1979 Report of the Executive Officer

William D. Carey

1979 has been a very good year for the Association. On the eve of the centennial of *Science*, AAAS launched a major new venture in magazine publishing aimed at a general public audience and motivated by a felt need to enhance the public's understanding of science and technology. *Science 80* was launched in October on a subscription basis and approximately 250,000 subscribers had responded as the year ended. The venture is a major one for a nonprofit organization with decidedly finite financial resources, but the initial bimonthly issues have been received well and the outlook thus far is for a successful result. I must acknowledge the initiative of Allen Hammond, formerly Research News Editor of *Science*, in conceiving and planning this addition to AAAS's publishing repertoire.

A second striking development during 1979 concerns the increasing collaboration between AAAS and its affiliated societies, of which there are nearly 300. While I will not pretend that the interaction with our affiliates is uniformly vital across this immense universe, it is distinctly better than it was in the past. What is happening is that AAAS is engaging affiliate involvement in particular areas of common interest. Eighty affiliated societies participate in the AAAS-sponsored Consortium of Affiliates for International Programs. The Consortium is working with AAAS in preparations for a major 1980 seminar to be held in India on the role of scientific and engineering societies in advancing modernization of developing countries. Sixteen affiliates finance, wholly or in part, Congressional Science and Engineering Fellows. Ten affiliated societies now participate actively in producing elements of the AAAS analyses of the Federal Research and Development Budget. Eighty societies work with AAAS in the program for physically handicapped scientists and engineers. Thirteen affiliates joined with AAAS in conducting workshops for the State Department leading up to the United Nations Conference on Science and Technology for Development. Thirty-three affiliates participate in the AAAS Clearinghouse on Science and Human Rights. In 1979, 15 societies formed an ad hoc group through AAAS to discuss issues involving professional ethics. It has been especially rewarding to see our engineering affiliates taking a greater part in these activities.

The affiliate relationships are not yet what they should be, overall. But good progress is being made, as these indicators demonstrate. AAAS will take additional initiatives in the coming year in this area, and we will cheerfully welcome approaches by the affiliates themselves for AAAS participation in their goals and objectives.

A third important point to be noted in this report is a decided change in the scale and mix of AAAS's finances. The 1978 AAAS operating level was in the range of $11 million. The 1980 estimated level of operations is $18 million. The explanation is found in the results of income and outgo associated with the new magazine, *Science 80*, although general economic inflation also plays a part in budget growth. The point being made, however, is that a major new source of costs and revenues has been opened up, raising the scale of our financial operations substantially. The long-term significance is in the prospect that, given a successful performance by the new magazine, AAAS will be less dependent on member dues to support the Association's programs, and in future years the rate of annual increases in dues will, hopefully, be eased.

I wish to say a few words concerning some structural matters. First, we continue to be uneasy about the imbalance in our geographical arrangements, with three regional divisions serving the Pacific region, the Southwestern and Rocky Mountain region, and Alaska—and nothing for the rest of the United States. Historical reasons account for the three existing divisions, all of which are alive and visibly productive. We have no rationale for the absence of divisions in such areas as the Southeast and Midwest. Nor, of course, do we have any semblance of organization based on cities. I believe that we should not ignore this question any longer, and that in 1980 the Board should choose one uncovered region—possibly the Southeast—to examine the pros and cons of creating an additional regional division. Next, I continue to view our present arrangement of disciplinary Sections as less than ideal. Some Sections are so large as to be nearly unmanageable, while others are so small as to appear marginal. To date, our only response to the situation has been to discourage the appearance of a 22nd or 23rd section, and I do not believe that we can maintain that posture. What I recommend is that a working group drawn from the Board and the Committee on Council Affairs begin a fresh look into the structure and the roles of the Sections and even to consider whether there are better organizing principles which we should consider.

To close these general remarks, I call attention to 1980 as the year of *Science*'s centennial. Founded by Edison and subsequently carried on for many years by James McKeen Cattell, *Science* has been the official journal of AAAS since 1900, and was purchased from Cattell's estate in 1944. In a century of responsible publishing, *Science* has been a remarkable chronicle of scientific progress and change under a succession of able editors. It remains the flagship of the Association, and as it begins its next century AAAS is committed to maintain the excellence and innovation that have marked its progress under Philip Abelson's direction.

