philosophy and management procedure brought about by the intensive and far-reaching wartime research programs conducted at many institutions.

Administrative procedures for screening patentable results of scientific research, for prosecuting the patent application, for protecting patents against infringement, and for promoting, licensing, and assigning patents will also be analyzed. This will include study of the objectives and operation of committees and other agencies set up to deal with these aspects of the problem.

Questions relating to the equity of the inventor, of the institution, and of the sponsor or supporter of the research, where there is such a third party or outside agency involved, will also be considered. There is apparent a lack of uniformity in the approach to these questions, and the wide diversity of practice indicates a need for intensive study of the factors underlying the decisions made in specific cases. The increase in cooperative and sponsored research in educational institutions accentuates the need for such a study.

One of the most important and controversial aspects of the patent problems—what to do about patents affecting public health—will be reviewed to ascertain whether and where separate or special policies are in existence with reference to medical and pharmaceutical inventions and discoveries. How such matters are administered and how the public interest is protected will be given special consideration.

Other items of concern to research workers and faculty members generally, which will be included in the survey, relate to restrictions on publication and other disclosures of research findings, contractual arrangements made with research workers and with the sponsors of the research, and the distribution of the proceeds from royalties and disposal of the patents. These and other aspects of the whole patent problem will be studied with respect to their relation to the different types of research —fundamental, experimental, and developmental.

The development of special research foundations and similar agencies, both independent and with institutional affiliations, for the administration of patents as well as the conduct and direction of sponsored research programs will be given full treatment in the survey. Analyses will be made of their organization, objectives, financing, research and administrative programs, and relations to educational institutions.

Of greatest value in the interpretation and presentation of the factual information will be the experiences of the institutions in their handling of patent problems and the attitudes and reactions of the research workers. The director of the survey will welcome full and frank discussions of these matters, through correspondence and in conversations during his visits to the various research centers.

NEWS *and Notes*

More than 100 representatives of national scientific and educational societies have been appointed to membership in the Inter-Society Committee on Science Foundation Legislation, pursuant to action taken by the Council of the AAAS on December 29, 1946 (*Science*, January 3, p. 7, and January 31, p. 117).

There are yet many organizations whose presidents should have received President Conant's letter of January 4, 1947, but which have not yet responded to the request to designate representatives to the new Committee.

As announced last week in *Science*, the first meeting of the Inter-Society representatives, at which the Committee will be organized, is scheduled for 10:00 A.M., Sunday, February 23, at the Hotel 2400, 2400 16th Street, N.W., Washington, D. C. The meeting will adjourn at noon for luncheon, at which the members of the Committee will be the guests of Science Service, and will then be resumed for an afternoon and, if necessary, an evening session.

It is imperative that each designated representative on this Committee make every effort to be present at this initial meeting. It is expected that officers will then be selected, together with a small executive committee, and that much attention will be given to the procedures and strategy to be followed in the next few months.

Notices of the meeting are being sent to all whose names have been submitted to the Executive Offices of the AAAS, but Prof. Mather, who is chairman of the AAAS Council Committee arranging the organization of the new Inter-Society Committee, calls attention to the fact that changes in administrative personnel among many scientific and educational societies have presumably delayed the selection and reporting of their official representatives. He suggests that this announcement in *Science* be taken as a sufficient invitation to interested persons to attend the meeting. In fact, anyone actively concerned with the plans for a National Science Foundation, and who has not been designated as the official representative of one of the societies affiliated with the AAAS or of the small number of other national organizations named by the Council of the AAAS, will be welcome to be present "with voice but without vote." Prof. Mather would like to

hear from any such persons in advance of the meeting. He should be addressed at Harvard University, Cambridge, Massachusetts.

About People

Oscar E. Meinzer, who retired as chief, Ground Water Division, U. S. Geological Survey, late last year, has been succeeded by A. Nelson Sayre. Dr. Sayre, with the Survey since 1929, has supervised ground water investigations in several states. During the war he reported on water supplies of enemy-held areas in Africa, Europe, and the Pacific region, and made special investigations in Central America and the Philippines for which he was awarded the Medal of Freedom.

