

## Origin and Development of the 2017 AAAS *Statement on Scientific Freedom and Responsibility*

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On October 12, 2017, the AAAS Board approved the *AAAS Statement on Scientific Freedom and Responsibility*. The *Statement* is part of a broader project undertaken by the AAAS Committee on Scientific Freedom and Responsibility to develop a website with documents and other resources related to scientific freedom and responsibility, a list of relevant articles published in *Science*, information on AAAS activities related to the topic, and web links to informative websites.

This article provides background on the evolution of attention to scientific freedom and responsibility within AAAS and documents the origin and development of the *Statement* and the project. It also records the Committee's intentions and hopes for the project.

### Background

In 1970, AAAS established an *ad hoc* Committee on Scientific Freedom and Responsibility to “study and report on the conditions required for scientific freedom and responsibility, . . . and to recommend mechanisms to enable the Association to review instances of alleged abridgment of scientific freedom and alleged violations of responsible scientific conduct.” The creation of such a committee was prompted in large part by the growing attention to science and technology in relation to “areas of social and ethical concern” (*Scientific Freedom and Responsibility*, p. v).

The *ad hoc* Committee issued a report in 1975, *Scientific Freedom and Responsibility*, which is often referred to as “The Edsall Report,” after its chief author, Dr. John T. Edsall, a professor of biochemistry at Harvard University. The report did not directly define scientific freedom and responsibility, but did characterize it as follows: “the issues of scientific freedom and responsibility are basically inseparable. Scientific freedom, like academic freedom, is an acquired right, generally approved by society as necessary for the advancement of knowledge from which society may benefit. The responsibilities are primary; scientists can claim no special rights, other than those possessed by every citizen, except those necessary to fulfill the responsibilities that arise from the possession of special knowledge and of the insight arising from that knowledge” (*Scientific Freedom and Responsibility*, p. 5).

The report then proceeded to present and analyze several instances where scientific freedom and responsibility came into dispute, some of which still spark controversy. Among the issues covered were the use of defoliants and herbicides by the U.S. military in Vietnam, the safety of

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nuclear power plants, the ban on fetal research, a moratorium on recombinant DNA research, the misuse of psychology as a tool for torture, the implications of national security controls on science, and misconduct in science. Finally, in its recommendations to AAAS, the *ad hoc* Committee suggested that “not more than 5 years hence, the Association should reexamine the whole problem, perhaps by setting up a committee similar to this one, to see where we stand at that time. Alternatively or additionally, it might set up a committee to receive complaints concerning violations of scientific freedom and responsibility, and refer them, when possible and desirable, to appropriate bodies for further study and possible action” (*Scientific Freedom and Responsibility*, p. 44).

AAAS wasted little time in acting on the report’s conclusions and recommendations. In 1976, it established a standing Committee on Scientific Freedom and Responsibility, along with an Office of Scientific Freedom and Responsibility to staff the work of the Committee. In 1977, AAAS changed its Constitution to include “fostering scientific freedom and responsibility” as part of its mission, and also developed a Clearinghouse on Science and Human Rights to review claims of persecuted foreign scientists and, where appropriate, to refer the cases for action to scientific, engineering and other societies affiliated with AAAS.

### **The Work of AAAS on Scientific Freedom and Responsibility**

Since the mid-1970's, AAAS’s work on scientific freedom and responsibility has been organized according to three major foci: ethics, law, and human rights. In 1990, a reorganization established two programs at AAAS devoted to scientific freedom and responsibility issues—the Program on Scientific Freedom, Responsibility and Law, and the Program on Science and Human Rights. The former focused on ethics and law, while the latter on human rights. The Committee on Scientific Freedom and Responsibility became advisory to both Programs, while another AAAS standing committee established in 1974 (the National Conference of Lawyers and Scientists, a joint committee of AAAS and the American Bar Association), became advisory to the Program on Scientific Freedom, Responsibility and Law. This arrangement stood until 2011, when the two Programs merged into a new Program on Scientific Responsibility, Human Rights and Law, with both committees as advisory.

