

The Science and Ethics of Global Warming

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The controversies of global warming are ostensibly about divergent interpretations of uncertain scientific results but, at the heart of the matter are subjective differences concerning ethical issues. So intense are the emotions those issues generate that objective discussions are difficult. I therefore approach the matter obliquely, by first discussing another problem, an innocent hoax at the equator, which is similar to global warming in having both scientific and ethical aspects, but which permits dispassionate analyses.

The hoax is perpetrated several times a day at the equator near Nairobi where wealthy tourists on safari watch a young African demonstrate the bemusing Coriolis force by means of water that spirals out of a plastic bowl, clockwise in one hemisphere, in the opposite sense in the other hemisphere. The tourists regard the demonstration as a scientific experiment and find it so edifying that they give the African modest tips. However, the scientists who hear of the demonstrations are outraged. On the World Wide Web they explain why the demonstrations are fraudulent, and hence should be stopped. This demand presents us with a serious ethical dilemma: which is more important, scientific truths, or the well-fare of an African? (To halt the demonstrations is to deprive an African of a living.) The Pope faced a similar issue when he had to choose between scientific truths and the well-fare of the Church in his confrontation with Galileo. The hoax at the equator, fortunately, presents us with a simpler dilemma that can be resolved in a manner satisfactory to all. The first step is identification of the errors committed by the participants in the demonstration.

The wealthy tourists are ignorant of the methods of science, of the firm commitment to skepticism that is essential in science. The scientists seem unaware that ethical issues are beyond the scope of science. The African demonstrator suffers from useless advice. What he needs are suggestions on how to modify his demonstration so that the tourists reward him for motivating them to explore why their preconceived ideas concerning science in general, the Coriolis force in particular are wrong. One such modification exploits the location of the demonstration, at the equator. The hoax then makes the story of that Line -- how, over more than two millennia, we repeatedly modified our perceptions of the equator in response to constantly changing religious, political and scientific considerations -- an introduction to the complex interplay between the profoundly different worlds of science and of human affairs.

Poor communications between three groups of people -- the rich, the poor, and the scientists -- contribute to misinterpretations of the demonstration at the equator, and are also at the root of global warming controversies. To what extent should the government interfere in the lives of its citizens (by regulating their use of energy for example)? How

do we find a balance between our responsibilities to future generations, and our obligations towards those suffering today, the poor for example? Some people try to bypass these wrenching ethical dilemmas of global warming by focusing attention on scientific debates, thus contributing to a polarized stalemate. Education is the key to a solution.

The laymen, rich and poor, are handicapped in their response to global warming because they have to take the words of experts on faith. Their actions would be far more effective if they acted, not out of fear of imminent environmental disasters, but because of an understanding and appreciation of our marvelous planet. Additional benefits include the acquisition of technical skills that an introduction to the earth sciences can bring, skills that certain jobs require. The ideal place to learn about the Earth is “the fairest Cape” whose splendid flora, land- and seascapes make it a microcosm of the world at large.

Rather than associate global warming with gloom and doom we should regard it as a wonderful opportunity for making southern Africa a world-renowned centre for earth stewardship studies. This will contribute to nation-building, and can help bridge the gulf between laymen and scientists, and between the rich and the poor.