

Philippines, wrote on October 2 to Professor James E. Ackert, professor of zoology at Kansas State College, as follows:

I have not been able to write to you since I last visited you in July, 1941. During more than three long years of continuous nightmare while the Japs had this country in their murderous grip I remained in the laboratory conducting my researches. The other parasitologists here did the same and we were not bothered most of the time.

During the battle for the liberation of Manila, Dr. Candido M. Africa was one of those massacred by the Japs. All our libraries and museums here were completely burnt. I lost all my records of the three years of laboratory work and my collection of reprints, mono-

graphs, bulletins and circulars from abroad from fires in my home and office.

We are now starting all over again in the University of the Philippines and in the research laboratories of the Department of Agriculture. The laboratory equipment and supplies were all lost from fires. Whatever instruments and supplies we are now using are loaned to us by the U. S. Army laboratory units. However, rehabilitation materials are forthcoming and we will be able to rebuild and put up again our laboratories.

Kindly send me reprints which can be spared for our reference use here. We are now about four years behind in parasitology literature.

Dr. de Jesús' present address is in care of the Bureau of Animal Industry, Pandacan, Manila, P. I.

## SCIENTIFIC NOTES AND NEWS

DR. PAUL J. FLORY, of the Goodyear Tire and Rubber Company, has been awarded by the Ohio State University the Joseph Sullivant Medal in recognition of his work in the field of high polymers. The medal is given once in every five years to a graduate of the university or to a faculty member.

IN honor of the sixtieth birthday of Dr. Niels Bohr thirty-five Danish firms have established an endowment fund of \$175,000.

MAJOR HAROLD MACY, professor of dairy bacteriology at the University of Minnesota, has been named Chevalier of the Legion of Honor by the Government of France with the following citation: "An eminent bacteriologist, who during the course of the war, never ceased to show in a most affectionate manner his friendship for France. Prior to June, 1944, in London, he was entrusted with the duties of head of the Medical Mission for Civil Affairs at SHAEF, and in collaboration with French officers, he contributed an effort the results of which were felt as soon as the landing took place. In London, then in Paris, he maintained keen interest in the assistance which was being given to France, and on several occasions through his own personal intervention brought about considerable help from the Allied and American Armies to the French civilian population."

THE Baly Medal of the Royal College of Physicians, London, has been awarded to Professor Aug. Krogh, of the Zoophysiological Laboratory at Copenhagen. Dr. Krogh was awarded the Nobel prize in physiology and medicine in 1920.

PROFESSOR LEONARD BAIRSTOW, F.R.S., Zaharoff professor of aviation at the University of London, has been awarded the gold medal of the Royal Aeronautical Society and honorary fellowship in the society in recognition of his long service to aeronautics.

DR. JOSEPH H. MOORE, director of the Lick Observatory, Mt. Hamilton, of the University of California, will retire from administrative work on December 1. He will devote full time to his work as astronomer.

DR. GEORGE GAYLORD SIMPSON, curator of fossil mammals and birds in the American Museum of Natural History, and Dr. Edwin H. Colbert, curator of fossil reptiles, amphibians and fishes, have been appointed, respectively, professor of vertebrate paleontology in the department of zoology of Columbia University and professor of vertebrate paleontology in the department of geology.

DR. ELMO N. STEVENSON, who has been professor of science education at Oregon State College since 1940, has resigned to accept the presidency of the Southern Oregon College of Education at Ashland, dividing his time between the school of science and the school of education.

DR. SIDNEY H. CAMERON, associate professor of subtropical horticulture and associate plant physiologist in the Agricultural Experiment Station of the University of California, has been appointed head of the division of horticulture of the College of Agriculture.

DR. HOBART M. SMITH, formerly of the Laboratory of Biology of the University of Rochester, during the absence of Professor Edward H. Taylor, has been appointed for the autumn semester assistant professor in zoology and assistant curator in herpetology in the Museum of Natural History of the University of Kansas.

CLYDE W. TOMBAUGH, a member of Lowell Observatory and of the Arizona State College at Flagstaff, has been appointed visiting assistant professor of astronomy at the University of California at Los Angeles for the term beginning October 26.

DR. W. D. WILKINSON, associate professor of geology, has resumed his work at Oregon State College following his recent discharge from the Army. Holding the rank of captain, he was the chief of libraries of the Army Map Service, Corps of Engineers, following a tour of foreign duty in the Galapagos Islands and Panama.

