News of Science

Conference on Exchange of Persons Clarifies Role of Visiting Scholars and Teachers in Foreign Policy

The vital role that the American educational exchange effort is playing in this country's foreign policy was made abundantly clear at the third National Conference on Exchange of Persons that took place in Washington, 28–31 January. The conference also made clear the scientific community's significant part in the exchange program, for it was brought out that last year almost half of the foreign visitors to the United States (21,207 of 43,391) were working in the natural, physical, and medical sciences and in engineering [*Open Doors, 1958,* Institute of International Education].

The conference, the largest and most comprehensive ever held on exchange of persons, was sponsored by the Institute of International Education in cooperation with 139 participating and observer organizations. Its importance to the country's diplomatic, economic, and cultural progress was reflected in the number of distinguished participants, headed by the President and Vice President of the United States.

President Stresses Interdependence

In his address the President pointed out that the theme for the conference, "World Progress Through Educational Exchange," suggested one of the most promising "gateways for reaching . . . a just and lasting peace." He observed: "As the world has moved through tensions and intermittent crises, the importance of [world] interdependence has been strikingly driven home by far-reaching developments in atomic fission, electronic communication and swifter-than-sound flight."

He then went on to say that education and training for effective service in overseas activities is considered so important that the Secretary of State has recently appointed a special assistant (Robert Thayer) for the coordination of international educational and cultural relations. The exchange of persons is an essential feature of this program. One of the most significant statements in the President's speech was his comment about the foreign-aid budget.

"Those, in public and private life, who would have us cut America's mutual aid and loan programs simply do not understand what these programs mean to peace and to America's safety. Any cutback of present budgetary levels for our mutual security program would require additional outlays for our own security forces, far greater than any amount that could be so saved."

Science and Engineering Panel

More than 1100 delegates attended the IIE's 4-day meeting, which included three plenary sessions, 23 workshops, and 12 clinics dealing with every aspect of exchange between the United States and the rest of the world. There were three 2½-hour workshop sessions devoted specifically to science—one on the agricultural sciences under the chairmanship of A. W. Gibson, director of resident instruction at New York State College of Agriculture, Cornell University; one on medicine and health under the chairmanship of Robert A. Moore, president of the Downstate Medical Center, State University of New York; and one on science and engineering under the chairmanship of Howard A. Meyerhoff, executive director of the Scientific Manpower Commission.

The workshop on science and engineering was especially interesting, for the panelists considered many diversified programs in a variety of fields. Although no specific proposals were made, the discussion served a useful purpose in defining the major exchange-of-persons problems. Howard Meyerhoff raised two of these problems in his opening comments: one, that often exchange students do not want to go home at the end of their training period here; and two, that the interchange is lopsided, for there are a great many more foreign students in this country than there are American students abroad.

Americans Should Go Abroad

The panel agreed that more Americans should be encouraged to go overseas. It was pointed out that there are many research opportunities abroad that are not available here, and that international experience can be valuable for an engineer, although often younger Americans, particularly in engineering, think that there is nothing to be gained from study abroad.

John K. Wolfe, manager of advanced degree personnel for the General Electric Company and rapporteur for the group, described Union College's cooperative arrangement in engineering with the University of Zurich. Under this plan, 25 instructors will soon join Union, and an equivalent number of Union people will go to Zurich. Wolfe also commented that General Electric usually gives preference to a job applicant who has been overseas.

The discussants noted that many scientific positions abroad go unfilled because we do not have enough qualified applicants, either students or senior investigators, who are competent in languages. The panel agreed, emphatically, that language training must begin earlier in the educational process and must be more intense at all levels.

A recurring subject throughout the conference was the need for orientation study by American travelers. The science group decided that if a candidate for a foreign post does not show a responsible interest in the country to be visited, he should not be assigned, no matter how superior his professional ability.

In his remarks to the panel, M. H. Trytten, chairman of the Committee on International Exchange of Persons, Conference Board of Associated Research Councils, National Academy of Sciences–National Research Council, observed that in most areas educational exchanges are thought of in terms of increasing mutual understanding of culture, but that this did not seem to be so of science—that cultural exchange is often separated from scientific exchange. After discussion, the group concluded that science and engineering exchanges are also cultural and should be considered as such.