Highlights of the Year

International Science Activities

As the world turns, AAAS is becoming increasingly active in international outreach. *Science* is mailed to members in 140 countries. Acting as convenor, AAAS gathers 80 affiliated societies in the Consortium of Affiliates for International Programs. A lively new relationship with the scientific community of the People's Republic of China has been created, and a large delegation of distinguished Chinese scientists and engineers visited the United States in 1979 as the guests of AAAS. In addition, AAAS arranged the first visit of a group of American science journalists to the People's Republic of China, and a delegation of Chinese scientists attended the Annual Meeting of AAAS in San Francisco. At the initiative of the Department of State, AAAS is undertaking a new program to

Summary budget for 1980.

Major category of revenue	1980 revenue budget
Revenue (in thousands)	
Dues of annual member	$ 4,250
Institutional subscriptions	1,600
Advertising in *Science*	4,300
Science 80 subscriptions	3,237
Advertising in *Science 80*	476
Grant and contract funds	1,235
Subscriptions to *Science Books & Films*	80
Annual meeting registration and exposition	153
Investment income	560
Product sales	427
Contributions and other items	332
Subtotal—revenue	16,650
Deficit—funded from reserves	1,573
Total	$18,223

Office/Center	AAAS funds	Direct grant and contract funds	Total expense
	Expense (in thousands)		
Executive Office	$ 597	$ 52	$ 649
Contingency reserve	100		100
Office of Administration	1,394		1,394
Office of Comptroller	352		352
Membership and Public Information Office	572	10	582
Development Office	76		76
Editorial Center *(Science)*	7,021	5	7,026
Science 80	5,543		5,543
Meetings and Publications Center	733		733
Programs Center	705	1,063	1,768
Total expense	$17,093	$1,130	$18,223

select Science, Engineering, and Diplomacy Fellows to spend a year of residency in the science arm of the Department. Similarly at the request of the State Department, AAAS organized and conducted four major workshops of scientists and engineers to lay the groundwork for the United Nations Conference on Science and Technology for Development, and the Executive Officer was a member of the U.S. Delegation to the Vienna Conference in August. The Annual Meeting continues to draw foreign scientists and engineers as active participants in technical and science policy symposia.

The Committee on Scientific Freedom and Responsibility has been the principal voice of AAAS in monitoring the status of human rights of scientists in authoritarian states, and it joined with the National Academy of Sciences in 1979 in a major policy statement regarding the troubled and intransigent human rights situation in Argentina. The Committee also continues to sponsor a Clearinghouse project to process reports of mistreatment of scientists in other countries.

AAAS continued to provide secretariat support for the Interciencia Association through our Western Hemisphere Cooperation Project, and assisted the trilingual journal *Interciencia* in both editorial and promotional matters. Two Interciencia symposia took place in 1979, one dealing with "Opportunities for U.S.-Mexican Scientific and Technological Cooperation," while the other focused on "Forest Sciences and Their Contribution to the Development of Tropical America." The latter was attended by 248 individuals from 22 countries and was cosponsored by CONICIT of Costa Rica and SCITEC of Canada. A former president of AAAS, Leonard Rieser, was elected to a 2-year term as president of the Interciencia Association. This effort is of central importance in the international context of the AAAS and it is building toward a network of cooperative research on underutilized biological resources.

In other multilateral activities, AAAS continued to be represented by Gerald Holton on the U.S. National Commission for UNESCO, and former AAAS president Emilio Q. Daddario represented AAAS at the UNESCO General Meeting late in 1978. AAAS also collaborated with the National Academy of Sciences in shaping a U.S. delegation to the Pacific Science Association's 14th Congress, held in Khabarovsk, U.S.S.R., in 1979. AAAS has been invited by the West African Science Association to send a delegate to its 12th biennial conference in Nigeria next year. Rosemary Chalk attended the ANZAAS meeting in New Zealand in 1979, and AAAS was also represented by W. C. Leslie of the University of Michigan and Marshall Sittig of Princeton. The 35th meeting of the Sri Lanka Association had Frances Dyro of the Roxbury V.A. Medical Center as AAAS's representative.

