

forestation of cut-over areas, the replacement of timber cuttings by natural growth, the control of insect pests and fungus diseases of forest trees, beneficial modifications of lumbering practise, the preservation of timber in use, the utilization of by-products, and the relation of forestry to rainfall, control of flood waters, grazing, etc.

The importance of the most penetrating study upon the conservation of our remaining forest resources is brought home by the recent announcement of the Forest Service that "three fifths of the original timber of the United States is gone and that we are using timber four times as fast as we are growing it." Our annual consumption of lumber alone is over 300 board feet per capita, and of newsprint is 33 pounds per capita. Cut and burned over forest lands in the United States, now waste territory, equal in area the whole of the present standing forests of Denmark, Germany, Holland, Belgium, France, Switzerland, Spain and Portugal. The total population of these countries is about 152,200,000, nearly 50 per cent. greater than the population of the United States.

OFFICE OF DEVELOPMENT WORK

COMMERCIAL and industrial concerns will be helped to apply new processes and discoveries of chemists in the United States Department of Agriculture by an Office of Development Work just created by the Secretary of Agriculture in the Bureau of Chemistry. The staff of the new service will be made up of engineers rather than chemists. David J. Price, chief engineer in the dust-explosion investigations conducted by the department, will be in charge of the new work.

Dr. Carl L. Alsberg, chief of the Bureau of Chemistry, in a letter to the secretary stated that such a service is urgently needed to translate the work of the bureau into terms that could be understood and applied by the manufacturer and investor. Every year valuable discoveries are made concerning the utilization of manufacturing waste, or a new food is found, or a new dye, glue, or preservative. Without the service of a business office

such as is now provided the value of these discoveries is greatly reduced through the discoverers's inability to present his proposition in terms which the business man can understand, and the public runs the risk of losing a much-needed material. Under the new organization the engineers will look after the product as soon as it has passed beyond an experimental or laboratory stage and will prepare estimates for the convenience of the manufacturers.

Mr. Price and his associates will furnish data upon raw-material supply, cost of production, and the uses to which the product is adapted—in short, they provide an unbiased practical prospectus to show the public exactly what may be expected from the new material or process on a quantity-production scale. It is believed this cooperation will develop many neglected sources of public and private profit.

SCIENTIFIC NOTES AND NEWS

PROFESSOR GEORGE M. STEWART, director of the H. K. Cushing Laboratory of Experimental Medicine of Western Reserve University, had conferred on him the degree of doctor of laws at the recent commencement exercises of the University of Edinburgh.

THE honorary fellowship of the Royal College of Surgeons of England has been conferred on Professor A. Depage, of Brussels; M. Pierre Duval, of Paris; Prof. John M. T. Finney, of The Johns Hopkins University, Baltimore, and Dr. Charles H. Mayo, of Rochester, Minnesota.

THE University of Ottawa has conferred the degree of doctor of literature on Dr. J. C. McWalter, high sheriff of Dublin, and president of the Dublin Branch of the British Medical Association.

BARON GERARD DE GEER, of Stockholm, has arrived in this country to study the geological chronology since the ice age in the United States and Canada. He is accompanied by his wife and Drs. Ernest Antevs, and Ragnar Lidén.

DR. N. L. BRITTON, director of the New York Botanical Garden, accompanied by Mrs. Brit-

ton will visit the botanical institutions of Great Britain, France and Switzerland, particularly in reference to investigations of the flora of northern South America.

DR. FRANKLIN L. HUNT, physicist in the aeronautic instruments section of the Bureau of Standards, who has been detailed to Paris, France, for a period of twelve months, to serve as the bureau's representative in relations with the scientific and aviation authorities of England, France, Italy, Belgium and Holland, is expected to return about the first of October.

DR. DAVID MARINE, associate professor of experimental medicine in Western Reserve University, Cleveland, has been elected director of laboratories in the Montefiore Home and Hospital, New York City.

MR. R. G. UPTON, formerly with the Texas State Board of Health as assistant sanitary engineer, now has charge of inspection and laboratory work for the city of Port Arthur, Texas, where he is chemist and sanitary engineer.

