Pacific Board Head To Join Tour

Accompanying Daniels and Cleland on part of the trip will be Harold J. Coolidge, executive director of the Pacific Science Board. Established by the academy in 1946, the board aids American scientists who wish to engage in scientific investigations in the Pacific area, advises governmental and other agencies on scientific matters pertaining to the Pacific, and furthers international cooperation in the field of Pacific science.

The members of the academy mission, using slides and films, will lecture to scientific societies, and they will participate in symposia and seminars that concern their various scientific specialties. They may also invite distinguished scientists from Southeast Asia to spend several months in the United States as guests of the National Academy of Sciences. A 3-year program to provide for such visits has been developed in cooperation with the Asia Foundation in order to familiarize scientists from that region with the structure of science organization in this country.

Facilities for Biological Study on Oceanographic Research Vessel

The Woods Hole Oceanographic Institution is proceeding with its plans for the design and construction of an oceanographic research vessel. Funds for the purpose have been made available by the National Science Foundation.

Planning for biological research at sea presents many problems in the design of the vessel, in particular because of the wide variety of programs which may be undertaken. This brief account of the special facilities that are proposed for the new ship is given to inform biologists of the facilities which will be available and to invite suggestions concerning additional facilities which they feel should be included.

Proposed Special Facilities

General information. According to present plans, the total complement of the ship will be 39 men, of whom 15 to 19 will be members of the scientific party. The ship, of about 1000 tons, will be approximately 175 feet long and will have a cruising radius of about 7000 miles.

Space for scientific work. At the present stage of planning it appears probable that 50 percent of the total area of the ship will be reserved for the scientists. This will include deck areas, laboratory space, and living quarters. The other 50 percent will be used for ship operations, crew quarters, mess halls, and so forth.

Laboratories. Preliminary plans call for about 1700 square feet of space for enclosed laboratories. Between one-quarter and one-third of this space will be used to house permanent equipment, such as echo sounders and navigational aids. The remainder will be used for removable equipment, so that for each cruise at least 1000 square feet of laboratory space will be available for installation of special equipment. A chemistry-laboratory type bench will be installed, with vacuum lines and supplies of gas, compressed air, nitrogen or other tank gas, and fresh and salt water.

Deck area for scientific purposes. Preliminary plans provide for about 3000 square feet of open deck for scientific purposes. The main after deck will accommodate the large nets and trawls. Uninterrupted deck space to permit the handling of a bottom core 80 to 100 feet long, or other long equipment, will be available.

Speed control and maneuverability. Speed control and maneuverability of the ship are essential for towing plankton nets and dredging. Provisions will be made for continuous and gradual speed control, from less than 1 knot to full speed (about 12 knots). In addition, some type of bow propulsion is being seriously considered; this would give the vessel a very short turning radius at low speeds and would otherwise increase maneuverability.

Winches and wire. Several winches with wire comparable to standard hydrographic wire (5/16 inch in diameter) and one main trawl winch with heavier wire (⅜ to ½ inch) will be provided. At least one winch will be equipped with armored power cable—the one-conductor or the four-conductor "well-logging" cable. This will permit direct recording, on deck, of the depth of the bottom end of the wire and will provide means of determining when the appropriate depth for deep-sea operations, such as the opening and closing of nets, has been reached.

Sea-water system. A completely independent nontoxic system of running salt water is being provided. One or more taps will be available in each laboratory and at appropriate places on deck for rinsing plankton nets.

Aquaria. One laboratory will be provided with running-sea-water aquaria. At present, installation of six aquaria, each about 3 by 3 by 4 feet, with individual temperature control, is contemplated. The organisms collected could thus be maintained at the temperature of their natural habitat.

Deepfreeze. A walk-in Deepfreeze for scientific purposes will be provided. This will be ample in size to freeze large fish and will provide storage space for large numbers of samples frozen for preservation or for chemical analysis. One section will be for quick freezing.

Box observation chamber. A suggestion that the bow be made bulbous, with underwater observation ports and space for two observers, is being considered. The ports would be 10 to 12 feet below the water line and should provide a good opportunity to observe fish and their behavior and, possibly, a means of observing equipment in operation under water.

Center well. Construction of a center well about 3 by 4 feet or larger, extending from the upper deck through the hull, is being considered. This well would be of use in lowering equipment into the water from enclosed spaces and would probably have some biological uses. It might be used to house living organisms by closing the bottom with an appropriate grating, or used by skin divers as a means of entering the water in rough weather.

