

of paper pulp and by-products, oils and motor fuels, glassware and porcelain, steel alloy metals, new developments in chemical industries, etc.

On Wednesday and Thursday mornings a general symposium on colloids will be held, theoretical considerations being discussed on the first day and the industrial applications of colloid chemistry on the second day.

The American Electrochemical Society has planned a series of interesting meetings. The electrochemical group will open its meeting later in the week, on Thursday, September 28, with a technical session devoted to a review of American progress in the electrochemical industry. A complimentary smoker will be held on Thursday evening, and on Friday evening there will be a joint banquet at the Waldorf-Astoria of the members of the American Chemical Society, the American Electrochemical Society, and the Technical Association of the Pulp and Paper Industry.

SCIENTIFIC NOTES AND NEWS

THE funeral of Sir William Ramsay took place at Hazlemere, High Wycombe, on Wednesday, July 26, in the presence of representatives of the Royal Society, the Chemical Society, University College, London, and many other societies and institutions.

GENERAL WILLIAM C. GORGAS, U. S. A., head of the yellow fever commission of the International Health Board of the Rockefeller Foundation, arrived at Bogota, Colombia, from Panama, on August 9. General Gorgas will consult with the Colombian government on sanitary conditions of ports in that country.

PART of the Canadian Arctic expedition, which is led by Vilhjalmur Stefansson, has returned to Nome, Alaska, after spending three years in investigations on the north coast of Canada. Dr. Anderson, of the southern party, reports that Stefansson may not return until some time in 1918. He planned to start from winter quarters in May last to continue his explorations of the new land west of Prince Patrick Island.

THE Astley Cooper prize for the present year, for a treatise on "The Physiology and

Pathology of the Pituitary Body," has been awarded to Dr. W. Blair Bell, of Liverpool.

MR. JAMES MOONEY, of the Bureau of American Ethnology has been in North Carolina to continue his researches among the Cherokee Indians.

DR. LEO J. FRACHTENBERG, who has been in the field for the Bureau of American Ethnology for the past year, has changed his headquarters to Portland, Oregon.

MR. C. B. WILLIAMS has been appointed by the Board of Agriculture, Trinidad, to study the parasites of the sugar-cane froghopper in that island.

M. C. WHITAKER, professor of chemical engineering, Columbia University, has been granted leave of absence for the first term of the academic year, 1916-17.

PROFESSOR W. S. MILLER, of the department of anatomy at the University of Wisconsin, has been giving a series of illustrated lectures before the Robert Koch Society for the Study of Tuberculosis, at Chicago, on "The Lymphatics and Lymphoid Tissue of the Lung and their Relation to Disease Processes," and an illustrated lecture before the Cincinnati Research Society on "The Anatomy of the Lungs with special reference to the Lymphatics."

THE Eugenics Education Society of Chicago holds its meetings once a month. Special speakers at these meetings during the current year have been Professor James A. Field, Professor John M. Coulter, Professor Frank R. Lillie, Professor Frederick Starr, Dr. Albert J. Ochsner, Alexander Johnson and Professor Judson Herrick.

WE learn from *Nature* that on Wednesday, July 26, the memorial to Sir William White, promoted by the Institution of Naval Architects, was formally handed over to the council of the Institution of Civil Engineers. The presentation was made by Admiral Sir Reginald Custance and Earl Brassey, who stated that £3,000 had been collected. The money is to be allotted to the foundation of a research scholarship fund, the provision of a memorial medallion to be placed in the hall of

the Institution of Civil Engineers, and a grant to Westminster Hospital. The memorial was accepted by Mr. Alexander Ross, the president of the Institution of Civil Engineers, and now occupies a position on the right hand of the entrance hall. The medallion consists of a portrait of Sir William, carved in relief in white stone, with a warship visible in the distance. The carving is mounted on grey marble, and carries underneath it a tablet, on which are inscribed the words: "Sir William Henry White, K.C.B., LL.D., D.Sc., F.R.S., President, 1903-1904, Director of Naval Construction, 1885-1902. A Tribute from the Shipbuilders of Many Nations." Above is a scroll bearing the motto, "Build Staunch, Build True."

GEORGE ANTHONY HILL, at one time assistant professor of physics in Harvard University, the author of a number of text-books in physics and mathematics, died on August 17, aged seventy-four years.

JOHN P. D. JOHN, at one time professor of mathematics and astronomy in DePauw University and later president of the institution, died on August 7, at the age of seventy-three years.

JOHANNES RANKE, professor of anthropology at Munich, has died aged eighty years.

SIR WILLIAM HENRY POWER, F.R.S., distinguished for his contributions to sanitation and public health, died on July 28, aged seventy-four years.

ROWLAND TRIMEN, F.R.S., formerly curator of the South African Museum, author of works on the butterflies of South Africa, died on July 25, at the age of seventy-six years.

