BRIEFING

Stem Cell Research Focus of Congressional Briefing

Scientists and policy-makers recently met on the Hill to discuss the potential applications for stem cell research and the ethical considerations involved, as the debate continues on whether to use federal funding to support this promising line of research. The AAAS congressional briefing, held on 25 April, highlighted the results of a AAAS report that supports federal funding for research involving all types of human stem cells.

Legislation to support this area of research was recently introduced by Sen. Arlen Specter (R–PA) and Sen. Tom Harkin (D–IA), and hearings were held on 26 April, which included movie star Christopher Reeve, former senator Bob Dole, and others. Meanwhile, privately funded research is forging ahead with remarkable speed but with no public oversight.

Speakers at the AAAS briefing discussed stem cell research, potential applications, and ethical concerns. John D. Gearhart, director, Division of Developmental Genetics, The Johns Hopkins University, provided an update on current stem cell research at the AAAS briefing and predicted that clinical trials could take place in 3 to 5 years. Gearhart urged that stem cell research proceed in an effort to cure numerous diseases, such as Down syndrome. "You're not going to be immortal," Gearhart said. "We're not talking about the expanded life-span of a population or cloning."

Robert A. Goldstein, vice president for research, Juvenile Diabetes Foundation International, called for both federally funded research and private research to continue. "The research should go forward in the public arena," Goldstein said. "The pace of research in isolation, and not shared, is abysmal compared to shared research in public." He also warned that there would be no public oversight and guidelines if research were to proceed in the private arena only.

The AAAS report, *Stem Cell Research and Applications*, says federal funding should be used for research on human stem cells—including embryonic stem cells that have already been isolated in laboratories—but the derivation of human stem cells should not at present receive federal funding because of public anxiety surrounding it. Stem cell research could result in a dramatic increase of our knowledge and understanding of genetics and developmental biology, and potentially result in treatments and cures for many diseases, including Parkinson's disease, diabetes, and cancer. The report was released in November by AAAS and the Institute for Civil Society, and can be found online at www.aaas.org/spp/dspp/sfrl/projects/stem/main.htm.

Stem cell research, however, has precipitated considerable controversy, both because of the sources of some of the cells and its potential uses. Some opponents believe that it would be unethical to destroy human embryos to isolate the stem cells, while others are concerned about the possible use of stem cells for generating human tissues and organs and potentially for human cloning.

According to Mark S. Frankel, director of AAAS's Scientific Freedom, Responsibility and Law Program, "The problem arises regarding the source of stem cells—such as aborted fetuses or embryos frozen for fertility purposes, which are viewed by some as potential human life." Nevertheless, there is already sufficient material gathered by clinics and researchers not using federal funding that this exclusion will not have a negative impact on research, the AAAS study says.

Ronald M. Green, professor for the study of ethics and human values, Dartmouth College, addressed the ethical issues involved in stem cell research at the briefing. "Although many people are morally uncomfortable with anything that appears to legitimate abortion, I believe that a consensus has emerged in this country that the use of fetal tissues which would otherwise be discarded is ethically permissible, so long as appropriate guidelines are in place to insure that the use of these tissues in research in no way induces a woman to have an abortion," Green said. He noted that embryos are already routinely destroyed in infertility clinics around the world when donors decide they are no longer needed, and that there are at least tens of thousands of such embryos in the United States, with thousands more being produced each year.

According to the AAAS study, federal funding of stem cell research would offer a basis for public approval through well-established oversight mechanisms and help guarantee that the results of stem cell research would reflect broad social priorities. Also, federal regulatory mechanisms now provide a sufficient framework for the oversight of stem cell research, and it is important not to create unnecessary oversight mechanisms or regulatory burdens, the study says. The Food and Drug Administration has the authority to regulate the development and use of human stem cells that will be used as biological products, drugs, or medical devices to diagnose, treat, or cure a disease or underlying condition. And the National Institutes of Health is expected to issue final guidelines endorsing stem cell research by this summer, which would give the federal government oversight responsibilities.

John D. Gearhart of The Johns Hopkins University provided an update on stem cell research at a AAAS briefing.

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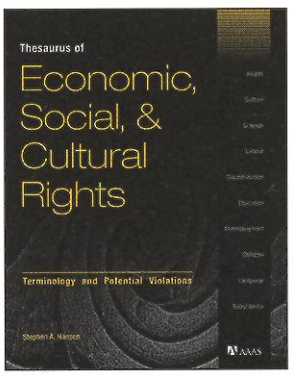
The AAAS study was conducted with the advice of a working group, composed of scientists, lawyers, ethicists, and representatives from several religious faiths. From this effort, a number of recommendations were developed for conducting stem cell research, covering such issues as public education, procedures for stem cell isolation, human subjects protection, and research guidelines. AAAS has conducted a number of studies and forums to promote continued dialogue on emerging scientific advances that affect the public, including cloning and genetically modified foods.

PUBLICATIONS

New AAAS Resource Boosts Human Rights

While many resources cover a broad spectrum of human rights, including civil and political rights, a new thesaurus by AAAS focuses specifically on economic, social, and cultural rights, presenting a useful tool for nongovernmental organizations, human rights workers, and academicians.