Dr. Meinzer retired November 30 after more than 40 years of service in the Geological Survey and 34 years as chief of the Ground Water Division.

Erwin C. Stumm has been appointed associate curator of Paleozoic Invertebrates, Museum of Paleontology, and assistant professor, Department of Geology, University of Michigan, effective July 1.

Homer D. Holler has been appointed to the staff of the National Bureau of Standards to work with I. A. Denison, of the Underground Corrosion Section. Dr. Holler joins the Bureau staff from Westinghouse Electric Corporation, where he has been responsible for corrosion investigation and control since 1929. He had been with the Bureau of Standards between 1915 and 1919 and from 1925 to 1929. The problem of deterioration of underground metallic structions, which the Bureau has studied for many years, has become critical with the sharp increase in the miles of underground gas, oil, and water pipelines, it has been shown, and estimated losses due to such corrosion amount to $100,000,000 annually.

Hans Lowenbach, associate professor of neuropsychiatry, Duke University Hospital and School of Medicine, resumed his work at Duke recently following a six-month assignment in Germany in which he gathered manuscripts on medical and related research which had remained unpublished due to wartime conditions. More than 25,000 pages of original manuscripts on general pathology, neuropsychiatry, and high-altitude studies were collected and microfilmed. Most of the papers concerned research held secret under German wartime restriction. They are now being abstracted and will be available immediately through the office of the Publications Boards, Department of Commerce, 16th and K Street, N.W., Washington 25, D. C.

Marston Taylor Bogert, emeritus professor of organic chemistry, Columbia University, as president of the International Union of Chemistry, has been invited by the Chemical Society, England, to be one of its guests during centenary celebrations, July 15–17, in London.

C. H. Cleminshaw has been made associate director of the Griffith Observatory, Los Angeles, California, in recognition of more than four years service as acting director during the absence of the director on war service.

Seymour J. Gray has been appointed assistant professor of medicine, Harvard University Medical School, and senior associate in medicine, Peter Bent Brigham Hospital. Dr. Gray, who formerly was assistant professor of medicine, University of Chicago, and later Lt. Cdr. in the U. S. Naval Reserve, will divide his time between duties as director, Gastro-Intestinal Clinic of the Hospital, and as member of the Medical School group conducting research in biophysics.

Donald G. Marquis, professor and chairman of the Department of Psychology, University of Michigan, and president-elect, American Psychological Association, has been granted a half-time leave of absence from January 1 to the end of the current academic year to direct a study in social sciences for the Carnegie Corporation.

Visitors to U. S.

James Yu Ping Chen, graduate of Peking Union Medical College, who spent the past year as research fellow in pharmacology, University of California Medical School, San Francisco, has accepted a research fellowship in chemotherapy under Ralph G. Smith and Ernest C. Faust, Tulane University School of Medicine, New Orleans.

Sir Edward Mellanby, secretary of the Medical Research Council, London, is to be Flexner Lecturer at Vanderbilt University School of Medicine during March and April 1947. He will deliver five lectures on the subject, "The Experimental Method in Problems of Nutrition."

Norbert Goormaghtigh, professor of pathology, University of Ghent, will spend April and May in the United States. Invited by the Belgian-American Educational Foundation, Inc., Prof. Goormaghtigh will lecture at universities and medical schools in many cities and will attend meetings of the American Pathology Societies in Chicago in May.

Grants and Awards

The University of Missouri, for the third consecutive year, has awarded eight research professorships to faculty members for the summer of 1947. The appointments allow full time for research during the summer session, on the campus or elsewhere. Following are scientists who received research grants: Daniel Mazia, associate professor of zoology; Lloyd E. Thomas, associate professor of biochemistry; and Melvin H. Marx, assistant professor of psychology.

Calvin P. Stone, professor of psychology, Stanford University, California, has been awarded $2,400 for research in electroconvulsive shock therapy by the Committee for Research of the Scottish Rite Fund, New York. Dr. Stone, who has studied the effects of shock treatment on memory and other faculties of human patients, in the present research will study its effects on rats which have been determined to be excellent subjects for such experiments in earlier work. The effects of shock therapy on the mental faculties of rats, on their emotions, their energy, and the conative functions, will be studied.