AAAS is now in the early planning stages for a late 1980 global seminar on the role of scientific and engineering societies in development. Major partners are the Indian National Science Academy and the Indian Science Congress Association; we are aiming for wide cosponsorship by a cross section of U.S. and foreign scientific and engineering societies.

AAAS continued to host seminars for foreign science counsellors attached to Washington embassies. Six AAAS seminars occurred in 1979, ranging over such topics as U.S. funding of research and development, environmental effects of carbon dioxide-induced climate change, science and technology in national development, public opinion attitudes towards science and technology, and operations of the National Technical Information Service.

Finally, but of much significance in the coming years, AAAS continued work on formulating a multi-year interdisciplinary program on the effects of possible climate change, through a committee chaired by Roger Revelle. This program is being coordinated with the long-standing work of the Committee on Arid Lands, chaired by Gordon L. Bender, as well as with AAAS participation in the National Plan of Action to Combat Desertification.

Science, Engineering, and Public Policy

Again in 1979 AAAS produced its unique annual examination of federal budgets for research and development, under the direction of Willis Shapley and Don Phillips. Joined by ten affiliated societies, AAAS undertook intersociety analysis of special segments of federal funding. A successful June Colloquium took place in Washington, centered around these analyses, with some 400 persons attending from the Executive Branch, the Congress, industry, and aca-

demia. AAAS also assisted the Committee on Science and Technology of the House of Representatives in planning 3 days of hearings on the federal budget for R & D; a six-person AAAS team testified before the full Committee on 4 April.

Funded by the U.S. Department of Energy and cosponsored with Sigma Xi, AAAS held regional energy seminars in various areas of the country dealing with energy research policy initiatives, energy in rural America, and the potential for solar energy. The aim is to bring together people who are concerned and knowledgeable in the fields of science and engineering related to energy with those who make public policy decisions.

A fifth successful round of the Mass Media Science Fellows Program was conducted. More than 400 applications were received for the 19 fellowship positions. The thrust of this program, which is partially funded by the National Science Foundation, private foundations, and industrial corporations, is to provide opportunities for scientists to spend summer residencies in the various news media where they can strengthen the quality and range of science news analysis and reporting. A significant number of the Media Fellows have effected career changes consequent to being offered employment by the print or electronic media.

AAAS and the American Bar Association continued to cooperate in efforts to bridge the gaps in understanding of the roles of the respective professions relative to scientific and technological risk and uncertainty. AAAS and the American Law Institute–American Bar Association Committee on Continuing Professional Education cosponsored a conference on "Law/Science Perspectives on Public Policy Decision Making," using as cases the controversies over artificial sweeteners and recombinant DNA. The National Science Foundation has funded a series of articles on law-science interactions, which are expected to be published in *Science* and the *ABA Journal*.

AAAS continued to coordinate the Congressional Science and Engineering Fellow Program, which is an intersociety program involving more than a dozen affiliates of AAAS. Twenty-three Fellows were selected from a large number of applicants. They spent a year working with members of both houses of Congress and its committees. AAAS noted in 1979 a substantial increase in the number of congressional requests for Fellows, which is good evidence of the merits of the program.

In an effort to encourage more interaction between Congress and the scientific and technical communities, AAAS conducted a Congress/Science Forum on the role of risk/benefit analysis in congressional decision-making, with considerable success. AAAS planning was led by former Congressman Charles Mosher, who joined the AAAS staff on a part-time basis.

Another major undertaking in 1979 was carried out on behalf of the Office of Science and Technology Policy's Intergovernmental Science, Engineering, and Technology Panel in the Executive Office of the President. This group is concerned with applying research and development to problems of state and local governments. With funding from the National Science Foundation, AAAS conducted nine workshops to review state and local "R & D needs" statements with scientists and engineers. Among the topical fields reviewed were transportation, fire safety and disaster preparedness, health and human services, hazardous waste management, public works and utilities, and solid waste recovery. This effort brought AAAS into an area of national R & D policy that has been badly in need of attention, as state and local governments attempt to cope with serious problems with too little assistance through federally sponsored R & D.

