MARINE BIOLOGICAL LABORATORY
WOODS HOLL, MASS.,
August 13, 1908.

The corporation and trustees of the Marine Biological Laboratory, in accepting the resignation of the director, Professor C. O. Whitman, have ordered to be put upon their records and to be forwarded to Dr. Whitman the following minute:

The corporation and trustees desire to express to the retiring director their regret that he finds it necessary to withdraw from the active directorship of the laboratory and their appreciation of the inestimable value of his services. Since the establishment of the laboratory at Woods Hole, twenty-one years ago, he has been continuously its director and he has to a very large extent guided its growth and development. He has stood for the principles of cooperation and independence which have made the laboratory unique in its character and truly national in its influence. His high ideals and his generous appreciation of the work of others have been an inspiration to the many biologists who, during these years, have attended the laboratory. These ideals are the most valuable possession of the laboratory.

The corporation and trustees desire that the retiring director may continue to serve the laboratory as honorary director and trustee and that in the future as in the past his presence at the laboratory may continue to be an inspiration.

UNIVERSITY OF CHICAGO
August 17, 1908.

TO THE CORPORATION AND TRUSTEES OF THE MARINE BIOLOGICAL LABORATORY, WOODS HOLL, MASS.

Ladies and Gentlemen: Your action of August 13, in which you express a desire to have me serve the laboratory as "honorary director and trustee" is, in itself alone, an all-sufficient reward for whatever service I have rendered as director. Your *good will* is the all-important recompense, and no title that you could confer could add to the weight of your approbation. In fact, titles belittle the spirit. Let me have the latter without the former—without title or office of any kind. Please respect this wish and believe me, as ever, a sincere and devoted friend of the laboratory.

Respectfully and cordially,
C. O. WHITMAN

SCIENTIFIC NOTES AND NEWS

IT is announced that the Berlin Academy of Sciences has received a legacy of 30,000,000 Marks (about $7,500,000), being the entire fortune of a millionaire named Samson, a Berlin banker, who recently died childless at Brussels.

THE National Academy of Sciences will hold its autumn meeting in the physical laboratory of the Johns Hopkins University, Baltimore, beginning on the morning of Tuesday, November 17.

THE navy department has received a letter from Commander Peary, dated from the *Roosevelt* on August 17, announcing his safe arrival at Etah, North Greenland. The trip so far had been satisfactory, and he expected to proceed north on that night.

DR. ALBRECHT PENCK, professor of geography at Berlin, arrived in New York on Saturday, and has this week begun his duties as Kaiser Wilhelm professor at Columbia University and Silliman lecturer at Yale University.

PROFESSOR RUSSELL H. CHITTENDEN, director of the Sheffield Scientific School of Yale University, has been appointed the university's representative at the Darwin celebration to be held at the University of Cambridge next June.

DR. S. H. BABCOCK, of the University of Wisconsin, has been presented with a silver medal by the European DeLaval Separator Corporation of Stockholm, Sweden, in recognition of the distinguished service which he has rendered to the advancement of dairying. The medal, which was issued on the occasion of the twenty-fifth anniversary of the corporation, bears on one side the busts of Dr. Gustaf DeLaval, the inventor of the separator, and Sir John Bernstrom, originator of important improvements, and, on the reverse, figures of the genius of invention handing the separator to Mercury, the god of commerce, to be carried around the world.

DR. A. TINGLE, B.Sc. (London and Aberdeen), Ph.D. (Pennsylvania), has been appointed scientific adviser to the viceroy of the Province of Chili, China. Dr. Tingle's address is care of No. 5 Post Office, Ho Pei, Tientsin City, China.

THE district foresters who will be in charge of the six field districts of the Forest Service, beginning on January 1, 1909, have been selected by United States Forester Gifford Pinchot. They are as follows: District 1, W. B. Greeley, Missoula, Montana; District 2, Smith Riley, Denver, Colorado; District 3, A. C. Ringland, Albuquerque, New Mexico; District 4, Clyde Leavitt, Ogden, Utah; District 5, F. E. Olmsted, San Francisco, California; District 6, E. T. Allen, Portland, Oregon.

PROFESSOR HARRY GIDEON WELLS, dean of the Medical Department of the University of Chicago, will spend the fall in some special study and investigation at the Sheffield Physiological Laboratory, Yale University.

F. W. FOXWORTHY, who is connected with government scientific work in the Philippine Islands, has during the past summer been engaged in the study of the trees in Sarawak and the Federated Malay States. He intends to return for a visit to the United States in the near future.

DR. E. R. DOWNING, of the Northern State Normal School, who has been studying the past year in the biological laboratories of Europe, has returned and may be addressed again at Marquette, Michigan.

