

the Carnegie Institution of Washington since 1939. In 1942 he was appointed chairman of the joint committee on new weapons and equipment of the joint U. S. chiefs of staff, and is a member and former chairman of the National Advisory Committee for Aeronautics.

Dr. Bush is known for his development of mathematical analyzing instruments for solving complex equations in science and engineering. The most notable of these is the differential analyzer, which greatly increases the range of engineering calculations in the field of differential equations.

SCIENTIFIC NOTES AND NEWS

At the December convocation of the University of Pennsylvania, the doctorate of laws was conferred on Dr. Edwin G. Conklin, professor emeritus of biology at Princeton University and president of the American Philosophical Society. The doctorate of science was conferred on Brigadier General James S. Simmons, chief of the division of preventive medicine of the Office of the Surgeon General.

DR. LUDVIG HEKTOEN, executive director of the National Advisory Cancer Council and chairman of the Chicago Cancer Committee since its organization in 1941, has been reelected chairman.

THE council of the British Institution of Naval Architects has conferred honorary membership on Thomas Henry Havelock, F.R.S., professor of mathematics and head of the department at King's College, Newcastle, in recognition of his work on hydrodynamics and its application to ship wave resistance.

THE United Press reports that Professor Lennart von Post, the Swedish geologist, has returned an honorary doctor's degree awarded to him two years ago by the University of Königsberg as a gesture of protest against Nazi tactics in Norway.

DR. EMMA PERRY CARR, head of the department of chemistry at Mount Holyoke College, has been appointed to a visiting professorship at the Institute of Chemistry of the University of Mexico during the months of January and February. The invitation to collaborate with leading Mexican chemists on a research project was extended through the Cultural Relations Division of the State Department.

DR. C. E. CLARK, assistant professor of mathematics at the Bradley Polytechnic Institute, has been appointed to an associate professorship at Emory University.

DR. SIDNEY W. FOX, research chemist with the F. E. Booth Company, Albany, Calif., has become assistant professor of chemistry and chemist in the sub-section of plant chemistry of the Iowa Agricultural Experiment Station.

DR. CHARLES M. BREDER, director of the New York Aquarium, until its closure and its transference to the New York Zoological Park on October 4, 1941,

has been appointed curator of the department of fishes of the American Museum of Natural History. Since 1926 he has served as research associate in ichthyology at the museum. Dr. Breder served the New York Aquarium and the New York Zoological Society for twenty-two years, having been made director of the aquarium in 1937. Christopher W. Coates, a member of the staff of the aquarium, has been appointed curator of fishes at the Zoological Park. Dr. Myron Gordon, also a member of the staff of the aquarium, has been made assistant curator.

Chemical and Engineering News reports that Dr. John D. Clark, head of the department of chemistry of the University of New Mexico, has leave of absence to become associated with the Institute of Chemistry of the National University of Mexico, Tacuba. He will direct research, teach and conduct a seminar at the Benjamin Franklin Library and will be an employee of the Department of State.

C. L. WARWICK, secretary-treasurer of the American Society for Testing Materials, has resigned as chief of the Materials Branch of the War Production Board in order to give more time to the work of the society. He plans, however, to devote half his time as consultant to the conservation division of the board. He will continue as administrator of the National Emergency Steel Specifications Project, and he will be chairman for the division of the advisory committee on conservation in construction.

DR. H. L. COCHRAN, from 1935 to 1943 associate horticulturist in charge at the Georgia Agricultural Experiment Station, has been appointed horticulturist in charge of the production of raw products for Pomona Products Company of Griffin, Ga. He will be responsible for research on canning crops.

DR. SIDNEY WEINHOUSE, of the University of Chicago, has become associated with the Houdry Laboratories of the Catalytic Development Corporation of Marcus Hook, Pa.

DR. W. H. STARK, superintendent of the Butyl Alcohol Plant of Asociación Azucarera Cooperativa Lafayette, Arroyo, Puerto Rico, has resigned to become director of research with Joseph E. Seagram and

Sons, Inc., Louisville, Ky. He expects to take up his new work by January 1.

