AAAS (III): Is Order of Magnitude Expansion a Reasonable Goal?

The AAAS is entering the 1970's with a mandate so ambitious that even many of the association's leaders doubt that the organization can come close to attaining its stated goals. In 1969, on the eve of the new decade, the board of directors adopted a resolution urging the AAAS to concentrate on improving its work on "contemporary problems." The board also suggested that the AAAS expand its membership by a factor of 10 by 1980 and try to communicate with "the entire population." These goals were subsequently approved by the AAAS Council as well, so the association, on paper at least, is committed to a substantial boost in activity.

Far-Reaching Goals

The goals set by the board are so far-reaching that they warrant repetition in the words of the board itself. As the 1969 resolution phrased it:

> It is the sense of the Board that for the coming decade the main thrust of AAAS attention and resources shall be dedicated to a major increase in the scale and effectiveness of its work on the chief contemporary problems concerning the mutual relations of science, technology, and social change, including the uses of science and technology in the promotion of human welfare.

To implement this commitment, the board resolved:

1) to consider ways of expanding by an *order of magnitude* the association's membership, with particular attention to the professional communities engaged in technological innovation and social change, as well as the students concerned with these activities;

2) to stimulate and foster effective communication with the entire population concerning science, technology, and social change.

There are several important points to be made about this resolution. One is that it marks a slight change of emphasis from the Arden House statement of 1951, which has formed the philosophical framework for the association's activities over the past two decades. Whereas the Arden House statement particularly stressed the importance of increasing "public understanding" of science, the 1969 resolution puts its main emphasis on the "promotion of human welfare" through work on "the chief contemporary problems." Another point to be made is that the resolution urges a sharp boost in the "scale and effectiveness" of AAAS work on these contemporary problems, a statement which implies that the AAAS, which has not been notably influential in public affairs in the past, hopes to throw its weight around a bit more in the future.

A third point is that the AAAS hopes to communicate with a much wider public than it now reaches, a move that may require the founding of new publications or the development of other communications techniques. And a final point is that the association apparently hopes to greatly broaden its membership. In the process it would presumably be forced to appeal to a somewhat different constituency, one that would include more students and technologists, among others. All of these points are apt to spark some opposition from the membership of the AAAS, which is so fragmented and diverse that it has difficulty agreeing on anything.

The idea for extending the reach of the AAAS by greatly expanding the membership apparently stems from a number of sources, with one of the most important being a visit made by H. Bentley Glass, immediate past chairman of the board, to the Soviet Union. Glass returned from Russia impressed with what he had seen of Znaniye, a Soviet scientific organization that has some 2 million members and flourishing centers all over the nation, and he communicated his enthusiasm to the board shortly before passage of the resolution.

Actually, few staff members think the AAAS has much chance at all of reaching the membership goal. Taken literally, the association would have to boost its membership from the current 133,000 to some 1.3 million members by 1980—a seemingly hopeless task in view of the fact that the association has only been adding some 5000 to 6000 members per year of late (in 1970 the AAAS gained some 23,000 new members and lost some 18,000 old members, for a net gain of 5000). It would, of course, be possible to reach the goal by playing some sort of "numbers game" (perhaps declaring that all members of affiliated societies are in some sense members of AAAS), but key AAAS staff members are inclined to doubt that the effectiveness of the organization will depend very directly on its size anyway.

Thus, the AAAS is more apt to experiment with a number of ways of reaching a wider public than it is to launch a massive recruiting drive in a frantic effort to top the million-member mark. For planning purposes, some AAAS officials are assuming that membership will double in the next 5 or 10 years.

The key to the organization's ability to meet its new goals is undoubtedly the new executive officer, William Bevan, Jr., former provost at Johns Hopkins University. Bevan took office in October 1970, and he has since been carefully feeling his way through the maze of AAAS activities and loosely defined power blocs. It is much too early for Bevan's thoughts to have crystallized, but he indicated, in an interview, that he has high ambitions for the organization. "We have the potential for being the most effective broker of scientific talent in the country today," he says.

Key to Change

Bevan believes that "the key to change, if it is going to be real" lies in reform of the AAAS governing structure. If the AAAS is to be made more vital, Bevan says, it must be "democratized" so that the members become more involved and participate in governance.

Unfortunately, that may be a difficult political feat to achieve, for it would require that the present Council vote itself out of power. As things now stand, the Council, AAAS's highest governing body, does not represent the members. Instead, it is dominated by scores of affiliated scientific organizations (such as the American Chemical Society and the Potato Association of America) that have little or no real interest in AAAS affairs. Bevan says the situation amounts to "taxation without representation" (the individual members pay dues but have almost no voice in the Council) and "representation without taxation" (the affiliated societies control the Council but pay no dues). Whether the affiliated

societies will willingly give up their nominal control remains to be seen.

