

budgets, the AAAS has marked approximately 100 entries with a double asterisk to indicate books that are considered indispensable; some 200 other books carry a single asterisk to indicate that they are recommended if resources permit.

While several well-known book lists for high-school libraries are available, none of those consulted by Hilary Deason, director of the AAAS Science Library Program, gave sufficient representation to the sciences and mathematics. Deason believes that in the average high-school library the titles in the pure and applied sciences should aggregate at least 20 percent of the total. However, a survey of the libraries of approximately 2600 representative high schools participating in the Science Library Program during the past 2 years shows that science titles constitute only 5.2 percent of their collections.

Primary-School Library Launched

On 7 September the National Science Foundation announced the award of a \$500,000 grant to the AAAS to extend the successful Traveling High-School Science Library Program to include a Traveling Elementary-School Science Library. Five hundred sets of 160 books have been selected for the new program and, as schools reopen this month, students in 800 elementary schools throughout the nation will begin to enjoy science books of the kind heretofore circulated only in high schools.

The 160 books represent all major scientific disciplines, including mathematics. An accompanying catalog classifies the volumes at three levels of difficulty: *P*, primary or very simple; *I*, intermediate; and *A*, advanced. The AAAS plans to circulate 80 books at a time to each of the 800 schools, with an exchange at mid-year.

High-School and Paperback Programs

The Traveling High-School Science Library is now beginning its fifth year, having been instituted in 1955-56 with 11 sets of books that circulated to 55 schools. This year the library contains 465 200-book sets that will go to 1700 schools. Each of the current units consists of 165 books that were included in the library in previous years and 35 new selections, necessary because certain books included previously became unavailable.

Two years after the establishment of the first Traveling Library it became evident that the program was stimulating

wide interest among adults; therefore, *An Inexpensive Science Library*, a selected list of paperbound science books, was prepared. A first edition of 24,000 copies issued in 1957 and a revised second edition of 50,000 copies issued in 1958 are both out of print. The present edition contains a brief descriptive note for each book and classification according to degree of difficulty. The edition lists 400 titles.

The AAAS publishes annotated catalogs of the two traveling school libraries mentioned above, which may be obtained at 25 cents each; *The AAAS Science Book List* is \$1 a copy; and *An Inexpensive Science Library* costs 25 cents.

Senate Committee Reports Effects of Hypothetical Nuclear War

A "Summary-Analysis" of hearings on biological and environmental effects of nuclear war was released on 31 August by the Joint Congressional Committee on Atomic Energy. The publication reviews the major points developed during hearings that were held 22-26 June by the Special Subcommittee on Radiation, under the chairmanship of Representative Chet Holifield (D-Calif.).

The hearings covered by the 58-page analysis were for the purpose of establishing "a public record clearly setting forth the scientific facts concerning the probable physical and biological effects of such a war on man and his environment." The analysis noted that "this is the first time any comprehensive presentation of such facts has been made to the American people or to the people of any other nation."

The subcommittee assumed a hypothetical attack in which 263 nuclear weapons in 1-, 2-, 3-, 8-, and 10-megaton sizes, with a total yield of 1446 megatons, were detonated on 224 targets within the United States. An additional 2500 megatons were assumed to have been detonated elsewhere in the Northern Hemisphere in attacks on overseas United States bases and in retaliation against the aggressor homeland. All weapons were arbitrarily designated as having a yield of 50 percent fission and 50 percent fusion.

The human casualty estimates and the probable damage to dwellings in the United States were described as follows:

"The expert testimony and supporting scientific data presented at the Subcommittee hearings indicate that under present conditions such an attack would

have cost the lives of approximately 50 million Americans with some 20 million others sustaining serious injuries. More than one-fourth (11.8 million) of the dwellings in the United States would have been destroyed and nearly 10 million others would have been damaged. Some 13 million additional homes would have been severely contaminated by radioactive fallout. Altogether, approximately 50 percent of existing dwellings in the United States would have been destroyed or rendered unusable for a period of several months.

"Although the weapon detonations used in this exercise were designated as surface bursts which would maximize the local radioactive fallout hazard, nearly 75 percent of the deaths would have resulted from the blast and thermal effects combined with immediate radiation effects. Only 25 percent of all fatalities would have resulted from fallout. At the same time more than half of the surviving injured would have radiation injuries. Most of the damage sustained by dwellings would have resulted from the blast and thermal effects."

