



Trust me, I'm an engineer!

Should the public trust advocates of new technologies?

Engineers have always faced uncertainties in the design, construction, operation and maintenance of products and processes. Choices have to be made at all stages, and optimising them requires considerable skill and judgement.

Historically each engineering discipline has developed its own approach to handling these uncertainties but there are many common concepts and approaches. Modern risk assessment and management processes provide a framework that will potentially deliver a multi-disciplinary general methodology.

The Academy's Risk Management Project aims to discover just how much common ground there is across the various disciplines and then to establish the best practice available to deal with the relevant issues and challenges.

The project began with three seminars. These dealt with:

- i) the generic methodologies used to optimise performance and reliability
- ii) commercial and financial risks
- iii) the acceptability of technology and engineering projects in the wider community.

Three working groups were convened to follow up on some of the priority issues

arising from the seminars. The conclusions of the working group on the 'Societal Aspects of Risk' provided the most interest and feedback to the Academy. The approach adopted was a generic one applicable to all engineering disciplines and the conclusions are relevant across the board. The report of the working group has been much in demand. This high level of interest is very much in keeping with a trend seen in the Academy of increasing interest by Fellows in 'soft topics' such as ethics and social responsibility.

It was decided to follow up on the Societal Aspects Report using a format more normally associated with non

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Speakers from left to right
Tony Gilland, Sir Peter Williams,
Ian Taylor (Chair),
Professor Kathy Sykes,
Dr Douglas Parr

technical issues and one not used by the Academy before – namely a debate. The debate was held on 16 June and the motion was ‘This House believes that the public is justified in its mistrust of the advocates of new technologies.’ The Chairman was Ian Taylor MBE MP, Minister for Science & Technology, 1994–1997. The speakers for the motion were Professor Kathy Sykes, Collier Chair in Public Engagement in Science & Engineering, Bristol University and a member of the Council for Science & Technology; and Dr Douglas Parr, Chief Scientist of Greenpeace UK. Speaking against the motion were Sir Peter Williams CBE FREng FRS, a Vice President of The Academy, and Chairman of the Engineering Technology Board; and Mr Tony Gilland, Science and Society Director, the Institute of Ideas. The diverse audience numbered 150 and included one government minister, Dr Kim Howells MP, Minister for Transport.

The debate was recorded and a more complete report will be prepared and published on the Academy’s website (www.raeng.org.uk). In summary, the dominant themes that arose were those surrounding the manner in which technology is developed and then presented to society. There were of course concerns expressed about specific technologies such as GM crops, and also the neglect of sustainability in

many developments. But these concerns were much less than one might have expected. The dominant issue built on one of the key messages in the Academy report. It is much easier to gain acceptability for change if those who will be affected are involved in an open and serious way in the early stages of development, and are allowed to provide input in the way in which the development proceeds and is presented.

This of course is not easy. Commercial considerations are involved and it takes a trained and knowledgeable person to appreciate the potential implications and risks involved in a technology at the early stages. There is more work for the

Academy to do in this field by searching out and building on existing best practice. Another key message that came through was that there is a likelihood of mistrust if ‘advocates’ are seen to be either persons with a personal agenda or professional marketers willing to promote any technology that will benefit their commercial interests. Engineers and technologists themselves should be the ‘advocates’ and be willing to be more open about the status of the technology, what it is hoped to achieve, and the potential risks involved.

This raises the whole question of whether engineers are equipped to communicate with a wider general audience. On the face of it, it seems that the record is not good. A telling statistic is the paucity of engineers elected to Parliament compared with other professions such as law, teaching, medicine or the military. This could be an area for more active research by the Academy.

The debate format served the Academy’s purpose very well. It was very gratifying to see so many present from outside the Academy’s Fellowship. Enormous benefit was gained from the observations and ideas of others, especially when they are of the calibre that was seen in Church House. It has provided a lot of food for thought and it will help us greatly in designing our future programme dealing with the Societal Aspects of Technology Risk. ■

