

THE POSSIBLE ROLE OF PLEDGES OF SOCIAL RESPONSIBILITY IN SCIENCE

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In the second half of the twentieth century several calls were issued to install a “Hippocratic oath” for scientists. Two significant examples were the call by Sir Karl Popper at the International Congress of Philosophy in Vienna in 1968 (with mainly physicists and philosophers in the audience) and the call by Sir Joseph Rotblat at UNESCO’s World Conference on Science in Budapest in 1999 (with many scientific and societal groups represented in the audience). Rotblat’s plenary address was met with huge applause and his lecture was followed up by an editorial in *Science* (Rotblat 1999).

TWO EXAMPLES OF PLEDGES OF SOCIAL RESPONSIBILITY

Spusa Pledge (1995):

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 sign this declaration because I recognize that individual responsibility is the first step on the path to peace.

The Pugwash Pledge (WG 8, 22nd Pugwash Conference, Oxford, 1972):

I will not use my scientific training for any purpose which I believe is intended to harm human beings; I shall strive for peace, justice, freedom and the betterment of the human condition.

Rotblat’s editorial triggered a much-needed public discussion on the topic of pledges and oaths. Many commentators questioned whether the pledges that have been proposed, such as the one released by Student Pugwash USA (Spusa) in 1995 or the one prepared by a Pugwash Conference Working Group (WG 8) in 1972, make sense (see, e.g., the professors who were asked to comment on the Spusa pledge in the weekly newspaper of the University of Groningen, the Netherlands, 9 December 1999). In this brief paper I counter four general objections against pledges of social responsibility and at the same time point out possible roles of such pledges in science.²

The *first objection* raised to pledges of social responsibility is that it is impossible to objectively distinguish between good and evil. It is, of

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² In this paper I make use of the reply I gave to the Groningen professors in the 13 January 2000 edition of their university newspaper.

course, true that individuals make subjective judgements on what is good and what is evil and that these judgements can differ. The point of the pledge, however, is to emphasize the importance of making such judgements. The Spusa text emphasizes the individual consideration of "ethical implications." The Pugwash Conference WG text makes explicit that the intention of harm is judged by the individual (by using the phrase "I believe").

Countering the first objection thus leads to a focus on the individual responsibility of scientists. Since pledges of social responsibility typically have an "aspirational" character and do not function as full-fledged professional codes, the texts can also be modified by the "users." For example, when I received my MSc in physics in Amsterdam in 1993, I spoke out a public pledge (with local television and radio attending), which was written by me and discussed among friends. The pledge was based on the Pugwash Pledge as a starting point. I had added phrases on taking responsibility for my actions and on the environment, elements which are also included in the Spusa pledge. According to me, research on nuclear, chemical or biological weapons is – by its nature – intended to inflict harm (even if the explicit purpose is not to use those weapons), and therefore I will not participate in such research. Other people have to make their own judgement. The role of the pledge is that I feel bound by it and that my friends can question me if I decide to do otherwise.

The *second objection* is that there is a crucial difference between producing and using knowledge. This objection is, of course, part of the ubiquitous rethoric about (value-free) science. In other context (e.g., when money is asked for research), however, scientists often emphasize the intimate connection between "fundamental" science and "applied" technology. The pledges should be about socially responsible science *and* technology. It should be recognized that especially due to the interwovenness of science and technology much labour and capital is needed to produce new knowledge. We always make political choices on which areas of research should receive funding and which should not. The role of pledges can here be to signal that the criterion of 'social responsibility' should be taken into account when distributing scarce resources within society.

The *third objection* is that the behaviour of scientists and engineers in practice are strongly influenced by higher (non-scientific) powers, e.g., political and economic interests. The question is indeed: Why focus on the responsibility of individuals if the responsibility of other more powerful societal actors seems more to be the issue? I think, however, that the Pugwash movement has shown that individuals matter, as is also explicitly stated in the Spusa pledge. This is of course especially the case if the movement includes people who are now (or will be) in positions of power. The pledges can fulfil the role of giving a call to society to arrive at new institutional arrangements which can safeguard that science and technology develop in socially responsible directions.

The *fourth objection* is that if a pledge for social responsibility is really seen as a Hippocratic oath for scientists, to which scientists could be held

accountable by everybody, this would be an intolerable intrusion on science's independence. This objection is related to the second objection. As far as the objection upholds an image of science which should be as independent as possible from society, I think it is wrong. Of course, science must be held accountable to society. But pledges of social responsibility are not instruments for doing that. Separate mechanisms exist or should be amended for that purpose.

Conclusion

I think we must conclude that a real Hippocratic oath for scientists is unfeasible and that we must consider pledges of social responsibility to be aspirational in kind, with a strong focus on individual responsibility. The broader context of science, ethics and society must be addressed using other means than Hippocratic oaths. The responsibility of more powerful actors should be explicitly dealt with. Still, pledges of social responsibility should receive much more institutional support than they get now. We must recognize that in order to give the pledges a useful role we need to include much more ethical training within science and engineering curricula. Students should be made aware of the existence of pledges of social responsibility and some texts should be discussed as part of the curriculum. Students should also be allowed to publicly speak out during their graduation ceremonies, thus showing that they are individual thinkers who feel responsible for their actions and for the world.