News and Notes

75th Anniversary of the U.S. Geological Survey

Science is happy to participate in the celebration of the 75th anniversary of the U.S. Geological Survey through the publication in this issue, on page 3A, of a guest editorial by the director of the Survey and, under "Communications," of 10 digests of completed manuscripts reporting the results of current research. The Survey's work obviously embraces a wide spectrum of sciences. Additional digests will appear in subsequent issues; and scheduled for May 28 is a composite article, "The U.S. Geological Survey, 75 years of service to the Nation."

Through the years many Survey members have been active in the affairs of the AAAS. The AAAS actually evolved out of "The Association of American Geologists" as the result of a reorganization plan proposed by that society in 1847 and put into effect the next year. Geology has been represented by more AAAS presidents, 18 out of 107, than has any other science. Indeed, the first two presidents, William B. Rogers and William C. Redfield, were geologists.

The Electron Microscope Society of America

THE 11th Annual Meeting of this Society was held at Pocono Manor Inn, Pennsylvania, Nov. 5–7, 1953, and established records with over 300 electron microscopists registering for a program that included 78 technical papers and a six-paper symposium on electron microscopy of solids. There were international participants from Australia, New Zealand, Canada, England, Austria, France, Italy, Sweden, Japan, Argentina, and Uruguay. Summaries were heard from W. Bernhard of the Institut de Recherches sur le Cancer Gustave-Roussy (Villejuif, Paris), F. S. Sjöstrand of the Department of Anatomy, Karolinska Institutet (Stockholm), E. De Robertis of the Instituto de Investigaciones de Ciencias Biologicas (Montevideo), H. Braunsteiner of the University of Vienna (now at The Memorial Center, New York), and G. Yasuzumi of the Medical School of Osaka University.

In keeping with past programs, about 70 percent of the papers concerned applied electron microscopy, 15 percent instrumentation, and 15 percent techniques. Maintaining a departure first seen last year, there were about five times as many papers on biological as on nonbiological applications; before 1952 this ratio was always near two. Expanding biological applications, correlating and functional studies, a high degree of technical excellence, especially in work with thin sections, and informal discussion marked the meeting.

The program opened with a report on the 1953 meeting of the Deutsche Gesellschaft für Elektronenmikroskopie, including word of a record resolution of 6A. Papers on *instrumentation* included two in emission microscopy, three on new ultramicrotomes, and several on electron diffraction and details of electron and x-ray microscopes. Another session treated *techniques,* with papers on compressed protein films as specimen supports, shadow casting with collimation, and the preparation of biological specimens.

Physical and chemical applications (11 papers) included descriptions of metal and paint films, studies of the oxidation of single crystals of pure iron and of the decomposition of specimens, cotton fiber structure, cellulose acetate yarn abrasion, clays, and recent applications of the x-ray microscope. Subcommittee 11 of the Committee for Metallography of the A.S.T.M. met Nov. 4 to consider the electron microstructure of steel.

Work on *viruses* and on *particles associated with cancer* included morphological and developmental studies of a mycobacteriophage and of the following viruses: meningopneumonitis, herpes simplex, poliomyelitis, tobacco mosaic, and chicken leukosis. Conflicting reports of detection of the milk agent in mammary tissues and tumors of mice were heard, and a virus-like particulate from the plasma of leukemic mice was reported. French work on the detection of the virus in Rous sarcoma cells, the filamentous structure of nucleoli, and the basophilic cytoplasmic material was also discussed.

Excellent sections also delineated *cytoplasmic structures* and an 80–300 A particle that may correspond to material described in microsomal isolates and by cytochemists. Work on the *nucleus* included studies of fibrils of purified nucleic acid, descriptions of Japanese chromosomal studies, and a report of failure to verify regular helical structures in isolated human chromosomes. A group of five papers on *muscle* included histological works and fine details of filamentous organization. Another 5 papers dealt with *nerve,* the filamentous organization of the axon, lipids in the nerve sheath, synapses, and neuromotor structures of a protozoan.

Some *clinical applications* were summarized, with mention of functional studies and of some contributions of the electron microscope to diagnosis and to clinical pathology. Lengths of isolated human chromosomes from normal and cancerous subjects were reported as statistically different in some cases. *Cell division,* treated in detail in four reports, included consideration of the cell center and of other cytoplasmic structures during mitosis, as well as initial reports of details of division and structure of bacterial cells. Many other *cells and tissues* were represented in the closing set of eleven papers that included evidence suggesting a submicroscopic mechanism for active transport through the wall of blood capillaries.

Several of the papers were presented as demonstrations, augmenting the outstanding exhibitions of micrographs and of commercial equipment. These included several commercial ultramicrotomes, and a demonstration of the new Bibliography of Electron

Microscopy presented by the New York Society of Electron Microscopists, using prepunched Keysort cards.

The abstracts of this meeting appeared in the *Journal of Applied Physics* **24**, 1414 (1953). R. G. Picard, Radio Corporation of America, Camden, N. J., is president of the Society; C. E. Hall, Biology Department, MIT, Cambridge, Mass., past president; and Jeannette R. Cooper, General Electric Co., Cleveland 12, Ohio, the secretary. The program chairman for 1954, C. F. Tufts of Sylvania Electric Products, Inc., Bayside, L. I., N. Y., would welcome suggestions and communications from interested persons.

A. R. T. DENUES

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Third International Conference on Soil Mechanics and Foundation Engineering

THE Third International Conference on Soil Mechanics and Foundation Engineering was held, under the chairmanship of Professor K. Terzaghi of Harvard University, U.S.A., at Zurich and Lausanne Aug. 15–27, 1953. Seven hundred members attended with thirty-eight countries represented. The best represented countries were U.S.A., Great Britain, France, and, of course, Switzerland.

Two preliminary volumes of the Proceedings had been published previous to the Conference. They contain the 154 papers submitted by authors, and 8 reports by the general reporters of each study section. These papers provided the basis for the discussion which took place in eight sessions.

