the Star of South Africa medal in 1999 by President Nelson Mandela.

In his talk, Ellis discussed the hierarchy of reality experienced by humans, from the world of matter and forces probed by elementary physics and chemistry, to the world of ideas and feelings that were behind events such as World War II. The next steps in the hierarchy include the world of Aristotelian possibilities and the Platonic world of mathematical equations.

A fifth and final world in this series would contain metaphysical and ethical realities—such as the initial conditions at the start of the universe and the nature of beauty—that are above scientific investigation but are linked together by theology, suggested Ellis.

Although science can't provide justifications for morality and ethics, he cautioned that these values are necessary for applied science. "A purely technological view does horrendous things in practice," said Ellis, citing instances such as the development of napalm, computer viruses, and biological weapons.

A. Karim Ahmed, Director of the International Program at the National Council for Science and the Environment and President of the Global Children's Health and Environment Fund, responded to Ellis' remarks. Ahmed and Ellis both concluded that the ultimate basis of morality should be a "transforming" doctrine of love and self-sacrifice, beginning with a mother's devotion to her children and culminating in the approach towards social justice practiced by individuals like Gandhi and Martin Luther King, Jr..

A second DoSER lecture in this series, "Evolution and the Quest for Purpose," was held 26 April. Future lecture topics include robotics and artificial intelligence and the human genome project.

The AAAS Directorate for Science and Policy Programs initiated the DoSER program, originally the Program of Dialogue Between Science and Religion, in 1995. For more information, e-mail [DoSER@aaas.org](mailto:DoSER@aaas.org), visit the Web site at [www.aaas.org/spp/dbsr](http://www.aaas.org/spp/dbsr), or call Program Director Audrey Chapman at 202-326-6795. —Becky Ham