EDGAR H. HARPER, professor of mathematical physics in University College, Cork, known for his work on aviation, has been killed while serving as lieutenant.

F. W. CATON, for a time connected with the Welcome Chemical Research Laboratory, and later lecturer on chemistry and inspector under the Staffordshire Educational Committee, was killed on June 28, while serving as second lieutenant in the British army.

GEOFFREY W. SMITH, fellow of New College, Oxford, captain in the British Army, has been killed in France. Dr. Alfred G. Mayer writes: "In his death biology loses one of its ablest students, his researches upon the effects produced by parasites upon the secondary sexual characters of crustacea being a classic of science. He was among the first of the university men to enter the service of his nation, and in a letter to me he expressed his regret at leaving his studies, but 'England had need of many junior officers and many of these must be killed, so I must go as soon as possible.' High as his scientific attainments were, few men have been endowed with the rare charm of personality he possessed, and thus doubly must we mourn him."

THE Susquehanna River Archeological Expedition, in charge of Messrs. W. K. Moorehead, Alanson Skinner and George P. Donehoo, finished its work on August 1. The party consisted of nine men, and began work at the head of the river, Otsego Lake, New York state. A preliminary survey was made of the entire river, from its source to Chesapeake Bay. Local students and collectors cooperated with the expedition at various points. The party examined a large number of sites along the Susquehanna, and exposed ancient villages attributed to the Delaware, Shawnee, Iroquois and Andaste Indians. A collection of several thousand specimens was secured for the Museum of the American Indian, Heye Foundation. The most important discovery during the journey was the location and excavation of an Andaste cemetery, near Athens, Pennsylvania, where fifty-seven skeletons were unearthed, with interesting specimens of Iroquoian pottery, pipes and stone implements. Contrary to absurd newspaper reports, none of the skeletons were abnormal, nor were they found in a mound. One of the burials, of the so-called "bundle" type, was of unusual interest, since it was covered by a deposit of the antlers of the Virginia deer.

THE annual general meeting of the Society of Chemical Industry was held in Edinburgh on July 19-21. According to the account in *Nature*, the meeting this year took the form

of a congress on the progress made since the outbreak of war in British chemical industry. The following papers were read and discussed: (1) *Fuel*.—Fuel economy: a national policy required, Professor H. E. Armstrong; Some recent improvements in coke works practise, Dr. G. P. Lishman; Waste in coal production, Professor H. Louis. (2) *Shale Oil*.—The shale oil industry, D. R. Steuart. (3) *Tar Distilling*.—A short review of the influence exerted by the war on the tar distilling industry, W. H. Coleman; The extraction of tar fog from hot gas, G. T. Purves. (4) *Dyes*.—The difficulties of coal-tar color-making in war-time, C. M. Whittaker (British Dyes, Ltd.). (5) *Fine Chemicals*.—Notes on the production of alkaloids as affected by the war, D. B. Dott; The manufacture of synthetic organic drugs as affected by the war, F. H. Carr; The manufacture of fine chemicals in relation to British chemical industry, C. A. Hill and T. D. Morson. (6) *Paper-making*.—The paper-mill chemist in war-time, J. F. Briggs. (7) *Patent Law*.—The overhauling of our Patent Law, J. W. Gordon; The influence of the Patent Laws upon industry, W. F. Reid; Proposed amendments to English Patent Law, W. P. Thompson. (8) *Rare Earths*.—The progress of British rare-earth industry during the war, S. J. Johnstone. To illustrate the progress that has been made, an exhibition was held, at the same time, of specimens of British-made coal-tar dyes, glass, porcelain and filter paper, along with several other interesting substances now made in Edinburgh. Among these may be mentioned cobalt-blue—a substance never before manufactured in this country—now made by the Beaverhall Color Co.; trinitrotoluene by the Lothian Chemical Co.; erasers, etc., manufactured by the North British Rubber Co., the supply of which formerly was entirely imported from Germany.

THE recovery of the valuable by-products from American coke manufacture made big advances in 1915 and has now attained the proportions of an important industry. The value of these by-products last year was nearly \$30,000,000, a large increase over the previous high-water mark of \$17,500,000 in 1914. Al-