The discussion treated the eight following topics: Theories and hypotheses of general character, soil properties, classification, engineering geology; Laboratory investigation (including compaction tests, improvement of soil properties); Field investigation, technic of field observations, including compaction control and soil stabilization; Foundations of buildings and dams, bearing capacity, settlement observations, regional subsidences; Piles and pile foundations, settlements of pile foundations; Roads, runways, airports (flexible and rigid pavements and their foundation); Earth pressure, retaining walls, tunnels and pits in soils; Stability and deformation of slopes and earth dams, research on pore pressure-measurements, groundwater problems.

A general lecture was delivered at the beginning of each session. In accordance with the practice introduced at the Second International Conference in Rotterdam, these lectures, with the exception of Professor Terzaghi's "Fifty Years of Subsoil Exploration," were devoted to research and practical problems of the guest land. Therefore, Professor R. Haefeli treated the subject of "Creep Problems in Soil, Snow, and Ice," Dr. A. von Moos lectured on "The Subsoil of Switzerland," Dr. J. Killer on "Foundations for High Tension Towers," Mr. G. Gysel on "Geotechnical Experiences Gained During the Construction of the Hydroelectric Plants of Loentsch, Etzel, Rupperswil-Auenstein and Wildegg-Brugg," Dr. R. Ruckli on "Geotechnical Applications in Road Construction in Switzerland," Dr. W. Eggenberger on "The Project of the Göschenenalp Dam, Switzerland," and Professor E. Meyer-Peter on "Soil Mechanics and Foundations of the Marmorera Dam, Switzerland."

At the closing session at Lausanne, Mr. Peltier (Paris) delivered a lecture on "Geotechnical Considerations on the Bearing Capacity of Roads" and Professor A. Stucky (Lausanne) gave one on "Problems in the Foundation of Large Dams."

A four-day tour had been arranged in the interval between the Zurich and the Lausanne sessions. The first day of this excursion was devoted to a visit to the earth dam of Marmorera in the canton of Grisons; another group visited the Swiss Federal Institute for Snow and Avalanche Research at Weissfluhjoch near Davos. The next day members traveled through the valley of the Engadine, the Bergell, and along the Lake of Como to Lugano. On the third day members viewed the new Alpine road of Susten and the Grimsel hydroelectric plant in the canton of Berne. On the last day they went to Lausanne through the Loetschberg tunnel and the Rhone valley.

After the closing session many members took part in two excursions to two dam sites under construction, both located high in the mountains, the Mauvoisin Dam (height : 237 m) and the Grande Dixence Dam (height : 281 m).

The Executive Committee of the International Society assembled in four meetings in which amendments of the statutes were discussed and 5 vice presidents were elected, one for each continent: Professor A. W. Skempton for Europe, Professor K. Hoshino for Asia, Professor W. S. Hanna for Africa, Mr. A. E. Cummings for North America, and Professor M. Vargas for South America. Mr. A. Banister (London) was elected general secretary of the International Society since Professor D. W. Taylor wished to resign this office. It was decided that the Fourth Conference would be held in London.

The unabridged text of the discussion for each section, the lectures, and the minutes of the executive committee meetings will appear in the final volume of the Proceedings. The *Proceedings* (3 vols.) have been edited by the Swiss Secretariate, Gloriastrasse 39, Zurich.

A. VON MOOS

Troisième Congrès International de Méchanique des Sols et des Travaux de Fondations Suisse 1953

Science News

Last spring E. Willard Berry, chairman of the Duke University geology department, was asked by the Diamond Corporation of Angola, Portuguese West Africa, to collect and analyze samples of rock in order to discover new localities where **diamond mining** might be profitably conducted. Dr. Berry flew to Angola in May and, from headquarters in the com-

pany settlement at Dundo, some 350 mi from the coast, drove each day into surrounding territory to obtain samples ranging from gravel and volcanic ground to bedrock. Diamonds are usually found in kimberlite, a course-grained volcanic material that took its name from the Kimberly diamond mines in the Union of South Africa.

Twelve large boxes of African rocks are now being shipped to Duke University. These specimens, which average approximately 1½ lb in weight, probably do not contain diamonds, but are useful as "yardsticks" for estimating the probable diamond producing capacity of the locality from which a particular sample was taken. The rocks will be studied by mineral analytical procedures, which include microscopic examination, viewing by polarized light, and determination of mechanical properties such as weight, texture, and specific gravity.

Fossils throwing new light on man's knowledge of the evolutionary distribution of mammals on two of the earth's continents have been unearthed at an excavation site in the McKay Reservoir by the University of Oregon Museum of Natural History. The fossils confirm relationships between mammals of North China and other areas of Asia and those of North America. More than 3000 specimens, many of them similar or related to mammals of the Pliocene epoch found in North China, have been uncovered at the site, located south of Pendleton.

University teams, led by J. A. Shotwell, curator of the Museum, have unearthed a sabre-tooth cat, older than the Rancho La Brea cats found in California. Fossils of an early horse, wolverine, and a beaver not related to the present-day animal also have been uncovered. The beaver fossil indicates that the life of this period migrated both ways on the two continents.

Fossils of primitive plants nearly two billion years old, the oldest yet uncovered, have been discovered on the northern shore of Lake Superior. Announcement of the find was made by Elso S. Barghoorn, associate professor of botany at Harvard University, and Stanley A. Tyler, head of the Department of Geology at the University of Wisconsin. The age of the specimens was based on calculations made by Patrick Hurley, executive officer of the Department of Geology and Geophysics at the Massachusetts Institute of Technology.

The fossils are described as both blue-green algae and simple forms of fungi, "the oldest structurally preserved organisms which have been discovered in pre-Cambrian sediments." They were imbedded in a deposit of flint rock taken from the Gunflint Iron Formation near Schreiber, Ont. For the past two years Dr. Tyler and Dr. Barghoorn have worked together in field excavations and laboratory research to unearth and identify the primitive lower plants.

