MR. R. BULLEN NEWTON, of the geological department, British Museum (Natural History), has completed fifty years active government service. During the earlier part of his official career, which commenced on January 6, 1868, Mr. Newton was one of the assistant naturalists of the Geological Survey under the late Professor Huxley. He was transferred to the British Museum in August, 1880, at the time of the removal of the Natural History Collections to Cromwell Road.

PROFESSOR C. H. LEES has been elected president of the Physical Society of London. The Vice-presidents are Professor J. W. Nicholson, Professor O. W. Richards, Dr. S. W. J. Smith and Dr. E. W. Sumpner.

PROFESSOR TUFFIER, of Paris, has been promoted to the rank of commander of the Legion of Honor in recognition of his eminent services as consulting surgeon to the French armies.

MAJOR J. G. FITZGERALD, associate professor of hygiene and director of the Connaught and Antitoxin Laboratories in the University of Toronto, has left for active service overseas in the Royal Army Medical Corps, having been transferred from the Canadian Army Medical Corps.

DR. WILLIAM P. WOOD, assistant professor of chemical engineering at the University of Michigan, has resigned, to join the Signal Corps of the Army.

CAPTAIN LAWRENCE MARTIN, National Army, ordinarily associate professor of physiography and geography at the University of Wisconsin, is on duty in the Military Intelligence Section, War College Division, Office of the Chief of Staff, War Department, Washington, D. C. He has charge of the map room at the War College and of the maps in the offices of the War Council and of the Chief of Staff, and does geographical work for the General Staff in the combat branch of the Intelligence Service.

ACCORDING to the *Journal* of the American Medical Association Dr. Edgar M. Green, of Easton, Pa., a member of the advisory board of the state health department, is mentioned as the probable successor of the late Dr. Samuel G. Dixon, health commissioner of Pennsylvania.

F. B. HOWE, M.S. (Iowa State College '16), has accepted a position as land classifier with the U. S. Geological Survey.

ON the evening of February 20, Dr. Edmund Otis Hovey, curator of geology in the American Museum of Natural History, gave a lecture at Mount Holyoke College on the subject, "Two years' experience in the Arctic with the Crocker Land Expedition."

PROFESSOR H. C. SHERMAN, of Columbia University, spoke to the Virginia Section of the American Chemical Society at Richmond, on March 15, and at the Randolph-Macon Woman's College, Lynchburg, on March 16, on "The food situation from the viewpoint of nutrition."

THE fourth Guthrie Lecture of the Physical Society of London was delivered on March 22, at the Imperial College of Science, South Kensington, by Professor J. C. McLennan, of the University of Toronto. The subject was "The origin of spectra."

THE *Journal* of the American Medical Association states that the attention of the Surgeon-General of the United States Public Health Service has been called to the fact that men from the military service who are carriers of various infectious diseases, particularly meningitis, have been discharged into the civil communities of the country. Dr. Oscar Dowling, president of the Louisiana State Board of Health, has made a particularly strong protest against this action by the government authorities, calling attention to specific instances in which meningococcus carriers have been discharged from the service.

UNIVERSITY AND EDUCATIONAL NEWS

A FELLOWSHIP in physiological chemistry has been established at the University of Chicago by the Fleischmann Company, of Peekskill-on-Hudson, New York, for the purpose of in-

vestigating some of the scientific questions which have arisen in the course of the manufacture of compressed yeast under present war conditions. The university has appointed the first fellow on this foundation, who is now engaged in research upon the problems.

DR. WILLIAM M. JARDINE has been appointed president of the Kansas State Agricultural College and entered upon his duties on March 1. Dr. Jardine had been connected with the college for about eight years, first as professor of agronomy and for five years as dean of the division of agriculture and director of the Agricultural Experiment Station.

DR. F. E. DENNY, of the University of Chicago, has been appointed research assistant in horticulture in the Oregon Agricultural College, to fill the vacancy left by the resignation of Mr. Magness, the appointment to take effect on April 1.

DR. HELEN M. GILKEY, of the University of California, has been appointed assistant professor of botany and curator of the herbarium in the Oregon Agricultural College, to succeed the late H. S. Hammon.

DR. ETHEL M. TERRY, of the department of chemistry of the University of Chicago, has been appointed to an assistant professorship.

DR. FRED W. UPSON, for the past four years professor of agricultural chemistry in the Nebraska College of Agriculture, will, on June 1, become head of the department of chemistry in the University of Nebraska. A chemical laboratory which is modern in every respect, will be ready for occupancy at that time.

DISCUSSION AND CORRESPONDENCE

AN APPARENTLY NEW PRINCIPLE IN THE FLOW OF HEAT

SUPPOSE a number of horizontal metallic strips are maintained at constant temperatures, the first one at a low temperature, the next at successively higher temperatures, the last one being at the maximum temperature of a Bunsen flame, say a white heat. Let them all be of the same metal and have like surfaces.

Now suppose the same Bunsen flame be applied under like conditions to each strip. According to text-books and the laws of the transference of heat as usually taught, one would be led to believe that the coldest one should absorb the heat from the flame most rapidly, the next one less rapidly, and so on. Tests made by the writer, however, show this to be an error and that up to a certain high temperature exactly the reverse is the case; the coldest one will absorb the least amount of heat from the flame, the next hotter one will absorb more and so on up to a temperature at which the rate of absorption will be a maximum, after which it diminishes again, becoming zero for the one whose temperature is equal to that of the flame.

As stated in the premises, the heat which enters the metal from the flame is supposed to be conducted away as fast as it enters, and it is this heat which is measured. This could be carried out by using flat-bottomed iron cups or crucibles containing various materials having successively higher but fixed boiling points, say like liquid air, water, sulphur, zinc, etc.

When a very hot gas, like that in a flame, impinges on a relatively very cold surface from which the heat is led off as fast as it enters, like in the boiling of water by flame heat, a peculiar phenomenon takes place in that the equivalent of a very thin film of extremely high thermal resistance is formed on the surface exposed to the flame. Considered as a thermal resistance, the writer finds that for a constant temperature flame its resistance decreases rapidly as the temperature of the absorbing surface increases, contrary to what would have been supposed. The transmission of heat therefore increases as the absorbing surface becomes hotter and reaches a maximum which appears to be roughly when the drop of temperature from the flame to the surface is equal to that from this surface to the constant temperature boiling liquid; the transmission then must fall again, becoming zero when the temperature of the boiling liquid is equal to that of the flame. This increase of temperature of the surface (to about a red heat when water is being boiled) can be brought about by inserting a properly pro-