The "public sector" work of AAAS is guided by the Committee on Science, Engineering, and Public Policy, chaired by Melvin Kranzberg. Beyond the activities noted above, the Committee examined the State Department's report to Congress on "Science, Technology and U.S. Foreign Policy." It also contributed to the Joint Economic Committee's report on research and innovation.

Opportunities in Science

Following the resignation of Janet Welsh Brown, who headed the AAAS Opportunities in Science Program from its inception, AAAS conducted a diligent search for a successor. More than 80 impressive applicants sought the position (which affords us some insight into the perceived importance of the program), and last summer it was offered to Shirley Mahaley Malcom, who accepted. Working with a lively volunteer Advisory Committee chaired by Sally Maria Hardy, Dr. Malcom has picked up the reins effectively.

The program in opportunities has come to be regarded widely as a rich source of information and advice concerning the identification and inclusion of minority, women, and handicapped scientists and engineers in all phases of AAAS, professional society, agency, and federal advisory system activities. In 1979, the staff was completing the inventory of programs in science, mathematics, and engineering for women and girls. A book will be published with descriptions of leading projects in the United States and will include a bibliography on women in science and lists of organizations of women in science.

With regard to handicapped scientists, the AAAS resource group now has more than 1000 listed members. AAAS, with support from the Rehabilitation Services Administration, is engaged in training staff of affiliates and linking them with vocational rehabilitation training and placement administrators. Handicapped scientists are being involved to provide inputs as to how these systems can better serve disabled scientists. Regional workshops are planned to bring together disabled scientists, researchers, industry representatives, and others to better shape R & D priorities for the handicapped. Huge reprint orders are being received by AAAS for the handbook on making meeting facilities accessible to the handicapped, and our own Annual Meeting continues to provide a model for accessibility.

Native American tribes, as well as federal and private agencies working with the tribes, continue to rely on AAAS for assistance regarding Indian energy and resource development issues. Work is under way to deal with needs of Indian women in science, medicine, and technology, resulting in more advisory efforts, more attention by policy-makers, a bibliography, and a commissioned article evaluating social science literature on Native women. Rayna Green, who has spearheaded the AAAS Native American project, has relocated to Dartmouth College, where she is developing a research and applications center for the study of Native American science, medicine, and technology.

In 1979 AAAS completed a directory of Puerto Rican scientists, listing some 400 scientists and engineers. Early in the year, AAAS conducted a major workshop on women and development, the results of which proved influential in the policy outcomes of the United Nations Conference on Science and Technology for Development held in Vienna in the late summer. The work of this office and its advisory committee is a source of exceptional satisfaction to the Board of Directors. It would have been hard to believe, a few years ago, that so much could be accomplished by so few.

Membership Recruitment

It was only a few years ago that we were all concerned about the declining level of AAAS membership. In the past 2 years, a remarkable comeback has taken place. Total membership at the end of 1979 is expected to be about 130,000. Growth is desirable, and AAAS counts on its members to encourage others to join and participate. AAAS recognizes the burden of higher dues charges, but there is no other way to meet the impact of inflation on our base costs. Members should know, on the other hand, that AAAS is not increasing dues to finance our new magazine, *Science 80*. The expenses associated with *Science 80* are being financed from AAAS assets and subscriptions plus advertising revenue. As noted earlier, we expect that when the new magazine passes the break-even point and begins to earn incremental income for AAAS, the annual pressure on member dues will be relieved.

Public Understanding of Science

Achieving greater "public understanding" takes many forms, and the results are probably not measurable. However, this is a constitutional objective of AAAS, and an essential responsibility. We approach it variously: through the pages of *Science*, through our new general audience magazine *Science 80*, through wide media exposure at our Annual Meetings, through regional public seminars on controversial aspects of science and technology, through our public policy programs, through our joint work with the American Bar Association, through the Mass Media Science Fellows Program, and as an element in our science education activities. Beyond this, AAAS has been experimenting with public radio programs on science, and in 1979 produced such programs on health enhancement, climate change, social responsibility of scientists, and *Science 80*. A range of prospective activities that would utilize the electronic media is in various stages of exploration and fundraising.