DR. GEORGE L. KREEZER, assistant professor at Cornell University, has received leave of absence to join the staff of the radiation laboratory of the Massachusetts Institute of Technology.

DR. HELGI JOHNSON, associate professor of geology at Rutgers University, recently returned from Newfoundland, where he carried on strategic mineral and geological surveys for the Government of Newfoundland in an attempt to alleviate the shortage of important war materials.

DR. WILLIAM McDOWELL HAMMON, assistant professor of epidemiology at the School of Medicine of the University of California, chairman of the curriculum for tropical medicine, has returned to the university from a leave of absence spent in studying tropical medicine in Costa Rica, Panama and Guatemala.

FOUR members of the department of geology of the University of California at Los Angeles have leave of absence to assist the U. S. Geological Survey in its search for strategic minerals needed for the war effort. Professor James Gilluly is engaged in an investigation of copper resources; Dr. M. N. Bramlette is helping in the oil exploration program, and Dr. Cordell Durrell is conducting a search for optical quartz and calcite. Dr. Wm. C. Putnam is attached to the Washington offices of the survey. In addition fifteen graduates of the department are participating in the work. Headquarters have been set up at the university for work on the oil problems of California under the direction of Dr. W. P. Woodring, geologist of the survey.

ACCORDING to the *Alumni Bulletin* of Harvard University, a medical expedition organized by the department of tropical medicine of the Harvard Medical School and the School of Public Health, in collaboration with the American Foundation for Tropical Medicine, has flown to Liberia to study the spread and control of African sleeping sickness. The expedition will remain in the field for at least six months to make a study of the tsetse fly. Dr. Joseph C. Bequaert, assistant professor of comparative pathology and tropical medicine and associate curator of insects at the Museum of Comparative Zoology, will study the fly. Dr. David Weinman, instructor in comparative pathology and tropical medicine, will investigate the trypanosome, causative agent of the disease, and will attempt to develop new methods of diagnosis and control. Dr. Everett P. Veatch, of Pasadena, Texas, medical officer on the Firestone rubber plantations, will concern himself with the treatment of the disease

by accepted therapeutic procedures and will cooperate in assaying new chemotherapeutic agents.

DURING October and November Dr. H. S. Jennings, emeritus professor of zoology of the Johns Hopkins University, gave at Indiana University the Patton Foundation lectures. His subject was "Problems of Life, Age and Death in One-Cell Animals."

THE eighth Charles Franklin Craig Lecture of the American Society of Tropical Medicine was delivered at the meeting of the society in Cincinnati on November 16 by Colonel Geo. R. Callender, M. C., director of the Army Medical School. The lecture was entitled "The Diarrheal Diseases."

DR. EDWIN G. CONKLIN, professor emeritus of biology of Princeton University, will make an address entitled "Ends as Well as Means in Life and Evolution" at a joint meeting of the Section of Biology and the Section of Psychology of the New York Academy of Sciences, to be held on January 17 at 8 o'clock P.M. at the American Museum of Natural History.

DR. ESTHER ROSENCRANTZ, associate professor emeritus of the University of California, on November 18 gave an address on "Sir William Osler" before a combined meeting of the Los Angeles County Medical Association and the Barlow Society for the History of Medicine. Many rare items from the Osler collection in the Crummer Library, combined with items from the Los Angeles Medical Library, made a large and interesting Osler collection, which was exhibited at the meeting. Dr. George Dock, who was one of Dr. Osler's colleagues during the Pennsylvania period, gave an account of a journey that he had made with Dr. Osler in search of rare books.

DR. HERBERT C. CLARK, director of the Gorgas Memorial Laboratory in Panama, who was invited by the National Research Council to visit medical schools throughout the United States, recently gave a series of lectures at the School of Medicine of the University of California at San Francisco.

THE University of Rochester will begin a weekly radio series on January 1, entitled "Time for Science." The programs will be given in cooperation with the magazine *Time* and the Stromberg-Carlson Station WHAM, of Rochester, N. Y. They will present "a realistic interpretation of the effects of scientific advances on everyday living." Dr. Gerald Wendt, science editor of *Time*, will direct the broadcasts, which will be on Saturdays from 7:30 to 8 o'clock P.M.