The New York Academy of Medicine has announced availability of the Louis Livingston Seaman Fund for research in bacteriology and sanitary science. Applications for grants from $2,500 available for assignment in 1947 should be addressed to Wilson G. Smillie, Chairman, Louis Livingston Seaman Fund, 1300 York Avenue, New York 21, New York, before March 1.

Northwestern University and the Carnation Company have established a fellowship at the University for investigating the chemical nature of Tenulin, the bitter principle of *Helenium tenuifolium* that causes a large waste of milk in the southern states. Richard

Merner, formerly of the Du Pont Company, is first recipient of the fellowship.

Duke University announces availability of the Charles W. Hargitt Annual Research Fellowship in Zoology. Inquiries about the fellowship, primarily for postdoctoral research in cytology and carrying a stipend of $2,000, should be sent to C. G. Bookhout, Biology Building, Duke University, Durham, North Carolina.

H. A. Spoehr, director of the Stanford Laboratory of the Carnegie Institution, has been elected a life member of the California Academy of Sciences.

The New York Academy of Medicine announces that a sum of $1,500 is available during 1947 under the Edward N. Gibbs Memorial Prize for original research on causation, pathology, and new methods of treating diseases of the kidney. Candidates must be physicians who have been graduated at least three years and are residents of the United States. Applications should be addressed to The Gibbs Prize Committee, New York Academy of Medicine, 2 East 103rd Street, New York 29, New York, before March 31.

Colleges and Universities

Case School of Applied Science, Cleveland, Ohio, and the General Electric Company will offer 50 fellowships to high school teachers of physics for a six-week program of study during the summer of 1947. The fellowships, designed to acquaint teachers with recent scientific developments, include all fees, room and board, and travel expenses. High school and preparatory school teachers of physics from the following states are eligible to apply: Ohio, Michigan, western Pennsylvania, West Virginia, Kentucky, Indiana, Illinois, Wisconsin, and Maryland. Applications should be sent to Elmer Hutchisson, dean, Graduate Division, Case School of Applied Science, Cleveland 6, Ohio.

Northwestern University has on exhibit in the Chicago Museum of Science and Industry through February 9 a new electron microscope purchased for use in the Technological Institute on the Evanston campus. The instrument, which employs a beam of electrons for magnification instead of light, resolves 1/10,000,000 inch accurately, compared with 1/100,000 inch with the ordinary light microscope.

Olivet College, Michigan, will offer for the first time this spring an annual prize of $50 for the outstanding scientific paper written by one of its students. The prize honors Hubert Lyman Clark, professor of biology at Olivet from 1899 to 1905, and until recently curator of Marine Invertebrates, Museum of Comparative Zoology, Harvard University.

The University of Nebraska College of Medicine will continue work in muscle physiology under A. R. McIntyre, chairman, Department of Physiology and Pharmacology, under a grant of $11,980 by the National Foundation for Infantile Paralysis.

The Yale University School of Forestry will apply methods used by the Air Forces for analyzing aerial photographs to the problem of surveying timberlands, under a project conducted by Walter H. Meyer and Eugene V. Zumwalt. The purpose of the project is to develop new methods of estimating the volume of timber in tracts of land, an operation now performed mainly by skilled estimators who walk through the forest and calculate the kind, quality, and amount of timber.

Photographs of woodlands near New Haven will be made by a commercial flying company supplying materials for the study, at different times of the year, at different heights, and with varying photographic filters. Yale investigators then will study results with special measuring devices and stereoscopic optical equipment, which permit measurement of the height of individual trees and width of their foliage, regardless of the altitude from which the photographs are taken.

Aerial surveys, according to Profs. Meyer and Zumwalt, can also be used for constructing accurate contour maps of the areas to be cut over, which help in locating swamplands and planning and laying roads for the timber operations.

New infrared photographic techniques developed by the Army and Navy will be used. The whole aim of the different photographic techniques, it was said, is to develop textures and shadings in photographs which would be useful in determining the density of tree growth and possibly the kind of trees.