Moderate quantities of **magnetite** have been found on several Puerto Rican beaches by members of the U.S. Geological Survey working in cooperation with the Puerto Rico Economic Development Administration. The discovery suggests the possibility of adding a new industry to the Commonwealth's economy by recovering the iron by means of a magnetic process similar to that employed in other parts of the world, notably in Misawa, Japan. Although the iron-bearing sands had previously been reported, the location and extent of the more promising areas had not been determined. The final results of this investigation will be published in detail at a later date by the Geological Survey.

New light has been thrown upon the manner in which nature deposits **mercury ores.** Frank Dickson and George Tunnel, geologists at the University of California at Los Angeles, have established that cinnabar (mercuric sulfide), chief mineral source of mercury, is precipitated when solutions containing mercury sulfide and sodium sulfide are neutralized or diluted with water. Evaporation actually increases the amount of dissolved cinnabar, although continued evaporation eventually precipitates the mercury; however, this was not in the form of cinnabar but in that of an easily redissolved double salt.

This work is the first to establish definitely the precipitation curve of cinnabar at a fixed temperature. The U.C.L.A. study is one step in a series tracing the course of mercury compounds in naturally-occurring solutions to their final ore deposit form. The study is being made under a contract with the Office of Naval Research.

A new mineral, probably one of the rarest in the earth's crust, has been discovered and described by George Switzer, geologist at the Smithsonian Institution. Named **ordonezite** in honor of a Mexican geologist, the late Ezequiel Ordonez, the mineral was found in a Mexican tin mine. It is a combination of zinc, antimony, and oxygen in the form of tiny glassy-brown crystals. Dr. Switzer has obtained approximately ¼ lb in its pure state.

The rediscovery of an even rarer mineral, **mosesite,** has made its analysis possible for the first time. William F. Foshag, head curator of geology at the Smithsonian, has found that mosesite is a combination of mercury, nitrogen, chlorine, and water. Mosesite was first discovered in Texas about 40 yr ago, but the quantity was so small that geologists could not analyze the sample. Dr. Foshag said that the combination of elements in mosesite has never been found in mineral form before. Further, the nitrogen molecule is an ion hooked to mercury in a bond unique in nature.

Discovery of one of the largest and richest camp sites of **prehistoric man** ever recorded in Western Europe was reported recently by Hallam L. Movius, Jr., associate professor of anthropology at Harvard University. He placed the site in the Upper Palaeolithic era dating back 18,000 to 25,000 yr. The location is a rockshelter, Abri Pataud, in the village of Les Eyzies in south central France. It was uncovered

in the summer of 1953. Preliminary excavations revealed a very large series of flint artifacts and, more importantly, "better preserved and more complete mammalian material than has been recovered from any other Upper Palaeolithic site in Western Europe in recent years."

The mammalian finds indicate that the horse was one of the chief foods of the hunter bands in the Aurignacian period 25,000 yr ago. Some 7000 yr later —as examination of the Upper Perigordian levels showed—the horse had evidently disappeared from the scene and had been supplanted by the reindeer as a chief meat source.

Prof. Movius estimated that 5 to 6 yr will be needed to complete the excavation survey. Financial support of the investigations which led to the discovery of the Abri Pataud site has been through the George Grant MacCurdy Fund of the Peabody Museum at Harvard.

Soil bacteria can be used as a tool to locate oil deposits. Raymond J. Strawinski, a bacteriologist at Louisiana State University, has patented a method of determining the presence of gas in the soil by examining microorganisms. Primary advantages of the method are its simplicity, lack of expense, and the quickness with which the test can be completed. Geologists have long supposed that the gas found with underground oil seeps through the earth to the surface in small amounts. Dr. Strawinski reasoned that bacteria in the soil might feed on this gas, and his experience has confirmed that oil is in the immediate vicinity of hydrocarbon-consuming organisms.

Scientists in the News

Loyal V. Bewley, head of the Electrical Engineering Department at Lehigh University, has been made dean of the College of Engineering.

At the 136th annual meeting of the New York Academy of Science three distinguished scientists were elected to honorary life membership: **Adolph Friederich Johann Butenandt,** Kaiser Wilhelm Institute of Physiological Chemistry, Germany; **Christopher Keokingold,** Director of Chemistry Laboratories, University of London; and **A. R. Radcliff-Brown,** founder of the British School of Social Anthropology and professor emeritus of Oxford University.

Edward A. Chapin, since 1934 curator of insects at the U.S. National Museum, Smithsonian Institution, has retired after nearly 37 years in government service. Dr. Chapin began his government career in 1917 in the U.S. Department of Agriculture, where he served successfully under three agencies: the Bureau of Biological Survey, the Bureau of Animal Industry, and the Bureau of Entomology. Dr. Chapin is one of the country's leading specialists in the *Coleoptera,* and is the author of numerous scientific papers on this important insect order. He and his wife will make their home at West Medway, Mass.

G. Robert Coatney, head of the Chemotherapy Section of the Laboratory of Tropical Diseases, National Institutes of Health, has been named winner of the Darling Medal and Prize given by the World Health Organization for outstanding work in the field of malaria research.

Dudley D. Fuller has been appointed principal scientist in the Division of Laboratories, The Franklin Institute, where he will be in charge of the Friction and Lubrication Section. Mr. Fuller will continue on the staff at Columbia University as an associate professor of mechanical engineering.

William Walter Greulich, science adviser to the United States High Commissioner for Germany, has been appointed chairman of the United States Educational Commission in the Federal Republic of Germany. Dr. Greulich is on leave of absence from Stanford University, where he is a professor of anatomy in the School of Medicine.

Douglas Guthrie, distinguished medical historian of the University of Edinburgh, will visit medical centers in the United States during March, following a tour of Australia and New Zealand. He spoke at the University of California at Los Angeles the latter part of February, and will give an address at the University of Texas Medical Branch, Galveston, Mar. 19 on "The pursuit of the infinitely small" dealing with the history of the microscope. He will also give a special lecture on "Ancient drugs and herbals". Following his visit at the University of Texas Medical Branch, he will deliver the Logan Clendening Lectures at the University of Kansas, Lawrence and Kansas City, Mar. 29, 30, 31.

