ecessor did not have, or at least did not use. Furthermore, it is said, he has been working effectively to get the nation's major educational organizations to forget their differences and pull together for the administration's program.

Space. The budget for the National Aeronautics and Space Administration, $3.7 billion this year, is expected to rise to over $5 billion. As it goes up, Congress is becoming increasingly unhappy about what it considers the administration's conviction that it has a blank check for beating the Russians to the moon. The Cold War justification for these expenditures is hard to fight, and there is little likelihood that NASA's budgetary request will be successfully attacked. But the nucleus of a revolt exists, and Congress is beginning to manifest a skepticism on space matters that could turn into serious hostility, especially if it finds cases of marked wastefulness or what it considers to be incompetence.

There is also going to be increased congressional pressure for expansion of the military space program. This is an area which the Republicans have staked out for assailing the administration. Whatever data they need for this purpose are happily supplied by the Air Force, which is in agony over the administration's decision to do nothing that might motivate the Soviets to expand their military space effort.

Medical research. The tradition of ample funding for medical research is well established, but there is growing unhappiness within Congress over the annual practice of giving NIH more than the administration requests for it. A handy club to wield against this practice is the contention that NIH maintains unnecessarily loose control over the use of funds by its grantees. There are thousands of grantees who can point out that their own institutions exercise tight control over their expenditures of NIH funds. But it is a fact that within the medical research community some people think NIH money is about as sacred as Monopoly money. Stories of extravagance abound, and it is worth noting that they are coming to the ears of Congress with increasing frequency.

Microscope tariff. In the last session the House adopted a bill to restore electron microscopes to the tariff list. The measure failed to clear the Senate, not because of opposition but because of the session-end rush to get home. The bill, which is aimed at protecting American manufacturers who claim they are hurt by foreign imports, will be reintroduced in this session. On a $30,000 instrument, the tariff would be approximately $7000.

Arms control agency. The Arms Control and Disarmament Agency is close to having expended the $10 million that was authorized it in its establishing act. It now requires legislation for additional funds as well as a specific appropriation of the funds. It is expected that the agency will request that it be given an open-end authorization, so that it will not have to seek new legislation to obtain money. The budget request for the agency in the coming fiscal year is believed to be considerably above $10 million. Favorable congressional reaction to this request would be a useful tonic for the agency, which has been very much afflicted by what it considers to be latent congressional hostility. Just where any effective hostility exists is difficult to see, but the agency seems to devote a large amount of energy to its fears of Capitol Hill.

Civil defense. In the last session Congress gutted Kennedy's civil defense program, with scarcely a sign of protest from the administration. It altogether eliminated a request for $460 million to construct community shelters in nonprofit educational and health and welfare institutions. It also cut $161 million from a $286 million request for the marking and stocking of shelters, for communication and warning systems, and for fallout monitoring equipment and research.

Technically, the $460 million was refused because the House Armed Services Committee never got around to holding hearings on the bill authorizing the construction program. The fact that the bill failed to come up is related, however, to Congress's longstanding distaste for civil defense. Should that distaste decline, perhaps because of fears raised by the Cuban crisis, the administration will still have to cope with Representative Albert Thomas, the Texas Democrat who chairs the Independent Offices Appropriations Subcommittee. The subcommittee, which passes on civil defense money requests, has traditionally been opposed to an expanded civil defense program. Thomas has never broadcast his reasons for this position, but it appears that he doubts that civil defense makes much sense in an era of big bombs. It can be argued that some civil defense is better than no civil defense, however big the bombs may be, but Thomas, as administration lobbyists discovered in the last session, is not easily persuaded.

—D. S. GREENBERG

U.S.-Soviet Exchange: Basic Premise Is Close Assay on Golden Rule

The formal exchange program between the United States and the Soviet Union, now entering its sixth year as a modest testimonial to coexistence, continues to operate on strict terms of quid pro quo.

A new exchange agreement for 1962 and 1963, signed last March, follows the form of two previous agreements in being a comprehensive arrangement covering a wide range of fields, from science, technology, and education to the performing arts and athletics. The latter sorts of exchanges, such as those involving Benny Goodman, the Bolshoi Ballet, and basketball teams, have attracted the greatest public notice, but subsidiary agreements have been negotiated under nearly a dozen separate headings. On the American side, private organizations or quasi-official bodies have cooperated with federal agencies by giving advice and, in several cases, by sponsoring and actually making arrangements for the exchanges.

The agreement on the exchange of scientists, for example, is carried out under a separate agreement between the U.S. National Academy of Sciences and the Soviet Academy of Sciences. For the United States, the American Council of Learned Societies arranges exchanges of scholars in the humanities and social sciences; the private Inter-University Committee on Travel Grants coordinates the exchange of graduate students; and the Public Health Service and several of the National Institutes of Health administer

exchanges in the fields of public health and medical science.

Overall supervision of the U.S. program falls to the State Department's Soviet and Eastern European Exchanges Staff, which oversees original negotiations and then is responsible for insuring that Americans do in fact get equal opportunities. The staff is charged with carrying out a directive of the National Security Council that the exchanges be conducted in the best interests of the United States.

