

ANNUAL LUNCHEON OF THE PARLIAMENTARY AND SCIENTIFIC COMMITTEE

The Annual Lunch was held on Tuesday 3rd February 2009 in the Cholmondeley Room and Terrace, House of Lords

The Rt Hon Lord Jenkin of Roding, the President, welcomed everyone to the Annual Lunch and thanked those who had made special efforts to attend in spite of a snowfall. He reminded us that we represent the first All Party Group to be created in this, the Committee's 70th year, while MPs, on election, now often proceed to form an All Party Group as a matter of course.



Last year we welcomed Sir David King the Chief Scientific Adviser as our Guest of Honour prior to relinquishing his office. He had made a particular effort to persuade people that the science of Climate Change was genuine and it was his own efforts, more than any other, that persuaded Government to take this advice seriously. The current economic downturn must not be allowed to ignore our commitments to Climate Change targets, whilst it is also an opportunity for innovative scientists and engineers, many of them already members of this Committee, to help develop economically desirable and environmentally friendly technologies as a sound basis, leading on to sustainable economic recovery. This will also need support from the market, backed up by Government.



Patrick Jenkin introduced Lord Taverne as a very distinguished speaker. "He lists among his personal interests both Science and Technology and Economic Policy. Perhaps he is just the man to tell us what to do next! He was a junior Treasury Minister, Financial Secretary to the Treasury, and I followed him into that office. In his time he has been a member of several parties and of both Houses, and an author and a journalist. We all look forward to what Lord Taverne has to say. Dick, over to you!"

Dick Taverne then launched into a lightly veiled attack on the public understanding of science which follows:

"Attitude surveys tell us that most people think science benefits mankind. However the popularity of alternative medicine and the history of the MMR vaccine also show how little the public understands the evidence-based approach, and one poll suggests only half the population accept evolution.

The NHS is so short of funds that it cannot afford expensive life-saving drugs, yet several Primary Care Trusts finance homeopathic therapy, which has no proven efficacy except as a placebo. Most homeopathic products are diluted by 10^{30} so that none of the original substance remains. There is no way homeopathy can work, other than as a placebo, without



repealing the laws of science. Yet the Medical and Healthcare products Regulatory Agency has allowed homeopathic products to claim efficacy solely by homeopathic provings. Of course, placebos can and do work, as can witchcraft!

One of the most prominent supporters of alternative medicine, who shall be nameless but who has influence because of his pre-eminent social position, has recently launched through his company, Duchy Originals, a product comprising a mixture of artichoke and dandelion extracts, which has no efficacy for any medical condition whatsoever, costing £10 for 50ml, not a bad price for a dud product! The

same person has also argued that the NHS would save costs if asthma was treated by homeopathic therapy. And it would, as some people would die and no longer need treatment! To advocate homeopathy for treating serious diseases is as beneficial as President Mbeki's policy of treating AIDS with traditional African medicine. It should also be noted that sixteen universities award science degrees in Ayurveda and reflexology as well as homeopathy, with a Chair in Parapsychology in Edinburgh.

I now come to agriculture and the fashion for organic farming which is based on an elementary scientific howler – that synthetic chemicals are bad, natural ones good. Arsenic and ricin are natural chemicals, antibiotics are synthetic. The distinction is complete nonsense but a fundamental principle of the organic movement. The Food Standards Agency and the Advertising Standards Authority have rejected the claims made for organic food. It does not taste better, is not more nutritious and according to DEFRA is no better for the



environment than conventional farming. Organic food costs more because it is less efficient with yields 20-50% lower than conventional crops and according to a quotation from C J Prakash, 'The only way organic farming is sustainable is that it sustains poverty and malnutrition.' DEFRA supports organic farming, with a subsidy for farmers wishing to convert to it that has cost £30 million annually, while public research in agricultural science has declined to £20 million. Ministers do not reply to questions in the House of Lords concerning the inefficient use of land, possibly so as not to offend the Soil Association.