DR. NICHOLAS KOPELOFF has accepted the position of associate in bacteriology at the Psychiatric Institute of the N. Y. State Hospitals, after resigning the position of bacteriologist of the Louisiana Sugar Experiment Station.

CLAUDE WAKELAND, deputy state entomologist of Colorado and in charge of alfalfa weevil investigations from 1917 to 1919, has accepted the position of state extension entomologist with headquarters at Boise.

THE Robert Koch endowment at Berlin has granted Professor Flüge of Berlin 15,000 marks and Professor Selter of Königsberg 6,000 marks to aid in continuing their research on tuberculosis.

DR. R. S. MORRELL has been elected president of the British Oil and Color Chemists' Association in succession to Dr. F. Mollwo Perkin.

MAJOR W. E. SIMNETT has retired from the direction and editorship of the *Technical Review* on his appointment to direct the Intelligence Branch of the British Ministry of Transport.

DR. J. G. LIPMAN, director of the New Jersey Experiment Station, has been appointed consulting editor of *Annales de la Science Agronomique Française et Étrangère*.

HARVEY BASSLER and J. B. Mertie, Jr., on furlough from the U. S. Geological Survey, are engaged in oil geology with Eugene Stebinger in Bolivia.

PROFESSOR C. O. SAUER, of the University of Michigan, is in charge during the month of September of a summer geological camp at Mills Springs, Wayne County, Ky.

DR. STEPHEN TABER, professor of geology at the University of South Carolina, has been giving courses in geology and seismology at Stanford University during the summer quarters.

THE Royal College of Physicians of London has appointed lecturers as follows: Dr. F. Parkes Weber, Mitchell lecturer, 1921; Dr. G. Graham, Goulstonian lecturer, 1921; Dr. T. Lewis, Oliver Sharpey lecturer, 1921; Dr. A. Whitfield, Lumleian lecturer, 1921; Dr. R. O. Moon, FitzPatrick lecturer, 1921; and Dr. G. M. Holmes, Croonian lecturer, 1922.

IN memory of Dr. John B. Murphy, of Chicago, who died in 1916, it is proposed that there be constructed at an estimated cost of five hundred thousand dollars, the John B. Murphy Memorial Hall of the American College of Surgeons on a site in Chicago given by a number of prominent citizens and accepted by the regents in behalf of the college. In this memorial the college will acquire a building architecturally beautiful and much needed for important conferences and convocations and meetings for national and local medical societies. Space will be provided also in which it is proposed to maintain a pantheon of American medicine and surgery.

JOHN PERCY, professor of mathematics at the Finsbury Technical College and later at the Royal College of Science, London, died on August 4 at the age of seventy years.

THE death is announced at the age of eighty-three years of Dr. Armand Gautier, formerly professor of chemistry at the University of

Paris, president of the Academy of Sciences and of Medicine.

DR. O. SCHULTZE, professor of anatomy and physiology in the University of Wurzburg, has died at the age of sixty-one years.

WILLIAM HODGSON ELLIS, former professor of applied chemistry and dean of the faculty of applied science at the University of Toronto, died on August 24, in his seventy-fifth year.

WILLIAM JAMES WILSON, for many years paleobotanist for the Canadian Geological Survey, died at Ottawa, on August 21, aged sixty-nine years.

PROFESSOR H. D. FRARY, assistant professor of steam and gas engineering at the University of Wisconsin with his wife was drowned in August in the Wisconsin river at Kilbourn, while on a camping trip. Professor Frary had been on the university faculty during the past academic year and during the previous two years had been connected with the Forest Products laboratory. He was a graduate of the University of Minnesota and obtained the degree of doctor of philosophy at the University of Illinois in 1918.

THE sixth national exposition of chemical industries will be held in the Grand Central Palace during the week of September 20.

THE British government has provided a sum not exceeding £100,000 as a guarantee against loss resulting from the holding of a British Empire Exhibition in London next year. The grant is conditional on the provision of a further sum of £500,000 by the promoters of the enterprise.

THE Second International Congress of Comparative Pathology will be held in Rome in the spring of 1921 under the presidency of Professor Perroncito.

THE International Surgical Society at its recent general assembly, decided to hold its next international congress at London, July, 1923, under presidency of Professor Macewen of Glasgow.

