The arrogance of scientists

Have you ever been put in your place by a scientist who claims to be an authoritative expert? Many environmentalists have to deal with scientists who believe no one else can understand the issues. ***Brian Martin*** *and* ***Sharon Beder*** *explain why this occurs.*

MOST SCIENTISTS are nice, decent people. Generally, they do their jobs adequately, are concerned about their families and support efforts to create a better world.

But there is one area where scientists have a strong tendency to be arrogant, and that concerns the understanding of science itself. Many natural scientists have a low opinion of the ability of non-scientists to make sense of the world.

Natural scientists, such as physicists, chemists and biologists, can be amazingly condescending towards social science. The natural sciences are called the 'hard sciences'. They are perceived as 'hard' both in being able to produce solid and precise facts about nature and in being difficult to understand. The social sciences are called (by natural scientists) the 'soft sciences'. It's not a compliment!

Barry Ninham, professor of applied mathematics at the Australian National University, gave a talk in 1992 in which he criticised the book *Life Among the Scientists*, a study by social scientists of a biological research institute. Ninham concluded:

> unless you are an active scientist you can never really understand science. Leave it to professionals.

This is like saying that the only people who can understand the various dimensions of air transport are pilots and aeronautical engineers, that the only people who can understand houses are architects and builders, or that the only people who can appreciate drama are playwrights and actors.

Scientists' contempt of social science is all the more amazing considering how little many of them know about it. Admittedly, social science contains some shonky research and practitioners; there are disagreements between so-called experts; and applications often are pointless or harmful. But these are all features of natural science too. The difference is that natural scientists have developed ways to hide their weaknesses better.

The arrogance of scientists is even more obvious when it comes to members of the 'general public', namely those who have no degrees, institutional positions or scholarly publications. For such individuals to comment about science – about what topics should be researched, how it should be done, the meaning of scientific results, or to propose a new theory – is commonly considered to be a joke.

In late 1992 Hilary Koprowski wrote in the magazine *Science*:

> As a scientist, I did not intend to debate Tom Curtis when he presented his hypothesis about the origin of AIDS in *Rolling Stone*. The publication of his letter in *Science* ..., however, transferred the debate from the lay press to a highly respected scientific journal.

Koprowski implies that something cannot be scientific unless it is published in a scientific journal. This is like saying religious experience only occurs in churches.

Why are scientists arrogant in this way? Scientists must undergo a lengthy training, involving years of course work and apprenticeship in research. Most of those who do not accept the standard ways of viewing the world are weeded out.

Within universities and research institutes the status of disciplines depends on them being opaque to the prying eyes of outsiders, both from other disciplines and from the general public. If no one else can understand the subject then, it is argued, only the trained professionals should be involved in choosing research topics, selecting staff and deciding the syllabus.

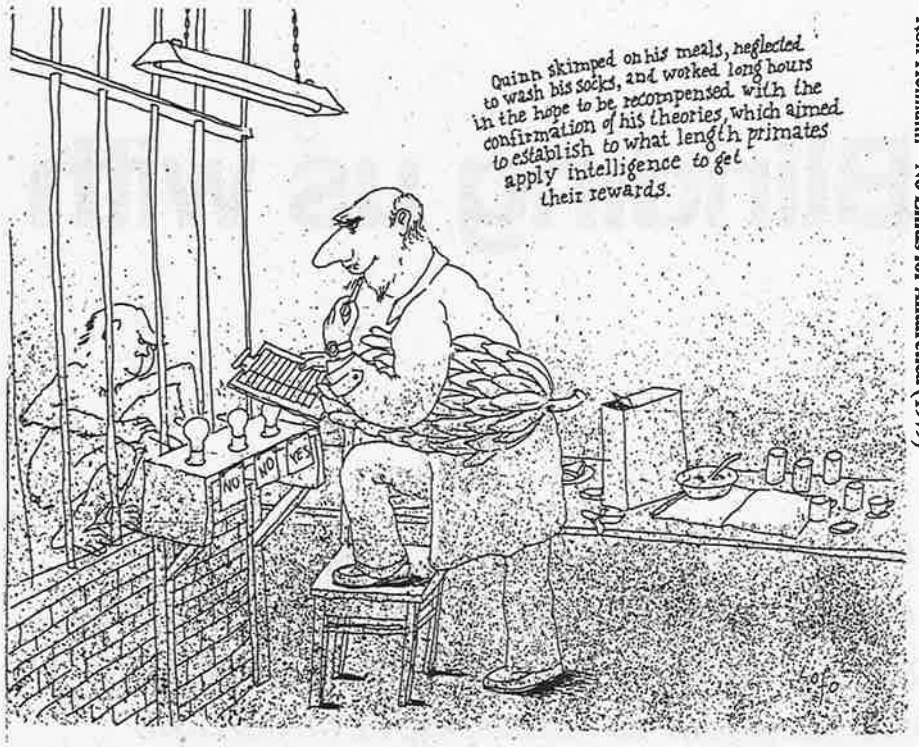
The result of this is that being arrogant is an occupational hazard for scientists.