Lewis W. Hackett, visiting professor of public health at the University of California, Berkeley, and editor of the *American Journal of Tropical Medicine and Hygiene,* has been awarded the Walter Reed Medal for meritorious achievement in tropical medicine. Dr. Hackett, who has done outstanding work on malarial epidemiology, received the medal from the American Society of Tropical Medicine and Hygiene.

Eleanor A. Hall has been named to the newly-created post of assistant dean of the Yale School of Nursing, where she is an associate professor.

The 1953 Southwest Award of the American Chemical Society has been won by **Henry Rudolf Henze,** professor of pharmaceutical chemistry in the University of Texas. Prof. Henze, former head of the Department of Chemistry of the University of Texas in Austin and former chemistry chairman of the University's medical branch in Galveston, was cited both for his contributions to experimental chemistry and for his role as an outstanding educator.

Robert B. Hobbs, for some 20 years a staff member of the Organic and Fibrous Materials Division of the National Bureau of Standards, has been appointed chief of the Paper Section.

Clarence Lester Hogan, formerly of the Bell Telephone Laboratories, has been appointed associate professor of applied physics in the Division of Applied Sciences at Harvard University. Dr. Hogan is noted for his successful construction of the microwave gyrator, the first practical circuit element that violates the so-called theorem of reciprocity. As a result, it is now possible to transmit power in one direction through a microwave circuit without interference from reflected waves and without the necessity of matching impedances. In principle this element permits the simultaneous transmission and reception of a single frequency from the same antenna.

Arthur Knudson, chairman of the Department of Biochemistry at Albany Medical College, has returned to his post after two years in Thailand. Prof. Knudson's assignment was a part of the Mutual Security Administration's (now the Foreign Operations Administration) program. He taught biochemistry in Bangkok's 65-year-old Siriraj Medical School and Hospital and in the 7-year-old Chulalongkorn Medical School, both under the Thailand Ministry of Public Health. He also was instrumental in the establishment of an experimental nutritional laboratory. There are approximately 1600 to 1700 physicians in Thailand, a nation of eighteen million; this means one physician to every 10,000 persons, as compared with one per thousand in the United States.

Harrison S. Martland, noted pathologist and pioneer in the diagnosis of radioactive diseases, has resigned as chief medical examiner of Essex County, N.J., after 28 years in office. He will continue as consultant to the new chief, **Edwin G. Albano.** Dr. Martland's numerous papers on diseases from radioactive products have been issued in book form by the Atomic Energy Commission.

Harold L. Mitchell, director of the Southern Forest Experiment Station in New Orleans, has been appointed chief of the Division of Silvicultural Relations at the U.S. Forest Products Laboratory in Madison, Wis. The Laboratory is a research unit of the Forest Service, U.S. Department of Agriculture.

At its autumn meeting, the National Academy of Sciences voted to award the Daniel Giraud Elliot Medal for the year 1950 to **Raymond Carroll Osburn** of the Hancock Foundation, University of Southern California. The medal is given annually in recognition of meritorious accomplishment in zoology or paleontology, and Dr. Osburn is being honored for his work entitled *Bryozoa of the Pacific Coast of America Part I, Cheilostomata-Anasca.* Presentation of the medal and accompanying honorarium will be made in Washington at the 91st annual meeting of the Academy in April.

Wesley T. Pommerenke, associate professor of obstetrics and gynecology at the University of Rochester School of Medicine and Dentistry, is spending a sabbatical year working under the auspices of the Unitarian Service Committee. Having given several lectures at the American University in Beirut, at the end of January Dr. Pommerenke proceeded to the Medical School of the University of Madras, India, where he will stay for three months as a visiting professor. He will spend another three months at the Medical School of Keio University in Japan.

Charles G. Wilder, formerly director of the Kansas City Museum Association, has been named chairman of the Exhibits Division of the Oak Ridge Institute of Nuclear Studies. His new responsibilities include the American Museum of Atomic Energy and the extensive traveling exhibit program of the Institute. Mr. Wilder replaces **David L. DeJarnette,** who resigned on Oct. 1 to become archeologist-in-charge for Mound State Monument in Alabama.

New additions to the faculty of Lebanon Valley College, Annville, Pa., are **Francis H. Wilson,** formerly head of the Biology Department at Champlain College (N.Y.), who has been named professor of biology; and **Barnard H. Bissinger,** previously of Michigan State College, who has been appointed associate professor and head of the Department of Mathematics.

Education

The University of Maryland announces the offerings of the **Institute of Acarology for the Summer Session,** 1954, from June 21 to July 10. Since the inception of this program at Duke University in 1951, it has provided a unique opportunity for entomologists, parasitologists, and zoologists to learn about mites and ticks. In line with the recent important discoveries of the role of the Acarina in the fields of public health and agriculture, the program now has been expanded to be of greater service by increasing the facilities, the staff, and by the participation of investigators from nearby institutions. The staff this year consists of Edward W. Baker, U. S. Department of Agriculture; Joseph H. Camin, Chicago Academy of Sciences; R. W. Strandtmann, Texas Technological College; and George Anastos, Flora Gorirossi, and G. W. Wharton, of the University of Maryland. Further information can be obtained from G. W. Wharton, Department of Zoology, University of Maryland, College Park, Md.

Establishment of a **Law-Medicine Center** to help improve the administration of justice through more effective use of medical science has been announced by Western Reserve University and the coroner's office of Cuyahoga County. In addition to Western Reserve's law school and the county coroner's laboratory, facilities available for the Law-Medicine Center will include those of the Western Reserve School of Medicine, Institute of Pathology, and science departments, and the resources of Case Institute of Technology. The importance of the relation of medicine to law is demonstrated by the fact that two of every three cases which

reach the Ohio appellate courts involve a medical issue.