Scientific Freedom and Responsibility

Chaired in 1979 by John T. Edsall, the Committee has taken a strong advocacy position for AAAS in response to the restrictions on the rights and obligations of scientists, particularly in the area of human rights and whistle-blowing. During the year, the Committee's Clearinghouse on Science and Human Rights received inquiries or statements concerning human rights violations and restrictions on scientific freedom involving more than 100 scientists and students. Reported violations of human rights involving about 30 scientists were referred to AAAS affiliates who are members of the intersociety Clearinghouse.

The Committee submitted the names of ten Argentine scientists who have disappeared or been imprisoned to the Organization of American States Inter-American Human Rights Commission shortly before their on-site visit to Argentina, and AAAS president Kenneth Boulding wrote to the Commission requesting it to examine in particular violations of the human rights of scientists in that country. Staff of the Committee played a major part in assisting International Cancer Congress participants who desired to voice human rights concern while in Argentina.

With support from the National Science Foundation and the National Endowment for the Humanities, Committee staff conducted a survey of ethical principles and procedures developed by AAAS affiliated societies. One hundred and seventy-eight societies responded; 64 reported that they subscribe to some statement of ethical principles. An intersociety group has been formed to exchange information about ethics activities and concerns, and a report will be issued in 1980 as part of this project.

The Committee prepared and circulated a AAAS press statement describing employee protection sections in eight environmental laws, such as the Occupational Health and Safety Administration legislation and the Toxic Substances Act, and several scientific journals published the statement. The Committee also monitored new due process regulations in government agencies, including the draft policies and procedures for technical dissent issued by the Nuclear Regulatory Commission. The Committee has also appointed a subgroup to consider the need for a AAAS statement on scientific freedom and responsibility and to draft a set of principles for discussion. Some 30 individual complaints by scientists and engineers were examined by the Committee, and two advisory opinions were prepared addressing significant issues raised in two cases. The Committee also urged the AAAS Board to endorse ratification of the five human rights treaties and covenants which have been pending in Congress for years or decades.

Annual Meeting

The 1979 Annual Meeting, held in Houston, was up to AAAS standards in terms of substance and content, but a disappointment in terms of the level of attendance. The Board of Directors is giving serious consideration to the choice of meeting sites in future years, as well as to the rising costs of attending the meetings. Innovations continue to be made in the design of the Annual Meeting, particularly with a view to including a large menu of activities for younger people and publication of a special Youth Supplement to the Meeting Program. AAAS will continue to feature the participation of students from the Junior Academies of Science.

We are continuing to publish the Selected Symposia Series of volumes chosen from among the symposia at the Annual Meeting. In 1979, some 15 volumes were published on topics ranging from astronomy and geology through biology and medicine to sociology, anthropology, and social policy. Seven additional volumes are in press, and an additional five are in production. As an incentive to Sections to sponsor outstanding symposia, a share of the sales proceeds from the symposium volumes is rebated to the Section budgets.

AAAS would be remiss if we failed to emphasize how greatly we rely on the generosity and initiative of the Local Advisory Committees which are all-volunteer members of the communities which host the Annual Meetings. These committees arrange public lectures, give hospitality receptions, raise money, set up tours, assist handicapped scientists, and in general make AAAS welcome. We owe them a great deal.

Science Education

For the past 2 years, the Board of Directors has groped for a handle on the current issues in science education. What seems to be gradually emerging is a consensus that general precollege education presents the main problems and opportunities. What is less clear is a balanced strategy for employing the resources of AAAS to reach youth in school with information about science and technology and analytic methods for examining tradeoffs in making social decisions as to the right uses of scientific and technological advances. During 1979, several meetings of the Board examined these problems, and a working paper prepared by the Section Com-

mittee of Section Q (Education) assisted the Board. The decision by AAAS to launch and finance a new popular magazine of science was made, in part, in the light of these reflections.