Over the course of the past four decades, the Committee on Scientific Freedom and Responsibility and staff led numerous efforts on behalf of AAAS to promote scientific freedom and responsibility. In 1981, the Committee held a workshop on scientific cooperation and human rights in the Americas that led to AAAS Council resolutions on human rights and scientific freedom. Beginning in 1984, the Committee supported international missions to investigate human rights abuses in a number of countries. The impact of those missions has reverberated throughout the world. For example, in 1984, AAAS provided technical assistance to government and non-governmental organizations in Argentina to exhume mass graves of victims of the country's "dirty war" and to apply genetic screening techniques to determine grand paternity of children born in detention or abducted from their parents and adopted by supporters of the previous regime. This mission, which enabled a number of grandparents to be connected with their “missing” grandchildren and provided evidence for criminal proceedings against those who perpetrated human rights abuses against a generation of civilians who protested the prior military

regime, was followed by several more to Guatemala, Honduras, and the Philippines, among others.

In the late 1980's, AAAS initiated what would become a more than 30-year effort to promote the responsible conduct of research by scientists. It began with a series of three workshops on the topic of what was then referred to as scientific misconduct and continued into the 1990's with nearly a dozen workshops on how to develop and implement policies and procedures for pursuing allegations of misconduct in research, a series of videos on the topic for teaching purposes, and a major conference on the role of scientific societies in promoting research integrity. The work continued during the 2000's, as AAAS collaborated with universities, other scientific societies and government agencies to develop programs to educate scientists and their students on best practices for conducting responsible research. Internationally, AAAS was a major supporter of a series of international conferences on research integrity, and signed a historical agreement with the China Association for Science and Technology to launch a joint effort in 2007 on promoting ethics in science. In 2013, with the active participation of members from both the Committee and the National Conference of Lawyers and Scientists, the Program on Scientific Responsibility, Human Rights and Law began to explore the implications of what it means for scientists to have "social responsibilities," that is, special responsibilities to the societies that support and are impacted by their work.

In 1990, with support from both its standing advisory committees, the AAAS Board and Council issued a Resolution on the Use of Animals in Research, Testing, and Education, in which the Association reiterated its support for the use of animals in scientific research, while also strongly acknowledging that scientists should act responsibly when doing research with animals. In September 2006, AAAS wrote Congressman F. James Sensenbrenner, then Chairman of the House of Representatives Judiciary Committee, urging him to give favorable consideration to the Animal Enterprise Terrorism Act (H.R. 4239), which would give law enforcement the tools necessary to respond to harassment and violence perpetrated by animal rights extremists against organizations, individual scientists, and their family members. The bill became law two months later.

In the mid-1990's, AAAS developed statistical methodologies for documenting and analyzing human rights violations, and soon launched technical assistance and training efforts in many countries, including Guatemala, Haiti, South Africa, Cambodia, Kosovo, and Afghanistan, among others. From 2005 to 2017, AAAS has pioneered the use of high-resolution satellite imagery and related geospatial technologies to detect human rights abuses and violations. Analysis of geospatial data can help document, for example, land use patterns, population movements, destruction of structures, and changes in the environment that impact the human rights of vulnerable populations. Findings from such observations have been used by international human rights courts in litigation involving allegations of gross human rights violations.

### **The Project on Scientific Freedom and Responsibility**

In February 2015, the 40th anniversary of the Edsall report, members of the AAAS Committee on Scientific Freedom and Responsibility began a discussion about updating it, at the suggestion

of Patrick Vinck, a member of the Committee. They noted how far science and AAAS have come in matters related to scientific freedom and responsibility since the 1975 report was issued. They also recognized a need for an actual statement on scientific freedom and responsibility, which the earlier report did not include. Finally, the format of the original 40-page report seemed less useful than a website that could be readily updated and expanded over time. The range of issues that the Committee discussed in relation to scientific freedom and responsibility, as well as the great diversity in scientific fields and in the contexts of scientists' work, led the Committee to conceptualize a broad statement, rather than a detailed examination of specific aspects of freedom and responsibility. The vision that emerged was of a succinct statement of enduring value, along with an expansive set of resources, articles, records of activities and links to other websites. The Committee devoted all of its meetings in 2015-2017 – its own September topical meetings as well as its meetings in conjunction with the AAAS Annual Meeting – to development of the Project on Scientific Freedom and Responsibility, as it became known.