Acoustic properties. Every effort will be made to keep the operation of the ship as quiet as possible. Complete silence of operation will be achieved by using banks of batteries, adequate for several hours' operation. Such silence is essential in various geophysical studies and will also make it possible to monitor biological noises.

Portable laboratories. The use of separate laboratory structures, about the size of a trailer truck, which could be moved on and off the ship easily and could be quickly secured in place, is being considered. Such portable laboratories could be fully equipped ashore between cruises. All radioisotope studies would probably be done in such portable laboratories to avoid background contamination of the ship's permanent laboratories.

Suggestions Welcome

Comments concerning requirements for biological facilities for this ship should be sent to Bostwick H. Ketchum or Frank Minot, both of the Woods

Hole Oceanographic Institution. The ship is intended to be the best oceanographic vessel afloat, providing facilities for as broad and complete a program as possible. Suggestions which will help in achieving this aim will be most welcome.

BOSTWICK H. KETCHUM
Woods Hole Oceanographic Institution, Woods Hole, Massachusetts

Community Cancer Control Program Launched by Health Service

A sum of $1.5 million has been appropriated by Congress for fiscal year 1960 to further the widespread application of existing knowledge of preventing and controlling cancer. These funds are being administered by the Cancer Control Program, Public Health Service, under the technical guidance of the director of the National Cancer Institute.

Guidelines for the use of this money were developed by the Cancer Control Program's newly formed Advisory Committee, whose members are Ulrich Bryner, Bernard Bucove, John W. Cline, Warren H. Cole, Joseph A. Cunningham, Harold S. Diehl, Lloyd M. Graves, John P. Lindsay, James J. Nickson, Mack I. Shanholtz, Charles E. Smith, John W. Spellman, Samuel G. Taylor, III, and David A. Wood.

The Cancer Control Program and its Advisory Committee believe that the best opportunities for demonstrating better ways of providing community cancer control services at this time lie in the following areas: (i) professional and technical education in cytology; (ii) screening of female medical patients for cancer of the cervix; (iii) selected educational projects, particularly public information and follow-up services, to emphasize the importance of periodic uterine cytologic examinations; (iv) professional educational activities emphasizing the importance of including diagnostic aids in complete health examinations; (v) selected public educational projects on the desirability of and need for regular physical examinations; (vi) evaluation of the effectiveness of public educational activities; (vii) maintenance of tumor registers to collect data of exceptional value; (viii) extension and evaluation of rehabilitation programs (in cooperation with state rehabilitation agencies); and (ix) selected programs demonstrating effective treatment for cancer in beneficiaries of public medical care.

Other worth-while, locally sponsored and locally directed demonstration projects will be considered.

Applications, which will be accepted from nonprofit organizations and institutions as well as from official health agencies, are reviewed much as requests for research grants are reviewed at the National Institutes of Health. The Advisory Committee to the Cancer Control Program and the National Advisory Cancer Council reviews the applications and recommends approval or disapproval. Acting on these recommendations, the chief of the Bureau of State Services, Public Health Service, takes formal action.

Additional information may be obtained from the Cancer Control Program, Division of Special Health Services, Department of Health, Education, and Welfare, Washington 25, D.C., and from the eight regional offices of the Public Health Service.

Soviet Atomic Icebreaker in Service

The U.S.S.R.'s new atomic icebreaker *Lenin* is now operating in arctic waters, being thus the first atom-powered surface vessel to go into regular service. The *Lenin's* maiden voyage started in mid-September on the day that Soviet premier Khrushchev began his 12-day visit to the United States.

The 16,000-ton ship is 440 feet long and 92 feet wide and is described as being as high, even without its superstructure, as a five-story buliding. The vessel draws 30 feet and has an 18-knot cruising speed in open water. It is reported that it can operate easily on 6-foot ice with its three-shaft, 44,000-horsepower installation that has a push of 330 tons.

The ship has three reactors, one of which is kept in reserve. Refueling is not expected to be necessary more than once every second year. Ordinarily, a ship of such size would require some 200 tons of oil a day.

The *Lenin* was designed to stay at sea for long periods in order to keep open the 11,000-mile arctic route between Murmansk and Vladivostok—a route at present open about 10 weeks each year. Therefore, the ship carries a helicopter equipped with a telecamera for ice reconnaissance, and accommodations are relatively luxurious. All cabins are air-conditioned, and there is a music room, a clubroom for moving pictures, and a 3500-volume library. The hospital is equipped for x-ray and dental work and for major surgery.

The Soviet Union's atomic icebreaker *Lenin* on the Neva River.