Spotting trends in the exchange program tends to be a tricky endeavor. For example, the program for exchanging scientists was moderately expanded in the new agreement, but so far there has been no rush on either side to take advantage of the new opportunities. The principal change in the program was the specific provision for exchange of 20 scientists from each country for periods of from 5 to 10 months for the conduct of research and for advanced study in scientific research institutions of the other side.

Recruiting Problems

Scientists on both sides had urged that the longer-term visits be made a part of the program. One American and one Russian have used the new plan, and arrangements for one American and one Soviet scientist are in the works now. On the American side, the lag in filling the new places in the exchange quota may reflect a feeling among scientists that spending a full academic year in the Soviet Union is a professional gamble. Lack of competence in the Russian language and uncertainty as to whether they will have access to Soviet facilities and scientists in which Americans are interested seem to be inhibiting factors. Administrators of the exchange program say it is difficult to find established American scientists in mid-career who are willing and able to get away from their posts and responsibilities for as long as an academic year under any circumstances. In addition, details of the exchange program have not been widely known in this country, and much early recruiting has had to be done by searching out and inviting individuals to apply.

Money does not seem to be a major problem. Under the intergovernmental agreement the exchanges are subsidized, the American contribution being made up of a combination of public and private funds. For example, U.S. funds for the scientific exchange, administered by the National Academy of Sciences, are furnished by a National Science Foundation grant.

An American scientist going to the Soviet Union on an exchange visit, in addition to having his round trip paid for, would draw a $10 per diem payment for food under the NSF grant. If the scientist is on one of the 5- to 10-month visits, travel costs for his family will also be paid, and costs of language study, for him, equivalent to a summer-institute course may be defrayed. If a professor is on leave at reduced salary, it is possible, in most cases, for the Academy to make up the difference.

The Soviets pay for Americans' travel inside the Soviet Union and absorb the cost of hotel accommodations and of some incidentals, and our Academy reciprocates for Soviet scientists here.

The same general conditions apply to shorter visits, for which quotas seem to be somewhat easier to fill. Under the current 2-year agreement, 20 American members of the NAS and 20 Soviet Academicians are to exchange visits for "up to one month each, to deliver lectures, conduct seminars, and to study scientific research on various problems of science." Ten other scientists from each side may also be exchanged, each for up to a month, for "familiarization with scientific research."

Seven Americans and one Russian have so far completed visits under the 1-month quota, and three other Soviet scientists are expected here by the end of this month.

For visits in an intermediate category, providing for an exchange of six scientists for up to 3 months each for "conduct of scientific research in scientific research institutions of the other side," so far there have been no takers on the part of Americans, though one Soviet scientist has completed such a visit and three more are expected this month.

Not counted in these quotas are scientists who may be exchanged under other provisions of the agreement. Individual scientists can be invited by the two academies or associated institutions for special visits, and invitations may also be issued to individuals to attend national scientific conferences. Another provision of the agreement calls for discussion by the two countries of running joint symposia on scientific problems. Arrangements for all these exchanges involve a process of consideration and consent on individual cases which consumes a good deal of time and energy. Rebuffs and refusals are not uncommon, and, for the most part, an air of polite horse-trading prevails.

Insofar as scientific results of the exchanges can be established, perhaps the most concrete development has been progress, under the Public Health and Medical Science agreement, toward comparative studies of diseases in different population groups in the two countries.

Looking ahead, administrators for both the science and the medical science programs feel that quotas on both sides will have been filled by the time the books are closed on the agreement, and they point out that exchanges under past agreements have often gone on at a leisurely pace well beyond the formal expiration date of the accords.

Signs of Coolness

On the exchange of graduate students there are signs that Soviet interest is less than ardent. With an annual limit of 50 persons from each side and a normal term of an academic year, 42 Russians are in residence, and 32 Americans. The Russians, at least three quarters of them specialists in highly technical subjects, are distributed throughout a score of American institutions, most of them on the East and West coasts and in the Midwest. The Americans are concentrated in Moscow and Leningrad. Most of them are students of Russian language or history or of Soviet-area studies, and, reportedly, the Soviets have not made things easy for them, particularly in making research material available.

The exchanges have not been free from acrimony—disputes over exhibits provide a recent instance—but, except for a period after the Hungarian revolt, the program has been relatively unaffected by the ups and downs in political relations between the two nations.

As for the politics of the exchange itself, the American assumption seems to be that the Soviets regard the agreement as an integral part of their organized effort to gain scientific and technical information from the West, and, secondarily, as a public relations project to portray the Soviet Union and its system in the best possible light.

Justification for the exchange from the American viewpoint appears to lie, first, in the view that American science, in terms of data and publications, is relatively open and Soviet science is

closed and that the exchange results in a net profit for the United States.

Also, with Iron Curtain conditions prevailing, there seems to be a feeling that to get more information about the West into the Soviet Union and more information about the Soviet Union out to the West is a good thing.