The *Thesaurus of Economic, Social, and Cultural Rights: Terminology and Potential Violations*, by AAAS's Stephen A. Hansen, organizes, classifies, and cross-references rights, terminology, and potential violations pertaining to the International Covenant on Economic, Social and Cultural Rights. It serves as an access point to other international instruments, declarations, and other related documents.

"The thesaurus is an important first step toward understanding a category of human rights that to date have resisted attempts at systematized monitoring," Hansen said.

In November 1999, Hansen was invited to give a presentation of the thesaurus in Geneva during a session of the United Nations Committee on Economic, Social and Cultural Rights. According to Virginia Bonoan-Dandan, the chair of the committee, "The Thesaurus is user-friendly and it conveys legal contexts in a way that is not cumbersome and intimidating. Economic, social and cultural rights have just been given a much-needed shot in the arm."

Sections of the thesaurus address article 15 of the covenant, which recognizes the right to enjoy the benefits of scientific progress and its applications; benefit from the protection of the moral and material interests resulting from any scientific production of which he or she is the author; the steps necessary for the conservation, development, and the diffusion of science; and the development of international contacts and cooperation in the scientific field. The thesaurus contains entries relating to such issues as science policy, genetic testing, scientific patents, and biopiracy.

The thesaurus is the result of a 3-year project by AAAS and the Human Rights Information and Documentation Systems International to develop a series of simple, accurate, and nontechnical tools and resources to enable organizations to monitor violations of economic, social, and cultural rights. The thesaurus is the first of these resources to be made publicly available.

The thesaurus is available in English and Spanish, and can be ordered by contacting the AAAS Distribution Center at 800-222-7809. The thesaurus can also be found on the Web at http://shr.aaas.org/ethesaurus.

MEETINGS

Report of the 2000 Council Meeting

Held on 20 February 2000, at the Marriott Wardman Park in Washington, DC.

Report on Board Actions—Stephen Jay Gould, AAAS president, gave highlights of the AAAS Board's actions over the last year. He noted that the Board had continued to carefully monitor the R&D funding situation. He said that Board concerns over the loss of funding in the engineering, physical, and computer sciences area had led to a AAAS-hosted meeting for affiliates from these discipline areas as well as representatives from industry and congressional staffers. He said that the meeting participants discussed the possibility of the formation of an independent coalition for the purpose of helping to increase the public's appreciation both for the important role that basic research in these sciences has played in the advances of other sciences and for the contributions this research has made to improving their lives. Gould noted that the group had agreed to pursue this idea further. He said that the Board had also met with Joseph Bordogna, deputy director of the National Science Foundation (NSF), to discuss organizational changes at NSF, the redirection of the educational programs, concerns about funding for basic research, and the future viability of the United States as an innovation leader.

Gould also noted that the Board had closely followed the situation with regard to both the free circulation of scientists and the potential for discrimination against foreign scientists working in the United States. He said that they had met with the chief science adviser to Energy Secretary Bill Richardson to express their concerns over these issues and to offer AAAS assistance in dealing with these matters.

He described the search process for the selection of a new editor-in-chief for *Science* and said that Donald Kennedy had been selected by the Board to fill that slot, beginning in June 2000. He also talked about the challenges and opportunities being created for the journal by the Internet.

In December, the Board held a special retreat in San Jose, California. Gould said that in addition to its normal board meeting, there had been panel discussions with industry and educational leaders from Silicon Valley. These discussions focused on workforce issues, support for teachers, educational tools for the Internet, and opportunities for informal learning at museums and technology centers. He said that the Board viewed this as the beginning of an ongoing conversation with these constituencies and would continue to explore ways to cooperate with these groups.

Gould announced that the Board had recently agreed to create the Long Range Planning Committee that would be charged with looking at future strategic directions for the organization and that the group would be chaired by incoming president, Mary Good.

Executive Officer's Report—Richard Nicholson, AAAS executive officer, gave a brief state-of-the-association report. He stressed that the health of the association was very strong. He reported that beginning in 1996 the Board had charged him with rebuilding the organization's reserves and that AAAS had finished 1999 with another surplus.

Update on the Status of the Office of Management and Budget's Circular A110—Mark Frankel of the Science and

AWARDS

Reviewers Sought for Journalism Awards

Scientists are needed to review entries in this year's AAAS Science Journalism Awards Program, sponsored by The Whitaker Foundation. Since the program's inception in 1945, more than 300 individuals have been honored for their significant achievements in the field of science reporting. The awards are highly coveted among the science journalism community, and the winners are honored each year at the AAAS annual meeting.

Independent screening and judging committees comprised of scientists and science journalists select the winning entries. The reviewers screen radio and television reports for scientific accuracy. If you would like to volunteer, and can be in the Washington, D.C., area sometime in August or September, contact Tiffany Ayers at the AAAS News and Information Office (phone 202-326-6781 or e-mail tayers@aaas.org).