Proposed changes in the AAAS governing structure are expected to surface sometime later this year. A Committee on Governance, appointed by the board of directors and the Committee on Council Affairs, has been working out a new voting system, and while the committee has not yet published its position paper, enough is known about the group's thinking to report that it will recommend a radical restructuring of the AAAS. The committee is expected to recommend that the Council be reduced in size from the present unwieldy 530 members to about 70 members; that the Council be elected by individual AAAS members rather than by the affiliated societies; and that all members of the AAAS have voting privileges rather than just the AAAS fellows, who comprise perhaps 15 percent of the membership and who currently elect a minority of the members of the Council.

The precise wording of the recommendations will be awaited with interest, for there is great concern among some AAAS members that the organization might somehow fall into the hands of laymen and cease to be a scientific organization. These members fear that as the AAAS expands its membership it will inevitably attract more nonscientists, and that these nonscientists might conceivably elect their own kind to leadership positions. Such fears led the Council, at its meeting last December, to provide the following guideline:

> The Committee on Governance is advised that it is the sense of the Council that any changes in governance should insure that the control of the activities of AAAS will be in the hands of *bona fide* scientists or societies of scientists. This is not meant to restrict individual membership of persons in AAAS for the purposes of being sympathetic to its objectives or of being informed of its activities.

One likely possibility is that there will be two classes of membership in AAAS, with the scientists (however they might be defined) remaining in control.

Just what a newly democratized AAAS might do to carry out its ambitious mandate is not yet clear, but Bevan and other AAAS officials have thrown out a number of ideas for consideration. They include:

► Acting as a "broker" of scientific talent by bringing people together to consider the implications of such problems as the SST or power plants. This would be a role somewhat analogous to that played by the National Academy of Sciences, but the AAAS might seem more "independent" and less suspect than the Academy because it has fewer ties to the federal government than the Academy does.

► Acting as a "lower house of science" that would express the views of the citizen scientist, in contrast to such "elitist" bodies as the government science advisory committees and the Academy.

► Acting as a "watchdog" to call government officials to account, either in forums at the annual meeting or through reports issued by special study committees.

► Sponsoring more "technology assessment" studies analogous to the AAAS investigation of the impact of herbicides in Vietnam. The AAAS has already launched a study of power production under the direction of Barry Commoner, a Washington University biologist.

► Setting up regional centers through which scientists might assist local teachers or advise local mayors on how to handle pollution or other technological problems. Presumably the work would be voluntary and the

Drought Returns to the Land

The drought that is imperiling the life of Florida's Everglades, parching cattle lands in the Southwest, and delaying planting in many parts of the country has not been paralleled since the mid-1950's, when drought hit most of the country west of the Mississippi, and raises the spectre of the dust bowl days of the 1930's.

The current dry period is most severe in southern Florida, northern Texas and southwest Oklahoma, and parts of New Mexico, Arizona, and southern California. It is being sustained because prevailing winds are from the west instead of from the south, where they ordinarily pick up moisture from the Gulf of Mexico. The drought has been gaining momentum since it started in southwestern Oklahoma in late 1969. The whole Southwest was experiencing abnormally dry weather by last November.

While weathermen emphasize that periods of drought cannot be forecast with anything close to scientific precision, they predict that this spell of dry weather will continue in varying degrees of severity throughout the first half of this decade.

Cycles in the Weather

Wayne Palmer of the National Environmental Data Service says his study of western Kansas since the 1850's indicates that a drought cycle, recurring about every 20 years, exists in that area. Meteorologists have not reached agreement on the causes for these climatic fluctuations. Some ascribe them to extraterrestrial forces such as variations in solar energy. Others believe that weather patterns are created by the energy exchange processes between earth, sea, and atmosphere, which occur in cycles lasting from months to decades.

The terrible experiences in the Great Plains in the 1930's, when drought afflicted the entire midsection of the country from Canada to Mexico, had a tremendous impact on agricultural policy and thinking, says Palmer. The droughts finally brought home to farmers the fact that the dry farmlands of the West could not be tended in the same manner as the farmlands in the humid eastern portions of the country. Since then, a number of techniques have been developed to promote maximum absorption of rainwater and minimum loss of topsoil from dryness and high winds. These include new farm machinery that, instead of pulverizing soil, breaks it up into wind-resistant clods; terrace farming; and "trashy" farming (stubble mulch farming), which leaves the residue of previous crops exposed, thus stabilizing the soil and promoting better absorption of rainwater. But improved technology is still no match for a turned-off Mother Nature.—C.H.

