ment of a particular item is done by a single Technical Service or private contractor. Research, however, being diffuse by its very nature, may cut across several technical service or private industry lines, and offer promise to several different Army organizations or programs.

The ARO, in this situation, will provide centralized planning and coordination of an Army-wide research program, for Army-wide benefit. Planning will be centralized in ARO; execution will be decentralized. Research projects will continue to be handled by the Technical Services, using either their own facilities or those outside the Army, with the exception of a few projects of Army-wide nature. The Technical Services will retain complete control over their laboratories.

The Army's seven Technical Services are the Army Medical Services, the Ordnance Corps, the Corps of Engineers, the Quartermaster Corps, the Transportation Corps, the Signal Corps, and the Chemical Corps.

The ARO staff now includes 57 persons, mostly military and civilian scientists, with necessary administrative personnel. Its program extends over some 2000 research tasks, with a yearly expenditure of about $90 million. The staff will be increased to 85 persons by mid-1959 to give the program the direction it requires. ARO is now recruiting these additional personnel, principally civilian scientists in the upper-pay grades.

Sardis Found

Archeologists from Cornell and Harvard Universities have located the site of the ancient Lydian city of Sardis, once the capital of King Croesus. Ruins of the city were found beneath those of a Roman city that was uncovered earlier this summer in Turkey near the Izmir-Sahihli highway. The discovery, climax of 2 months of searching, came just a few days before the Cornell–Harvard group was due to leave the excavation site for the United States.

Sardis was the capital of Lydia in the sixth century before Christ and was one of the foremost cities of the ancient world. Croesus was the last of the Lydian monarchs to reign at Sardis. During Roman times it was the seat of a Christian bishop and was one of the "seven churches which are in Asia" mentioned in the Book of Revelation.

The expedition was sponsored by Cornell University, the Fogg Art Museum of Harvard University and the American Schools of Oriental Research, with the support of the Bollinger Foundation of New York City. The excavations will be carried out over a 3-year period. George M. A. Hanfmann of Harvard was the expedition's field director, and A. H. Detweiler of Cornell, field adviser. Other group members were Sherman E. Johnson, M. D. Ross, and John Washeba.

Nuclear Test Program

John A. McCone, chairman of the Atomic Energy Commission, and Neil H. McElroy, Secretary of Defense, have announced plans for the final nuclear test series that will take place prior to the suspension of tests for 1 year, starting 31 October. The 1958 test program, which has been in progress at the Eniwetok Proving Ground and Johnston Island in the Pacific, will conclude with approximately ten low-yield nuclear detonations at the Nevada Test Site during September and October.

Several of the test shots will take place underground in tunnels that have been under construction for several months; the remainder will be fired from balloons or towers. More than half of the tests will be less than one kiloton; the highest yield will be in the nominal (20 kiloton) range. Certain information of interest to seismologists will be provided in advance of the underground detonations.

Solar Energy Research

The Curtiss–Wright Corporation and New York University have announced joint and separate programs for research, development, and practical application of solar energy to be carried out at the Princeton Division of Curtiss–Wright, Princeton, N.J. All the programs will be under the direction of Maria Telkes, who has been in charge of solar energy research at N.Y.U. since 1953.

Curtiss–Wright is entering the field of solar energy with immediate emphasis on the development and production of commercially saleable solar products, based upon existing patents, knowledge and needs. It is anticipated that New York University's participation in the joint program will generate new and basic discoveries.

The new industry-university program includes the establishment at Princeton of the New York University Solar Research Laboratory to serve as a center for teaching, research, and the dissemination of knowledge. Curtiss–Wright, among other companies, will provide grants for research projects. Curtiss–Wright will also provide a building to house the N.Y.U. Solar Research Laboratory staff of scientists and technicians and will make other facilities available.

Cooperation with Curtiss–Wright in solar energy will be only one phase of New York University's solar program. The N.Y.U. Solar Research Laboratory will limit its activities to academic-type research and will not develop properties and patent rights for the university. It will, however, continue to conduct separate research and development programs with commercial organizations and government agencies.

A complete Sun Court and Solar Laboratory is now under construction by Curtiss–Wright at its Princeton Division, where solar products will be produced. The Sun Court includes a solar heated house and a solar heated swimming pool, solar furnaces, solar batteries, solar stills, solar driers, solar cooking equipment, solar radios, and solar food processing equipment.

Bathyscaphe

The U.S. Navy has acquired the bathyscaphe *Trieste,* launched by Auguste Piccard and his son Jacques in 1953. Last summer the Navy rented the craft for research dives off Capri, Italy, and recently bought it from the Piccards for $200,000. A new one would probably have cost $1,500,000. Already *Trieste,* which is described in the 1 September issue of *Time,* has descended almost 3 miles, or twenty times deeper than conventional submarines. It can do this without danger to itself or passengers because it operates under water like a blimp. Its 50-foot hull is a float carrying 28,000 gallons of gasoline, which is 30 percent lighter than sea water and compressible. The float does the job of a balloon's gas-filled bag, while the passenger ball hangs below. Water enters the float, equalizes the inside and outside pressure, and compresses the gasoline, reducing the craft's buoyancy. Next month *Trieste* will begin diving off San Diego, Calif., to study the ocean's physical, biological, geological and chemical characteristics.

FAO World Livestock Disease Reporting Service

The Food and Agricultural Organization has established a world livestock disease reporting service that will operate from FAO headquarters in Rome. The service has been developed in collaboration with the International Office of Epizootics. Information will be gathered from the reporting forms issued to FAO and OIE member governments. This form, which has been revised and improved, was first circulated in 1957 and, as a result, a preliminary report on world livestock disease has been issued for 1956.

