

Foreign Students Discuss American Education

Learning about scientific priorities in other countries and developing networks for communication among scientists around the world are two of the objectives of the AAAS Office of International Science (OIS). The participation of 20 foreign students* in a program arranged by the Office at this year's Denver Annual Meeting provided an excellent opportunity to further these objectives.

Attending under the 2-year-old OIS grant program, the students, representing 16 nations, spent much of their time in Denver debating and discussing the relevance of an American education and its potential applications at home. The question first arose during a panel discussion on Monday, 21 February, the idea for which had been conceived by foreign student grantees at last year's Annual Meeting.

Reflecting a growing concern for the poor of the world, the students generally felt that the "trickle down" theory of development was not working in their countries. Their education, they felt, should focus more on utility and relevance for the vast poor majority. Throughout the 5 days of the Annual Meeting, the students tested their ideas on each other and on guest speakers who met with them at intervals in the Meeting's Student Hospitality Center. Stimulated to seek some mechanism for maintaining contact with each other and for

advising newly arrived foreign graduate students, the group prepared the following statement:

Having deliberated upon the relevance of graduate education in United States institutions to the needs of foreign students, we recognize that development has been defined in different ways. However, there is a consensus among this group of foreign students that the goal is to achieve equal distribution of roles and resources among people so that they may satisfy their human potential.

Historically, various approaches to the achievement of these goals have developed. One is represented by most industrialized nations, and overemphasizes growth at the expense of equal distribution and social equity. No nation following this approach has been able to satisfy the basic needs of all its people, yet it is still followed by most of our countries.

A preferred approach emphasizes both growth and distribution as essential components of the development process to meet the needs of all people. This involves far-reaching changes in the pattern of distribution of wealth and social structure.

Although to date it has not been predominant, we are convinced that the approach that stresses both growth and equitable distribution is the only one that can satisfy the needs and aspirations of humanity. We hope that these principles will be applied by both countries and international sponsoring organizations during their selection of students to attend overseas institutions. Unfortunately, not all foreign universities are structured to orient the student's perception in this new direction, nor have all students set their goals along these lines.

Our group intends to promote these objectives. As students attending this conference, we believe we can play a useful role by gathering information regarding academic programs that may be compatible with the stated goals. This information will be useful to foreign stu-

dents currently enrolled in U.S. institutions, potential students still in foreign countries, sponsoring nations, and international organizations. We shall explore various ways of disseminating the information, including the possibility of influencing the orientation programs conducted for incoming foreign students.

At the next AAAS Annual Meeting, our group will report on its activities and recommend how a permanent nationwide foreign student organization might be formed. We shall organize also a panel and workshops regarding the role of foreign students in promoting the development of their own countries.

Suggestions concerning these or other activities are most welcome. Comments should be sent to the Ad-Hoc Committee of Foreign Students, AAAS, Office of International Science.

Minorities, Women, Handicapped Review Common Problems

Minorities, the handicapped, and women—three groups unique in many ways, but with a common factor of underrepresentation in the science fields—came together in a symposium during this year's AAAS Annual Meeting.

The special symposium, entitled "Minorities, Women, and the Handicapped: A Workshop on Programs that Work," was sponsored by the AAAS Office of Opportunities in Science (OOS), 20-23 February 1977. The symposium was aimed at identifying cultural, socioeconomic, and attitudinal obstacles to participation in science that these three groups have in common. Interaction among workshop participants also focused on exploring whether a program that experiences success with one group may also have potential for success in another group.

Prior to the workshop, many of the participants had never been made aware of the problems and experiences which were common to members of other groups. For example, William D. Wallace, a black health administrator from Harvard Medical School, remarked that until he saw Louis Schwartz, a deaf scientist from the U.S. Geological Survey,

*Foreign graduate student grantees who attended the AAAS Annual Meeting in Denver were: Celerino Abad Zapatero, Spain, University of Texas; Arindam Bose, India, University of Michigan; Kay R. Burnett, New Zealand, Johns Hopkins University; Udom Chantharakasri, Thailand, Cornell University; Leyla Erk, Turkey, George Washington University; Nancy Goray, Ecuador, Wayne State University; Shadrack B. O. Gutto, Kenya, Tufts University; David Lee, Taiwan, Southern Illinois University; Jan Morawiec, Poland, State University of New York, Stony Brook; Josue Njock-Libii, Cameroon, University of Michigan; Peter Nkedi-Kizza, Uganda, University of California, Davis; Emelike Okoro, Nigeria, University of Manitoba; Banu Onaral, Turkey, University of Pennsylvania; Godwin Ovuworie, Nigeria, George Washington University; Ike C. A. Oyeke, Nigeria, University of Michigan; Anil Ravanshi, India, University of Florida; Soetiman, Indonesia, University of Oklahoma; William Tobin, Great Britain, University of Wisconsin; Eric A. Trauboulay, Jr., Trinidad, George Washington University; and Alvaro F. Umana, Costa Rica, Stanford University.

present a paper in sign language (which was read aloud by an interpreter), he had never been fully able to understand or empathize with the problems of the handicapped.