It is stated in *The Observatory* that the late Mr. T. W. Backhouse has left his astronomical journals and drawings of Jupiter and

Mars to the British Astronomical Association. His trustees are to complete and publish his star maps for tracing meteor paths, and they have £700 left to them to cover the completion and publication of scientific calculations based on observations made by him in astronomy, meteorology, and other branches of science.

THE Academy of Medicine of Buenos Aires has decided to celebrate its first centenary in 1922 with a contest on medicine and allied sciences. Three prizes will be granted for the best papers presented; the first of 5,000 pesos and a gold medal, the second 3,000 pesos and a silver medal and the third 1,000 pesos and a diploma.

A SUM of 500,000 marks has been donated to the University of Heidelberg to found an institute for research on albumins. It is to be in charge of Professor Kossel, and to be affiliated with the Institute for Hygiene.

PROFESSOR J. IJIMA, of the University of Tokyo, has presented fifty Japanese birds to the University of California Museum of Vertebrate Zoology, and Dr. William S. Kew, of the United States Geological Survey, has presented to the department of paleontology a collection of shells.

A REORGANIZATION of the division of entomology at the University of California is announced. The personnel of the division consists of eight members and will hereafter be known as the division of entomology and parasitology with Professor W. B. Herms as newly appointed head. Professor Herms will continue his activities in the field of parasitology, particularly medical entomology and ecology, while Professor C. W. Woodworth will devote his time largely, if not wholly, to research. The new organization of the division embraces three groups with Assistant Professor E. C. Van Dyke as chairman in supervision of activities in general entomology and taxonomy; Assistant Professor Essig, chairman in supervision of agricultural entomology, and Assistant Professor S. B. Freeborn supervising activities in parasitology, particularly in relation to the animal industries. Dr. H. H. Sev-

erin will continue investigating *Eutetix tenella* in relation to sugar beet blight, while Messrs. E. R. de Ong and G. A. Coleman will continue their activities in their respective fields, namely, university farm school and agriculture, respectively.

THE Olympia Agricultural Company, Ltd., is a British syndicate which has purchased agricultural estates aggregating 20,000 acres in the counties of Yorkshire, Northamptonshire, Cambridgeshire, Suffolk, Warwickshire and Wiltshire. The *Experiment Station Record* states that a research department has recently been organized under the direction of Dr. Charles Crowther, professor of agricultural chemistry in the University of Leeds and director of the institute for research in animal nutrition in that university. This department will exercise advisory functions in connection with the large scale farming operations of the company, and for some time its activities will consist mainly of experiments essential to the establishment of a sound basis for this advisory work, but it is announced that its primary object will be to conduct research in various branches of agricultural science and practise for the general welfare of British agriculture.

THE British Forestry Conference at the meeting held recently in London passed a resolution in favor of the formation of an Empire Forestry Association, for the promotion and development of public interest in forestry throughout the empire, and also created an interim committee to consider ways and means. The committee appointed has drawn up proposals for circulation to all parts of the empire, for the establishment of a governing council for the association, and for the formation of an interim executive committee. The committee held that in view of the vast area embraced, the association's activities, apart from occasional conferences, must take a literary form. Its principal medium of communication would probably consist of a journal, issued quarterly. A publication of this kind, dealing with the needs, problems and progress of forestry in all parts of the empire, should, it is felt, be of interest and practical value to foresters, students

of forestry and owners of woodlands, as well as the architects, engineers and traders interested in the distribution and use of timber.

PLANS of the State Forestry Department for extensive reforestation in the woods and on the waste lands of Pennsylvania this year will call for the largest amount of seeds ever used and efforts are being made to secure as much as possible from indigenous trees. This will be the first time this work has been undertaken on such an extensive scale. As this is a year of heavy seed bearing by most of the species of forest trees unusually large quantities of seed will be collected from the various State forests. Any seed not planted in the four state forest tree nurseries next spring will be held over for planting the year following in case it is a lean seed year. While most of the seed to be collected will be used to grow young forest trees for planting on state lands and on private timber lands, some from deciduous trees will produce shade trees for free distribution to cities and boroughs for municipal and educational plantings.

