Institute of Science in Society

Science
Society
Sustainability

Relevant Links:

- Is Framework VI Socially Accountable?
- Foreign academics threaten black list over sacked Steele
- Public Subsidy of Failed Corporate Science
- Big Business = Bad Science?
- Senior Scientist Dismissed for Defending Academic Standards

The New Thought Police - Suppressing Dissent in Science

16 February 2001

Mae-Wan Ho and **Jonathan Mathews** report on the seamless way in which the corporations, the state and the scientific establishment are co-ordinating their efforts to suppress scientific dissent and force feed the world with GM crops.

Science in crisis

Science is in crisis. The full extent of the crisis surfaced when trade union leaders warned that the integrity of British science is being threatened by "a dash for commercial cash" in a report published in the *Times Higher Education Supplement* (Sept 8, 2000), the main newsprint for University academics.

The Institute for Professional and Managers in Specialists carried out a survey of scientists working in government or in recently privatized laboratories earlier this year. One-third of the respondents had been asked to change their research findings to suit the customer's preferred outcome, while 10% had pressure put on them to bend their results to help secure contracts.

In Britain's handful of top research universities, dependence on private funding is acute, often amounting to 80-90% of the total research budget. The four unions representing scientists and technical staff have launched a charter, which says that research must be guaranteed "by peer review, open publication and by autonomy over a significant proportion of its resources". Commercialisation smashes all three tenets. The only way to be sure that science retains its integrity is to enshrine open and clear-cut whistleblowing, the unions claim.

Science has seldom lived up to its ideal as an open, disinterested enquiry into nature, as any scientist who has ever tried to publish genuinely new ideas or findings in the 'peer-reviewed' scientific journals will know too well. Nobel Laureate Hans Krebs' discovery of the metabolic cycle that would eventually bear his name was rejected from the journal *Nature*. Albert Szent-Gyorgyi, another Nobel prize-winning biochemist, never got funded for work on the relevance of quantum physics to living organisms, which is crucial for understanding living organisms and why cell phones may be harmful, for example.

In the course of liberating itself from the Church, the scientific establishment has inherited many of the trappings of fundamentalist religion. There can be but One True Science, and everything else tends to be treated as nonsense or heresy. Within the past 50 years, the suppression of dissent has plumbed new depths, as the scientific establishment is increasingly getting into bed with big business. At first, it was mostly physics and chemistry, now it is pre-eminently biology. And as corporations are growing bigger and more powerful, so the suppression of scientific dissent is becoming more sophisticated, insidious and extensive. As the scientific and the political mainstream have both come to identify with corporate aims, so their established power structures are brought to bear on squashing scientific dissent and engineering consensus. Witness the seamless way in which the corporations, the state and the scientific establishment are co-ordinating their efforts to force feed the world with GM crops, known to be unsafe and unsustainable, and to offer no proven benefits whatsoever either to farmers or consumers [1].

Fall-outs from the Pusztai affair

The GM debate had been going on in the UK and the rest of Europe for at least several years before the press went to town on Dr. Arpad Pusztai's revelation that the GM potatoes tested in his laboratory might not be safe [2]. As a result, Pusztai lost his job and was gagged. Pro-biotech scientists and Fellows of the UK Royal Society vented their collective ire and condemnation. Sir Robert May, the then UK Government's Chief Scientific Officer, said Pusztai had violated every cannon of scientific rectitude. Pusztai's grave misconduct was to 'spill the beans' before the scientific findings went through the proper peer-review process, causing undue public alarm and damaging the biotech industry. His integrity as a scientist was called into question.

In May, 1999, the House of Commons Environmental Audit Select Committee issued a report proposing that members of the public should be appointed to the government bodies responsible for overseeing the safety of GM crops. A week later, however, the House of Commons Science and Technology Select Committee issued its own report arguing that scientific advice should be offered free of any direct input from environmentalists or consumer representatives. The Select Committee was particularly critical of press coverage, and recommended that it should be governed by a code of conduct for accuracy, and that breaches of the code should be referred to the Press Complaints Commission.

The Royal Society simultaneously set up its own hasty review of Pusztai's experimental results [3], without giving Pusztai the opportunity to assemble the complete set of data, published a report declaring Pusztai's findings flawed, and warned that no conclusions should be drawn. The report also reiterated the importance of peer-review before the results are released to the public. The Editor of *The Lancet* referred to the Royal Society's review as "a gesture of breathtaking impertinence to the Rowett Institute scientists" [4].

