Report Details AAAS Response to "Crisis in Science Education"

WHAT the Association is doing to help improve science and mathematics education in this country is described in an October report from the AAAS Office of Science and Technology Education to the Board of Directors, *The Continuing Crisis in Science Education: The AAAS Responds*.

The current problems in science and mathematics education differ from the situation precipitated by the surprise orbiting of Sputnik in 1957, according to the report. There is now a better understanding that no matter how many skilled scientists, mathematicians, and technicians we produce, we cannot remain a leader among nations if we do not prepare all of our citizens to participate fully and effectively in a world that is increasingly scientific and technological. Noting this need for a national commitment, the AAAS Office of Science and Technology Education (OSTE), in 1982, stated its goals:

"We want to increase opportunities, in school and out, for all young people. We want them to develop a lasting interest in science, to see it as an important way of thinking, as an activity that is intimately linked to all other human endeavors and aspirations. The task is to turn science and mathematics education around, not just for the self-selected elite, but for all of our future citizens."

Accordingly, the OSTE established five objectives for its new thrust in science education:

1) *Encourage engagement*. Provide an opportunity for scientists, individually and through their organizations, to play a constructive role in the improvement of school science.

2) *Help to clarify the goals of science and mathematics education in the schools*. Bring scientists and educators together to develop workable new goals for science education.

3) *Diversify and enrich science and mathematics education in the schools*. Help teachers acquire fresh, scientifically sound, and exciting materials as well as convenient ways to update their own science knowledge and teaching techniques.

4) *Promote the best possible science and mathematics education for all children—not just the economically and culturally advantaged*. Girls, minorities, inner city and rural children, the poor, disabled young people, the average student, and the unusually talented all deserve and need to become scientifically and mathematically literate.

5) *Promote continuity of effort*. These efforts must be sustained for decades if lasting improvement is to be achieved.

Six new programs, initiated over the last 5 years, aim to incorporate these science education goals and to provide the Association with a program of action.

Project 2061: Education for a Changing Future was created by AAAS to develop a national approach to science education geared to the needs of the future. Project 2061 is proceeding in three phases: Phase 1 will identify learning goals to determine what young people should know about science, mathematics, and technology by the time they are 17 or 18 years old. Phase 2 will involve the education community in putting these goals into educational guidelines. Phase 3 will provide strategies and leadership to put these guidelines into action. Phase 1 is now under way with funding from Carnegie Corporation of New York and the Andrew W. Mellon Foundation.

The National Forum for School Science focuses attention on critical aspects of science education. Each year the Forum features a particular theme in school science and addresses it by collecting and analyzing relevant data; convening an annual conference which includes presentations by national leaders; and issuing a report, *This Year in School Science*, containing data, conference presentations, and findings or recommendations coming out of the conference. In 1985 the Forum looked at "science teaching," in 1986, "the science curriculum" (to be held 14 and 15 November in Washington, D.C.). The theme for 1987 will be "students and learning." The National Forum for School Science is funded during design and start-up by Carnegie Corporation of New York.

The Coalition for Education in the Sciences is made up of some 80 science and science teaching associations and academies of science. The Coalition is chiefly concerned with promoting participation and continuity of effort. It provides a way for professional associations to learn of opportunities to contribute to the improvement of science education and to share their experiences in conducting effective educational outreach programs. The AAAS serves as the secretariat and communications center for the Coalition and produces two publications: *Science Education News* and *The Science Education Directory*.

Science Resources for Schools (SRS) provides teachers with materials, methods, and support networks that encourage and enable them to give students in the middle grades active, hands-on experiences with natural phenomena. It aims to foster in all students enthusiasm for science and confidence in their ability to learn science. The program, funded by Standard Oil Company (Ohio), is being introduced and developed in selected pilot states. SRS packets have focused on such natural phenomena as bubbles, motion in space, and fluid patterns. The packets include activity sheets, illustrated booklets for teachers, wall posters, and career materials.

"Challenge of the Unknown" uses the power of film to engage students, especially in the middle grades, in applied mathematical problem-solving. The program consists of seven 20-minute films, a teaching guide, and several computer programs. Funded by the Phillips Petroleum Company, a set of "Challenge of the Unknown" videotapes is available, free, to every school. AAAS is conducting workshops to introduce teachers to the use of these innovative films.

