

enlarged. A number of chemists were early given commissions in the army for scientific work, and after the employment of poisonous gases by the enemy men with training in chemistry were enlisted for service in the field. With the assistance of the universities and technical colleges, and various bodies interested in chemistry, an entirely new force was brought into existence; the officers were mainly selected from chemists who already held commissions, whilst non-commissioned officers with knowledge of chemistry were transferred from other units. Both Lord French and Sir Douglas Haig had in their dispatches spoken highly of the work done by this force, which was obtained entirely by voluntary enlistment. The majority of the university graduates and men possessing recognized diplomas who originally enlisted as corporals subsequently received commissions, and when the force was more completely organized a considerable number were transferred to the ministry of munitions. During the campaign against the rebels in South Africa and the Germans in Southwest Africa chemists were attached, by direction of General Botha, to the different brigades, and rendered valuable service. The experience gained in the campaign proves, the registrar thinks, that it is advisable that the state should have control of an organization of professional chemists which would at any time ensure their efficient service to meet the many requirements of the naval, military and air forces. Chemists were required to control the manufacture of munitions, explosives, metals, leather, rubber, oils, gases, food and drugs; for the analysis of all such materials and for research; on active service chemists were required to assist in the control of water supplies, in the detection of poison in streams, in the analysis of water and food, and in the disposal of sewage, and both at home and on active service to assist in devising safeguards against enemy contrivances of a scientific nature, in devising methods of offense, and to instruct the troops in such matters. In summing up the matter, it is said that chemists have met the situation with a spirit of

true patriotism and have been promptly organized for the service required of them. It is not too much to hope that, as the discoveries of science have been applied to the destruction of humanity, they may be devoted more and more to the furtherance of the arts of peace, to the uplifting of civilization, and the pacification of the world.

SCIENTIFIC NOTES AND NEWS

THE spring meeting of the Council of the American Association for the Advancement of Science will be held in Rooms 39-41, new building of the U. S. National Museum, Washington, D. C., on the afternoon of Tuesday, April 17, 1917, at 4:45 o'clock.

THE afternoon session of the National Academy of Sciences on April 17 will be devoted to the work of the National Research Council. Reports will be presented by George E. Hale, chairman, National Research Council; Charles D. Walcott, chairman, Military Committee; R. A. Millikan, chairman, Physics Committee; Marston T. Bogert, chairman, Chemistry Committee, and Victor C. Vaughan, chairman, Committee on Medicine and Hygiene.

THE evening lecture before the American Philosophical Society will be given in the hall of the Historical Society of Pennsylvania on April 13, by Dr. George E. Hale, his subject being "The Work of the Mount Wilson Observatory."

It is reported that the Rockefeller Institute for Medical Research has appropriated \$200,000 for the establishment of a hospital to be used for the instruction of surgeons in the Carrel-Dakin treatment of the wounded. It is expected that Dr. Alexis Carrel will be granted a leave of absence from France to return to New York and assume supervision of the work.

A COMMITTEE to perfect an organization for an effective mobilization of the medical resources of Massachusetts to aid in obtaining officers for the army and naval medical corps, and to arrange suitable instruction in medical military preparedness, has been formed and is called the Auxiliary Medical Committee for National Defense. Dr. R. P. Strong, professor of tropical medicine in the Harvard Medical School, has been chosen as permanent

chairman of the committee, and Dr. John Warren as temporary secretary.

THE University of Pittsburgh has formed a Research Committee to cooperate with the National Research Council. Dr. George H. Clapp, president of the board of trustees, is chairman of this committee, and the other members are Messrs. Bacon, Brashear, Griffen, Guthrie, Holland, Lincoln, Schlesinger and Thorpe.

DR. CHARLES DOOLITTLE WALCOTT, secretary of the Smithsonian Institution, has been elected a corresponding member in the class of physical sciences of the Royal Academy of Sciences of Bologna, Italy.

DR. A. BELOPOLSKY, astrophysicist at the National Observatory at Pulkowa, Russia, has been promoted to the directorship in succession to the late Dr. Backlund.

DR. JOHN STANLEY PLASKETT, formerly in charge of the department of astrophysics in the Dominion Observatory at Ottawa, has been appointed director of the Dominion Astrophysical Observatory, which is being established at Victoria. The principal instrument of the observatory is a 72-inch reflecting telescope, the mounting for which is in place, and the mirror is nearing completion at the shops of the Brashear Company.

GENERAL GEORGE W. GOETHALS has notified Governor Edge, of New Jersey, that he will accept the position of state engineer, which was created under a special act during the present session of the legislature. General Goethals will have supervision over the projected system of highways, which will cost about \$15,000,000.