ACCORDING to the *Journal* of the American Medical Association, the board of trustees of the Cleveland Clinic Foundation has given a fund of \$50,000 to the School of Medicine of Western Reserve University,

the income to be devoted to surgical fellowships for accredited postgraduate students chosen by the faculty of the School of Medicine. The fund is named for Drs. Frank E. Bunts, George Crile and William E. Lower, who founded the clinic in 1921.

THE department of pharmacology of the College of Medicine of Wayne University is the recipient of a grant of \$6,000 provided by Frederick Stearns and Company for a two-year study of the pharmacological actions of methyl cellulose.

A RESEARCH fund to finance studies of diseases of the mouth has been established at the College of Dentistry of New York University, of which Dr. Allen T. Newman is dean. The contributors include graduates of dental colleges here and abroad who have taken postgraduate work in periodontia at New York University and who wish to further that branch of dentistry. Dr. S. M. Robbins, of Cleveland, is chairman of the fund committee. The research will be under the direction of Professor Samuel Charles Miller. Studies of the efficacy of various dentifrices, causes of mouth diseases and an inquiry into the incidence of trench mouth will be undertaken.

Chemical and Engineering News reports that officials of the War Production Board have indicated that production of penicillin will be multiplied fifty-five times by March 1, and that the price will again be substantially lowered. Nineteen companies are now in production, but relatively little of the full capacity will be available until early in 1944. The volume of production is still a secret, but ultimately authorizations granted by WPB will result in quantities ranging from 400,000,000 units per month from some smaller laboratories to 20,000,000,000 from large chemical producers.

THE Atlas Powder Company has established a central research laboratory near Wilmington, Del., for expansion of research work for the war programs. Dr. R. S. Rose, Jr., director of the Atlas laboratory at Reynolds, Pa., will be placed at the head of the new central laboratory, the first unit of which is nearing completion. The new laboratory will be devoted chiefly to the development of organic compounds for industrial uses.

THE United States Steel Corporation has announced that its subsidiary, the Oliver Iron Mining Company, plans to establish an iron-ore research laboratory at Duluth, Minn., to enable it to continue its work on the improvement of the Lake Superior district iron ores.

A TELEPHONE message sent from Stockholm to *The New York Times* on December 11 reports that the Germans in Denmark have confiscated the Institute for Theoretical Research in Physics, the center for atomic research which was directed by Professor Niels Bohr until his recent escape to Great Britain. Dr. Boegbild and Herr Olsen, his chief assistant, who with their families live at the institute, were arrested and taken to a prison in Copenhagen. After the confiscation the dean of the University of Copenhagen was ordered to sign a letter agreeing to the requisition.

A UNITED PRESS dispatch states that the Uruguayan Government has accepted a \$500,000 gift from the U. S. Office of Coordination of Inter-American Affairs to be devoted to sanitation work and health measures. Similar gifts have been made to other Latin-American countries out of a special fund in the coordinator's office that is disbursed not as a loan but as an outright gift.

DISCUSSION

GIGANTIC DRYING CRACKS IN ANIMAS VALLEY, NEW MEXICO¹

SOME years ago there was brought to my attention a strange-looking polygonal pattern resembling drying cracks that appeared on aerial photographs of the playa of Animas Valley in southwestern New Mexico. Estimates made from the photographs of the probable size of the polygons gave such surprisingly large results as to raise doubt that they could be drying cracks. The writer requested the Army Air Force to photograph the area to provide additional material for study. This they did most effectively and kindly furnished an abundant series of vertical and oblique pictures. It was evident from these pictures that the

pattern was not transient and it was inferred that the dark boundaries surrounding the light-colored polygons must be some very substantial feature upon the surface of the playa.

Subsequently the writer made three brief, but in time, widely spaced (1937-1941) examinations of the surface of the playa where the pictures indicated well-developed patterns. The first attempt proved disappointing and the investigation was partly hampered by a sheet of water from recent rains which then covered the playa. Nothing remotely resembling the striking pattern seen on the aerial photographs could be found on the playa at that time. The second visit proved more fruitful. By precisely locating a position on the ground with reference to its counterpart on the picture a faint trace was discovered which when

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