The analysis also points out that "probably the most significant finding presented to the Subcommittee was that civil defense preparedness could reduce the radiation casualties of the assumed attack on the United States from approximately 25 percent of the population to about 3 percent." It was the conclusion of expert witnesses that the United States must have a national radiological defense system. The report especially emphasizes the finding that a nuclear war of the magnitude considered would not, as many had previously believed, extinguish all human and animal life.

AAAS Oceanographic Congress Has Large Attendance

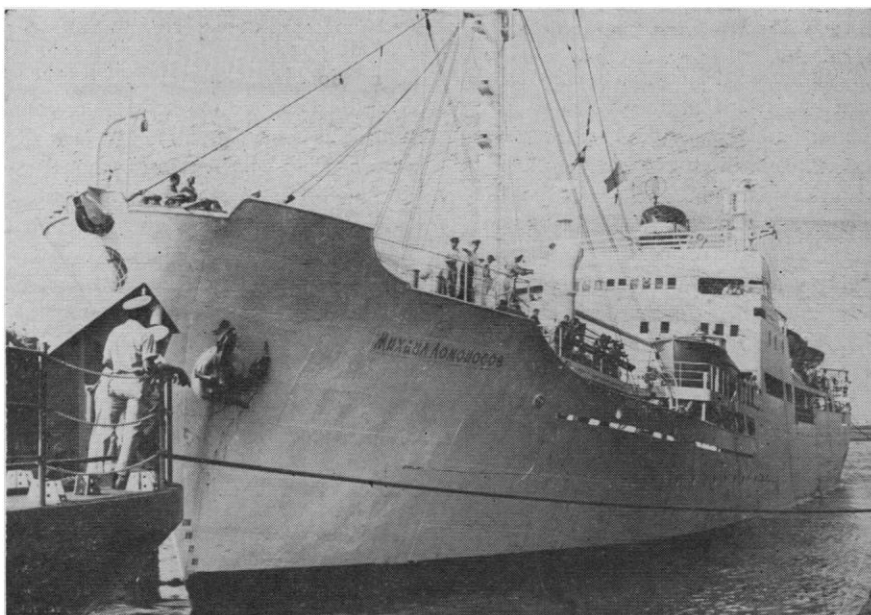
There were 41 scientists from the U.S.S.R. alone among the participants in the International Oceanographic Congress that closed at United Nations headquarters on 12 September. Nearly 1200 people, representing more than 40 countries, registered for the 13-day meeting, which was jointly sponsored by the AAAS, UNESCO's International Advisory Committee on Marine Sciences, and the Special Committee on Oceanic Research of the International Council of Scientific Unions.

There were 11 women in the Soviet group, which arrived on 28 August aboard the oceanographic ship *Mikhail*

Lomonosov, a large vessel that carries a 64-man crew. The Russians were welcomed by a AAAS delegation that included Gordon Lill, a member of the committee on arrangements and chief of the geophysics branch of the Earth Sciences Division, Office of Naval Research. He is shown here greeting Arkady Kolesnikov, head of the Soviet group.

The French ship *Calypto* was another of the research vessels that visited New York for the congress. The 360-ton converted mine sweeper carried a crew of 21 and a three-man scientific team headed by Jacques-Yves Cousteau, the ship's commander and director of Monaco's Oceanographic Museum.

In the *Calypto*'s afterhold was a newly developed submarine vehicle, the "diving saucer," which was commissioned at Marseilles a month ago. This spheroid device that will hold two investigators was designed to study the Continental Shelf at levels down to 1500 feet. The vehicle is water-jet propelled and steered, and is balanced by mercury. Its jets, mobile nozzles lodged in finlike projections, are fed by a battery-operated pumping system. The diving saucer will be used in exploration for the first time in Puerto Rican waters towards the end of this month. Two men who helped develop the saucer were aboard the



Oceanographic ship *Mikhail Lomonosov* that brought 41 Soviet scientists to the recent AAAS-sponsored International Oceanographic Congress at the United Nations.

Calypto: André Laban, director of the French Submarine Research Center at Marseilles, and Jean Mollard, submarine engineer.

Every registrant at the International Oceanographic Congress received a 67-page program and a 1022-page volume containing preprints, each in two lan-

guages, of the 469 papers in the afternoon sessions. Additional copies of the preprints may now be obtained for \$7.50 each from the AAAS Business Office in Washington. Later, the AAAS will publish the 30 major addresses delivered during the morning sessions as part of its *Symposium* series.



(Left). Scientists and crew members aboard the *Mikhail Lomonosov*. (Right). Arkady G. Kolesnikov, chief of the Soviet group at the oceanographic conference, and Gordon Lill, head of the Geophysics Branch, U.S. Office of Naval Research.