

GENERAL SCIENCE

Science: A Force for Unity

Science is an area where men can work together in harmony in spite of national, political, religious and cultural differences, Lillian Levy reports.

► IN SPITE OF WARS, both hot and cold, scientists of the world have been able to work together. In fact, science appears to be the only unifying force of consequence in today's sharply divided world.

Last year, while the wall between East and West Berlin was building up United States and USSR tensions, a delegation of medical scientists from the United States went to Russia to observe research activities in medical ecology, the field of science blending health and human environment, in a number of leading Soviet scientific centers. The visit was only one of five official medical missions developed under a 1960 educational, scientific, technical and cultural exchange between the two countries. There have been a variety of exchanges in medical as well as other areas since 1956.

This year, while East and West continue to joust in Berlin, Southeast Asia and Latin America, the United States announced plans to finance a \$2,000,000 medical research effort by Polish and American scientists. The agreement, significantly, was negotiated last year, surviving the international crisis over the Berlin wall and the subsequent deterioration in political relations between the United States and Poland.

Arabs and Israelis Cooperate

Middle East border incidents between the Arab countries and Israel have not prevented scientists from both countries from working and studying together this spring at the International Institute of Nuclear Science and Engineering at the Atomic Energy Commission's Argonne National Laboratory, Argonne, Ill. More than 750 scientists and engineers from 50 countries representing vastly different cultural, religious and political backgrounds, have taken "atoms for peace" training at Argonne. Eleven scientists from Communist Yugoslavia are in this year's group at the atomic energy laboratory.

East-West differences in Geneva over a nuclear test ban and disarmament were not reflected in the science advisory committee to the International Atomic Energy Agency. Soviet and American scientists joined in approving technical assistance programs for 1962 for promotion of the study and research of atomic power in 25 member states.

Representatives from Yugoslavia attended the annual convention of the Association of Military Surgeons held in Washington. The theme stressed at the conference was international medicine as a path to world progress. The military medical men, many of whom have seen the terrible casualties caused by wars, heartily endorsed this theme.

Dr. Thomas Parran, a former president of the Association and formerly Surgeon General of the U.S. Public Health Service, paid tribute to international scientific cooperation as represented by the United Nations and said, "It is encouraging that as yet the current turmoil besetting the U.N. has had few repercussions in its many scientific and technical agencies."

Another international program, the Upper Mantle project, has captured the imagination of scientists from Russia, the United States and other nations. In this project, which began this year, the forces that have caused mountains to form and continents to rise out of the oceans will be studied. Probes penetrating the earth's thin crust will be part of the program.

The United States is working with several nations in space exploration. The Western European community, divided by two world wars, has now joined forces to study the universe with rockets and satellites.

Soviet Premier Khrushchev and President John F. Kennedy have exchanged notes in which each has expressed support for East-West cooperation in space. The United States for several years has initiated such proposals through the United Nations. However, it was only after the successful

orbital flight of Astronaut John H. Glenn Jr. that the Soviet leader responded in a fully positive manner.

The past decade has witnessed a tremendous expansion of international scientific cooperation, highlighted by the International Geophysical Year (1957-58) in which more than 60,000 scientists from 66 nations—East, West and neutral—joined to search out the physical truths about the earth and its environment. Scientists from nations which do not recognize each other diplomatically worked side by side in this search.

The IGY originated with the International Council of Scientific Unions (ICSU), a non-governmental organization established more than 30 years ago. The science academies of 49 nations and 13 international scientific unions are united in the council. A special committee of ICSU set up the program of IGY which was designed to coincide with a period of high solar activity, which runs in 11-year cycles.

Quiet Sun Studies

An important outgrowth of the IGY will be the studies undertaken in the Year of the Quiet Sun in 1964-1965, a period of minimum solar activity. In addition, the IGY nations are continuing the work initiated by the IGY through four special committees of the International Council. These committees, while advancing man's knowledge of the world in which he lives, also are establishing a pattern for international



USSR SCIENTIST AT U.S. STATION—Leonid Kuperov, Soviet physicist at U.S. Antarctic base, McMurdo Sound, works with U.S. scientists in ionospheric research.

cooperation that may yet extend into the political field. The search together of all men of science to advance fundamental truths about the universe may yet wear away differences and distrust on political issues.

COSPAR, ICSU's International Committee for Space Research, which had its third international symposium in Washington recently, more dramatically, perhaps, than any of the other special committees, underscores the unique cooperative spirit of science. Soviet and American scientists at the space symposium worked harmoniously despite bitter exchanges by their representatives at Geneva over the resumption of U.S. nuclear tests in the atmosphere.