BYLAW AMENDMENT
ARTICLE I. MEMBERSHIP AND AFFILIATION

Section 2. Fellows. A Member whose efforts on behalf of the advancement of science or its applications are scientifically or socially distinguished may, by virtue of such meritorious contribution, be elected a Fellow by the Council. The Executive Officer shall annually present to the Council a slate of nominees for such election. Nominations may be made by the Steering Groups of the Section Committees (see Bylaw Article III, Section 3); by the Executive Officer; and by any three Fellows provided that at least two ~~one~~ of the three are not affiliated with the institution of the nominee.

Policy Programs staff reminded the Council that legislation had been passed that contained a requirement that all data produced under federal awards be available to the public through the Freedom of Information Act. He noted that at last year's Council meeting a resolution had been passed expressing concern for the possible impact of these regulations on the conduct of research. He reported that there had been several unsuccessful efforts to repeal the law and that the Office of Management and Budget had recently issued the revised regulations that contain definitions and exclusions in response to some of the concerns expressed by the scientific community. Frankel felt that the new regulations were likely to be challenged in the courts by opponents of those changes and he indicated that AAAS would continue follow the situation on behalf of the scientific community.

Status Report on Court-Appointed Experts Project—Mark Frankel said that this project was a 5-year demonstration project to test the feasibility of providing science and technology advice to judges. He said that they were developing the process for selecting candidates and hoped to begin placement in the summer. He indicated that the AAAS sections and affiliated societies had been invited to participate in this project and that efforts were now under way to work out the mechanisms for that participation. He stressed that AAAS's role would be to provide three to four possible candidates and that the courts would make the final selection of the expert.

Report on the Activities Relating to the Teaching of Evolution—Audrey Chapman and James Miller, both of the Science and Policy Programs staff, described the AAAS activities in the area of evolution. They talked about the forthcoming video and publications being produced as a follow-up to a joint meeting held with the Field Museum in Chicago. They also demonstrated the AAAS informational Web site that has been expanded for the purpose of providing additional background information on evolution and links to other sources. It was noted that the site includes statements from major religious groups endorsing the teaching of evolution.

Discussion on the Program of Dialogue on Science, Ethics and Religion—This topic was placed on the agenda in response to a request from the Section on Physics for a Council discussion on this topic. Gould introduced the topic by saying that the Board had continued to review the programs of AAAS on a regular basis and had held several recent sessions focused on the activities of the Program of Dialogue on Science, Ethics and Religion. He noted that it was in response to the Board's request that the name of the program had been changed to include "ethics" in its title. He also stated that the Board had requested assurances that the amount of program funding from the Templeton Foundation would be reduced and that other funding sources would be sought. Gould indicated that the Board had also requested that a statement be placed on the program Web site noting the independence of the program from the views of its funders. At the same time, Gould said that the Board had reconfirmed its support for the overall goals of the program and its activities, particularly in the areas of evolution and genetic research.

Al Teich, director of Science and Policy Programs, described the current activities of the program. He talked about his staff's responses to the Board's earlier concerns and stated that the funding from Templeton made up less that 40% of the current funding for the program. He said that the Board appoints the advisory committee for the program and that the Board also has two members who serve as liaisons to that advisory committee.

Audrey Chapman, head of the DoSER program under Teich, said that the three objectives of the program were to promote understanding of science and technology in religious communities, to provide for a dialogue between scholars on matters of mutual concern, and to facilitate public outreach activities. She noted that the recent emphasis for the program has been on bioethics/bioresponsibility and evolution. Several representatives from the Section on Physics stressed that they felt it was important to raise this topic for discussion, that they felt reassured by some of the responses to their concerns but that they hoped the Board would continue it careful oversight of these areas.

Actions Brought Forward by the Committee on Council Affairs (CCA)—The Council approved the International Society for Molecular Plant-Microbe Interactions (IS-MPMI) for affiliation with AAAS.

The Council approved the proposed changes to wording in the Arctic Division bylaws that would add the newly created Nunavut Territory of Canada to the Division's membership.

The Council approved the proposed resolution reaffirming the scientific integrity of plant research (see the box, below).

Mary Good, chair of CCA, reported that, in its newly approved role as final arbiter for challenged fellows nominations, the Committee on Council Affairs had discussed mechanisms for handling challenges to fellowship nominations. She noted that a recommendation for an amendment to Article I, Section 2 of the Bylaws had come out of these discussions (see the box, left). The amendment was approved by those attending the Council meeting and will now be mailed to the entire Council for a vote.

Good also reported that a resolution on the unity of science and funding for science as a whole had been brought before the CCA. The CCA felt that a task force should be formed to work through the details of the document before it was brought before the Board for final action. The Council agreed with this proposal and charged John Peoples, retiring chair of the Section on Physics, with leading this effort.

RESOLUTION AFFIRMING SCIENTIFIC INTEGRITY OF PLANT RESEARCH

Whereas recent destructive acts against public and private facilities and biological research materials cannot be condoned;

Whereas such activity compromises the conduct of science, threatens the lives and endeavors of researchers, and destroys irreplaceable biological materials;

Whereas the destruction of research and related materials is an unacceptable activity;

Therefore be it resolved that AAAS affirms the scientific integrity of plant research and believes that appropriate penalties should be applied for willful damage to such research and its facilities.

Approved by the Council on 20 February 2000.