learn that counts. And perhaps the best thing to be said about the new School for Health Officers is that it is a combination of schools which have been noted for efficient instruction and for the hard work done by the students. The Harvard motto "Veritas" is combined with the Institute motto "Mens et manus"—mind and hand working together for the truth, or truth expressing itself through mind and hand. We believe that the spirit which has created these two institutions will not fail to build up a school of public health which will faithfully serve its day and generation.

But lest I be accused of screwing the nut too tightly upon Boston as the hub of the universe let me say that we who shelter ourselves beneath the fins of the codfish do not claim to have a monopoly of the sea. What has most impressed us in making our plans has been not the magnificence of our Boston institutions, but the magnitude of the problem which the country has to solve—the problem of ministering to the health of a hundred million people gathered from all the quarters of the globe.

In conclusion, let me restate the ideal for which the School for Health Officers of Harvard University and the Massachusetts Institute of Technology stands—for a body of educated sanitarians working in many fields and well-trained for their particular work—but especially for the health officer whose education is based on all four of the great professions—medicine, engineering, law and social service. And it calls to the states and cities and towns of the country and says, "This is the kind of a man you need to protect your public health, a man broadly trained and well-paid who can afford to give all his time and all of the best that is in him to the work." It calls to the legislators and says, "Amend your laws so that you can get this kind of men." It calls to the young men of the country and says, "The field is ripe for the harvest." And it calls to the other universities and says, "Join us in this great movement to secure men for the public health service." Let us all work together for the health of the country and the health of the world.

George C. Whipple
Harvard University

Scientific Notes and News

Among the thirty-seven honorary degrees conferred on the occasion of the one hundred and fiftieth anniversary of the founding of Brown University were two doctorates of science, given to Dr. Simon Flexner, director of the laboratories of the Rockefeller Institute for Medical Research, and Dr. L. A. Bauer, director of the department of terrestrial magnetism of the Carnegie Institution.

At the celebration of the twenty-fifth anniversary of the Johns Hopkins Hospital a portrait of Sir William Osler, by Mr. Sargeant, was presented.

Mr. Douglas W. Freshfield, known for his publications on mountains and other subjects, has been elected president of the Royal Geographical Society.

Professors Roentgen, Lenard and Behring have each recently been reported to have repudiated the gold medals conferred on them by scientific associations in Great Britain, and have donated them to the Red Cross or other relief work, and now it is said that the Hanbury medal has likewise been donated for relief work by its recipient, Dr. E. Schmidt, professor of pharmacology at Marburg.

Dr. George H. Whipple, a graduate in 1900 of Yale and M.D. in 1905 of Johns Hopkins, and since 1906 a member of the faculty of the department of pathology of Johns Hopkins Medical School, has taken up his new duties as director of the George Williams Hooper Foundation for Medical Research, to endow which Mrs. Sophronia T. Hooper of San Francisco recently gave to the University of California property valued at much more than a million dollars. Three other appointments have been made to the foundation. Dr. Karl Friedrich Meyer and Dr. Ernest Linwood are to become associate professors of tropical medicine, and Dr. Charles W. Hooper is to be fellow in research medicine. The head-

quarters of the foundation will be in special laboratories at the University of California Medical School buildings on Parnassus Avenue, San Francisco.

DR. BENJAMIN WHITE, formerly director of the department of bacteriology of the Hoagland Laboratory, Brooklyn, is now assistant director of bacteriological laboratories of the department of health, New York City, and is in charge of the research and antitoxin laboratories at Otisville, and Dr. Harold Lyall, formerly associate director of the department of bacteriology of the Hoagland Laboratory, is now bacteriologist at the Otisville laboratories.

DR. S. MORGULIS has been placed in charge of an investigation of the metabolism of fish by the Bureau of Fisheries of Washington, D. C. The investigation is being conducted in the New York Aquarium and in the biochemical laboratory of the College of Physicians and Surgeons, Columbia University.

DR. W. J. DILLING, of Aberdeen, has been appointed to the newly established "Robert Pollok" lectureship, for research in materia medica and pharmacology, at the University of Glasgow.

PROFESSOR ALBERT PERRY BRIGHAM has returned to Colgate University after spending the past year in Europe. In August he gave a course of seven lectures before the Oxford University school of geography, on "Regional development and conservation problems in the United States."