Franz Moewus, Privatdozent, University of Heidelberg, and currently research associate in the Department of Zoology, Columbia University, will be a member of the staff of the summer course in marine botany (phycology) at the **Marine Biological Laboratory, Woods Hole.** Harold C. Bold of Vanderbilt University, Richard C. Starr of Indiana University, and Ruth Patrick of the Academy of Natural Sciences, Philadelphia, are also members of the instructional staff. The course is scheduled to run from June 15 through July 24.

In addition, Hewson Swift of the University of Chicago, for many years director of the Laboratory, has been appointed to the Frank R. Lillie Memorial Fellowship for this next summer.

Grants and Fellowships

The Scripps Metabolic Clinic has established a postdoctoral fellowship to be known as the **Charles Willard Stimson Fellowship in Biochemistry.** It will be available on a yearly basis to investigators interested in intermediary metabolism, particularly carbohydrate and fat metabolism. The stipend is $5000 per year. Those interested should send applications to The Scripps Metabolic Clinic, La Jolla, Calif.

A **$2500 fellowship in chemical engineering** has been established at Tulane University by the Dow Company of Midland, Mich. It will be available to a graduate student who will be selected by the faculty of the Department of Chemical Engineering. Establishment of the fellowship is part of the Dow Company's program to promote scholarship in chemistry and chemical engineering in colleges and universities throughout the United States.

Nominations are invited for the third **Kimble Methodology Research Award,** which will be presented in October through the generosity of the Kimble Glassware Division of Owens-Illinois Co. The award, consisting of $500 and a suitably inscribed plaque, is administered by committees of the Conference of State and Provincial Public Health Laboratory Directors. For detailed information and nomination blanks write Alfred S. Lazarus, School of Medicine, University of Washington, Seattle 5, Wash.

The **Rockefeller Foundation** listed the following scientific grants in the report for the fourth quarter of 1953:

California Institute of Technology. Continuation of long-term aid to experimental biology, $1,500,000.

Food Research Institute, Stanford University. Contribution of support to basic research in food production, distribution, and consumption, $500,000.

Cornell University Medical College. V. du Vigneaud, Dept. of Biochemistry. Biochemical research concerned with the sulphur-containing amino acids, polypeptides, and hormones, 7 yr, $150,000.

University of Wisconsin. Research in biochemistry, $200,000.

University of São Paulo, Brazil. Faculty of Philosophy, Sciences, and Letters. Experimental biology, 3 yr, $45,000.

University of São Paulo. Faculty of Veterinary Medicine. Animal climatology, 3 yr, $30,000.

University of São Paulo. Faculty of Medicine at Riberirão Preto. Research in biochemistry, histology, embryology, and parasitology, 3 yr, $50,000.

University of Rio Grande do Sul, Brazil. Faculty of Philosophy. Equipment for research in genetics, botany, and paleontology, 3 yr, $50,000.

University of Rio Grande do Sul. School of Agronomy and Veterinary Medicine. Equipment and library materials, 2 yr, $25,000.

Virus research stations in Trinidad, South Africa, India, and Egypt. Continuation of Foundation virus research program, $300,000.

Agriculture program of Government of Mexico and the Foundation. Continuation of support of research and training, $175,750.

Mexican food production program. Research and training, $100,000.

Colombian agricultural improvement program. Research and training, $140,000.

Central American Corn Improvement Program. Establishment of program and technical assistance, $30,000.

Tennessee Department of Public Health. Tuberculosis study in Williamson County, $21,000.

Stanford University. E. L. Tatum. Survey of European trends in microbiology, genetics, and biochemistry, $2300.

University of Hawaii. Equipment for research in marine biology, $10,000.

University of Hawaii. Three-month examination by agricultural scientist of program of College of Agriculture, $3000.

University of California. N. T. Mirov, Forest Experiment Station. Research, $7300.

University of California. W. C. Snyder, Dept. of Plant Pathology. Visit to European research centers, $5000.

University of Illinois. Neuropsychiatric Institute. Purchase of portable x-ray unit, $4000.

Vanderbilt University, Dept. of Pediatrics. Exchange of senior assistants with Karolinska Institute, Stockholm, 3 yr, $3000.

University of Pittsburgh. H. S. Belding, Graduate School of Public Health. Visit to European centers of environmental physiology, $2300.

Tufts College. C. C. Roys, Dept. of Biology. Year's stay at Univ. of São Paulo, $2100.

American Psychological Association. Planning of conference on the evolution of behavior, $1000.

Cornell University. F. S. Anthony, Dept. of Agronomy. Visit to agricultural research centers in U.S., $500.

University of Bristol, England. J. M. Yoffey, Dept. of Anatomy. Experimental histology and physiology, $6200.

University of Leeds, England. F. S. Dainton, Dept. of Chemistry. Radiation chemistry, $5000.

University of Cambridge, England. M. Perutz. X-ray crystallography of proteins, $4000.

University of Oxford, England. E. K. Woodford, Dept. of Agriculture. Ninety-day visit to agricultural research centers in U.S., $2500.

St. Bartholomew's Hospital Medical School, England. H. Lehmann, Dept. of Pathology. Visit to sicklemia research centers in U.S. and Canada, $2565.

Ministry of Labor and National Service, England. J. H. F. Smith, Factory Dept. Visit to industrial hygiene departments in the U.S., $2350.

Ministry of Labor and National Service, England. R. Murray, Factory Dept. Visit to occupational health and industrial hygiene centers in U.S. and Canada, $2350.

University College, England. Dept. of Botany. Research in plant physiology, $3000.

Ministry of Works, England. G. L. Ackers. Visit to centers of public health engineering in U.S. and Canada, $2150.

University of London, England. A. V. Hill. Attendance at scientific conferences and visits to biophysical research centers in U.S., $2100.

University of Oxford, England. D. D. Woods, Dept. of Microbiology. Equipment, $1800.

Institute of Biology, London. Travel expenses of American delegate to symposium, $700.