The University of Copenhagen on December 14 celebrated the 400th anniversary of the birth of the Danish astronomer, Tycho Brahe. On the occasion the rector of the University, Prof. Nørregaard, anounced plans for constructing a new observatory under the direction of Bengt Strömgren, financed by the government with the assistance of the Carlsberg Foundation and the Danish Academy of Sciences.

At the same celebration the University awarded honorary doctors' degrees to 11 astronomers and 1 university administrator: Sir Harold Spencer Jones, Astronomer Royal of England; F. J. M. Stratton, director, Solar Physics Observatory, Cambridge, England; A. Danjou, director, Paris Observatory; J. H. Oort, director, Leiden Observatory; B. Lindblad, director, Stockholm Observatory; E. Hertzsprung, director emeritus, Leiden Observatory; Otto Struve, director, Yerkes and McDonald Observatories; S. Rosseland, director, Oslo Observatory; G. A. Shajn, director, Crimean Astrophysical Observatory, U.S.S.R.; A. A. Mikhailov, chairman, Astronomical Council of the Soviet Academy of Sciences; Harlow Shapley, director, Harvard College Observatory; and Robert M. Hutchins, chancellor, University of Chicago. The last five degrees were awarded in absentia.

Industrial Laboratories

General Electric Company has developed an automatic flight recorder, designed to provide recorded data which will help determine the cause of aircraft accidents. The new instrument also provides easily read records of a plane's altitude, vertical acceleration, air speed, compass-heading, and any other operational data which can be measured with standard aircraft instruments. Any standard aircraft instruments of the pointer-indicating type can be used with the new recorder, General Electric engineers pointed out.

Tiny electric transmitter signaling devices, known as selsyns, are installed on the standard aircraft instruments. Each selsyn transmits the position of its instrument's pointer to a receiver selsyn in the flight recorder, which is geared to the inkless recording system. The recorded trace is about .02 inch in width. Quality of the trace is not affected by altitude or temperature, and records can be submerged in salt water for several days without damage.

The aircraft instruments can be installed in any part of the plane where desired data can most easily and accurately be measured, it was explained, while the flight recorder can be installed in the aircraft tail for possible crash protection.

A 24-page booklet describing methods for increasing the effective sensitivity of black-and-white photographic emulsions has been prepared by members of the Kodak Research Laboratories and is available on request from Industrial Photographic Division, 343 State Street, Rochester 4, New York. The booklet is a reprint of "Methods of increasing film speed," an article in the November, 1946, *Photographic Society of America Journal.*

The Miner Laboratories, Chicago, Illinois, announce establishment of a new Entomological Division under the direction of Barbara Miner Parker, a staff member of the Laboratories for several years. The Division will be especially equipped to handle research on stored cereal products, but will do other types of work not requiring greenhouse or field facilities.

A method for reducing errors caused by scattered radiation in photographic X-ray absorption measurements which are useful in calibrating X-ray machines and analyzing X-radiation has been developed by H. E. Seemann and L. L. MacGillivray, of Kodak Research Laboratories.

Absorption curves are normally obtained by observing ionization chamber or Geiger counter indications of X-ray intensity for different filter thicknesses in the X-ray beam. Filters are placed near the X-ray tube so scattered X-rays will not be included in the measured beam, but the arrangement requires many observations. Usually attempts to record X-ray absorption data photographically with a single exposure involve the use of a "stairs" of different thickness filter material placed directly on the film holder.

The Kodak researchers found that errors could be reduced by irradiating only a minimum amount of matter, placing the absorbing material some distance from the film, and keeping the different filter elements separated by lead partitions so that scattering cannot spread indefinitely.

To meet these conditions, a lead chamber made up of several parallel longitudinal compartments was used. Filters of different thickness were placed over holes in the end where the X-rays enter, and recording films were located at the exit end. Experimental results show that, in a particular design, 97 per cent of the scattering is eliminated. Furthermore, all filters are exposed simultaneously, promoting accuracy in relative absorption measurements, particularly when short exposure times only are possible.

Meetings

The American Society of Mechanical Engineers will hold its spring meeting March 2–5 at the Mayo Hotel, Tulsa, Oklahoma. With "The Industrial Development of the Southwest" as its theme, some 20 technical papers will be read on power, aviation, management, fuels, industrial instruments and regulators, oil and gas power, education, petroleum, and metals engineering. A registration of 400–500 is expected.