though there were material increases in the output and value of gas, tar and ammonia, which was to be expected with a greater output of by-product coke, the increase in benzol products was remarkable and presented the most interesting feature of the year in the coke industry. The value of these products rose from less than \$1,000,000 in 1914 to more than \$7,760,000 in 1915, according to C. E. Leshner, of the United States Geological Survey, Department of the Interior. Benzol has been recovered in this country from coke-oven gas for a number of years, but prior to 1915 the market was small and the prices low. The awakening of the American people to the need for a dye industry and to a realization that such an industry can not spring full-grown from nothing but must be fostered and developed is now a well-known story. Few are aware, however, of the progress that has been made within a year in laying the foundations for future progress in that industry. Under the spur of almost fabulous prices for benzol products, re-tort coke-oven plants throughout the country quickly installed elaborate benzol-recovery systems and now save the valuable oils that not very long ago were being buried or wasted, or, if saved, were begging for a market. The benzol products obtained in 1915 amounted to 16,600,657 gallons. More than 13,000,000 gallons of the total output was reported as crude light oil and had an average value of 33 cents. Some of the plants have their own stills and refineries, and the pure benzol reported from those sources amounted to 2,516,483 gallons, with an average value of nearly 57 cents, at least three times the value of crude benzol before the war, and 623,506 gallons of toluol, with an average value of \$2.45 a gallon. Crude benzol, which in 1914 was used to some extent for motor fuel, contained the toluol, which is now separated out and sold at fancy prices. More than 138,000,000 gallons of tar was obtained from coke ovens and sold for \$3,568,384 in 1915. The ammonia, of which nearly 100,000 tons was reported as sulphate and the remainder as liquor (10,626,612 gallons) and anhydrous ammonia (30,002,196 pounds), brought a total of \$9,867,475 to the producers.

Surplus gas to the extent of 84,356,000,000 cubic feet, valued at \$8,625,000, was sold or used. Of that quantity 17,196,000,000 feet was used as illuminating gas, 27,591,000,000 feet as domestic fuel, and 39,569,000,000 feet as fuel for steam raising, open-hearth furnaces, gas engines, and other industrial purposes. These by-products, which had a total value of \$29,824,579, were obtained by the carbonization of 19,500,000 tons of coal, from which was also obtained 14,000,000 tons of coke, valued at \$48,500,000. The total value of the coke and by-products was more than \$78,300,000.

THE production of bituminous coal and anthracite in the United States in 1915 amounted to 531,619,487 short tons, valued at \$686,691,186, an increase, compared with 1914, of 18,094,010 tons or 3.5 per cent., in quantity, and of \$5,200,543, or 0.8 per cent., in value, according to C. E. Leshner, of the United States Geological Survey. Of this total output, 442,624,426 short tons, valued at \$502,037,688, was bituminous coal and lignite, and 88,995,061 tons, valued at \$184,653,498, was Pennsylvania anthracite. Pennsylvania, with an output of 157,955,137 tons of bituminous coal and 88,995,061 short tons of anthracite, ranks first among the coal-producing states. West Virginia, with a production of 77,184,069 tons; Illinois, with 58,829,576 tons; Ohio, with 22,434,691 tons, and Kentucky, with 21,361,674 tons, follow in order of production. Thirty states and the territory of Alaska contributed to the total, of which number 13 states and Alaska had increased production, and 17 had decreased production, compared with 1914. To produce this coal, 734,008 men were employed for an average of 209 days.

THE second Interstate Cereal Conference will be held at the University of Minnesota, University Farm, St. Paul, July 11, 12 and 13. At this conference there will be a discussion of the various phases of cereal research relating to the region of which St. Paul may be considered the center. The program will include papers on problems of wheat, oats, barley and flax production in the Northwest; the grading of barley and corn; breeding winter wheats for Minnesota; ergot of rye;

methods for the eradication of bunt or stinking smut; problems in flax diseases, and a symposium on milling and baking. Two days will be devoted to the presentation and discussion of papers. The third day will be used in an inspection of the plant work of the Minnesota Agricultural Experiment Station and of one of the local flour mills.

RECEIPTS from national forests for the fiscal year 1916 reached the high-water mark of approximately \$2,820,000, according to figures just compiled. This is \$341,000 above the 1915 total, which in turn exceeded any previous year. Officials say that the gain was due to increased demand for all classes of forest products. There was a decided growth in the revenue from all sources, the largest being that of \$203,000 in timber sales. Grazing fees showed a gain of \$77,000. Receipts for water power development were over \$12,000 more than for 1915. Sales of turpentine privileges and charges for special uses were both considerably in excess of the previous year. The National forests are important factors in the prosperity of the regions in which they are located, on account of the large amounts of timber, range and other resources which they hold available for use as needed. Business conditions are reflected in the receipts of the forests. Consequently the showing for the past year is regarded as an index of increased business activity throughout the sections where the national forests are found.

UNIVERSITY AND EDUCATIONAL NEWS

COLUMBIA UNIVERSITY has received \$100,000 from Mr. James N. Jarvie, the banker, for the new dental school, plans for which were announced last spring.

THE Municipal University of Akron is about to erect an engineering laboratory at the cost of \$50,000, provided by a bond issue of the city. The new library building, erected at a cost of \$40,000, is now open for use.

PRINCETON UNIVERSITY announces that October 26 has been set aside as the day for the laying of the corner stone of the handsome new student dining halls, now being erected at the corner of Nassau Street and University