

## **The May Dialogue 1999**

### **Biotechnology, Sustainability and Ethics? Are They Compatible? London May 22nd**

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Genetic modified (GM) food entered the mainstream political debate earlier this year. In January the Guardian reported that British scientist Dr Arpad Pusztai's preliminary findings showed that rats fed on GM potatoes suffered a weakened immune system as well as severe impairment in the development of internal organs. Subsequent UK government assurances on the safety of GM foods were largely unsuccessful in calming public unease. The BSE crisis - during which the UK government had given misleading assurances to the public relating to the safety of beef - had already fuelled suspicion that government food and agricultural policy was driven more by economic considerations than public health and environmental concerns. Meanwhile, the credibility of the growing movement in favour of a more cautious approach to biotechnology was given a boost earlier in the week of the May Dialogue when the British Medical Association published its own interim report. This recommended an open-ended moratorium on the commercial planting of GM crops, until there is a scientific consensus on safety.

This year's timely May Dialogue opened with a brief silence, which encouraged a calm and receptive discussion. PETER FENWICK demonstrated his versatility by chairing the meeting in the absence of Professor BRIAN GOODWIN. He spoke of the personality split of modern scientists: the concerned individual who questions the ethics of her work versus the rational scientist who longs to decipher the human genome and use her skill to assist the fight against genetic diseases. However, whatever our ethical views the technology is here today, but we must proceed with caution. We should heed the insight from complexity theory that relatively small changes to systems can lead to large changes in outcome.

Dr MAE-WAN HO (Reader in Biology at the Open University and scientific adviser to the Third World Network) opened the formal dialogue with a sweeping and forceful exposition on the potential dangers of GM technology. She described her view that reductionist science, with no understanding of the organic whole, has led to a simplistic expectation that genes can be 'mixed and matched' to solve problems such as world hunger and even social issues such as criminality. At the same time, multinational companies now have such power that governments and research institutes both frequently err on the side of commercial interest, ignoring the precautionary principle. Moreover, the interests of Third World countries (and especially their indigenous peoples) are frequently ignored; field trials are not disclosed to local communities, and genes from indigenous plants are patented with minimal or no recompense. Partially as a result of this, she predicted that the GM issue could lead to the biggest and most inclusive civil rights movement this century.

Dr. PETER LUND is a Senior Lecturer in Molecular Genetics and Cell Biology at Birmingham University who previously worked for AGS (Advanced Genetic Systems) on a number of projects including putting fish anti-freeze genes into plants. In a thoughtful talk he differentiated between extrinsic concerns (i.e. those relating to the application of the technology), and intrinsic concerns relating to fundamental value judgements about the ethics of the technology itself. While many arguments are conducted in the domain of the extrinsic, they are often fuelled by our gut reaction in relation to the intrinsic.

He asked why is it that scientists practising in this field rarely have intrinsic concerns? In his view this is due to 'physics envy', the scientist's desire to study the fundamentals of science. Genetic modification gives biologists an opportunity to be creators at this level - a prize that many understandably find hard to ignore.

And what is it that prevents constructive dialogue in the biotechnology debate? Peter suggested a few key issues: the concentration of technical and political power in the hands of a few; commercialisation in which every opportunity is there to be exploited; making the terms of dialogue too narrow; strong preconceived ideas of the optimal solution; hidden agendas; trying to progress the technology too fast; and conducting dialogue at the wrong level so that the wrong questions are being addressed.

The Rev. JOHN KERR lectures to postgraduate theologians on science, technology and ethics at Oxford University's Department of Continuing Education. His talk focused on a wide range of ethical considerations and our attitude towards risk. He believes the latter is shaped by our view of the world. For example, individualists believe that nature is robust and is able to look after itself. Greater control over nature, for example through biotechnology, will allow us to protect ourselves against risks. In their view labelling is a major part of any solution, allowing individuals to make informed decisions about the risks that they take. In contrast, hierarchists (e.g. governments) believe that the management of risks is best undertaken by experts, and will typically commission research to determine the best way forward (or to justify their views).

He also discussed what he called Consequentialism in which rights and wrongs are not intrinsic in acts but in their results; good acts are those with good outcomes. However, if we search for a calculus that will determine these outcomes we struggle since we can only take into account known risks. In many cases the unknown risks outweigh the known ones.

After lunch the audience divided into small groups to discuss the issues raised with a spokesperson from each reporting key points back to a plenary session. These covered a diverse range of issues including the need for collective or individual action by those concerned with the pace of introduction of technology and the current regulatory regime; the need for a more informed public debate; fear of the instability of crop monocultures (it was reported that 93% of the world's food comes from 29 species); the ethics of patenting living material; and the belief that there is already enough food in the world and that the real problem is inequality of distribution.

Several delegates remarked that they would have liked a greater diversity of views to be expressed at the conference, and in particular from proponents of the technology who were willing to openly engage in debate. A representative of Monsanto partially redressed this imbalance. She expressed the opinion that demonising corporations is not a sensible way forward, and that neither her company nor its competitors would develop high-risk products. There is a need for a wider debate, and Monsanto has set up a public policy forum to monitor and react to public views.

A question touched upon implicitly several times during the day was what role of the Scientific and Medical Network should take in such a topical and political debate. While some wanted the Network to take sides, others believed that it should focus on educating its members and the public, or even using its influence to catalyse an exchange of opinion at a senior level between those with opposing views. A discussion about what action concerned

individuals could take led to suggestions to write to local MPs and MEPs, and to sign the World Scientist's Statement Calling for a Moratorium on GM Crops and Ban on Patents .

In the meantime, as Peter Lund pointed out, scientists are still searching in vain for the gene that makes us believe that there is a gene for everything.

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