A SECOND edition of the *Index Generalis* of universities, university colleges, libraries, scientific institutes, museums, observatories, learned societies, etc., is being prepared. Particulars are accepted from all nationalities, and should be addressed to Professor R. de Montessus de Ballore, 56, Rue de Vaugirard, Paris (VI*).

THE birth rate for the metropolitan area of Sydney, N. S. W., for 1919 was the lowest on record, being 14 per cent. below the average for the previous five years. The rate is equivalent to 23.05 per 1,000 of population. The decline in the birth rate since 1914 has been 5 per 1,000, but probably not all the decline can be attributed to the war, as the rate, after increasing from 1903 to 1912, declined slightly from 1912 to 1914. Illegitimate children numbered 7.41 per cent. of the total births, equivalent to 1.71 per 100 of population.

It is stated in the *Experiment Station Record* that the government of Argentina has recently offered additional scholarships in the agricultural schools of Casilda, Tucuman, Cordoba and Mendoza to young men of Peru

desiring to follow up their studies in Argentina. The municipal council of Buenos Aires, on December 22, 1919, passed an ordinance providing for the establishment of a practical school of aviculture in connection with the zoological garden. During the apprentice period pupils will be required to give their services to the school gratuitously. On the completion of the course a diploma as practical aviculturist will be given. In the Colombian Ministry of Agriculture a department of cattle and meat inspection has been established to study contagious cattle diseases and their remedies, and to inspect cattle and meat products intended for export to countries which demand certificates of inspection. A law of November 5, 1919, grants a subsidy of about \$10,000 for the establishment of a course in agriculture and industries in the University of Nariño. The Department of Agriculture of Cuba has decided to establish a bureau of commercial information in European and American countries for the purpose of establishing cordial commercial relations between Cuba and the other countries. The first bureau will be established in France.

UNIVERSITY AND EDUCATIONAL NEWS

At a meeting of Messrs. Brunner, Mond, and Co., at Liverpool, on August 4, a resolution to authorize the directors to distribute to universities or other scientific institutions in the United Kingdom for the furtherance of scientific education and research, \$500,000 out of the investment surplus reserve account was passed.

THE University of Tennessee College of Medicine will erect a pathologic laboratory building to cost \$75,000 near the Memphis General Hospital. This is in accordance with a contract between the university and the Memphis General Hospital by which the school has entire control of the teaching facilities in the hospital for a period of twenty years and the school will nominate the medical, surgical and laboratory staffs of the hospital.

DR. GILBERT H. CADY, who has been connected with the Geological Survey of Illinois for several years and who has recently returned from a year spent in mining interests in the far east, has accepted the position of professor of geology and head of the department in the University of Arkansas. He also becomes state geologist of Arkansas.

At Northwestern University Miss Margaret Fuller, M.A., Chicago, has been appointed instructor in geology and Mr. Thomas Lloyd Gledhill, M.A., Toronto, has been appointed instructor in mineralogy and geology.

F. A. VARRELMAN, acting professor of botany at Occidental College, Los Angeles, during 1919-20 has accepted a professorship at the State Normal School, Silver City, New Mexico. Dr. F. A. Smiley will reassume the work in this department at Occidental College, having been at the University of California during the past year.

O. A. Haugen, formerly instructor at the University of Wisconsin is returning this fall as assistant professor of chemical engineering. He is at present connected with the Carborundum company at Niagara Falls.

DR. ENGLISH BAGBY has been appointed instructor in psychology at Yale University.

DR. W. N. HAWORTH has been appointed to the chair of organic chemistry at Armstrong College, Newcastle-upon-Tyne, in succession to Professor S. Smiles.

DISCUSSION AND CORRESPONDENCE THE OBLIGATION OF THE INVESTIGATOR TO THE LIBRARY

THE dependence of the present-day investigator upon institutional libraries is almost absolute. Necessarily so, as only a very exceptional person can own, or provide room for, a library complete enough to cover the range of his professional interests. Even if he owned the books he could not care for them and do anything else. Except in his own special field, no investigator will attempt to compete with the skilled bibliographers of our better libraries, and even in his own field he is apt to appear at a disadvantage. One