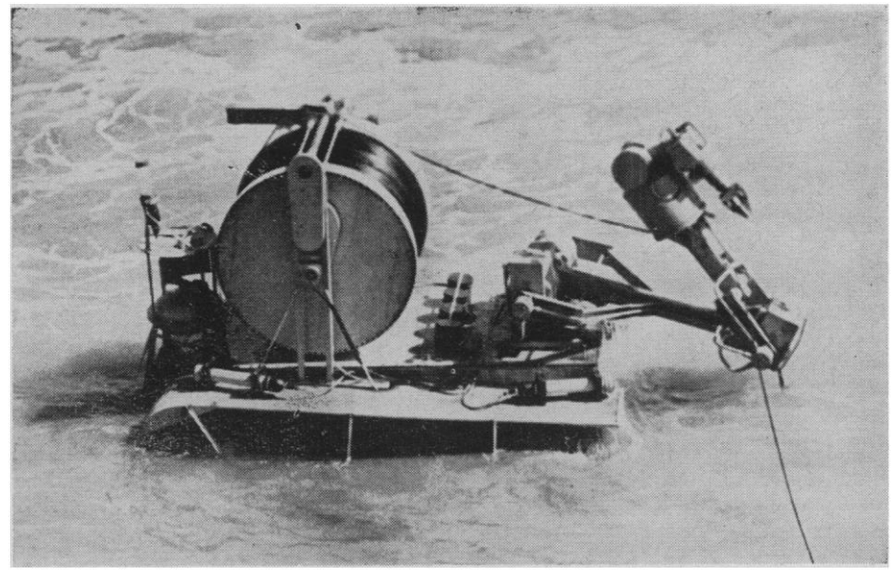
Remote-Control Undersea Vehicle Demonstrated

A remote-control undersea vehicle for conducting scientific studies of the ocean bottom for prolonged periods at great depths has been developed for the Office of Naval Research. The new vehicle, called RUM for Remote Underwater Manipulator, was demonstrated off the shore of La Jolla, Calif., on 16 May. RUM is essentially a tank equipped with a long, jointed manipulator arm and hand, together with specially devised underwater television cameras which serve as the eyes of the vehicle's operator on shore.

The development of the vehicle was directed by Victor Anderson of the University of California's Scripps Institution of Oceanography, La Jolla, for use in cooperation with the Hudson Laboratories of Columbia University. The goal of the RUM program is to develop an efficient oceanographic vehicle for use in observing the sea floor, collecting samples and specimens, and assembling and installing deep, bottom-mounted instrumentation.

The experimental vehicle that was demonstrated at La Jolla can operate at depths down to 20,000 feet, maintaining a speed of 3 miles per hour where the ocean floor is level. It can maneuver and operate on a 60-percent incline and is capable of climbing a vertical obstacle 12 inches in height.

RUM is linked to a mobile van by a coaxial cable long enough to permit operations out to 5 miles from shore. The cable carries the television signal, relays power for the operation of the vehicle and its cameras and mercury-vapor lights, and provides several remote-control telemetering channels.



New remote-control underwater vehicle (RUM) developed for the Navy by the Scripps Institution of Oceanography.

International Space Academy Established by Guggenheim Grant

Formation of an International Academy of Astronautics to provide world technical leadership for the peaceful conquest of space and to serve as a clearing house for astronautic information has been announced by the International Astronautical Federation and the Daniel and Florence Guggenheim Foundation, New York. The academy, which will be financed for the first 3 years with $75,000 from the Guggenheim Foundation, will be composed of leading scientists in the basic sciences, engineering, the life sciences, and other major fields involved in the development of astronautics. It will be a part of the federation, whose president is Leonid I. Sedov of the U.S.S.R. Academy of Sciences.

Theodore von Karman of the United States, chairman of the founding committee that was authorized to establish the academy at last year's London meeting of the federation, has commented that the new association will provide "what may be the only common intellectual meeting ground" for the scientists and engineers of all nations, including those of both East and West. Consequently, he said, the academy can "bring about the peaceful exploration of space in the shortest possible time, and for the greatest benefit for all."

Sedov said in Moscow that the foundation's grant would be reported at the forthcoming Astronautics Congress in Stockholm and would be "highly appreciated and used for furthering international cooperation and successes in astronautics."

The International Astronautical Federation has been functioning since 1950 and consists of representatives and delegates of the rocket and astronautical societies of some 30 countries. The United States member, the American Rocket Society, has more than 15,000 members. Apart from the federation, there are only two major international groups in the field. These are the United Nations Committee on Peaceful Uses of Outer Space and the Committee on Space Research of the International Council of Scientific Unions.

The Academy's Functions

The principal powers and functions of the academy will be to:

Provide advice to the president of the International Astronautical Federation when requested.

Hold scientific meetings and make scientific studies and reports.

Publish *Acta Astronautica*, an international technical publication devoted to astronautics.

Award medals and prizes intended to further progress in the field of astronautics, and carry out such other tasks as may be considered desirable for promoting the advancement of astronautics.

Present plans call for the establishment of the academy as a going concern at the Stockholm meeting in August. It is expected that a permanent headquarters will be established in Paris, where the French Government has promised rent-free quarters.