Another problem, that of "math anxiety," which is usually discussed in reference to women, captured the interest of American Indian educators who find that their Indian students often avoid taking math courses due to their fear of the subject matter. The techniques and strategies adopted by women to relieve math anxiety were found to be especially relevant to American Indians as well.

In a session that dealt with culturally based science education, Maria Hardy, a Puerto Rican biologist from Rutgers, noted that the workshop provided a unique situation in which she could discuss Hispanic folk medicine and medical education with educators who were interested in American Indian medicine. A session on ethnoscience, arranged by Albert Snow, a science educator with the Eastchester, N.Y., public schools, revealed that women, minorities, and the handicapped share similar traditional concepts of science and methods of scientific communication, and stressed that it is possible for each group to make their traditional scientific knowledge useful in terms of science education.

Perhaps for the first time, many of the minority, women, and handicapped participants in the workshop found an opportunity to meet and discuss goals and similar interests.

Section W Annual Meeting Symposia Break Records

The Section W symposia held at Denver in February were an outstanding success. Thirteen sessions sponsored by Section W had an average, and record high, attendance of 104 people per session. Four symposia had "turn away" crowds that overflowed into the hallways.

The symposium topics, chosen in April 1976, were uniquely relevant to atmospheric issues in February 1977. The symposium on "American Droughts," arranged by Norman Rosenberg of the University of Nebraska, was extremely timely, coming on the heels of widespread droughts in 1976. It attracted 150 attendees. A major message of the session was the inevitability of droughts occurring in the United States and the need to plan for them.

New Affiliates Elected

The AAAS Council voted to grant affiliate status to three organizations during its Annual Meeting sessions in February.

Recommended by the Committee on Council Affairs and elected by the Council were the Behavior Genetics Association, the Forum for the Advancement of Students in Science and Technology, and the Society for Social Studies of Science.

The election brought to 284 the total number of organizations affiliated with AAAS.

In a similar vein, the symposium on "Legal and Technical Aspects of Weather Modification" was also timely because of the recent wide adoption of rainmaking in response to severe droughts. This symposium represented the culmination of a 3-year interaction between lawyers representing the American Bar Association and scientists from AAAS. The symposium revealed that there were basic language and approach differences between these two disciplines. A major conclusion was a repeated admission that the use of weather modification in the United States would continue to grow and that our institutional and legal systems would react to this growth through enactments of new laws, both on the state and federal levels. An interesting follow-up conference will be the Sixth National Conference on Inadvertent and Planned Weather Modification to be held at the University of Illinois, Urbana, 10-13 October 1977.

The AAAS Annual Meeting program also included four well-attended symposia addressing air pollution on both local and regional scales. These symposia focused specifically on the impacts of pollution on soils, water resources, agriculture, and health. A clear message was that most pollution could be controlled if we could afford the costs and that impacts are now sizable on the local urban scene.

To order publications or to obtain further information on activities reported in "AAAS News," please write to the appropriate AAAS office at 1776 Massachusetts Avenue, NW, Washington, D.C. 20036, unless otherwise indicated.

Symposia concerning the atmospheric and hydrospheric sciences are now being planned for the next Annual Meeting in February 1978. The Section hopes to formulate symposium topics that will be as interesting and timely as those presented in Denver.

In other Section W business, a list of nominees for fellows of AAAS is now being assembled by the Section secretary, Stanley A. Changnon, Jr., Box 232, Urbana, Illinois 61801. Please write for forms if you wish to nominate someone who is a member of Section W.

STANLEY A. CHANGNON, JR.
Secretary, Section W

AAAS Committee Notes

Science and Public Policy—The AAAS Committee on Science and Public Policy has a new chairman and six new members. Succeeding retiring chairman Don E. Kash of the University of Oklahoma is John Logsdon of George Washington University. New members of the Committee are Thane Gustafson, Harvard University; Robert Morgan, Washington University; Dorothy Nelkin, Cornell University; Rodney Nichols, Rockefeller University; Albert Rosenthal, University of New Mexico; and Irvin White, University of Oklahoma. Committee staff have prepared a report describing the Committee's activities during 1976, including the R & D analysis project and Annual Meeting symposia. The report is available from the AAAS Office of Public Sector Programs.

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Scientific Freedom and Responsibility—The next meeting of the Committee on Scientific Freedom and Responsibility will be held in Washington, D.C., on 4 and 5 June 1977. All meetings of the Committee are open to the public. Anyone who would like to attend should contact Rosemary Chalk at AAAS.

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Future Directions—On 23 February, Leonard Rieser, chairman of the Committee on Future Directions (formerly Committee on New Directions), presented the group's interim report to the AAAS Council. The report recommends new or augmented roles for the Association in the areas of controversial or contemporary issues, interprofessional collaborative endeavors, convening, and communication. Executive officer William D. Carey discussed the recommendations in a *Science* editorial (see *Science*, 11 February 1977, page 539) en-

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Science **196** (4290), 642-643.
DOI: 10.1126/science.196.4290.642-a

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