MR. EZRA LEVIN has been appointed muck crop specialist for the Michigan Agricultural College with field headquarters at Kalamazoo, Michigan. He will spend half of his time in extension work and the other half in research in the Michigan Agricultural Experiment Station.

MR. RAY NELSON, formerly assistant in the Michigan Agricultural College Experiment Station, has been appointed plant pathologist for the Illinois Central Railroad.

THE Sarah Berliner Fellowship for Scientific Research has been awarded to Dr. Marjorie O'Connell, of Columbia University and the American Museum of Natural History. Miss O'Connell has just completed and published a memoir on the "*Habitat of the Eurypterida*," and she will continue her investigations on the conditions of existence of extinct invertebrates, using the evidence furnished by their fossilized remains and by the characters of the strata which contain them.

THE locality at Vero, Florida, from which fossil human remains have been obtained was visited in the latter part of March by Professor E. W. Berry, Dr. R. T. Chamberlin, Dr. E. H. Sellards and Mr. H. Gunter. The objects of the visit were to observe more closely the conditions under which the vertebrate fossils of the deposit are found and to add to the collection of fossil plants. The results will be subsequently published.

A PARTY of ten students from the University of Illinois will utilize the Easter vacation in making a field study of the geologic features along the Ohio River in southern Illinois, under the leadership of Mr. Eliot Blackwelder. A second party under the guidance of Mr. W. S. Bayley will visit the eastern portion of the Ozark Mountains in Missouri, for special field work in economic geology.

DR. OTTO FOLIN, of Harvard University, will deliver on May 18 the third Mellon Lecture of the Society for Biological Research of the University of Pittsburgh Medical School. The subject of this lecture will be "Recent Biological Investigations on Blood and Urine, their Bearing on Clinical and Experimental Medicine."

At the annual meeting of the Michigan Academy of Sciences, Professor William H. Hobbs gave, on March 28, the presidential address on "The Making of Scientific Theories." This address will be printed in SCIENCE. On the evening of March 29 Professor R. W. Wood, of the Johns Hopkins University, gave a lecture on "Photographing the Invisible." On March 30 Professor George Sarton, of Har-

vard University, gave a lecture on Leonardo da Vinci.

PROFESSOR EDWARD B. TITCHENER, head of the department of psychology at Cornell University, recently gave a lecture at Princeton University on "The Association of Ideas."

PROFESSOR ELLWOOD B. SPEAR, of the Massachusetts Institute of Technology, recently delivered lectures on the chemistry of colloids before the Chemical Society of Northeastern College and the New England Chemistry Teachers Association. He also conducted a symposium on colloids at a meeting of the Northeastern Section of the American Chemical Society.

THE Association for the Protection of the Adirondacks held its annual business meeting in the galleries of the National Arts Club, New York City, on April 11, 1917, when the Hon. George D. Pratt, state conservation commissioner, delivered an address on "The State Forest Preserve," illustrated with stereopticon views and moving pictures.

SIR ERNEST H. SHACKLETON is returning to England by way of the United States and will lecture in several cities. On April 23 he will lecture before the Geographic Society of Chicago.

PROFESSOR HENRY B. CORNWALL, of Princeton University, died on April 1, at his home in Princeton. He was born at Southport, Conn., in 1844 and was graduated from Columbia University in 1864. Mr. Cornwall was professor of applied chemistry and mineralogy at Princeton University from 1873 to 1910, when he became emeritus professor.

PROFESSOR ORSON BENNETT JOHNSON, well known for his extensive explorations in the natural history of the Pacific Northwest, died at home in Seattle, Washington, on March 9, aged 69 years. His very large collection of insects has been bequeathed to the University of Washington.

THE REV. O. PICKARD-CAMBRIDGE, F.R.S., author of works on arachnology, entomology and general natural history, died on March 9, at the age of eighty-eight years.

A SUM of one million pounds is allotted in the estimates of the British government as a grant in aid to encourage scientific and industrial research in 1917-18. It will be paid to the account of the Imperial Trust, and any balance will not be surrendered at the close of the financial year. Grants will be made by the directions of a committee of the Privy Council over an agreed period. Following an expenditure of £20,000 in the current year, another £15,000 is needed to pay for the relief expedition fitted out by the admiralty to rescue members of the Imperial Transantarctic Expedition from Elephant Island and also in respect of one half of the expenses of the relief expedition sent in conjunction with the governments of Australia and New Zealand to Ross Sea.