Soviet Cosmonaut Gherman Titov and U.S. Astronaut John H. Glenn Jr. reported on their space voyages to more than a thousand scientists from countries all over the world attending the international meeting held at the Department of State. Nor was the East-West political split a barrier to an invitation extended to Cosmonaut Titov by the National Aeronautics and Space Administration to visit America's best known satellite launch site, Cape Canaveral.

COSPAR, together with the International Union of Geodesy and Geophysics and the World Meteorological Organization, this year sponsored the first International Symposium on Rocket and Satellite Meteorology. Soviet scientists participated actively in the proceedings with scientists from more than 20 other nations, including the United States, and publicly advocated greater international cooperation in weather studies.

Indian Ocean Explored

Another international effort to conquer nature is represented by SCOR, the ICSU Special Committee on Oceanic Research. More than 20 nations have pooled their resources and scientific manpower to explore the Indian Ocean and provide information about its climate, food and mineral resources, particularly for the densely populated countries forming its coastline.

Twelve countries are exchanging scientists and working together to explore the Antarctic under the ICSU committee known as SCAR, the Special Committee for Antarctic Research. Territorial claims in this icy continent have been frozen for 34 years by treaty agreements among the nations with land bases in Antarctica. The spirit of international scientific cooperation is underscored by the mutual ban against arms in the Antarctic and the use of any of its territory for military purposes.

The International Committee on Geophysics is the fourth of the special ICSU committees in which nations from East and West are working together. However, international cooperation in science is by no means limited to these special non-governmental ICSU committees or the 13 independent ICSU groups or unions working in astronomy, biological sciences, pure and applied chemistry, pure and applied physics, mathematics, crystallography, history and philosophy of science, geography, scientific radio, physiological sciences, theoretical and applied mechanics, biochemistry and geology. The United Nations Educational, Scientific and Cultural Organization (UNESCO), an inter-governmental organization, also is actively promoting cooperation among scientists of many nations.

The scientific efforts of ICSU and UNESCO are bound together by a formal agreement, and the two groups complement each other. ICSU, by virtue of its independent non-governmental nature, is a co-ordination of science academy activities aimed largely at pure research, just for the sake of knowing. UNESCO, on the other hand, because of its inter-governmental character, must concentrate its efforts toward the application of scientific research to advance the economic and social welfare of man.

The World Health Organization is perhaps the best known of the UNESCO groups, although, like ICSU, it has its own governing body and includes among its members nations not in the U.N. Activities of WHO have shown that men can and will lay down their arms to fight disease. This was demonstrated not long ago in the Middle East when Israelis and Arabs joined in spraying certain border areas in the fight against malaria.

The International Atomic Energy Committee, formed to promote the peaceful uses of atomic energy, is still another example of the unity of science, a manifestation incidentally not limited to the age of atoms and space. It can be said, in fact, to date back to the discovery of fire and the wheel, discoveries outside of man which could be verified by all men and thus were truths to be shared and owned in common.

• Science News Letter, 81:346 June 2, 1962

OTOLOGY

Animals' Hearing Hurt By Tobacco Poisoning

➤ SPECIFIC EAR DAMAGE from experimental tobacco poisoning of guinea pigs by two doctors in Parma, Italy, was reported.

Other investigators have called attention to the harm brought by tobacco to hearing organs, they said, but the present study was directed to the causes of the damage and to the particular structures of the hearing system most affected.

"Nazionali" cigarettes, consumed most widely in Italy, were used in the experiment by Drs. Giacomo Maffei and Pietro Miani of the Ear, Nose and Throat Clinic of Parma University. The study was reported in the Archives of Otolaryngology, 75:386, 1962, published by the American Medical Association.

Two types of injury were observed: 1. those of a vascular nature observable in acutely "intoxicated" animals; and 2. degenerative lesions of elements of the cochlea, a spiral shaped cavity of the internal ear.

"Furthermore," the researchers said, "the lesions of the eustachian tubes contribute to the acoustic damage in subjects already affected by the marked and severe cochlear lesions previously revealed."

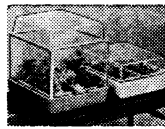
Damage to the hearing function in tobacco smokers has been reported by French and German scientists from as far back as the middle of the 19th century. Hearing deficiency with buzzing of the ears and vertigo are among the symptoms reported.

• Science News Letter, 81:347 June 2, 1962

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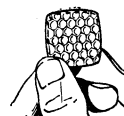


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