

One way in which these lines of inquiry could be pursued is for academic research to be subjected to review not only by other technical specialists in the field, but also by the people about whom implicit and explicit claims of beneficial effects are being made. This should become a regular part of the training of scientists so that they become used to operating within an accountable, democratic framework as an essential complement to the narrower world of peer review.

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Ethics, science and society

The public involvement of scientists in societal issues was a central concern in the recent conference 'Challenges for Humanity in the XXI Century' (Geneva, 30 March–1 April 2001) organized by Swiss Student Pugwash. This issue was extensively discussed in the working group on Ethics, Science and Society. It was concluded that many scientists are trained to be narrow-minded in the sense that they are discouraged to take part in ethical discussions and accept social responsibility for their work. The main mechanisms sustaining this situation are early specialization and the lack of sufficient overlap and interaction between disciplines.

Several strategies were discussed that could encourage more 'broad-minded' participation of scientific minds in society:

- involving scientists in two-way (!) communication with the public;
- integrating indigenous and 'alternative' knowledge within science; and
- developing the scientists' ethical consciousness.

The working group focused in some detail on the third strategy. Two proposals were evaluated: compulsory or elective courses on ethics, science and society, and a Hippocratic-type oath for scientists. The courses should not be traditional ethics courses. A considerable amount of time should be spent on general philosophy and social science, preferably together with science students from other disciplines. The real and large-scale problems science and society face today, disarmament and arms control included, should be reflected in the subjects covered by the courses.

In our discussion about an oath for scientists, we used the pledge published in 1995 by Student Pugwash USA (Spusa) as a reference: 'I promise to work for a better world, where science and technology are used in socially responsible ways. I will not use my education for any purpose intended to harm human beings or the environment. Throughout my career I will consider the ethical implications of my work before I take action. While the demands placed upon me may be great, I recognize that individual responsibility is the first step on the path to peace.' The Spusa pledge received wide support among the working group. However, since some members raised specific objections to the text, we embarked on an exercise to come up with alternative wordings on which we all could agree. The new text is not intended to replace the old one, which some working group members may have found more appealing, but can be offered as an alternative in case someone is sympathetic to the idea of a pledge, but has problems with the specific 1995 formulation.

The Geneva 2001 version of the Spusa pledge reads: 'I promise to work for a better world, where science and technology are used in socially responsible ways. Throughout my career I will