FAO plans to publish annually a *Yearbook of Animal Disease* that is ex-

pected to provide an over-all picture of animal diseases of major economic importance and of methods of control throughout the world. The yearbook will be particularly useful to veterinary authorities when imports of animals and animal products are being considered.

Pharmacological Journals

Three new journals in the rapidly growing field of pharmacology are appearing. *Biochemical Pharmacology,* an international journal devoted to research into the development of biologically active substances and their mode of action at the biochemical and subcellular level, is edited by a board of which Alexander Haddow of the Chester Beatty Research Institute is chairman. The regional editor for the United States is A. D. Welch of Yale University. The publisher is the Pergamon Press, New York and London. The first volume appeared in July.

Academic Press, Inc., of New York City, has announced the publication of *Toxicology and Applied Pharmacology,* with H. W. Hays of the National Research Council as managing editor, assisted by Frederick Coulston of the Sterling-Winthrop Institute and Arnold J. Lehman of the Food and Drug Administration. The first number is to appear in January 1959.

Interscience Publishers of New York City has announced an international bimonthly periodical, *Journal of Medicinal and Pharmaceutical Chemistry,* the first issue to appear toward the end of the year. This will have as editors Arnold H. Beckett of the Chelsea College of Science and Technology, London, and Alfred Berger of the University of Virginia.

Physics Course on TV

In an attempt to raise the standards of physics teaching in all sections of the United States, a nationwide college course in atomic age physics will be televised over the National Broadcasting Company network for two semesters, beginning 6 October and continuing through 5 June. Designed primarily for high school science teachers, the program will be known as the "Continental Classroom."

The course, to be offered for credit through the auspices of local colleges and universities, will be telecast from 6:30 to 7 A.M. (in each time zone) Monday through Friday. This is probably the first time that a course for college credit has been offered on a nationwide basis.

Harvey E. White, professor and vice-chairman of the department of physics at the University of California in Berkeley, will be responsible for the course. Other internationally known scientists will serve as guest lecturers.

Sponsors of the new program include the American Association of Colleges for Teacher Education, the Fund for the Advancement of Education, and N.B.C. Consultants for the series include Mark Zemansky, chairman of the department of physics at City College of New York; Henry Semat, professor of physics at C.C.N.Y.; and Vernet E. Eaton, professor of physics at Wesleyan University, Middletown, Conn.

Grants, Fellowships and Awards

Radiological research. On behalf of the James Picker Foundation, The National Academy of Sciences–National Research Council announces the continued availability of funds in support of radiological research. Applications are reviewed by the Committee on Radiology of the Academy-Research Council's Division of Medical Sciences. Final determination of awards is made by the foundation upon recommendation of the division.

In line with the interests of the foundation, the program is oriented toward, but not necessarily limited to, the diagnostic aspects of radiology. Support is not restricted to citizens of the United States or to laboratories within this country.

Three specific types of support are offered:

(1) Grants-in-aid are designed to encourage investigations offering promise of improvement in radiological methods of diagnosis or treatment of disease. Research grants are awarded to institutions, rather than to individuals.

(2) Grants for scholars are a transitional form of support, designed to bridge the gap between the completion of fellowship training and the period when the young scientist has thoroughly demonstrated his competence as an independent investigator. The application is submitted by the institution on behalf of the prospective scholar. If the request is approved, a grant of $6000 per year will be made directly to the institution as a contribution toward the scholar's support, or his research, or both. Initial grants are limited to 1 year, but renewal for two additional years may be recommended.

(3) Fellowships in radiological research are open to candidates seeking to gain research skills leading to investigative careers in the field of radiology. While persons from closely related disciplines are eligible to apply, candidates whose training has been directly in the field of radiology will receive preference under this program. Candidates must hold the M.D., Ph.D., or Sc.D. degree or the equivalent. Preference will be given to applicants who are 35 years of age or less.

Applications in these three categories for the fiscal year 1959–1960 should be submitted by *1 December 1958.* Further details and application blanks may be obtained from the Division of Medical Sciences, National Academy of Sciences–National Research Council, 2101 Constitution Ave., NW, Washington 25, D.C.

The National Research Council of Canada has assumed the responsibility for serving as scientific adviser to the James Picker Foundation with respect to its Canadian program. Applications for support of studies to be carried out in Canada should therefore be directed to the Awards Office, National Research Council of Canada, Ottawa 2, Canada.

Scientists in the News

President Eisenhower has selected four more members of the civilian space agency council, completing the membership for the nine-man group, which he heads. The new appointees are Lieutenant General JAMES H. DOOLITTLE (ret.), vice president of the Shell Oil Company and chairman of the National Advisory Committee for Aeronautics; WILLIAM A. M. BURDEN of New York, who in 1943–47 was Assistant Secretary of Commerce for Air and who served in 1950–52 as a special research and development assistant to the Secretary of the Air Force; ALAN T. WATERMAN, director of the National Science Foundation; and DETLEV W. BRONK, president of the National Academy of Sciences and also head of the Rockefeller Institute of Medical Research.

Other members of the council are: John Foster Dulles, Secretary of State; Neil H. McElroy, Secretary of Defense; T. Keith Glennan, chief of the new Space Agency; and John A. McCone, chairman of the Atomic Energy Commission.

JOSEPH J. PFIFFNER, specialist in the biochemistry of vitamins and hormones, has been appointed professor of physiology and pharmacolgy at Wayne State University College of Medicine. For the past 21 years, Pfiffner has been associated with Parke, Davis and Company, where he has been laboratory director in biochemical research since 1951.

ALLEN J. SPROW, executive editor of *Psychological Abstracts* and treasurer of the National Federation of Science Abstracting and Indexing Services, has resigned to become bibliographer and an