DR. GEORGE E. HALE, chairman of the National Defense Council, has sent the following cablegram to the Royal Society, London; the Academie des Sciences, Paris; the Academy of Sciences, Petrograd, and the Accademia dei Lincei, Rome:

The entrance of the United States into the war unites our men of science with yours in a common cause. The National Academy of Sciences, acting through the National Research Council, which has been designated by President Wilson and the Council of National Defense to mobilize the research facilities of the country, would gladly cooperate in any scientific researches still underlying the solution of military or industrial problems.

THE 1917 meeting of the Association of American Geographers will be held at the University of Chicago, on December 27, 28 and 29. The annual meeting of the National Council of Geography Teachers will probably be held at the same time and place.

MR. WARREN KNAUS ('82) has donated to the Entomological Museum of the Kansas State Agricultural College, his valuable collection of Coleoptera. Ever since he was a student in the college, Mr. Knaus has spent practically all his spare time and vacations in collecting and studying Coleoptera. He has made many trips into the arid regions of Mexico, Arizona, Texas and New Mexico to collect insects. These trips have been pro-

ductive of many new species. His collection contains a number of species that are only found in one or two museums in the world, and these were furnished by Mr. Knaus. His collection will be kept as a separate one and will be known as the "Warren Knaus Collection."

THE University of Michigan Biological Station, situated at Douglas Lake, Michigan, will open for the ninth season on July second for a period of eight weeks. Courses in natural history and ecology of animals and plants will be in charge of the following staff:

George R. La Rue, assistant professor of zoology in the University of Michigan, director of the biological station, and assistant professor of zoology.

Reuben Myron Strong, Ph.D., assistant professor of anatomy in Vanderbilt University, professor of zoology.

Max Mapes Ellis, Ph.D., Sc.D., assistant professor of biology in the University of Colorado, assistant professor of zoology.

Frank Caleb Gates, Ph.D., sometime instructor in botany in the University of the Philippines, assistant professor of botany.

John Henry Ehlers, Ph.D., instructor in botany in the University of Michigan, instructor in botany.

Richard Morris Holman, Ph.D., instructor in botany in the University of Michigan, instructor in botany.

Walter Koelz, A.B., assistant in zoology in the University of Michigan, instructor in zoology.

Clyde Bruce Stouffer, M.D., physician to the University of Michigan Health Service, physician to the Biological Station.

The station is open to investigators as well as to students who require direction. Inquiries should be addressed to Dr. George R. La Rue, director of the Biological Station, Ann Arbor, Michigan.

THE Cambridge University Press has issued a collection of essays by Cambridge graduates entitled "Science and the Nation." Chemistry, Physical Research and Metals are discussed by Professors W. J. Pope and W. H. Bragg, and Mr. Rosenhain, of the National Physical Laboratory; Mathematics, by Professor E. W. Hobson; Botany, Forestry and Agriculture, by Mr. F. W. Keeble, director of the Royal Horticultural Gardens, Wisley, Mr. W. Dawson, Professors R. H. Biffen and T. B.

Wood; Geology, by Dr. H. H. Thomas, secretary of the Geological Society of London; Medicine and Diseases, by Professors F. G. Hopkins and G. H. F. Nuttall and Dr. G. S. Graham-Smith; while Mr. W. H. R. Rivers deals with the government of subject peoples from the point of view of the anthropologist. The general object of these essays is to emphasize and illustrate the importance of pure science and of original research as bearing directly on national prosperity.

UNIVERSITY AND EDUCATIONAL NEWS

THE Texas legislature has created a branch of the State Agricultural and Mechanical College to be situated at a point to be determined by a commission in the western part of the state. The legislature has also established two junior colleges to be situated at Stephenville and Arlington under the control of the trustees of the state college. The legislature appropriated two million dollars for the rural schools of the state.

THE University of Oregon Medical School is about to expend \$115,000 for the construction of the first unit of their new laboratory building on Portland Heights. The new site, some twenty acres, was the gift of the Oregon and Washington Railroad and Navigation Co. Its altitude affords a wonderful view of the surrounding mountains and rivers.

DR. SIMON N. PATTEN, professor of political economy at the University of Pennsylvania, has been retired on the ground that he has attained the age of sixty-five years. Dr. Patten in a statement said the notification given him "raises the question of free speech."

MR. F. A. KENNEDY has resigned from the instructing staff of the mining and metallurgy department of the University of Wisconsin to become a consulting engineer.

DR. G. E. BURGET, of the department of physiology of Chicago University, has been appointed professor of physiology in the University of Oregon Medical School.

DR. C. E. FERREE, of Bryn Mawr College, has been promoted to be professor of experimental psychology.