In the first 4 years of the formal agreement some 7000 persons were exchanged. Approximately 37,000 tourists, the great majority of them Americans, can also be counted in. This is far from a torrent except when compared with the trickle in the decade after World War II.

Appearances indicate that the exchanges can be expected to go on much as they have, with changes based, like the whole program, on a closely monitored brand of reciprocity.

—JOHN WALSH

U.N. Conference: 80 Nations Discuss Applying Science to Development

The United States will send a delegation of about 100 to the United Nations Conference on the Application of Science and Technology for the Benefit of the Less Developed Areas, which is to take place 4–20 February in Geneva, Switzerland.

Preparations for the conference have been in progress for more than 6 months and some 80 nations, industrialized and less developed, Communist, nonaligned and Western, are scheduled to participate. Since institutions as well as techniques will be germane to the discussions, some ideological friction can be expected, but organizers say that the 1800 papers so far accepted for the conference provide a promising store of suggestions on how to apply recent scientific and technological advances to the needs of developing nations.

The papers are designed to furnish a "critical inventory" of current ideas and experience as a background for discussion in a dozen subject areas of development ranging from agriculture to science policy.

The idea for the conference originated in the U.N. Secretary General's science advisory committee, in which Dr. Isidor I. Rabi, Columbia physics professor, is the American member. Chairman of the American delegation will be Dr. Walsh McDermott, head of the Cornell Medical College's department of public health—J. W.

Announcements

Roswell Park Memorial Institute, Buffalo, N.Y., last month removed all cigarette vending machines from its premises. At each machine location, these signs were posted: "Roswell Park Memorial Institute is dedicated to the detection, treatment, and prevention of cancer.

"To help protect and remind you of the hazards of cigarette smoking, all cigarette vending machines have been removed from the premises.

"Research at Roswell Park Memorial Institute has proved conclusively that cigarette smoking is a major cause of lung cancer. It also increases diseases of the heart and blood vessels, chronic bronchitis, and gastrointestinal disorders."

The removal was a decision of the Institute's cigarette cancer committee, whose chairman, Morton L. Levin, wrote one of the first reports in the U.S. linking cigarette smoking to cancer.

The Institute has also undertaken a program to discourage the general public from smoking. In addition to a pilot project in Buffalo area schools, the organization has distributed cartoons and matchbook covers warning the smoker of the increased tendencies to develop cancer due to cigarette smoking.

Meeting Notes

An estimated 90 U.S. and foreign specialists are expected to present papers at the 1963 **International Solid-State Circuits** conference, scheduled for 20–22 February in Philadelphia. Broad advances will be covered in the general areas of digital memories; logic; low frequency, microwave, linear, and integrated circuits; digital design techniques, and optoelectronics. Twelve formal and 11 informal sessions have been scheduled.

The **International Congress of Zoology** will hold its first meeting in the U.S. since 1907, 20–27 August, in Washington, D.C. Theme of the program is the "reunion of the zoological sciences into a coherent, broad discipline, in reversal of trends toward specialization and fragmentation."

Six plenary symposia have been scheduled, covering genetic continuity, cell biology, development, evolution, phylogeny, and behavior. In addition, many specialized symposia are being arranged. Sponsor of the Congress is the National Academy of Sciences–National Research Council, with the American Institute of Biological Sciences cooperating in arrangements. Deadline for submission of abstracts: *1 March*. (Official forms for abstracts can be obtained from 16th International Congress of Zoology, NAS–NRC, 2101 Constitution Ave., Washington 25, D.C.)

Grants, Fellowships, and Awards

A limited number of individual travel grants is available for participants in the 2nd **international pharmacological meeting**, to be held from 20 to 24 August in Prague, Czechoslovakia. Applicants, who must be members of one of the Federated Societies for Experimental Biology, should submit a brief curriculum vitae and a title of the communication they propose to give. (C. F. Schmidt, Aviation Medical Acceleration Laboratory, U.S. Naval Air Development Center, Johnsville, Pa.)

Applications are now being accepted by the isotope division of Stanford University's department of radiology for a 1-year fellowship in **clinical applications of radioisotopes**, to be available 1 July. Particular emphasis will be on the use of isotopes in investigations, diagnoses, and treatment of neoplasms. Candidates must have completed at least 2 years of postgraduate residency; preference will be given to applicants interested in either nuclear medicine or clinical branches of oncology. The fellowship carries a $7200 stipend. (Joseph P. Kriss, Stanford School of Medicine, Palo Alto, Calif.)

Twenty-six teaching assistantships and a limited number of graduate research fellowships in **forestry** are available from the State University of New York College of Forestry at Syracuse University. Yearly stipends vary up to $2400. Recipients of the assistantships will assist part-time in teaching and research, and may take courses leading to the degrees of master of science, master of landscape architecture, or master of forestry, or doctor of philosophy. Persons receiving fellowships will devote full time, except for course work, to assigned projects. Fellowships are being offered in relation to the college's general research program, and by in-