Double standards in the science establishment

However, the Royal Society has never reviewed nor condemned the truly damnable unpublished and published findings on GM crops and products offered by the industry, and accepted as evidence of safety by our regulatory authorities. Nor has it condemned the suppression of scientific evidence by the industry (see Box 1). Neither the Royal Society nor the House of Commons Science and Technology Select Committee has ever found any fault with the exaggerated claims made by industry with regard to the need or benefit of GM crops. There are clearly double standards being applied (see Box 2). Not only that, outright propaganda is legitimate, so long as it is pro-biotech, and publicly-funded scientific research institutions are openly engaging in this exercise (see Box 3).

Box 1

Industry's manipulation and suppression of scientific evidence

Monsanto's machinations in gaining approval of rBGH is notorious [5]. An 80-page report entitled, *Use of Bovine Somatotropin (BST) in the United States: Its Potential Effects*, was published by the Clinton White House in 1994, which concluded, "There is no evidence that BST poses a threat to humans or animals."

Later that year, British scientists revealed that their attempts to publish evidence that rBGH may increase the cow's susceptibility to mastitis (infection of the udder) were blocked by Monsanto for three years. The scientists showed that Monsanto's submission to the FDA was based on selected data that covered up what the experiments had actually revealed -- more pus in rBGH-treated cows. Over 800 farmers using rBGH reported health problems with the cows. Side effects included death, serious mastitis, hoof and leg ailments and spontaneous abortions.

Monsanto subsequently offered Health Canada scientists substantial research funding during the rBGH approval process and the Health Canada scientists also complained of being subjected to suppression and harassment during the rBGH approval process.

Two respected investigative journalists were fired from their jobs over a TV documentary on Monsanto's rBGH, alleging significant scientific findings had been suppressed. For example, insulin-growth factor (IGF-1) was found to increase 10-fold in rBGH milk. Increased IGF-1 is linked to breast, colon and prostate cancers in humans.

Monsanto had also withheld from the FDA data from studies on rats which showed that feeding rBGH elicited antibodies to the hormone and the males developed cysts on the thymus and abnormalities in the prostate gland. Despite all that, rBGH milk is still being sold unlabelled in the US today.

Box 2

Communicating science: sound science's double standards

The treatment of Dr. Arpad Pusztai constitutes one of the most notorious examples of double standards. Pusztai attended the OECD conference in Edinburgh on the Scientific and Health Aspects of Genetically Modified Foods [6], where a series of speakers questioned his integrity, despite the fact that at least part of the research in question had, by then, been published in *The Lancet*.

In contrast, Professor Zhangliang Chen, Vice-President of Beijing University, met with almost universal approval after telling the conference that rats fed on GM foods in China showed no adverse effects, entirely on the basis of unpublished research and without any detail on design or methodology. Pusztai recalled people were even coming up to tell him that Prof Chen had shown when you do the experiments right, you get the right results! [7]

Box 3

Biospinology at the John Innes Centre

The John Innes Centre (JIC) is Europe's leading plant biotechnology institute, which promotes itself as an expert and impartial source of scientific information. The JIC's science communication activities encompass public meetings, press articles, advice to political leaders, exhibitions, a special GM website, a school project, and school plays. It also hosts the Teacher Scientist Network that links about 100 science teachers in schools with the JIC.

'Biotechnology in Our Food Chain', the JIC's UK schools' project on GM, funded largely by Lord Sainsbury's Gatsby Trust, as well as being currently available on the web [8], will soon be made available to schools on CD-ROM. The JIC claims that the project takes note of the "various viewpoints".

One section of the project that allows expression of those viewpoints is 'Meet the Experts'. It poses the question: "Do you believe that genetically modified food is, potentially, of great value in improving the health of the population? For example, if the 'super broccoli' (containing significant anti-cancer qualities, for example) was a big success and consumed on a large worldwide scale, what statistical changes do you think we may notice (long term) for problems such as cancer/heart disease etc?" [9].

John Lampitt of the National Farmers Union Biotechnology Working Group, waxed lyrical: "I believe there are exciting possibilities for improving the nutritional qualities of foods by genetic modification and these changes may eventually lead to improved diet and health in whole populations."

However, it is perfectly possible through conventional breeding to produce such a broccoli. Indeed, it has already been produced by a team at the JIC itself [10]!