MR. LEO E. MILLER, of the Roosevelt expedition to South America, has completed plans for another expedition. He will leave New York within a few days for Porto Columbia, where he will begin his trip of exploration in the interest of the American Museum of Natural History. The expedition is supported by a gift of $5,000 from Mr. Roosevelt.

NEWS has been received from Professor William M. Davis, formerly head of the Harvard geological department, who after the meeting of the British Association visited in late August and early September the Great Barrier reefs of the Queensland coast of northeastern Australia, and on September 11 sailed from Sydney via New Zealand to the Society Islands, where he expected to spend a month examining Tahiti and other members of that group. He expects to return to Cambridge early in November.

PRESIDENT HARRY PRATT JUDSON, who has been absent for six months from the University of Chicago in the prosecution of his duties as chairman of the China Medical Commission of the Rockefeller Foundation, sailed from Yokohama, Japan, September 29 on the Pacific Mail Steamship *Mongolia*.

PROFESSOR HORATIO H. NEWMAN, of the department of zoology in the University of Chicago, will give before the College Endowment Association of Milwaukee, Wisconsin, a series of four lectures on the general subject of "The Social Life of Animal Communities." He will discuss in the opening lecture parental care, mutual aid, and social life among animals. In the second lecture will be considered community life among bees and wasps, and recent discoveries concerning their habits and intelligence. In the third lecture he will discuss ant communities, their agriculture, armies, battles, and slavery; and in the last, the most complex insect communities—termites or white ants.

MISS ELLEN B. SCRIPPS has made a gift of $35,000 (in addition to $60,000 previously subscribed by herself) for a pier, pumping plant and additional equipment for the Scripps Institution for Biological Research, at La Jolla, near San Diego, California. For its maintenance she gives yearly to the University of California $10,000.

THE annual meeting of the Association of American Universities will be held at Princeton on November 6 and 7.

THE annual meeting of the Society of American Bacteriologists will be held in Philadelphia, December 29, 30 and 31, 1914, under the presidency of Professor Charles E. Marshall. The session programs will be arranged as follows:

Tuesday, A.M. Systematic Bacteriology, H. A. Harding, Urbana, Ill.

Tuesday, P.M. Technique, G. F. Ruediger, La Salle, Ill.

Wednesday, A.M. Industrial Bacteriology, R. E. Buchanan, Ames, Iowa.
Wednesday, P.M. Sanitary Bacteriology.
Thursday, A.M. Infection and Immunity, J. A. Kolmer, Medical Dep't University of Pennsylvania, Philadelphia, Pa.
Thursday, P.M. Ventilation, C.-E. A. Winslow, 25 West 45th Street, New York City, N. Y.

On Thursday afternoon the session will be devoted to a symposium on Ventilation with Section K of the American Association for the Advancement of Science. Professor C.-E. A. Winslow has this program in charge. The local committee of arrangements consists of D. H. Bergey, Jos. Leidy, Jr., Jos. McFarland and A. Parker Hitchens, chairman. The secretary is A. Parker Hitchens, Glenolden, Pa.

THE eminent French physicist, Professor Ch. Fabry, of the Faculté des Sciences, Marseilles, is devoting himself to radiography for the benefit of the wounded in the war. He fears an exhaustion of the French supply of X-ray tubes and has written to an American friend, requesting that makers and dealers in such supplies should communicate with him at once, giving prices of their supplies and tubes for medical and surgical purposes.

"MENDEL'S Vererbungstheorien aus dem Englischen übersetzt von alma Winckler mit einem Begleitwort von R von Wettstein." Teubner, Leipzig, 1914, is a German edition of Dr. W. Bateson's well-known book recently reviewed in these columns. It will be useful to those who read German more readily than English, or by preference.

DR. HENRY CHANDLER COWLES, associate professor of plant ecology in the University of Chicago, was engaged some time ago by the United States Department of Justice to make an investigation of a large tract of timber land in Arkansas which had been originally surveyed as lake. Professor Cowles's services as an ecological expert were secured to determine from the nature of the timber and other evidence whether or not the area could possibly have been lake as recently as the time of the original survey in 1847. The investigation was made and testimony given, and the United States judge of that district gave a sweeping decision in favor of the government's contention. Among the findings was that none of the areas returned as lake had any evidence of a beach line such as should have existed. But the most striking evidence of the fraudulency of the original survey was the existence of immense upland trees growing over all the areas, many of the trees being from two hundred to three hundred years old, and some of them from five hundred to a thousand.