Aid Based on Regional Studies

Trytten emphasized that it is important to understand the particular needs of the so-called "emerging countries" in order to fulfill them, and that this entails a comprehensive knowledge of the country. He pointed out that an underdeveloped area has to improve its social, educational, agricultural, and industrial conditions simultaneously. We are not doing a service in training people beyond the environment to which they will return. If we teach a research scientist our advanced methods and train him to use our advanced facilities, "he will be a very lonely man when he goes back." Our educational assistance has to be evenly distributed—balanced, in all areas—and

suited to the needs of the country involved. Engineers are of no use to a country that has no industry.

In this connection, Trytten referred to the Academy–Research Council's new study, undertaken at the request of the International Cooperation Administration, of the ways in which science and technology can most effectively be used by ICA in its programs in regions of Africa south of the Sahara and north of the Union of South Africa. The NAS–NRC has called upon leaders in scientific and technological research and African studies to assist in the evaluation of opportunities for the utilization of scientific and technical knowledge in public health, medicine, agriculture, natural resources, engineering, and education.

The results of the study are expected to be of value to other interested agencies in the United States and abroad, and will also serve to guide the operations of ICA in other areas of the world. The final report on the study is to be submitted to ICA in June. J. George Harrar, director for agriculture at the Rockefeller Foundation, is executive director of the new project.

Support of Research Abroad

Brigadier General Don D. Flickinger, director of life sciences, Air Research and Development Command, directed attention to another type of overseas research assistance that can be successful—the support of the foreign investigator in his own laboratory. Flickinger described the ARDC's support of basic research in the free countries of Europe and Asia. Since the program started, 609 individual research contracts have been negotiated, of which 306 are at present active. The work is kept in unclassified areas, and publication of research results is encouraged. The ARDC also encourages inter-laboratory visits; 465 foreign scientists have visited laboratories in Europe and the Near East, and 215 have come to this country. Further, 615 Americans have traveled abroad under this program.

Flickinger, like Meyerhoff, raised the pervasive problem in foreign scientific exchanges, the concern felt by other countries that we will "pirate" their valuable research men. But he noted that a research man who is working for us under government auspices is never retained as a permanent member of this country's staff. Reference was made to Public Law 555, under which a foreign trainee must spend 2 years at home before he can return to the United States.

Selection Criteria

Thorndyke Saville, director of the Science and Technology Center at the University of Florida, centered his discussion on the important matter of exchangee selection criteria, at the same time pointing out the difficulties in determining equivalency of education. The criteria for selection of foreign trainees coming to the United States and United States trainees going abroad must be examined more carefully. Proper matching of secondary-school study, university training, and social background does much to aid both the student and the senior specialist in getting the most from his exchange experience.

Some of the most effective selections have been achieved by professional groups who know both the universities and the specific field of study in question. An excellent example is the group of 200 Indian engineers who came here to study under fellowships sponsored jointly by the Ford Foundation and a group of steel companies. The universities selected to cooperate were outstanding in engineering and ferrous metallurgy. The Indian engineers were unusually successful in both their academic and their on-the-job training activities.

The panel gave attention to the need for exchanges at other than the university level, particularly in the Asian and Middle Eastern countries. After discussion, it was suggested that exchanges of teachers and members of qualified professional groups would be beneficial. Throughout the conference as a whole, there was a strong emphasis on training those who would in turn train others.

Finally, the panel affirmed the great importance of community home-hospitality programs.

College Policy and Faculty Exchange

The deliberations of the science and engineering panel were fairly representative of those of other panels, most of which covered the same ground but from different points of view. However, the panel on higher education, chaired by Robert F. Goheen, president of Princeton University, raised some rather special issues, as, for example: Should foreign assignments for professors be approved as part of the sabbatical-leave policy of the institution? Does a foreign assignment for the government or for a private organization affect a professor's local academic status? The panel agreed that colleges and universities should be asked to develop a basic policy with regard to these questions.

In view of the increasing number of foreign academic visitors to academic institutions—Massachusetts Institute of Technology had 800 last year—the panel considered the cost to individual institutions in arranging programs for visitors. Given the difficult financial problems that face U.S. colleges and universities, the matter of supporting academic visits with limited budgets can be burdensome.