The Society of American Bacteriologists will hold its annual meeting in Philadelphia May 12–16, with headquarters at the Bellevue-Stratford Hotel. There will be sessions on general, agricultural, industrial, and medical bacteriology, as well as immunology and comparative pathology.

The Institute of Navigation will hold its eastern regional meeting February 13–14 at the Hotel Pennsylvania, New York City. Seventeen papers will be read at the meeting, which will be open to nonmembers as well as members of the Institute.

The American Society for Engineering Education will hold its 55th annual meeting June 18–21 at the University of Minnesota, Minneapolis.

Elections

The American Society of Naturalists, meeting in Boston December 31, elected K. S. Lashley, Yerkes Laboratories of Primate Biology, Orange Park, Florida, president for 1947; M. Demerec, Columbia University, vice-president; and Wilson S. Stone, University of Texas, secretary. The treasurer, T. M. Sonneborn, continues in office.

Z. P. Metcalf, associate dean, Graduate School, and head, Department of Zoology and Entomology, North Carolina State College, has been elected president of the Entomological Society of America.

The Botanical Society of America, Inc., has elected the following officers for 1947: R. E. Cleland, University of Indiana, president; Edgar Anderson, Missouri Botanical Garden, vice-president; T. G. Yunker, DePauw University, treasurer; John S. Karling, Columbia University, secretary; and A. J. Eames, Cornell University, member of Editorial Board of the *American Journal of Botany.*

The American Society of Photogrammetry, at its annual meeting in Washington January 22–24, elected the following officers for 1947: Revere G. Sanders, Fairchild Camera and Instrument Corporation, Jamaica, New York, president; E. S. Massie, U. S. Forest Service, first vice-president; Russell K. Bean, head, photogrammetric unit, Geological Survey, second vice-president. According to custom, Mr. Massie will succeed to the presidency a year from now. J. M. Haynie, Lt. Cdr., USN (retired), was elected business manager of the Society and editor of *Photogrammetric Engineering,* with offices in Washington.

The Association of American Geographers elected the following officers at its 43rd annual meeting at Ohio State University December 28–30: Charles F. Brooks, Harvard University, president; Clarence F. Jones, Northwestern University, vice-president; George B. Cressey, Syracuse University, councilor for three years; Guy-Harold Smith, Ohio State, treasurer; and Chauncy D. Harris, University of Chicago, secretary.

The Association met with the American Society for Professional Geographers and the National Council of Geography Teachers. Total attendance was 480.

The Anthropological Society of Washington, at its annual meeting January 21, elected for 1947, Regina Flannery, Catholic University of America, president; William N. Fenton, Bureau of American Ethnology, vice-president; Marshall T. Newman, U. S. National Museum, secretary; John C. Ewers,

U. S. National Museum, treasurer; and W. M. Cobb, Howard University, W. H. Gilbert, Jr., Library of Congress, Ruth E. Pardee, UNRRA, D. B. Shimkin, U. S. Army War College, and Gordon R. Willey, Smithsonian Institution, councilors to serve on the Board of Managers.

The Chicago Natural History Museum's zoological expedition in the Philippines, headed by Harry Hoogstraal, reports it has obtained large collections of mammals, birds, reptiles, and insects. The group, whose work will continue into the summer of 1947, is in Davao Province at a camp 7,200 feet above sea level in the cloud zone on Mt. McKinley, and is planning a survey of Mt. Apo.

During the AAAS meetings, a committee to aid foreign bryologists was established by the Sullivant Moss Society. Members include E. B. Bartram, I. M. Haring, G. Sayre, A. J. Sharp, W. C. Steere, F. Verdoorn, and R. T. Wareham. On behalf of the committee Drs. Steere and Verdoorn are communicating with European colleagues to inquire about the help most needed. G. Sayre is drawing up a list of the assistance available from members of the Sullivant Moss Society who plan to help European colleagues with literature, specimens, laboratory supplies, food and clothing, and miscellaneous small items.