"THE Production of Explosives in the United States during the Calendar Year 1913" has just been published by the United States Bureau of Mines. The total production of explosives, according to the figures received from manufacturers, was 463,514,881 pounds (231,757 short tons), as compared with 489,393,131 pounds (244,696 short tons), for 1912. This production is segregated as follows: black powder, 194,146,747 pounds; "high" explosives other than permissible explosives, 241,682,364 pounds, and permissible explosives, 27,685,770 pounds. These figures represent a decrease of 36,146,622 pounds of black powder and an increase of 7,212,872 pounds of high explosives and 3,055,500 pounds of permissible explosives. As explosives are essential to mining, and the use of improved types of explosives lessens the dangers of mining, the Bureau of Mines undertook the compilation of information showing the total amount of explosives manufactured and used in the United States, its first report dealing with the year 1912. This is the second technical paper relating solely to the production of explosives that the bureau has issued. It is expected that similar publications will be compiled annually, and that with the cooperation of the manufacturers these statements will be published within a few weeks after the end of each year. The figures show that in 1902 only 11,300 pounds of permissible explosives was used in coal mining, whereas in 1913 the quantity so used was 21,804,285 pounds. The quantity of permissible explosives used in the United States is larger than in a number of foreign countries. In 1912 it represented about five per cent. of the total quantity of explosives produced, and in 1913 six per cent. The total

amount of explosives used for the production of coal in 1913 was 209,352,938 pounds, of which about ten per cent. was of the permissible class as compared with eight per cent. in 1912. The use of permissible explosives in coal mining has had gratifying results, and few, if any, serious accidents can be attributed directly to their use.

THE consumption of white arsenic in the United States in 1913 amounted to about 7,200 tons, valued at $570,000, of which 2,513 tons, valued at $159,236, was produced in this country as a by-product from copper and precious-metal smelters, and the remainder was imported largely from European countries. For the present imports of arsenic will probably be seriously diminished and the American smelters can save much more arsenic than they do now, for the cheapness of the product has prevented the saving of all that was practicable. Works for the exclusive production of arsenic have been erected at only two places in the United States—Brinton, Va., and Mineral, Wash. It is difficult for such plants to produce arsenic to be sold in competition with the by-product of the smelters except in periods of high prices, such as may again prevail if the industrial disturbances are long continued.

THE value of the mineral production of the United States now exceeds $2,500,000,000 a year, according to the United States Geological Survey. Though this value falls far below that of the country's farm products, the magnitude and scope of our mineral industry may be best measured by comparing our own mineral production with that of other countries, no one of which can compete with us in abundance or variety of mineral resources. The United States mines nearly 40 per cent. of the world's output of coal and produced 65 per cent. of the petroleum in 1913. Of the more essential metals, 40 per cent. of the world's output of iron ore is raised from American mines, and the smelters of the United States furnish the world with 55 per cent. of its copper and at least 30 per cent. of its lead and zinc. These are the raw materials on which has been founded a great metallurgical industry, but on which can be built much more extensive chemical and metal-working industries.

ACCORDING to statistics recently completed by Ernest F. Burchard, of the United States Geological Survey, the production and shipments of iron ore in the United States exceeded those of any previous year. The crude iron ore mined in the United States in 1913 amounted to 61,980,437 long tons, compared with 55,150,147 tons mined in 1912—an increase of 6,830,290 tons, or 12.38 per cent. The iron ore shipped from the mines in the United States in 1913 amounted to 59,643,098 long tons, valued at $130,905,558, compared with 57,017,614 long tons, valued at $107,050,153, marketed in 1912—an increase in quantity of 2,2625,484 long tons, or 4.60 per cent., and in value of $23,855,405 or 22.28 per cent. The average price of ore per ton for the whole country in 1913 was $2.19, compared with $1.88 in 1912. These quantities of ore, both mined and marketed, include the iron ore used for fluxing other metallic ores at smelters in the Middle and Western states, but do not include the iron ore sold for the manufacture of paint. The iron ore marketed for paint in 1913 amounted to 16,950 long tons, valued at $44,851. The ore reported as sold for fluxing purposes other than in the manufacture of pig iron amounted to 62,842 long tons, valued at $235,588, in 1913, compared with 88,449 long tons, valued at $244,315, in 1912. The domestic iron ore actually marketed for the manufacture of pig iron amounted in 1913 to 59,580,256 long tons, valued at $130,669,970, compared with 56,929,165 long tons, valued at $106,805,838, in 1912. Iron ore was mined in 28 states in 1913, one more than in 1912. Idaho, Montana and Nevada produced ores for fluxing only; part of Colorado's output was used for fluxing and part for pig iron; a little magnetic ore mined in Utah was shipped to a Salt Lake iron foundry for testing a new method of reduction, and the remainder of the Utah ore was used for fluxing. The other states produced iron ore for blast-furnace use only, except small quantities for paint from Georgia, Michigan, New York and Wis-