Plenary Sessions

The plenary-session panels at the conference discussed exchange in its broadest aspects. Many of the subjects considered, and conclusions reached, paralleled those of the workshop groups, but the approach was more general.

In his opening address, Kenneth Holland, president of the Institute for International Education, said: "The number of American students and scholars going abroad today to increase their knowledge and improve understanding continues to be pitifully small." He then referred to the foreign exchange totals. 43,391 visitors here in 1958 as compared to only 12,845 Americans abroad in 1957. During a press interview he observed: "Most American students are too lazy, blasé and uninterested to study abroad. . . . Graduate students, especially, are neglecting opportunities for independent research abroad. They would rather remain at home, where they have the comfort and ease they are accustomed to."

East-West Exchange

Edward R. Murrow, well-known television and radio commentator, was chairman for a session on "Opening Doors: Exchanges with Eastern Europe and the Soviet Union." The six panelists were outstanding national leaders, all of whom had traveled at some time in the Soviet Union.

In her opening statement to this group, Eleanor Roosevelt emphasized that the Soviet people are in almost total ignorance of the outside world, so that exchange has value in "the mere fact of seeing." She went on to explain that freedom has to be felt; it cannot be "told" through booklets and pamphlets. Howard Rusk, director of the Institute of Physical Medicine and Rehabilitation at New York University–Bellevue Medical Center, enlarged on this by pointing out that people who have been propagandized for years do not believe what they read, so that word-of-mouth communication from a trusted source is of the utmost importance.

Senator Hubert Humphrey, the new chairman of the Senate Foreign Relations Committee, stressed that we, in turn, are ill-informed about the U.S.S.R., that we cannot combat something we do not understand, that the Soviet Union is not just "doctrinaire Communism, but *people*." Mrs. Roosevelt added that we need mass education here that would teach people about the value of the exchange program.

Ambassador William S. B. Lacy, special assistant to the Secretary of State for East-West exchanges, pointed out that the direct exchange negotiations of private citizens and organizations were in themselves an effective demonstration of

freedom that had made a sharp impression in the Soviet Union.

All the participants agreed that both government and private support for exchange should be greatly expanded. Edward Litchfield, chancellor of the University of Pittsburgh, commented that "there are large foundations here that have never done much in this area; these should be smoked out."

Humphrey urged that exchange not be limited to the academic world. He proposed that the Soviet lend-lease debt be used to help ordinary American families travel behind the Iron Curtain, saying that these people "are apt to find out more by accident than some of us do on purpose." He also strongly urged amendment of the Agricultural Surpluses Act so that frozen counterpart funds could be used for medical rehabilitation and student exchanges. Under this act, agricultural surpluses are paid for in the currency of the buying country, and the United States uses the money for such purposes as paying extra embassy staff help and furnishing technical aid. Humphrey stated that "at least $1½ billion is lying around the world unused today."

Rusk noted that the life expectancy in Burma is 29 years, and that that life-span could be raised to 50 in 5 years with the investment of a modest amount of money.

Blanche Thebom of the Metropolitan Opera suggested that the frozen funds be used to pay for airplane tickets and hotel accommodations to support the exchange of more young American artists like Van Cliburn.

Exchange and the National Interest

The final plenary session, which was under the chairmanship of Dean Rusk, president of the Rockefeller Foundation, was devoted to "International Exchange and the National Interest." Rusk's opening statement emphasized that "we have an enormous interest not only in giving but in taking."

Senator Karl E. Mundt reported that, in contrast to a few years ago, congressional evaluation of exchange-program budgets is increasingly favorable. He said that in the Senate there has been a change from an attitude of suspicion and skepticism to one of acceptance and even support. However, budget allocations are still far from adequate, and this is partly because Congressmen have great difficulty in learning where and how funds are spent. Mundt mentioned that Thayer, the new State Department man concerned with exchange, had had to assemble representatives from 15 different government agencies in order to "call into focus our exchange program."