The first step was consultation, beginning with Rush Holt, the Chief Executive Officer of AAAS, who was supportive of the Project throughout. He emphasized the Project's connection to the mission of AAAS (advancing science and serving society), and its role as a force for science. At the Committee's topical meeting in September 2015, members and staff discussed possible foci and directions with representatives of scientific associations and universities, former associates of the National Science Foundation and the National Academies of Science, as well as former chairs of the Committee and of the AAAS Office of Scientific Freedom and Responsibility. At that meeting, one of the consultants, speaking in favor of the development of a statement, asked, "If not AAAS, who?"

A second round of formal consultations occurred at the time of the 2016 AAAS Annual Meeting, when the Committee hosted six one-hour panels with a total of 18 eminent scientists and representatives of scientific organizations. The panelists included representatives from the National Institutes of Health, the Korea Foundation for the Advancement of Science and Creativity, the European Commission, EuroScience, several universities, the corporate sector, and policy centers outside the U.S., among others. One panel comprised graduate students from various universities. At its September 2016 meeting, the Committee heard from representatives of the National Academies of Science Committee on Human Rights.

The Committee solicited input on the Project from various AAAS groups. The Committee chair made informational presentations to the AAAS Board, Council and Affiliates at the 2016 Annual Meeting. The Committee invited comments through direct invitations to all members of the Board, Council and Affiliates in Summer 2016. Comments received were compiled and discussed at the September 2016 meeting, when the *Statement* was first drafted. The chair made further presentations to the AAAS Committee on Science, Engineering and Public Policy at the 2017 AAAS Annual Meeting, and again to the Board in April 2017 (after receiving approval and support from AAAS Chief Executive Officer, Rush Holt). All members of AAAS were invited to participate in a one-hour webinar on the *Statement* and Project, which took place on August 9, 2017 with 113 participants from seven countries. The webinar was presented by Melissa S. Anderson, the Committee chair; Britt Holbrook, a member of the Committee; and Jessica Wyndham, a AAAS staff member. Once again, all comments and feedback from the webinar were compiled and shared with the Committee.

On October 12, 2017, the chair, on behalf of the Committee, requested and received Board approval of the *Statement on Scientific Freedom and Responsibility*. The Project website was launched on October 18, 2017.

At the time the website was first made public, it had the following components:

- 1) *AAAS Statement on Scientific Freedom and Responsibility* and transitional text (which appear in the Appendix in their original forms). The *Statement* was first drafted in September, 2016, and was later modified slightly in response to suggestions from the Board. The transitional text was developed to connect the *Statement* to the other materials on the website. It notes that the website content is intended to promote discussion and is therefore likely to be provocative. It also acknowledges the complications involved in promoting scientific freedom and responsibility in certain contexts and under various conditions.
- 2) Featured Articles. The first of the featured articles is the Edsall Report that preceded the Project. The Committee also commissioned three papers to support the Project's initial launch, all by members of the Committee, except for Mark Frankel, the immediate past director of the AAAS Program on Scientific Responsibility, Human Rights and Law. This paper (by Melissa S. Anderson and Mark S. Frankel) provides background on the Project. Another (by Jay Aronson) elaborates on the transitional text and the role of the *Statement*. A third paper (by Molly K. Land and Sarah Hamilton) discusses the relationship between scientific freedom and responsibility and human rights. Other featured articles are drawn from the AAAS journals, notably *Science*. This collection of articles extends an earlier compilation by Rosemary Chalk of relevant *Science* articles published between 1949 and 1986.
- 3) Archives for Key Articles. This section of the website is intended to provide ready access to earlier key articles, making it possible to keep the key articles section small and current.
- 4) Other Articles from *Science*. Committee members committed graduate assistants and staff members to review issues of *Science* from 1987 through the summer of 2016 to identify articles and editorials related to scientific freedom and responsibility. The working group members were: Erin Heslin Slattengren, University of Minnesota (chair); Natalie Gyenes, Harvard University; Angela Oaks and James K. Vance, University of Wisconsin – Stout; and Ellen J. Platts, AAAS. Four members of the Committee then reviewed the hundreds of articles that the working group identified, and selected and categorized the articles to be included on the website. The Committee members who undertook this task were Catherine McCarty (chair), Neal Rubin, J. Britt Holbrook, and Elizabeth Buchanan.
- 5) Resources. This section of the website gives access to a wide array of resources relevant to research, instruction, policy development or other inquiry in the areas of scientific freedom and responsibility.
- 6) Award Winners. Each year, at its Annual Meeting, AAAS announces the winner or winners of the AAAS Scientific Freedom and Responsibility Award. This section of the website lists all past winners and provides links for more information on the Award.