DR. HORACE WINCHELL has been appointed instructor in mineralogy in the department of geology of Yale University.

DR. MORGAN HARRIS has been appointed instructor in zoology at the University of California at Berkeley.

THE retirement is announced of Dr. Lyman J. Briggs, director of the National Bureau of Standards. Dr. Edward U. Condon, of the Westinghouse Research Laboratories, has been nominated to succeed him.

ARTHUR WILFRED ASHBY has been appointed director of the British Institute for Research in Agricultural Economics of the University of Oxford. The appointment is for seven years from January 1, 1946.

AT the University of London, J. Z. Young, F.R.S., has been appointed to the university chair of anatomy tenable at University College, Oxford. He is a fellow of Magdalen College, Oxford, university demonstrator in zoology, and since 1940 has been a member of the Nerve Injuries Committee of the Medical Research Council. Professor F. G. Young, professor at St. Thomas's Hospital Medical School, has been appointed to the university chair of biochemistry tenable at University College.

DR. HERBERT F. PRYATHERCH, marine biologist, in charge of the U. S. Fishery Laboratory at Beaufort, N. C., has completed his war assignment as coordinator of Fisheries for the Chesapeake Bay-North Carolina region. As confidential observer for the U. S. Navy he has been awarded a special certificate from the Eastern Sea Frontier "in recognition of his patriotic services." Facilities for marine research are again available at the Beaufort Laboratory for investigators and graduate students from outside institutions.

M./SGT. ARNOLD C. MASON, specialist in ground-water, associate geologist of the Illinois Geological Survey, on military leave, in charge of water supply in an engineer combat group, has been transferred to teach at the Delta Base Education Center, Marseille.

DR. CONRAD B. LINK, assistant professor of horticulture at Pennsylvania State College, has been appointed horticulturist at the Brooklyn Botanic Garden.

DR. ERMA A. SMITH, associate professor of physiology at the Iowa State College, has become physician

in the Health Service at Michigan State College, East Lansing. She took up her work there on October 8.

DR. E. CLIFFORD WILLIAMS, vice-president and director of research of the Shell Development Company, General Mills, Inc., and General Aniline and Film Corporation, a director of the United States Industrial Alcohol Company, has been appointed vice-president in charge of research of the Schenley Distillers Corporation. He will assume the responsibility of coordinating and directing all the scientific research and development activities of the company. Dr. A. J. Liebmann, who has been president of the Schenley Research Institute, will devote his time to research within the new organization.

DR. WILLIAM E. HANFORD, head of the central research laboratory of the General Aniline and Film Corporation at Easton, Pa., has been appointed director of research.

MAJOR GEORGE W. HUNTER, III, SN.C., has returned to duty at the Army Medical School, Washington, D. C., from the Philippines and Borneo. While there he served as executive officer of the Commission on Schistosomiasis of the Army Epidemiological Board.

GEORGE T. MOTOCK, metallurgical engineer with the Metalloy Corporation, Minneapolis, has returned from a three months' stay in Europe where he served as scientific consultant, investigating technical developments in German industry for the War Department.

THE Royal Geographical Society has appointed Lieutenant-Colonel L. P. Kirwan secretary of the society, in succession to the late A. R. Hinks, F.R.S. Before the war he was engaged on archeological and anthropological work, much of it in the field in Egypt, the Sudan, Arabia and England.

PROFESSOR G. I. FINCH, F.R.S., left England by air on October 10 to carry the greetings of the Royal Society on behalf of the men of science of Great Britain to their colleagues in Belgium and Holland. The purpose of his visit is to renew and re-establish scientific contacts and to see what help can be given by British science towards the rehabilitation of science and scientific education in these two countries. In Belgium Professor Finch will be the guest of the Académie Royale des Sciences, des Lettres et des Beaux-Arts in Brussels, and in Holland he will be the guest of the Koninklijke Akademie van Wetenschappen.

AT a meeting of the Kappa Chapter of Sigma Xi at Columbia University on October 31 a lecture entitled "Recent Advances in Radar," illustrated by motion pictures, was given by Dr. L. A. Dubridge,

director of the Radiation Laboratory of the National Research Committee. Dr. I. I. Rabi, of the department of physics, officiated as chairman.