R. B. GRIEG, lecturer on agriculture at Marischal College, Aberdeen, and R. P. Wright, principal of the West of Scotland Agricultural College, at Glasgow, have been visiting the leading American agricultural colleges, with view to securing information to be used in improving agricultural education in Scotland.

THE College of Arts and Sciences of the University of Maine announces for the fall semester a series of lectures on the history of science. Dean Hart will lecture on the history of mathematics, Dean Stevens on the history of physics, Professor Aubert on the history of chemistry, Professor Merrill on the history of biological chemistry, Professor Drew on the history of zoology, and Professor Chrysler on the history of botany.

DR. DANIEL COIT GILMAN, professor of geography at Yale University from 1863 to 1872, president of the University of California from 1872 to 1875, first president of the Johns Hopkins University from 1875 to 1901, first president of the Carnegie Institution from 1902 to 1904, eminent for his services to higher education, died suddenly on October 14, at Norwich, Conn., where he was born on July 6, 1831.

THE deaths are announced of Dr. Alexander Korkin, professor of mathematics at St. Petersburg, at the age of seventy-one years; of Dr. Alexis Hansky, associate astronomer in the Pulkowa Observatory, at the age of thirty-eight years, and of M. D. Clos, director of the Botanical Garden at Toulouse.

UNITED STATES civil service examinations are announced as follows: On November 5, for biological chemist in the Bureau of Chemistry in the Department of Agriculture, at a salary of $1,200; on November 9, for chief of the cattle and grain investigation laboratory in the same bureau at a salary of $2,500, and for assistant in agricultural education in the Office of Experiment Stations, at a salary of from $1,400 to $1,800.

IN the belief that our knowledge of comets may be considerably enlarged through a proper use of the opportunities presented by the approaching return of Halley's comet and the systematic observation of such other cometary phenomena as may be presented during the next few years, the Astronomical and Astrophysical Society of America has appointed a committee upon comets, consisting of Professors George C. Comstock, chairman, Edward E. Barnard, Charles D. Perrine and Edward C. Pickering. It is the purpose of this committee to canvass the whole field of cometary research, inquiring what parts of that field will best repay systematic cultivation at the present time and securing, so far as possible, cooperation in such research.

AT the Johns Hopkins University two acres of ground at the new site have been devoted to a botanical garden. On this plot a greenhouse, 80 feet long, and a laboratory for plant physiology have been erected. An acre and a quarter of land has been laid out in four formal squares bounded by hemlock hedges. Within these squares are beds and pools which have been planted with some three hundred types illustrating the adaptation of vegeta-

tive organs of plants, the structure and cross-pollination of flowers and the dispersal of fruits and seeds. Next season other squares will be planted with a collection of economic plants. The greenhouse and laboratory are completed and will be occupied during the year by students doing research or laboratory work in plant physiology.

It is stated in *Nature* that to mark the completion of the fiftieth year of the existence of the Geologists' Association, it is proposed to issue a volume dealing with the geology of the districts of England and Wales visited by the association since its foundation. The work, which will be edited by Messrs. H. W. Monckton and R. S. Herries, will be illustrated by maps and sections, and be ready for publication, it is hoped, before the end of the present year. Orders for copies should be sent to the secretary of the association.

The annual meeting of the New England Geological Excursion will be on Long Island on October 24 to study the terminal moraine and other glacial and geological features. The party will start from New Haven, where arrangements for the transportation of the party will be made by the Yale geological faculty. Details concerning the itinerary, expenses, leaders, etc., will be sent to members of the organization in a few days. Geologists, not members, are invited and may obtain information by writing to the secretary, Professor H. F. Cleland, Williams College, Williamstown, Mass.

We learn from the *British Medical Journal* that Sir David Bruce, who was director of the Royal Society's commission in 1903, has left England on his second visit to Uganda, where he will continue his investigation as to the pathology of sleeping sickness. The expedition has been organized at the request of the Colonial Office, and the treasury is finding the necessary funds. Sir David Bruce will be accompanied by two other officers of the Royal Army Medical Corps, Captain H. R. Bateman and Captain A. E. Hamerton. Lady Bruce, who has accompanied her husband on similar missions in Uganda, Zululand and Malta, is a member of the new commission, and will take an active part in the investigations. The headquarters of the work will be selected two miles from the lake shore in a wild and depopulated region in the province of Chagwe. There the Uganda government has been preparing a laboratory and station for the purposes of the mission. It is expected that the work of the commission will occupy about nine months.

The twenty-ninth free lecture course of the Field Museum of Natural History will be given on Saturday afternoons at three o'clock, as follows:

October 3—"Through the Cataracts of the Nile," by Professor James H. Breasted, the University of Chicago.