7) AAAS Activities. As noted above, AAAS is engaged in a wide array of activities that involve or support scientific freedom and responsibility. This section is intended to provide timely information on those activities.

### **The Future of the AAAS Project on Scientific Freedom and Responsibility**

As originally envisioned, the Project encompasses an enduring *Statement* and a rich set of resources that support inquiry and activities related to the intertwined principles of freedom and responsibility. The Committee intends the website to be maintained with timely additions of articles and other resources that represent the complexities of freedom and responsibility in evolving contexts and situations; in relation to new knowledge; with opportunities and challenges brought by new technologies; and in light of new understandings of science, the scientific endeavor and humanity.

We hope that future members of the Committee will enhance the website with thoughtful and useful content, with statements from scientists worldwide, with concrete illustrations of how issues of freedom and responsibility play out in real life, and with videos that add new dimensions to our work so far. Updates should include articles from *Science* that are related to the website's focus, despite the tediousness of collecting them. With nimble and diligent updating, the Project can and should be a primary source globally for information, analysis and creative ideas on freedom and responsibility.

We trust that, forty years hence, the Project on Scientific Freedom and Responsibility will have evolved in ways that we could not now envision but that will serve the global scientific community well in its commitment to scientific freedom and responsibility.

### **Sources**

Amy Crumpton, *A Brief History of the AAAS Science & Human Rights Program*, and *A Brief History of the AAAS's Activities on Scientific Freedom, Responsibility and Law*, May 2011; <https://www.aaas.org/page/srhrl-history>

*Scientific Freedom and Responsibility* (AAAS, 1975); <https://www.aaas.org/sites/default/files/SRHRL/PDF/1975-ScientificFreedomResponsibility.pdf>

## Appendix A

### AAAS Statement on Scientific Freedom and Responsibility

Scientific freedom and scientific responsibility are essential to the advancement of human knowledge for the benefit of all. Scientific freedom is the freedom to engage in scientific inquiry, pursue and apply knowledge, and communicate openly. This freedom is inextricably linked to and must be exercised in accordance with scientific responsibility. Scientific responsibility is the duty to conduct and apply science with integrity, in the interest of humanity, in a spirit of stewardship for the environment, and with respect for human rights.

#### *(Transitional Text)*

*The AAAS recognizes that everyday science takes place in situations that pose challenges to scientific freedom and scientific responsibility. Scientists often face competitive pressures, conflicting interests, complex problems, and ambiguity in their work. Furthermore, the exercise of scientific freedom and scientific responsibility is subject to political, economic, and institutional pressures, and is affected by cultural variation. This website presents a range of different and sometimes opposing perspectives, as well as resource materials, to promote discussion in the context of everyday work. It is not intended to be comprehensive or exhaustive, but rather timely, informative and useful as a guide for policy and behavior and as a resource for inquiry and instruction in the area of scientific freedom and responsibility.*

## Appendix B

The following members of the AAAS Committee on Scientific Freedom and Responsibility and AAAS staff members contributed to the conceptualization and development of the Statement on Scientific Freedom and Responsibility and the associated Project during 2015-2017.

Melissa S. Anderson, University of Minnesota, Committee Chair  
 Jay D. Aronson, Carnegie Mellon University  
 Theresa Betancourt, Harvard T.H. Chan School of Public Health  
 Angela Bielefeldt, University of Colorado, Boulder  
 Elizabeth A. Buchanan, University of Wisconsin, Stout  
 J. Britt Holbrook, New Jersey Institute of Technology  
 Coleen Kivlahan, Association of American Medical Colleges; then University of California, San Francisco  
 Molly K. Land, University of Connecticut School of Law  
 Steven Livingston, George Washington University  
 Juan Lucena, Colorado School of Mines  
 Stephen P. Marks, Harvard University T. H. Chan School of Public Health  
 Catherine A. McCarty, Essentia Institute of Rural Health  
 Thomas J. Parsons, International Commission on Missing Persons  
 Neal S. Rubin, Illinois School of Professional Psychology  
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