AAAS continued in 1979 to develop the traditional National Science Foundation-funded series of Chautauqua Short Courses for College Teachers, aided by an advisory group chaired by William Bevan. Several courses are being held in more remote areas of the United States under an arrangement of satellite field centers—North Dakota, Montana, Utah, and New Mexico. Three of the short courses have been adapted for the 1980 National Conference of the American Association for Higher Education. "Ethics and the Professions," "Using Microcomputers in Education," and "Cognition in Teaching" will be given as 1-day preconference short courses.

Special efforts have been made to organize youth-oriented events at the AAAS Annual Meeting in San Francisco. They include a special Youth Symposium on the Frontiers of Science, the annual program of the American Junior Academy of Science, an evening series of Conversations with Scientists including a special informal session with Hispanic and Native American scientists, and a luncheon meeting on opportunities in science education.

Centennial of Science

Throughout the year, under the direction of Editor Philip Abelson, *Science* will contain appropriate features related to its century of publication. The Centennial Issue on 3 July will include some historical material but will deal principally with a survey of the present and prospective state of fundamental science, technology, and interactions of science and technology with society. Another special issue will be devoted to advanced technology materials, a field that is progressing rapidly. In addition, three issues will be partially focused on Human Sexuality, Crustal Dynamics, and to new accomplishments in recombinant DNA research.

To conclude, it should be clear by now that AAAS has a lively array of new and old ventures under way. The financial position of the Association is sound, even though a large operating deficit will be incurred in 1980 during the running-in stages of *Science 80*. The prospects for the long term are very good for AAAS, though they are not taken for granted. We continue to look for greater involvement of the engineering community and the industrial science community as well. And while we are the "American" Association for the Advancement of Science, realism compels us to foresee increasing relationships with counterpart organizations from both the developed and developing societies, transcending the constraints of political differences. To the degree that the dynamics permit us to map our future course, we will do so; but it will be, at best, an uncertain journey.

AAAS Council Meeting, 1980

Catherine Borras

The AAAS Council held its 1980 meeting on 7 January in San Francisco, California, in Continental Parlors 8 and 9 of the San Francisco Hilton Hotel, with 66 of its 85 members in attendance at the morning session and 64 at the afternoon session. President Kenneth E. Boulding presided.

AAAS Activities, 1979

William D. Carey, executive officer, gave a brief summary of his report of 1979 activities, which appears on pages 863-867 of this issue, and presented the operating budget for 1980 (page 864). He noted that after 5 years of operating in the black and steadily increasing its financial reserves, the AAAS in 1980 will run a large deficit—to be drawn from its reserves—as the price of launching *Science 80*. Over the long term, given a successful performance by the new magazine, AAAS will be less dependent on member dues to support its programs, and the rate of increase in dues can be eased. He concluded by calling attention to special symposia at the San Francisco meeting in celebration of the centennial of *Science*, and assured the Council that *Science* will remain the Association's flagship. The Board of Directors is committed to sustaining its excellence, its reputation, and the innovation that have marked its progress under the editorship of Philip H. Abelson.

Elections

The Council was informed of the election of Roger G. Olstad as Secretary of the Section on Education (Q) and the reelection of Rolf M. Sinclair as Secretary of the Section on Physics (B).

Results of the 1979 general and electorate elections were published in the 7 December issue of *Science*. Lists of AAAS officers, staff, Council and committee members, and representatives for 1980 follow this report.

Science 80

Allen L. Hammond, editor of *Science 80*, reported that the second issue was out, the third issue was within a week of being ready for the printer, some 275,650 subscription orders had been received, and the response to the first issue had been quite favorable. About 85 percent of a sample of readers surveyed by telephone said the magazine lived up to their expectations and they were looking forward to future issues. Publication on a monthly rather than bimonthly basis is planned for late 1980 or early 1981. Dr. Hammond said that the staff is still on a learning curve and some fulfillment problems are being experienced, but the product is getting closer to what he would like it to be. He invited Council members to send him their suggestions.

The author is administrative assistant to the Executive Officer, American Association for the Advancement of Science.