DR. WILLIAM H. ADOLPH, acting professor of biochemistry and nutrition at Cornell University, addressed on October 17 the University of Cincinnati Section of the Society of the Sigma Xi. He spoke on "Chemistry in China."

DR. ALFRED BLALOCK, professor of surgery and director of surgery at the Johns Hopkins University and surgeon-in-chief, the Johns Hopkins Hospital, will deliver the second Harvey Society Lecture of the current series at the New York Academy of Medicine on November 15. The title of the lecture will be "Physiopathology and Surgical Treatment of Congenital Cardiovascular Defects."

A SERIES of three lectures will be given by Dr. Torbjörn Oskar Caspersson, director of the department for cell research of the Medical Nobel Institute, Stockholm, under the Edward K. Dunham Lecture-ship for the promotion of the medical sciences at the Harvard Medical School, on November 13, 14 and 16. The title of the series is "Cytochemical Studies of Nucleic Acid and Protein Metabolism."

THE first meeting of the Society for the Study of Blood was held at the New York Academy of Medicine on the evening of November 8. The scientific program included papers by Dr. John T. Edsall, associate professor of biological chemistry, and by Dr. Louis K. Diamond, assistant professor of pediatrics, both of the Harvard Medical School; by Dr. Randolph West, associate professor of medicine, and by Dr. Erwin Chargaff, assistant professor of biochemistry, both of the College of Physicians and Surgeons, Columbia University.

THE American Fern Society has received as a bequest from Miss Amey Lillibridge, of Providence, R. I., the sum of \$1,000 in addition to her library and herbarium of ferns.

THE fifty-second annual meeting and twenty-seventh colloquium of the American Mathematical Society will be held at the Museum of Science and Industry, Chicago, on Friday and Saturday, November 23 and 24, in conjunction with meetings of the Mathematical Association of America. The sessions

of the society will begin on Friday at 9:30 and will continue through Saturday afternoon. The sessions of the association will be held on Saturday evening and Sunday morning. The colloquium will consist of four lectures on "Length and Area" by Professor Tibor Radó, of the Ohio State University, on Friday at 9:30 A.M. and 2 P.M. and on Saturday at 10 A.M. and 2 P.M. The nineteenth Josiah Willard Gibbs Lecture will be delivered by Professor J. C. Slater, of the Massachusetts Institute of Technology, on Friday evening at 7:30 P.M. The title of this address is "Physics and the Wave Equation." The annual business meeting and election of officers will be held on Saturday morning at 9:30 A.M. At 11 A.M., by invitation of the Committee to Select Hour Speakers for Western Sectional Meetings, Professor S. M. Ulam, of the University of Southern California, will deliver an address entitled "On the Stability of Solutions of Functional Equations."

THE centenary of the Imperial College of Science and Technology was celebrated in London in October. The college was constituted by Royal Charter in 1907; it is a federation of the Royal College of Science, the Royal School of Mines and the City and Guilds College. They are related to earlier institutions, the earliest of all being the Royal College of Chemistry, which was founded in 1845.

THE *British Medical Journal* reports that the Government of India established on September 1 a Department of Agriculture, a Department of Health and a Department of Education, in place of the existing single Department of Education, Health and Lands. Sir Sardar Jogendra Singh, minister in charge of the conjoint department in the Viceroy's Executive Council, will for the time being take charge of all three departments.

ERRATUM: In the review by Professor Noble P. Sherwood of Dr. Landsteiner's book entitled "Specificity of Serological Reactions" which appeared in *SCIENCE*, 102: 360-361, 1945, the word "neutralize," from before the word "strychnine" in the last sentence of the first paragraph discussing Chapter 5, was accidentally omitted. The sentence should read, "In connection with this, the author discusses the attempts and failures to produce antibodies to neutralize strychnine and the success achieved in producing antibodies to thyroxine."

## SPECIAL ARTICLES

### A CHEMICAL-MECHANICAL THEORY OF MUSCULAR CONTRACTION<sup>1</sup>

THE obvious problem of muscular contraction is

<sup>1</sup>The Bureau of Medicine and Surgery of the Navy

to determine the mechanism by which the energy developed as adenosine triphosphate in carbohydrate

does not necessarily endorse views or opinions expressed in this paper.