Faculty Salary Pinch Worsens

The clouds which have been gathering on the fiscal horizon of both public and private colleges and universities are becoming ever blacker, according to the latest report of the American Association of University Professors (AAUP) ominously entitled "On the Brink." *

A preliminary report on the economic status of the profession for the 1970–71 academic year says "for the first time in the history of our data [surveys began in 1958], the overall average increase in salary levels was less than the increase in the cost of living." In numerical terms, this means the consumer price index (CPI) went up 6 percent between the 1969–70 and 1970–71 academic years but salaries went up only 5.4 percent. In terms of total compensation—salary plus fringe benefits—teachers are still ahead, but only by 0.2 percent.

Things are even worse now than they were last year, when an AAUP study reported in aggrieved tones that the year 1969–70 marked the first year in which the increase in real purchasing power (compensation increase minus CPI) fell below 3 percent (*Science*, 16 October 1970).

Public and Private Institutions in Same Boat

Even though public and private institutions have differing problems in locating new sources of money, they are finding themselves more and more in the same boat, since they are both being hit badly by inflation, recession, and federal government spending cutbacks.

The report, containing results of a survey of 1345 colleges and universities, says that among public institutions "none but the two-year colleges held their own," and the most severely hit have been "emerging universities." Among private independent colleges average salary increases were consistently below the 6 percent mark.

Despite the fact that a reversal from the boom of the 1960's has long been predicted, this foreknowledge has proved of little help in preparing institutions to fight their way out of the current bind, the report notes.—C.H.

* The preliminary report is obtainable for $1.25 from AAUP, Suite 500, 1 Dupont Circle, NW, Washington, D.C. 20036. The report will appear in final form in the June issue of *AAUP Bulletin*.

advice would carry weight because the advising scientists would have "no axe to grind and nothing to gain" from their work.

► Issuing one or more new publications to appeal to the lay leadership of the country, or to youth, or to other segments of society. According to Bevan, there is a "strong urge on the part of the board to do something in the way of publication," but the board has not yet decided what form it should take.

► Staging in-depth working conferences on technical issues for the "really key" government officials who must make decisions in these areas. The AAAS already holds seminars for congressmen, but they are generally intended to educate rather than to direct thinking toward the solution of particular problems.

► Holding interdisciplinary conferences to plan a course of action for developing particular scientific fields. Bevan says he is worried lest the AAAS overreact and get so interested in social implications that it ends up ignoring basic science.

The aim of these and other proposals currently circulating among AAAS officials and committees is to make the organization more "effective" in some sense. But there is little agreement on how effective the AAAS can hope to be, particularly when it comes to promoting human welfare. A radical critique published in the December 1970 issue of *Science for the People*, a bimonthly publication of Scientists and Engineers for Social and Political Action, complains, with considerable justification, that the AAAS has failed to develop "any substantial program of social action" and that its pledge to promote human welfare has amounted to "empty rhetoric."

Although few AAAS officials would agree with the radical analysis in the article, most would agree that the AAAS has never really carried out the goals espoused at the Arden House conference in 1951, let alone the more ambitious goals set forth by the board of directors in 1969.

Almost all AAAS leaders interviewed for these articles agreed that the association has never really done much to promote "public understanding" of science. They also agreed that, while various committees associated with "human welfare" have published a few noteworthy reports, their impact has been hampered by lack of staff support and follow-up. Bevan plans to beef up the AAAS staff (he has already hired a director of communications), but there are other constraints on the AAAS's effectiveness. For one thing, there are budgetary stringencies (the AAAS operated at a deficit last year) which may make it impossible to launch further studies as ambitious as the Vietnam herbicide investigation. For another thing, there is a feeling among many influential AAAS members that the association should act as a forum for ideas but should seldom espouse any particular solutions to critical problems.

The association in recent years has been operating under a formula devised by Commoner—namely, that the AAAS merely supply information to the public, which will then be able to make a wise decision. But the line between supplying information and recommending action is not always clear-cut, and there may be resistance from some members if the AAAS starts sounding off on a wide range of controversial issues.

By now it should have become apparent that the AAAS has some extremely ambitious plans that are still too vaguely defined to constitute a blueprint for action. In an effort to further map a course for the AAAS during the 1970's, a high-level conference similar to the one held at Arden House in 1951, perhaps for the fall of 1972, is now being discussed. In view of the fact that two decades have passed since the Arden House conference and that the concepts espoused there have yet to be fully implemented, one should probably not expect miracles from a new conference. But the mere fact that the conference is being seriously considered is evidence that the ponderous, slow-moving AAAS is serious about increasing its impact.—PHILIP M. BOFFEY