The most damaging example of disregard for scientific evidence is displayed in relation to genetically modified crops by other European countries. Huge benefits have been obtained in India and China with the use of GM pest-resistant cotton. GM soya and maize in conjunction with no-till or low-till agriculture have reduced the use of herbicides and pesticides in the US with environmental benefits equivalent to removing 4 million cars from the roads.

However, the main benefits of GM are still to come with a Gene Revolution to succeed the Green Revolution, currently severely delayed by opposition from Greenpeace and Friends of the Earth. Crops that will resist stress from cold, heat, salt and drought, and can grow in soil where no plants grow today, are near commercial cultivation. Other GM staple crops for the developing world that require less water and are protected against diseases are in the pipeline. Every National Academy of Sciences, the WHO, the FAO and the EU Commission have found no evidence that GM crops are harmful to health or the environment. The former director of Greenpeace, when asked some years ago in a House of Lords inquiry if there was any evidence that could change his opposition to GM

crops, replied, 'It is a permanent and definite and complete opposition.' Ideological rejection of GM crops resulted in delays caused by opposition from NGOs to golden rice, modified to contain pro-vitamin A which could have saved many of the 500,000 children who go blind from vitamin A deficiency every year and half of whom die within 12 months.

In conclusion I wish to make two further points:

- 1) If research results stand up and are reproducible, they are good, even though the worker works for Monsanto. If they are not good they do not become so because the researcher is trying to save the planet.
- 2) Big business has often behaved unethically. However, Greenpeace is also a big business with its own agenda, namely to promote membership, and for this there is nothing like a good scare story. They can be as cavalier in their treatment of evidence as drug companies, indeed more so.

Industry needs regulation although profits depend on products that benefit the public. On the other hand, for Greenpeace, the more sensational the scare story, however unproven – such as "Frankenfoods", for example –

the better for increasing their membership. The important questions are: Has the research been peer reviewed in a reputable journal? Have the results been replicated?

Finally, Mr President, I believe that respect for evidence and a wider knowledge of how science works is not only important because science brings innovation and prosperity, since the Enlightenment saw both the birth of modern science and the first steps towards liberal democracy. Science has gradually eroded the hold on our beliefs that superstition has had, and still has. Science is the enemy of dogma, because scientific knowledge is tentative knowledge. It promotes tolerance, because it does not deal in certainties. It is the enemy of chauvinism and racial prejudice and the suppression of women's rights, attitudes based on ignorance and beliefs about human characteristics that science has shown to have no evidential basis. Science is the search for truth and the only path that leads to better knowledge about the world. In fact, I believe science is vital to a civilised society. We should all be more robust in its defence and more active in the propagation and practice of its virtues."



IN DISCUSSION THE FOLLOWING POINTS WERE MADE:

As someone who was a chemist would not presume to address such an audience about the details of ancient history, it is also clear that someone with a background in ancient history should be wary about discussing science, especially where that involves a basic understanding of chemistry. It was clear, for example, that there had been a failure to understand the difference between chemicals used in organic farming and those used in conventional farming. Whereas in the former case chemicals such as copper sulphate are used at a dose high enough to be toxic, they have simple linear or threshold dose-response curves and are harmless when diluted. Life has co-existed with such chemicals throughout most of earth history. On the other hand many of the pesticide formulations used by conventional farming contain synthetic molecules that can have harmful effects even at tiny doses, because many have a biphasic dose-response curve. In response it was stated that copper sulphate is very poisonous.

A speaker who gave a talk to schoolchildren about nuclear power asked them where they had previously obtained information on this topic. The answer they gave was from the comic cartoon strip "The Simpsons". How can we compete with the comics? Methods include "Sense about Science" which includes 3000 scientists actively involved with scientific issues; and scientists who are willing to speak in public about their work. Education provides the basis for openness and transparency. The Food Standards Agency sets standards making no concessions on its science. The Research Defence Society (now Understanding Animal Research) is open for discussion about experiments on animals. Transparency is important.

The President then closed the formal proceedings by thanking Dick Taverne for his splendid address.