Prof David Baulcombe heads the JIC's prestigious Sainsbury Laboratory as well as its Plant Molecular Virology Group. He told a public meeting about some unpublished US government research, which shows that GM crops brought enormous environmental benefits, including increases in the diversity of insects, small mammals and birds of prey in areas where insect-resistant GM corn and cotton were grown. Despite repeated subsequent requests, Prof Baulcombe has been unable to provide any evidence to substantiate the existence of such a report.

Prof Baulcombe also told the same meeting that in the famous Monarch butterfly research, the butterfly larvae were harmed more or less equally by non-GM and GM corn pollen. This is complete fabrication and Baulcombe's comments have been strongly refuted since by Dr John Losey [11], the principal author of the research that in fact showed pollen from GM maize alone was lethal to the Monarch butterfly larvae [12].

A play commissioned by the JIC together with its Teacher Scientist Network is intended to tour UK secondary schools. Its information pack for teachers describes how the project was developed in such a way as to ensure that the script, the structured debate which accompanies the play, and the information pack itself, provide "unbiased and representative coverage of the range of viewpoints that exist". It also states that all the would-be script-writers were required to participate in a "laboratory day" on GM involving a wide range of viewpoints. However, author Luke Anderson who was present at the laboratory day reports that he was the only person there who was not pro-GM. "I was totally outnumbered with everyone else from industry etc. I complained that it was unfair for there just to be me against GE in the room." [13]

Dr Jeremy Bartlett, who trained in the John Innes, attended a production of the play, and described the event as a "carefully crafted exercise in manipulation". The play is very entertaining, he said, and well written, but its message for young people strongly reflects the views of those who commissioned it. "The GM campaigner looks ridiculous, behaves deviously, has no proper arguments against GM and loses the girl. His fiancee listens to the rational scientist and furthers her career by promoting GM foods" [14].

The Royal Society Guidance on how to suppress unpalatable truths

The Royal Society then drew up a "Guidance for editors", which is reproduced with strong approval in a subsequent House of Lords Select Committee on Science and Technology Report on Science and Society [15]. It looks suspiciously like the ‘code of practice’ that the House of Commons Science and Technology Select Committee had in mind to counteract the press ‘hysteria’ over the Pusztai affair. It begins by quoting the Press Complaints Commission Code that, "newspapers and periodicals must take care not to publish inaccurate, misleading or distorted material", and warns, "Editors must be able to demonstrate that the necessary steps have been taken".

"Journalists", the Guidelines states, "must make every effort to establish the credibility of scientists and their work". The Royal Society will publish a directory that provides a list of scientists. Before interviewing any scientist, the journalist will be expected to have consulted the officially nominated expert in the field, who will be able to say whether the scientist in question holds correct views.

"Newspapers may suppose that they have produced ‘balanced’ reports by quoting opposing views". Not so, according to the Royal Society, if "the opposing view is held by only a quixotic minority." Journalists are told to identify, wherever possible, a majority view, and that is the one they should present. The majority view may turn out to be wrong, but such instances, we are told, are the exceptions rather than the rule.

But the mainstream majority has all too often been mistaken! It has been mistaken over nuclear power, climate change, and the link between BSE and new variant CJD, to name but a few glaring examples. And it is thanks to journalists reporting minority views that pressure is brought to bear on the mainstream majority to change their stance. By then, unfortunately, much damage has already been done. It would have been far worse if the minority views had never got a hearing at all.

The Royal Society acknowledges that it is important for scientists to communicate via the media, but is concerned that some scientists may be seeking publicity to further their careers or to make exaggerated claims. This is blatantly absurd and insulting to scientists like Pusztai and others who lost their research grants and jobs for expounding unpopular views and unpalatable findings. To counter this, the Royal Society wants the media to contact "scientific advisers" (again, presumably supplied by the Royal Society) who could establish the authenticity of any story.

On the matter of "uncertainty", "journalists should be wary of regarding uncertainty about a scientific issue as an indication that all views, no matter how unorthodox, have the same legitimacy." The Royal Society insists, once again, that it is peer review that confers legitimacy on scientific claims.

The Royal Society has broken new ground in attempting to exercise control over the press. It has been established practice for decades, if not centuries for new scientific results to be presented at conferences before they have been subjected to peer review and published. Peer review is not and never has been a precondition for research being brought to the attention of the public.