Environmentalists come up against this quite often. 'Experts' dismiss comments by concerned citizens as uninformed. They dismiss key social dimensions to debates as irrelevant. They assert that the 'facts', as determined by scientists, have primacy. No matter that citizens may understand the issues better. No matter that social dimensions are central to most environmental disputes. No matter that scientists may have preconceived ideas, limited knowledge or be funded by vested interests, all of which can undermine the alleged objectivity of 'facts'. Scientists think they know best.

Policy-makers, including politicians and senior executives, are happy to go along with this view because it is they who have best access to the scientists. They employ their own scientists and have power over other scientists through funding and future career options. It suits them to juxtapose the supposed rationalism of science against what they call the emotionalism of public debate. Environmentalists are easily characterised as emotional because they so obviously care about what they are saying, because they often appeal to people's sense of moral values rather than their intellects. It is also because environmentalists are so often in a weaker position and are required to shout and demonstrate in order to be heard. It is easy to be cool and collected when you are in control of things.

At a Pricing Tribunal seminar in Sydney, Bob Wilson, General Manager of the Sydney Water Board, said that the Board's main problem was the 'emotionalism' of environmental issues. The media fanfare surrounding ocean pollution was based on emotion and had distorted the picture of what the Board considered were the real problems. 'Unless we get the science right' he said, 'emotion can take over.' What Wilson was concerned about was that the government might be swayed by public opinion to set different priorities to those held by him and his scientific advisers.

It is convenient for policy-makers to uphold the cry of 'scientific rationalism' and pretend that decisions which affect the environment are not political matters but are rather scientific questions that can be decided by scientists. Government bureaucrats and business people sometimes talk about politics distorting decisions. They try to avoid confrontation and controversy at all costs by hiding behind a façade of numbers and graphs and scientific reports which are supposed to be neutral, rational and objective. They are careful that any scientific data that goes out to the public is screened and interpreted to suit their own political ends.



Rolf Heimann – No Emus for Antarctica (1979)

This narrowing of environmental debates to scientific and technical issues requires those opposing a decision to deal head on with these issues, to demystify and critique the numbers and graphs and even use their own scientists to add credibility to their claims. This explains the need for organisations such as the Society for Social Responsibility in Science (SSRS); the Society for Social Responsibility in Engineering (SSRE) and United Scientists for Environmental Responsibility and Protection (USERP) to put alternative views and to help community and environmental groups oppose unwanted developments and fight for better, more appropriate technologies and scientific information. Unfortunately, such groups are usually poorly supported by the broader community of scientists and engineers. Indeed, the SSRE recently collapsed from lack of interest amongst engineers. In this issue Isla MacGregor describes the troubles USERP has faced.

A more radical approach, however, is that rather than going along with the assertion that only science can properly inform policy decisions because it is the only form of knowledge that is rational and objective, environmentalists should be taking a second look at science, itself. In this issue, various writers, some of them scientists, explore the shortcomings of Western science, the way it is socially shaped and directed for particular ends and used to advance powerful interest groups – the military, industry, patriarchy, often in the cause of death and environmental destruction. They point the way to alternative ways of knowing, alternative ways of being a scientist, alternative ways of addressing environmental problems and alternative ways of relating to science and scientists.

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