Collège de France, Paris. J. Roche. Research in biochemistry, 2 yr, $15,000.

University of Marseilles. Laboratory of Biological Chemistry. Equipment, $6000.

University of Bordeaux, France. R. Castaing, Laboratory of Cardiology. Equipment, $1200.

Health Authority of Hamburg, Germany. H. Harmsen, Academy of Public Health. Teaching program, 5 yr, $35,000.

University of Athens, Greece. L. Zervas. Research in biochemistry, $3000.

University of Rome, Italy. A. Rossi-Fanelli, Institute of Biological Chemistry. Research in biochemistry, $7500.

University of Padua, Italy. U. D'Ancona, Institute of Zoology and Comparative Anatomy. Equipment, $5000.

State University of Utrecht, Netherlands. J. B. Thomas, Biophysics Research Group. Visit to U.S., $2350.

University of Wageningen, Netherlands, C. J. P. Spruit, Dept. of Plant Pathology. Extension of visit to U.S., $1200.

University of Geneva, Switzerland. F. Chodat, Institute of General Botany. Research in plant biochemistry, $2000.

University of Zurich, Switzerland. M. Viscontini. Institute of Chemistry. Visit to enzyme chemistry research centers in England, $700.

University of Geneva, Switzerland. B. Inhelder, Institut des Sciences de l'Education. Visit to child psychology research centers in U.S. and Canada, $2550.

University of Alexandria, Egypt. M. A. Abbasy. Faculty of Medicine. Visit to preventive medicine centers in England, Puerto Rico, Canada, and U.S., $2900.

Virus Research Institute, Entebbe, Uganda. P. J. Mason. Visit to virus research centers in U.S., $2200.

University College, Nigeria, West Africa. Equipment and expenses for field visits, $10,000.

King George's Medical College, Lucknow, India. Equipment for Pharmacology Department, 3 yr, $7500.

Trivandrum School of Nursing, India. L. A. Johnson. Equipment, $7500.

Medical College, Indore, India. R. P. Singh, Anatomy Dept. Equipment, $5000.

University of Bombay, India. A. Sreenivasan, Dept. of Chemical Technology. Equipment for research in biochemistry, $5400.

Indian Institute of Science, Bangalore, India. J. Ganguly. Equipment for research in biochemistry, $5600.

Government General Hospital, Madras, India. B. Ramamurthi. Neurosurgery Unit. Equipment, $2000.

Indian Cancer Research Center, K. J. Ranadive, Tissue Culture Laboratory. Equipment, $2300.

Indian Council of Medical Research, Coonoor, South India. C. Gopalan, Nutrition Research Institute. Visit to nutrition research centers in U.S. and Canada, $950.

Indian Council of Medical Research, B. K. Anand, Lady Hardinge Medical College, Delhi. Equipment, $950.

University of Adelaide, South Australia. P. M. Nossal. Equipment for research in biochemistry, $3000.

Tokugawa Institute for Biological Research, Tokyo, Japan. H. Tamiya. Mass cultivation of microorganisms for human food, $25,000.

Nagoya University, Japan. T. Yamada, Biological Institute. Research in embryology, $10,000.

Japanese Red Cross Central Hospital School of Nursing. Teaching aids and equipment, $8200.

Japanese Nursing Association, Tokyo. Equipment and library supplies, $4685.

Ochanomizu University, Tokyo. K. Anno. Equipment for research in biochemistry, $3000.

Provincial Government of Taiwan, Taipeh, Formosa. Y. Ching, Dept. of Education. Visit to study school health work and health education in U.S., $4550.

University of Buenos Aires, Argentina. M. Reichard, Faculty of Agronomy and Veterinary Medicine. Visit to wind-eroded areas in U.S., $1125.

University of Minas Gerais, Brazil. J. B. Vianna, Dept. of Biochemistry, Faculty of Medicine. Equipment, $10,000.

Araraquara Rural Health Training Center, Brazil. Equipment, 2yr, $10,000.

University of Bahia, Brazil. J. Novis, Dept. of Physiology. Equipment, $9000.

Secretariat of Agriculture, Industry, and Commerce, Rio Grande do Sul, Brazil. Equipment for Dept. of Animal Production, $5000.

State Secretariat of Agriculture, Bahia, Brazil. F. J. Alice, Institute of Biology. Foot-and-mouth disease and other virus investigations, $4700.

Institute Agronómico, Campinas, Brazil. O. Bacchi. Equipment for the seed laboratory, $4500.

Rural University, Belo Horizonte, Brazil. J. F. Braga and L. M. Magalhaes. Visit to Latin American centers of agricultural education and research, $3800.

University of Brazil, Rio de Janeiro. H. Meyer, Institute of Biophysics. Study of electron microscopy in U.S., $1080.

University of São Paulo, Brazil. Institute of Oceanography. Equipment for development of marine resources, $9150.

University of São Paulo. P. Sawaya. Visit to Latin American centers of research on marine resources and experimental biology, $2650.

University of São Paulo. Equipment for use of the Second Pan-American Congress of Agronomy, $2000.

University of São Paulo. E. Malavolta, Escola Superior de Agricultura, Piricicaba. Equipment for research in plant nutrition, $2800.

University of São Paulo. H. Rothschild, Dept. of Histology and Embryology. Equipment for research in protein chemistry, $800.

University of São Paulo. J. S. Veiga, Faculty of Veterinary Medicine. Visit to animal climatology centers in U.S., $715.

Ministry of Agriculture, Santiago, Chile. Equipment for LaCruz Insectarium, $10,000.

Ministry of Agriculture, Santiago, Chile. I. Tagle, Institute of Veterinary Investigations. Livestock parasitology, $10,000.

Ministry of Agriculture, Santiago, Chile. I. Tagle, Institute of Veterinary Investigations. Visit to parasitology research centers in Latin America and the U.S., $2850.

Bacteriological Institute of Chile, Santiago, E. Gallardo. Equipment for research in poultry pathology, $7200.