More to the point, where there is the possibility of danger to health or to the environment, it can be totally counter to public interest to wait for peer review. It took Pusztai nearly two years to get part of the work published. And in the final hours, a fellow of the Royal Society, Peter Lachmann tried to prevent the paper appearing in print [16]. Holding back on a scientific claim until everything is settled is one thing; not alerting the public soon enough to a possible danger is another.

Tom Wakeford, who has a regular column in the journal *Science and Public Affairs*, wanted to round up the year's events in 1999 as "an *annus horribilis*" for "the Royal Society, and a host of previously respected UK Scientific institutions". "After decades of almost sleepy acquiescence with science, journalists are seeking out the instances of cronyism, censorship and spin-doctoring from which they had previously seen scientists as being somehow aloof." Tom was given the veto by the editor of the journal, Alun Roberts, who withdrew his column, on grounds that Fellows of the Royal Society "wouldn't like it". The journal is officially independent, as it is published by the British Association for the Advancement of Science, and some of its funding comes from the Royal Society.

The House of Lord decree that no question should be asked about safety

For good measure, the House of Lords Select Committee adds several comments, the first aimed at discouraging sensational headlines such as those that might damage the image of GM crops; the second, incredible as it may seem, attempts to purge the word, "safe" from the vocabulary of the media. "The very question "Is it safe?" is itself irresponsible, since it conveys the misleading impression that absolute safety is achievable."

This frontal attack on the English language is actually a veiled attempt to undermine the precautionary principle in its most important form, which can truly safeguard human health and the environment. It entails a reversal of the present onus of proof. In other words, instead of requiring civil society to prove something *harmful* before it can be withdrawn or banned, perpetrators should have to prove something *safe* beyond reasonable doubt before it can be approved, especially where the product is of no proven benefit to society.

Scientists too, must be reined in

That is by no means the end of the story. Recently, a detailed Code of Practice on Science and Health Communication was launched jointly by the Social Issues Research Centre (SIRC) and the Royal Institution, to address concerns about the ways in which some issues are covered in the media, unjustified 'scare stories' as well as those "which offer false hopes to the seriously ill". It also claims to be in response to the call for such a code by the Select Committee on Science and Technology.

The code is aimed not only at journalists but also at scientists. A draft of the code recommended journalists to consult only with 'expert contacts', a secret directory of which will be provided only to "registered journalists with bona fide credentials". It discouraged scientists from disclosing unpublished results even at professional scientific meetings, thus

breaking with a time-honoured tradition of open communication among scientists.

The Royal Institution has long been involved in presenting science to the public, but its Director, Susan Greenfield, is also an advisor to the SIRC. The latter, it turns out, is a metamorphosed social research company which boasts of its ability to provide corporate clients with effective public relations via its ‘positive research’. The SIRC is both directly and indirectly funded by the food industry [17].

The RI/SIRC Code of Practice is apparently endorsed by a list of mainstream scientists and science journalists: Sir John Krebs, Head of the Food Standards Agency and Lewis Wolpert, Fellow of the Royal Society and member of its Committee for Public Understanding of Science (COPUS), both well known for their pro-GM stance; Susan Greenfield, Director of the Royal Institution; Lord Wakeham, Chair of the Press Complaints Commission and Lord Dick Taverne, author, journalist and politician, another rabid protagonist for the biotech industry.

Although the general impression the Code attempts to convey is that of wishing to prevent both ‘scare stories’ and ‘hype’, it is no different in substance to the original Royal Society Guidelines to editors. It is intended to promote the mainstream, establishment view and at the same time to suppress minority, dissenting voices.

The Code demands that known affiliations or interests of the investigators should be clearly stated; and that this applies not only to "researchers who are attached to, or funded by, companies and trade organisations but also to those who have known sympathies with particular consumer pressure groups or charitable organisations". The two cases are, however, clearly not equivalent. For researchers funded by companies, there is everything to be gained in terms of both scientific repute and monetary reward in promulgating the corporate agenda. For scientists who go against the grain, there is everything to be lost, including job and career.

The Code goes on to state, "It should be recognised, however, that a particular affiliation does not rule out the potential for objectivity.... All scientists are paid by somebody". This is a flagrant attempt to blur the distinction between publicly funded scientists whose allegiance is first and foremost to civil society, and those in the pay of unaccountable corporations dominated by the profit motive.