Federal Regulation of Animal Studies Proposed by 11 Senators

A bill to regulate the use of experimental animals by institutions receiving federal grants or working on federal contracts was introduced on 18 May

by Senator John Sherman Cooper of Kentucky. The bill, S. 3570, is cosponsored by Senators E. L. Bartlett and Ernest Gruening of Alaska, Robert C. Byrd and Jennings Randolph of West Virginia, Estes Kefauver of Tennessee, Mike Mansfield of Montana, Pat McNamara of Michigan, Wayne Morse of Oregon, William Proxmire of Wisconsin, and Joseph Clark of Pennsylvania.

Lester P. Dragstedt, president of the National Society for Medical Research, although strongly opposed to the bill, hopes that it will receive a thorough hearing so that members of Congress will develop a greater interest in promoting funds for laboratory animal care. Dragstedt comments that the proposed new law appears to be "an attempt by the anti-vivisection cult to strangle medical research with red tape." He points out that the bill has no constructive provisions and "makes no provision for helping scientists attain better methods, better helpers or better facilities."

The National Society for Medical Research is comprised of more than 500 national scientific and health organizations. Its members include every medical college in the United States and most of the colleges of dentistry, pharmacy, and veterinary medicine. The society also represents the larger clinics, hospitals, and institutes that are engaged in research in addition to patient-care activities.

The Bill's Provisions

The Cooper bill would license every individual scientist who might work with animals under any federal grant or contract.

Laboratories in which animal research were to be conducted would be inspected and issued "certificates of compliance."

Research plans would have to be submitted to the Secretary of Health, Education, and Welfare for approval, and presumably there would be no exceptions.

Detailed annual reports would have to be made on each licensee, covering all experiments performed during the year.

The National Institutes of Health would be assigned police duties.

The Cooper bill is identical in its major provisions to the German law adopted when the Nazis first came to power in 1933. The law did not prohibit animal experiments, but it so encumbered animal experimentation that it was cited at the Nuremberg trials as one reason why some Nazi experimenters turned to the use of prisoners in concentration camps.

The Cooper bill is also similar to the British law of 1876, except that, unlike the British law, it does not require surgeons to perform their first operations on human patients.

U.S. Launches 5000-Pound Missile-Warning Satellite

A 5000-pound United States satellite was placed in orbit by the Air Force on 24 May. The 22- by 5-foot vehicle was launched from Cape Canaveral, Fla., as part of a program to develop a missile attack warning system. Called Midas, for Missile Defense Alarm System, the new satellite is circling the earth about every 94 minutes at a distance of approximately 300 miles. Its inclination to the equator is 28 degrees.

The Midas is not expected to operate as a reliable detection device until 1963. The perfected Midas would be capable of detecting the heat radiation from the exhaust flames of a missile's rocket engine as the missile left the atmosphere; then infrared "feelers" would immediately relay a warning.

The Air Force estimated that the new vehicle, which carries 3000 pounds of instrumentation, would have a useful life of 3 to 4 weeks before its battery power is exhausted. However, on 26 May it was reported that something had gone wrong with the system for radioing orders to the satellite. This spoiled plans to test the vehicle's detection instruments during a missile launching and during the firing of a series of flares from Edwards Air Force Base. Midas is expected to remain in orbit for 3 years.

AAAS Group Studies Use of Special Teachers

A conference on the use of special teachers of science and mathematics in the elementary school was held at the Burlington Hotel in Washington, 15–16 May. The conference, sponsored by the Science Teaching Improvement Program of the AAAS, was attended by about 75 persons from some 25 states. Among the participants were scientists, including directors of the National Science Foundation curriculum studies; school superintendents; and elementary-school principals, supervisors, and teachers.

The program included a report of the STIP Study on the Use of Special Teachers in Grades 5 and 6, which is being conducted with the cooperation of the school systems in Cedar Rapids, Iowa; Lansing, Mich.; Washington, D.C.; and Woodford County, Ky. Equal attention was given to the Dual Progress Plan, which is New York University's experimental study of the use of special teachers in the elementary school.

The purpose of the conference was to determine what has been learned during the past year from these two experimental studies, to identify new problems in the use of special teachers, and to encourage other schools to experiment with this form of teaching and administration. The conference was made possible by a grant from the Carnegie Corporation of New York.

Canadian Polar Basin Expedition

A 55-man Canadian scientific expedition has begun a broad program of research on Canada's continental shelf on the rim of the Polar Basin. The expedition, which includes oceanographers, topographers, geologists, geophysicists, geographers, and fisheries and wild-life experts, has headquarters at Isachsen on northern Ringnes Island. Ernest F. Roots is coordinator of the project.

Canada knows little about its polar regions. Its arctic shelf, which has not as yet been accurately charted, is about 1500 miles in length and is believed to extend from 100 to 200 miles out into the Arctic Ocean. This year the expedition will cover an area extending 250 to 300 miles out onto the shelf ice from a base line, established by an advance reconnaissance party in 1959, which extends from Meighen Island to Borden Island.

In a systematic study of the shelf, scientists are carrying out various tests at holes blasted through the ice at different points. They are working in a grid pattern across an area 30 miles square. Most members of the expedition will remain in the area until the end of August; all will have left by the end of September.