The textile gallery of the Science Museum, South Kensington, England, closed during the war, was reopened to the public January 4. Before the war this gallery was one of the most popular, particularly among students, providing a wide view of techniques used in branches of the textile industry.

The U.S.S.R. has the most foreign subscriptions and England the second largest number to American technical journals in the field of physics, an analysis of subscriptions to the eight journals published by the American Institute of Physics indicates. Foreign subscriptions from 59 countries are at an all-time high, the analysis, published in the current *Review of Scientific Instruments*, shows, and represent 23 per cent of all subscriptions. Foreign scientists also report their research in American publications. The Institute in 1939 published 122 papers from England, 82 from Canada, and 46 from the U.S.S.R.

In the sixth annual Science Talent Search conducted for Westinghouse Science Scholarships by Science Clubs of America, Science Service, 300 1947 high school seniors believed to have unusual potential scientific ability have been awarded honors.

Nine girls and 31 boys picked from 16,558 contestants are being invited to Washington, D. C., for an all-expense trip February 28 to March 4 to attend the Science Talent Institute. There, one boy and one girl will be awarded the $2,400 Westinghouse Grand Science Scholarships. Eight winners will be awarded $400 scholarships, and $3,000 in scholarships will be awarded at the discretion of the judges.

A research program to discover minor planets and study those already observed has been set up by the American section, International Astronomical Union, in charge of Paul Herget, director, University of Cincinnati observatory. Cooperating observatories will be Yerkes, University of Chicago; Lick, University of California; Warner and Swasey, Case School of Applied Science; Harvard, Harvard University; Dearborn, Northwestern University; Kirkwood, Indiana University; and Naval Observatory, Washington, D. C.

According to Dr. Herget, 1,500 minor planets, all moving around the sun, are now known. The first, 500 miles in diameter, was discovered in 1801; others are considerably smaller. Most minor planets, however, have been discovered in recent years when astronomers could make use of photographic plates, and before the war new ones were being identified at the rate of 100 a year.

The Smithsonian Institution has elected Fred M. Vinson, Chief Justice of the Supreme Court, chancellor of the Institution to succeed the late Chief Justice, Harlan F. Stone. In 1946, the centennial year, the number of specimens received by the Institution and the number of visitors showed an increase, with the latter exceeding 2,000,000, Alexander Wetmore, secretary, stated.

Recent Deaths

Morris Raphael Cohen, 66, professor of philosophy at the University of Chicago until his retirement in 1941, died January 28 at his home in Washington, D. C. Dr. Cohen, one-time president of the American Philosophy Association, was author of several books, among them *introduction to logic and scientific methods*, which he wrote in collaboration with Ernest Nagel.

Howard Shreve Roberts, 56 physicist at the Carnegie Institution of Washington, died in Presbyterian Hospital, New York, January 30. With the Carnegie Institution geophysical laboratory since 1917, he assisted the laboratory's investigation of ordnance matters under OSRD during World War II. He was known for work on design of electrical apparatus, crystal structure determination by X-ray, and measurement of thermal properties of minerals and rocks.

Ralph R. Beal, 59, vice-president in charge of engineering of RCA Communications, Inc., New York, died of a heart attack in New York January 24. During the war Mr. Beal was a member of the Microwave Committee of OSRD.

George T. Caldwell, 65, professor and chairman, Department of Pathology, Southwestern Medical College, Dallas, died January 20.

Charles Albert Browne, chemist with the U. S. Department of Agriculture until his retirement recently, died on February 3 in Washington.

NRC News

A study of the personnel qualifications and directory information which exists on highly trained personnel of the natural sciences, social sciences, humanities, and education has recently been undertaken by the Office of Scientific Personnel of the National Research Council.

The project is sponsored jointly by the National Research Council, the Social Science Research Council, the American Council of Learned Societies, and the American Council on Education. Lowell H. Hattery has been retained as research consultant to carry out the study. He is now describing and evaluating the personnel information on file in government bureaus, professional societies, and other sources.

It is hoped that the survey of existing information and an analysis of future plans may give some indication of the desirable and practical methods for documentation of individual personnel information on the Nation's professional personnel resources.