The Code is keen to prevent any overstatement of risk but has not a word to say about the danger of false reassurances -- something that goes to the very heart of the BSE disaster.

In January 2001, announcement was made of a new science media centre, supported by UK Science Minister Lord Sainsbury, to be housed in the Royal Institution headed by Susan Greenfield. It’s aim is to help "sceptical and impatient journalists" get their stories right on controversial issues such as "animal research, cloning and genetically modified food" [18].

The corporate takeover of science is the greatest threat to survival

Britain might be mistaken for a Third World country, says a newspaper headline at the beginning of year 2001: chaos on the rail network, protests over fuel price increases in the midst of the worst storms and floods in decades, and a vCJD epidemic that may claim up to tens of thousands of lives. Mad cow disease, or BSE, is now spreading to the rest of Europe, raising new fears that vCJD may follow in its wake.

The BSE report, published at the end of October 2000, blames persistent government denials over the link between vCJD and BSE beef based on the ‘best scientific advice’ given by the Southwood Committee in 1989, which concluded "it was most unlikely that BSE will have any implications for human health". The ‘best scientific advice’ is saying the same about GM crops. The scientific establishment has failed, again and again, to acknowledge that science is by its nature incomplete and uncertain and to insist on the precautionary approach. The precautionary approach might also have averted global warming, had it been adopted ten, twenty years earlier.

If climate change and the CJD fiasco can teach us anything, it is that science is too important to be left to the politicians or to a scientific establishment in bed with big business. Our academic institutions have given up all pretence of being citadels of higher learning and disinterested enquiry into the nature of things; least of all, of being guardians of the public good. The corporate take over of science is the greatest threat to our survival and the survival of our planet. It must be resisted and fought at every level.

We must reject the imposition of any Code of Practice designed to suppress open scientific debate and discussion. Instead, concerted effort must be made by independent journalists and scientists to promote genuine, critical public understanding of science, so that the widest cross-section of civil society may be empowered to participate in making decisions on science and technology. Only then, can we hope to restore democratic control of science to scientists themselves and to civil society at large.

References

1. See World Scientists Open Letter to All Governments on GMOs for a review of the evidence. Institute of Science and Society website www.i-sis.org.uk

2. "Pusztai publishes amidst fresh storms of controversy" *ISIS News #3*, December, 1999.

3. Review of data on possible toxicity of GM potatoes, The Royal Society, June 1999.

4. "Health risks of genetically modified foods", Editorial, *The Lancet* 353, May 29, 1999.

5. See Fox, M. (1999). *Beyond Evolution*, Chapter 5, The Lyons Press, New York.

6. See "OECD agenda: "there is no evidence that GM foods are harmful", Arpad Pusztai, *ISIS News #4*, March 2000.

7. http://members.tripod.com/~ngin/watchingdrpusztai.htm

8. http://www.jic.bbsrc.ac.uk/exhibitions/bio-future/

9. http://members.tripod.com/~ngin/broccoli.htm

10. "False reports and the smears and men" Jonathan Mathews, *GM-FREE*, vol 1, no. 4, pp. 8-14 Also viewable at: http://members.tripod.com/~ngin/false.htm

11. Complete transcript of the public meeting at: http://members.tripod.com/~ngin/lyngtr.htm

12. "Trangenic pollen harms monarch larvae" Losey, J.E. *et al*, *Nature* 399, 214, 1999.

13. http://members.tripod.com/~ngin/biospin.htm

14. "Sweet as you are" Jeremy Bartlett, *Splice* 5, 16. Also viewable at: http://members.tripod.com/~ngin/articlebartlett.htm

15. See "Trust me, I'm an expert" and "How to engineer society to accept science as usual", Mae-Wan Ho, *ISIS News*#4, March, 2000

16. See "Concern for science", Tom Wakeford, *The Times Higher* March 24, 2000.

17. "Bad company, reporting the business of science", Jonathan Mathew, Norfolk Genetic Information Network (ngin), http://members.tripod.com/~ngin/

18. "New independent media centre aims to give scientists a voice" *The Financial Times*, Jan 30, 2001

The Institute of Science in Society
PO Box 32097, London NW1 OXR
Tel: 44 -020-7380 0908

Material on this site may be reproduced in any form without permission, on condition that it is accredited accordingly and contains a link to http://www.i-sis.org.uk/

---

mirrored in California inside:
http://www.ratical.org/co-globalize/MaeWanHo/