consin, which are, however, excluded from the above figures for iron ore. The rank of the five states producing the largest quantity of iron ore—Minnesota, Michigan, Alabama, New York and Wisconsin—remained unchanged in 1913, but there were a few changes in the relative rank of certain of the smaller producers. The Minnesota iron ranges are yielding at present considerably more iron ore than is produced in all the rest of the states together, having furnished 62.37 per cent. of the total for the United States in 1913. The Lake Superior district, comprising all the mines in Minnesota and Michigan and those in northern Wisconsin, mined 52,377,362 tons in 1913, or 84.51 per cent. of the total.

UNIVERSITY AND EDUCATIONAL NEWS

PHILLIPS ACADEMY, Andover, Mass., receives a bequest of about $462,000 under the will of Melville C. Day, of New York, who died in Florence, Italy. This amount is the residue of the estate. At the termination of a life estate created for the benefit of a friend, Phillips Andover will receive a further sum of about $45,000.

FREDERICK WILLIAM DOHRMANN, for a number of years a regent of the University of California, has bequeathed $5,000 as a loan fund, for loans to members of the faculty to tide them over hard places in times of illness or other emergency.

BROWN UNIVERSITY celebrated last week the one hundred and fiftieth anniversary of its foundation. Among the events were historical addresses by Dr. W. W. Keen, of Philadelphia, and the Hon. Charles E. Hughes, of the Supreme Court. Dr. William Peterson, principal of McGill University, gave the university address. Thirty-seven honorary degrees were conferred, the recipients including the presidents of the seven universities established before Brown. There were many academic exercises and entertainments.

THE University of Louvain has accepted the offer of the Cambridge University to give the use of its libraries, laboratories and lecture rooms during the present crisis, without the payment of the usual fees, in order that the work of the Belgian University as a corporate body may be carried on without breach of continuity. Cambridge University has only 1,500 students, as against 3,500 last year, and other institutions have lost students in about the same proportion. The German universities expect about one third the usual attendance.

THE last year of the post-graduate course of the Naval Academy at Annapolis is now taken at the school of engineering at Columbia University and seventeen lieutenants and one ensign, in active service in the U. S. Navy, are in attendance. Under the naval regulations the course is of two years, and both were taken at Annapolis until last year. It was decided, however, that, while the instruction at the academy was feasible as far as the first year was concerned, the equipment then was not sufficient for the second year, so Columbia was chosen for the more advanced work.

THE attendance at the University of Chicago for the summer quarter has been announced, and shows an advance over the registration for the corresponding quarter a year ago. The total number of men registered in the graduate schools of arts, literature and science was 860 and of women, 528, a total of 1,388; in the senior and junior colleges 572 men and 605 women, a total of 1,177; in the professional schools, divinity 282, medicine 135, law 163, education 991, making a total of 1,571; and excluding duplications, the registration for the entire university was 3,974, the largest summer registration in the history of the institution.

CORNELL UNIVERSITY MEDICAL COLLEGE opened with an enrollment as follows: For the degree of M.D., first year, 55; second year, 28; third year, 32; fourth year, 20: special students (work not leading to the degree of M.D.), 12: for the degree Ph.D., 5, making a total of 152. All students now registered, with the exception of those pursuing the combined seven years' course leading to the degrees of A.B. and M.D., are graduates of arts and sciences, or doctors