University of Chile, Santiago. P. Yanez, Marine Biological Laboratory. Equipment for research on problems of marine resources, $10,000.

University of Chile, Santiago. D. Brncic, Institute of Biology. Population genetics, $5100.

University of Chile, Santiago. I. Matte, Psychiatric Institute. Visit to psychiatric centers in U.S. and Canada, $3312.

Rural Health and Nutrition Service, San Felipe, Chile. Equipment, $1000.

Colombian Agricultural Program Operating expenses of Maize Collection Center, Medellín, $7500.

Colombian Agricultural Program. International exchange of information, materials, and personnel, $5000.

Ministry of Agriculture, Bogotá, Colombia. A. Chary. Visit to agricultural education, research, and extension centers in the U.S., $2200.

Endemic Disease Control Service, Dominican Republic. Continuing grant, $2000.

Mexican Agricultural Program. Operating expenses of Maize Collection Center, Chapingo, $7500.

College of Agriculture "Antonio Narro," Saltillo, Mexico. L. M. Medina. Visit to Latin American agricultural, educational, and research centers, $2000.

University College of the West Indies, Jamaica. G. Bras, Dept. of Anatomy. Visit to departments of physiology and pathological anatomy in U.S., $1900.

In the Laboratories

The **American Can Company** has purchased land in Barrington, Ill., for a large laboratory for food and container research. The proposed one-story research center would house a staff of 107 scientific and technical personnel and more than 30 other employees. Special hot and cold rooms, where climatic conditions from the tropics to the arctic could be simulated, would permit the test storage of every type of product.

The **American Instrument Co.** of Silver Spring, Md., has erected a 40,000-ft^2 plant at Savage, Md. This brings to six the number of plants owned and operated by the company.

Acquisition of the **American Polymer Corporation** of Peabody, Mass., has been announced by the **Borden Company.** The move is in line with the Borden Chemical Division's policy of expansion in the field of basic chemicals. The acquisition includes American Polymer plants in Illiopolis, Ill., Montreal, Canada, and São Paulo, Brazil. All these plants produce resin emulsions and solutions of various types from a number of base

monomers. American Polymer does not produce end products, but sells to manufacturers of adhesives, textile chemicals, sizings, paints, and similar items.

The **Du Pont Company** has announced construction of a $3,000,000 laboratory in Wilmington to expand the present capacity of its Polychemicals Department to provide sales and engineering services to customers in the plastics and other industries. The laboratory will have the most modern equipment available for developing technical data on the use and processing of Polychemicals Department products. Its facilities for providing engineering services, especially in the plastics field, will be several times those of the present laboratory at Arlington, N.J., which the new building will replace.

Research to end the nation's serious surplus of animal fats that totaled 700,000,000 lb in 1952 is being sponsored by the U.S. Department of Agriculture and the Association of American Soap and Glycerine Producers. The Association has given the Department of Agriculture funds for two scientists to devote full time to research for new uses of animal and other agricultural fats. The work will be done at the **Eastern Regional Research Laboratory** in Philadelphia. The fat surplus is largely caused by an increased demand for meat and a drop in the quantity of soap produced, owing to the use of synthetic detergents. The consumption of fats is up only 11 percent since World War II, while production of meat and all fats has risen by 50 percent.

The research project will fit into government's program of finding new uses for agricultural fats. Markets for fats have already been developed in the manufacture of some plastics, hot-dip tinning processes, synthetic rubber production, and animal feeds. The new fellowships will employ a postdoctoral scientist and a graduate student to work as an assistant. Stipends will be approximately $6000 and $4000 for one year. The program will run for an indefinite period of time.

Tentative plans for the construction of a large electronics engineering and research laboratory in Wayland, Mass., have been announced by the **Raytheon Manufacturing Company,** Waltham, Mass.

Rhodia, Inc., of New York City has started operations at its new aromatic chemicals plant in Paterson, N.J.

Setting a precedent in commercial laboratory practice, **Truesdail Laboratories, Inc.,** Los Angeles, has established a research advisory board of well-known scientists. It will help guide procedures and evaluate results of research projects under way for the firm's clients. The advisory board consists of: Arie J. Haagen-Smit, California Institute of Technology; Clinton H. Thienes, Huntington Memorial Hospital, Pasadena; Arthur W. Adamson, University of Southern California; Don M. Yost, California Institute of Technology; and William G. Young, University of California at Los Angeles. The new arrangement is expected to be mutually advantageous. The board will have an opportunity to help tackle everyday industrial problems, and industry will receive the services of experts that it might not be able to have otherwise.

The **Waldemar Medical Research Foundation, Inc.,** has moved its laboratory from 16 Clinton St., Brooklyn to 16 Sintsink Drive East, Port Washington, N.Y.

Engineering and office personnel have moved into the new plant of the Westinghouse Atomic Equipment Department. Located in Harmar Township, Pa., the plant is part of the **Westinghouse Atomic Power Division** which is building the atomic submarine engine for the *U.S.S. Nautilus* and is developing the first civilian atomic power plant. This new plant will produce component parts and accessories for atomic power plants and represents an initial investment of $2,000,000 by the Westinghouse Electric Corporation.

Meetings and Elections

An **Advisory Committee in Physiological Psychology** to the Office of Naval Research has been organized as the fifth such committee under auspices of the American Institute of Biological Sciences. W. J. Brogden of the University of Wisconsin is chairman of this committee. Other members are: Clarence Graham, Columbia University; D. O. Hebb, McGill University; Wilden A. Munson, Bell Telephone Laboratories, Inc.; and Carl Pfaffmann, Brown University. The first meeting of the committee was held at the Harvard Psycho-Acoustic Laboratory, Cambridge, Mass., on Dec. 4–5, 1953. At present the Physiological Psychology Branch of ONR supervises 52 contracts at 32 universities in 21 states.