Mundt said: "I feel the time is here when we should coordinate all these activities under the authority of one government executive at the Cabinet level, perhaps heading a Department which might be identified as the Department of International Public Relations." He suggested that two assistant secretaries would function under the new Cabinet officer, one to head an Office of Cultural and Educational Exchanges and the other to head an Office of Informational Media. Mundt explained: "I believe the selling programs of our information media could be kept separate from the seeing-for-yourself programs of our cultural and educational exchange, and Cabinet status would give to both offices the clarity of purpose . . . and the exclusive areas of action needed to induce Congress to provide adequate funds. . . ."

Representative Chester Bowles put forward another proposal: "We need not only to keep expanding our Voice of America program in all of its ramifications, we need to create a really large-scale 'Voices *To* America' program." He pointed out that foreign students in this country, coming from 145 countries in the world, represent a tremendous fund of knowledge and insight waiting to be tapped. He suggested that these foreign students be made available to "all the myriad business, labor, church, social, alumni and professional groups that exist in every town."

Bowles explained that this "Voices-to-America" program would need two things: (i) active committees in every town to stimulate interest in world affairs and keep all the local organizations aware of foreign-student availability; and (ii) clearinghouses on the state and regional levels, working in cooperation with the colleges and universities, to keep a register of the foreign students, their backgrounds and capabilities. In closing, Bowles observed:

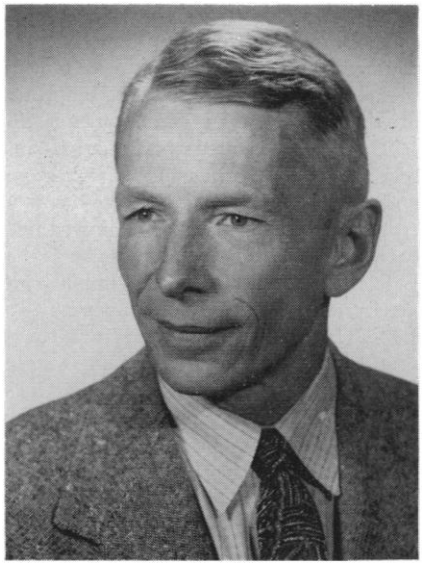
"It has often been said that these post-war years have been filled with mistakes and blunders, but when our history is someday written, these times will also go down as a period of creative ideas.

"And one of the most creative of them all has been the idea of international exchange."

Krauskopf and Steinbach Appointed to Editorial Board

The editorial board of *Science* is glad to welcome two new members: Konrad B. Krauskopf, professor of geochemistry and associate dean, School of Mineral Sciences, Stanford University, and H. Burr Steinbach, professor of zoology and chairman, department of zoology, University of Chicago.

Krauskopf, who was born in Madison, Wis., received an A.B. degree at the University of Wisconsin in 1931, a Ph.D. in chemistry at the University of California in 1934, and a Ph.D. in geology



Konrad B. Krauskopf

at Stanford in 1939. With the exception of a year as instructor in chemistry at California in 1934–35, his professional career has been at Stanford, where he began as an instructor in physical sciences (1935–39) and continued in the department of geology.

Krauskopf has enlarged his experience both by government service and travel. He has held appointments as associate geologist, U.S. Geological Survey (1942–44), geologist (1944–46 and various times since), and chief, G-2 Geographic Section, General Headquarters of the Far East Command, U.S. Army, Tokyo (1947–49). His perfomance in this last assignment brought him a citation for meritorious civilian service. He has traveled extensively to further his researches: to Mexico (1945–46) as an observer of the Parícutin volcano; to Norway (1952–53) for research as a Guggenheim and Fulbright fellow; to Jordan (1945) for a mineral survey; and to Alaska in the summer of 1955 as an employee of an oil company.

His textbook, *Fundamentals of Physical Science* (McGraw-Hill, New York), which was first published in 1941, will go into its fourth edition this year. Further, he is at present serving as associate editor of *Economic Geology*. His research interests have dealt with problems in chemistry, geochemistry, and geology: the kinetics of photochemical gas reactions, structure of batholiths, tungsten deposits, mechanism of volcanic eruptions, trace metals in sea water and sedimentary rocks, solubility of silica, separation of manganese and iron in geochemical processes, and composition of magmatic gases. At present he is investigating the solubility of sulfides at high temperatures, the geochemistry of ore deposits, and the geochemistry of laterite weathering.