SCIENCE AND POLITICS MUST RUB TOGETHER BETTER

Ian Taylor MP
Chairman, Parliamentary and Scientific Committee

Speaking at the awards of The Rank Prize Funds 8th February 2010 *[These prizes were established in 1972 by the late Lord Rank to encourage a greater understanding of the sciences of nutrition and optoelectronics, two areas the British film pioneer believed would be of special interest to mankind. Chair of Trustees The Earl of Selborne]*

"The union of the political and scientific estates is not like a partnership, but a marriage. It will not be improved if the two become like each other, but only if they respect each other's quite different needs and purposes. No great harm is done if in the meantime they quarrel a bit."

Don (Krasher) Price, The Scientific Estate (1965), 71.

SCIENCE PERMEATES OUR LIVES AND INFORMS OUR ACTIONS

In order to keep our economy growing, we need a new wave of educated students ready for modern scientific research, teaching and technological development. There have been so many tremendous advances in technology over the last decade or so, in fact the pace is accelerating. Every day new things are discovered and with the increase in scientific knowledge, there is an increase in demand for educated students – and politicians. Having a more scientifically literate population will not just be an advantage but a requirement. It would be assisted if we could inspire young people to appreciate that if they want to do something positive to improve the quality of life in the world, studying science is a tremendous advantage. Science and Maths are the centre of a network, connected to so many things. They influence, often without us realising it, the making of policy in a vast number of areas.

Today, scientific advice to underpin policy is more important than ever before. From neuroscience to nanotechnology, food security to climate change, the questions being asked of scientists by policy makers, the media and the public continue to multiply. Science and engineering are crucial because they underpin big political decisions facing the UK over the next twenty years. How governments deal with these issues has an impact on public opinion of the science involved. Simply to list the challenges facing today's politicians is to demonstrate the importance of science. Energy, bio-fuels, security, space and earth observation, climate change, genetic modification, mapping the human genome, dealing with pandemics, health science, medicines, communications and IT are just some of the more obvious areas that are crucial for the UK.

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SCIENTIFIC ADVICE TO GOVERNMENT

"There are no facts, only interpretations." – Nietzsche

The Royal Society, the world's oldest national academy of science, has as its motto: *Nullius in verba* ("Take nobody's word for it").

Recent events have raised questions about how scientists relate to politicians.

Lord Krebs has written: "Ministers look to their expert advisers for clear-cut answers, a unanimous view, and preferably one that is politically convenient. Scientific advisers are prone to disappoint on all fronts."

Last year David Nutt, Chairman of the Advisory Committee on the Misuse of Drugs, was sacked by the Home Secretary for being too outspoken about the Government's rejection of his committee's advice on the classification of cannabis and Ecstasy. He may have been outspoken, but the reaction was wrong. I challenged the Prime Minister on this matter (see note).

The recent *Principles for the Treatment of Independent Scientific Advice* sets out to Government three sensible core

principles: academic freedom, independence of operation and proper consideration of and respect for advice.

Improving the scientific literacy of our politicians and Ministers would improve the quality of their decision-making as they would learn both the importance of science and engineering to their role and how better to evaluate scientific evidence. Wider engagement with science and engineering is hampered by an inability accurately to assess risk.

SCIENTISTS UNEASY ABOUT SCIENTISTS

Recent revelations about evidence on the rate of melting of glaciers and potentially damaging emails about global warming and the exposure of Andrew Wakefield's fragile research which caused the damaging MMR scare are giving scientists a bad name. This is irritating for both scientists as a whole, and politicians who have to make or justify decisions based on scientific advice.

Thomas Kuhn pointed out that Scientists can never divorce their subjective perspective from their work; thus, our comprehension of science can never rely on full "objectivity" – we must account for subjective perspectives as well.

Two researchers – Robin Lovell-Badge, who spoke in a personal capacity, and Austin Smith, from the University of Cambridge – told the BBC recently that sometimes scientists might write negative reviews of the work or request additional and unnecessary experiments in an effort to get their own papers, and those of their friends, published sooner.

In an open letter to the editors of major scientific journals published last year, a group of 14 researchers, including Smith, argue that "papers that are scientifically flawed or comprise only modest technical increments often attract undue profile. At the same time publication of truly original findings may be delayed or rejected." To prevent this sort of abuse, they say, reviews, response to reviews, and associated editorial correspondence should be published as supplementary materials with the paper. "If we could just have the rigour of traditional peer review with the ease of publication of the web then all our problems would be solved".

Richard Horton, editor of the British medical journal *The Lancet*, has said that "The mistake, of course, is to have thought that peer review was any more than a crude means of discovering the acceptability – not the validity – of a new finding. Editors and scientists alike insist on the pivotal importance of peer review. We portray peer review to the public as a quasi-sacred process that helps to make science our most objective truth teller. But we know that the system of peer review is biased, unjust, unaccountable, incomplete, easily fixed, often insulting, usually ignorant, occasionally foolish, and frequently wrong."

This terminology has recently been more often applied to politicians…

> . . . Today, scientific advice to underpin policy is more important than ever before. . .

CONCLUSION

The debate between scientists and between scientists and politicians is becoming more crucial and open. Rather than taking cover, we should engage. The outcome is too important to leave to chance or swings in public mood.

SO WAS ALBERT EINSTEIN RIGHT?

"Yes, we have to divide up our time…between our politics and our equations. But to me our equations are far more important, for politics are only a matter of present concern. A mathematical equation stands forever."

The risk is that political decisions can have a lengthy impact – for good or ill.

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Footnote:

SCIENTIFIC ADVICE QUESTION TO THE PRIME MINISTER

Ian Taylor (Esher & Walton): "As a former Science Minister myself, I am well aware that scientific advice can be politically inconvenient, but will the Prime Minister reassure the scientific community that when disagreements happen, he will engage in rational debate rather than shoot the messenger?"

Gordon Brown (Prime Minister): "Scientific advice is valued by the Government in every area. On climate change, on foot and mouth, on dealing with swine flu and on nuclear matters as well as on drugs, we have very good scientists who have been advising us. From the drugs advisory committee, we accepted all but three of more than 30 recommendations. The issue was not the ability of the committee to give advice or the expertise of the members, it was that once Ministers have had to decide a position, after listening to advice on a wider range of social issues than simply the scientific advice, it does not make sense to send out mixed messages to the whole community about drugs. That is why the Home Secretary made his decision."

Ref: Hansard source (Citation: HC Deb, 4 November 2009, c858)