Officers of the **Association of Southeastern Biologists** are: pres., Bruce D. Reynolds, University of Virginia; v. pres., Alvin D. Beatty, Emory University; sec., Mary Esther Gaulden, Oak Ridge National Laboratory; treas., J. Paul Reynolds, Florida State University. The president-elect is H. R. Totten, University of North Carolina.

The International Committee on Group Psychotherapy has organized the **First International Congress on Group Psychotherapy,** to be held in Toronto, Canada, in connection with the Fifth International Congress on Mental Health next August. The conference will promote the exchange of information and intensify personal contact between workers in mental health and allied professions throughout the world. A series of meetings has been arranged. Papers and symposia will deal with group psychotherapy and group studies in the areas of family relations and the national and international communities.

Therapeutic work with children and parents, adolescents and the aged, addicts and delinquents will be presented. The use of groups in education, industry,

government, and with different ethnic groups are among the subjects for panel discussions. There will also be discussion groups dealing with various aspects of group psychotherapy and group studies during the week of Aug. 16.

Representatives of 23 nations are participating in the organization of the Congress. Wilfred C. Hulse and Welman J. Warner are chairmen, J. L. Moreno and S. R. Slavson are consulting chairmen. For full details write to International Congress on Group Psychotherapy, Room 916, 1790 Broadway, New York 19.

The **1954 National Telemetering Conference** under the joint sponsorship of the Institute of Radio Engineers, the American Institute of Electrical Engineers, the Institute of the Aeronautical Sciences, and the Instrument Society of America will be held at the Hotel Morrison in Chicago, May 24–26. This year's meeting promises to provide subject matter of wider scope and deeper interest as a result of a considerable amount of missile telemetering and remote control information recently developed.

W. J. Mayo-Wells of the Applied Physics Laboratory of Johns Hopkins University is chairman of this year's meeting. Charles Doersam, formerly of the Office of Naval Research and now with Sperry is program chairman. Mr. Kipling Adams of the General Radio Company is in charge of local arrangements and serves as vice chairman.

The **Society of Exploration Geophysicists** has elected the following officers for 1954–55: pres., Paul L. Lyons, Anchor Petroleum Co., Tulsa, Okla.; v. pres., Roy F. Bennett, Sohio Petroleum Co., Oklahoma City, Okla.; sec.-treas., Hugh M. Thralls, Seismograph Service Corp., Tulsa, Okla.

A **Soil Microbiology Conference** will be held at Purdue University, June 21–24. It will be sponsored by The American Society of Agronomy, The Soil Science Society of America, and Purdue University. Reservations may be made direct through the Union Club, Purdue Memorial Union, West Lafayette, Ind. The 2½-day meeting will feature papers on the place of soil microbiology in soil science and the contributions that microbiology may make towards the solution of agronomic problems.

Representatives from more than fifty nations will attend the **Third International Gerontological Congress** to be held in London, July 19–23. Tentative plans call for the meeting to be divided into three sections: Biological, Clinical, and Sociological. Some of the problems to be considered in the biological section include nutrition, metabolism and aging, changes in the nervous system associated with aging, hormonal age changes and histological changes in endocrine organs with age, the effects of aging in the female generative organs, and degenerative vascular disease. Such subjects as arthritis and allied conditions, endocrinology and old age, neurological disorders, and surgery in the aged and aging patients will highlight the clinical section. The sociological section will be concerned with adult education and counselling, a critique of surveys, employment and personnel practices, recreation, housing, pensions and health insurance, and biometric studies of the population structure in the various countries.

According to recent information provided by the British Organizing Committee, the British Minister of Health will address the opening session of the Congress. Abstracts of papers to be presented are being received by Dr. Wm. B. Kountz, Chairman of the American Committee on Cooperation, 660 S. Kingshighway, St. Louis 10, Mo. Convoys, Ltd., has been named the official travel agent for the Congress and all Americans planning to attend are urged to make their reservations through Mrs. Viola Kelly, International Association of Gerontology, 660 S. Kingshighway, St. Louis 10, Mo.

Miscellaneous

The following **chemicals** are wanted by the Registry of Rare Chemicals, Armour Research Foundation of Illinois Institute of Technology, 35 W. 33 St., Chicago 16: tungsten hexacarbonyl; triethyl phosphine; mesoxalic acid hydrate; beta-chlorolactic acid; 3,3,3-trifluoro-1-propene; 2,5-dimethylfuran; dithiohydroquinone; n-dodecanesulfonic acid; neopentyl alcohol; 3-hydroxymethyl-2,4-pentanediol; tetrachlorohydroquinone diacetate; 2-nitro-4,5-dimethylaniline; 3-pyridinesulfonamide; glycidic acid; nathphalene-2,1-diazo-oxide; 9-decenoic acid; dimethyl diglycollate; disodium methylarsinate; stachyose; 3-hydroxykynurenine.

Continuous cores of more than 5700 feet of unmetamorphosed sedimentary strata from the George Vasen Fee Well No. 1, Stone County, Miss., the world's third deepest boring, are described in a recent Geological Survey circular. The Vasen test is situated less than 50 miles north of the Gulf of Mexico on the regional subsurface structure commonly called the Wiggins anticline. The test was started in 1946, and in 1951 drilling operations at the well were terminated in rock-salt at the total depth of 20,450 feet. The information obtained from the cores in the test well helps to clarify questions about the stratigraphy of the Jurassic rocks of the Gulf Coastal Plain and will aid future oil prospecting in the southern States. Copies of the report, which is published as Circular 298, "**The cored section in George Vasen's Fee Well No. 1, Stone County, Mississippi,**" by Paul L. Applin and Esther R. Applin, may be obtained without charge upon application to the Chief of Distribution, Geological Survey, Washington 25, D.C.

The Mellon Institute of Industrial Research has announced the availability, free, of Bibliographic Bulletin No. 7 entitled ***Zein: An Annotated Bibliography, 1891–1953,*** by Dorothy M. Rathmann. Requests for this publication should be addressed to the Mellon Institute, 4400 Fifth Ave., Pittsburgh 13, Pa.