Science Seminars for Teachers is designed to give secondary school teachers the opportunity to meet with leading scientists and learn more about a wide range of ongoing research. The Seminars are based on popular symposia from the AAAS Annual Meeting and take place each year in the city where the most recent Annual Meeting was held. The series of seminars is presented free of charge to science and mathematics teachers.

In addition to the programs of the OSTE, the other offices of AAAS carry out many educational activities from those

working with community-based advocacy and service groups to those that improve the communication of science to the public.

For a copy of the report *The Continuing Crisis in Science Education: The AAAS Responds*, write to the Office of Science and Technology Education at the AAAS address.

New Issue Dates for *Science*

Beginning with the first issue in 1987, the date printed on the cover of each issue of *Science* will be the actual mail date and date of publication. Currently each issue is dated 1 week ahead of publication.

The new system is designed to more accurately reflect the time frame of the news and research presented and conforms to current practice in the scientific publishing community. In addition, the new dating procedure should avoid confusion by allowing members to more accurately assess postal delivery services.

The 2 January 1987 issue will be printed and mailed on that date. It should reach most domestic members of AAAS and *Science* subscribers during the week of 5 January. This means that the copy of *Science* dated 19 December 1986 (the final issue of the calendar year) should reach you during the week of 15 December; the next issue, dated 2 January 1987, should reach you the week of 5 January. Members and subscribers will continue to receive 51 issues of *Science* each year.

Project Updating Directory of Scientists and Engineers with Disabilities

The Project on Science, Technology, and Disability maintains a Resource Group of Scientists and Engineers with Disabilities. The Resource Group and its companion publication, *The Resource Directory of Scientists and Engineers with Disabilities*, serve as a clearinghouse of information for and about disabled scientists and engineers.

The need to identify disabled scientists (including social scientists), engineers, mathematicians, and students of these disciplines is a continuous one. In order to assist all universities, organizations, and agencies in locating qualified disabled persons to serve as role models and peer reviewers, the National Science Foundation has awarded AAAS a grant to publish the second edition of the *Resource Directory*.

AAAS established the Project on the Handicapped in Science (later renamed the Project on Science, Technology, and Disability) in 1975. Since that time, the Project has sought and shared expert advice from disabled scientists and engineers in a wide variety of specialties. Members of the Resource Group consult with schools and colleges, employers, legislators, and other disabled persons, thereby helping to open doors to education and careers in science, mathematics, and engineering for interested disabled persons.

The first *Resource Directory of Scientists and Engineers with Disabilities* was published in 1978. The *Directory* lists names, addresses, and other helpful information on disabled scientists, engineers, and students throughout the United States. The information is useful to school administrators and educators in identifying disabled scientists and engineers to use as advisers, counselors, and role models. The listings can also be used as a resource for those assembling advisory bodies and peer review panels.

For industry, the *Directory* serves as a source of information on accommodation at the work place. It is especially valuable to scientists and engineers who become disabled in midcareer and wish to learn coping strategies others have developed. The *Directory* demonstrates to both disabled and nondisabled persons the wealth of experience and the range of specialties represented by disabled scientists and engineers.

In an effort to reach as many people as possible, AAAS requests that disabled scientists and engineers, as well as students of these disciplines identify themselves, and pass information on to others who would be interested in joining the Resource Group. AAAS will contact those persons identified, and will provide more information about joining the Resource Group and being listed in the *Directory*. AAAS will not use without permission the name of any individual who responds. Please write or call Diane Lifton, Project on Science, Technology, and Disability, at the AAAS address; telephone 202-326-6678 (voice or TDD).

Obituaries

George Arceneaux, director, International Research Service, Houma, Louisiana, member of Section G since 1935, 1 July 1986.

Arthur A. Berenbaum of Melrose Park, Pennsylvania, member of Section N since 1948, 9 March 1986.

Michael Beyer of Los Angeles, California, member since 1982, 15 August 1986.

Herbert W. Busching, Department of Civil Engineering, Clemson University, member of Section M since 1978, 11 August 1986.

M. J. Caldwell of Leesburg, Florida,

For more information about the activities and publications described in "AAAS News," write to the appropriate office, AAAS, 1333 H Street, NW, Washington, D.C. 20005, unless otherwise indicated.

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