October 10—"A Naturalist in Venezuela," by Dr. N. Dearborn, assistant curator of ornithology, Field Museum of Natural History.

October 17—"The Great American Deserts as seen in New Mexico and Sonora," by Professor Thomas H. Macbride, the State University of Iowa.

October 24—"The Geology and Scenery of the Pipestone Region," by Professor Samuel Calvin, the State University of Iowa.

October 31—"Among the Birds in Costa Rica and Panama," by Mr. J. F. Perry, assistant, division of ornithology, Field Museum of Natural History.

November 7—"Life of a Lake in Summer," by Dr. Edward A. Birge, University of Wisconsin.

November 14—"The Heraldry of the Indians," by Mr. James Mooney, United States Bureau of Ethnology.

November 21—"The Glaciers of the St. Elias Region, Alaska," by Professor R. S. Tarr, Cornell University.

November 28—"Holland," by Professor James Howard Gore, the George Washington University.

We learn from *Nature* that an International Rubber Exhibition was opened in London on September 14. The exhibits consisted wholly of objects of interest to members of the rubber and allied trades, and comprised illustrations of the growth of the commodity and examples of the machinery employed in its manipulation. Rubber trees in all stages of their growth were shown, together with the raw material obtained from them, and the varied forms into which it is manufactured. Demonstrations were given in a laboratory, and

growers, manufacturers and others had an opportunity of discussing questions relating to the industry at an international congress, to which delegates were sent by many continental countries. Borneo, Mexico and other rubber-producing countries took part in the enterprise.

THE National Conservation Commission has caused the first comprehensive attempt at a census of the standing timber in the United States ever undertaken. The Forest Service has for several years been eager to take such a census, and the Bureau of the Census has expressed its willingness to cooperate, but funds have never been available. The conservation commission, however, needs the information to help complete its inventory of the country's natural resources, which it will include in its report to the president, and since that report is to be submitted on the first of next year, it needs the information at once. Large portions of the forests of the country, including practically all the national forests, have been estimated at various times, but these figures have never been brought together and no organized effort has ever been made to gather them into one total, nor to supply the deficiencies where hitherto no estimates have been made. As a result, the guesses as to the amount of standing timber in the United States, range from 822,682 million to 2,000 billion board feet. In the opinion of the Forest Service, the most carefully prepared estimates yet made are those by Henry Gannett, published by the Twelfth Census in 1900. These placed the total stumpage at 1,390 billion board feet. Mr. Gannett has been chosen by the president to compile the information gathered for the commission, and with his previous acquaintance with the subject of forestry, he is at work now enlarging the knowledge of forest areas at present available. The importance of this census lies largely in the fact that it will give an accurate basis for computing how long our timber supplies will last. Through the cooperation of the Forest Service and the Census Bureau the country's annual consumption of wood is known with tolerable accuracy, although even here there are some discrepancies, because a large amount of wood is used for posts, fuel and domestic purposes, for which no satisfactory data have yet been collected. But the consensus of opinion is that the present annual consumption is about 100 billion board feet, or something more than that. One leading authority has placed it as high as 150 billion board feet. Assuming a stumpage of 1,400 billion feet, an annual use of 100 billion feet, and neglecting growth in the calculation, the exhaustion of our timber supply is indicated in fourteen years. Assuming the same use and stand, with an annual growth of 40 billion feet, we have a supply for twenty-three years. Assuming an annual use of 150 billion feet, the first supposition becomes nine years, and the second thirteen years. Assuming a stand of 2,000 billion feet, a use of 100 billion feet, and neglecting growth, we have twenty years' supply. Assuming the same conditions, with an annual growth of 40 billion feet, we have thirty-three years' supply. With an annual use of 150 billion feet, these estimates become, respectively, thirteen and eighteen years.

ACCIDENTS in the coal mines of the United States in 1907 resulted in death to 3,125 men and injury to 5,316 more—an increase of 1,033 in the number of deaths and 516 in the number of injuries over the record for 1906. This record marks the year, in all other respects the most prosperous, as one of the worst in the history of the coal-mining industry of the country. Even the above figures, however, fail to represent the full extent of the disasters, for any statistical statement that attempts to cover coal-mining accidents for the entire United States is necessarily somewhat incomplete. The U. S. Geological Survey, by which the figures for the country are published, does not collect the information directly, but obtains it through the courtesy of state or territory mine inspectors or other officials who compile data concerning accidents and their causes and effects. A number of the coal-producing states have no officials charged with these duties, and one or two of the state officials failed to reply to the inquiries sent out by the survey. In 1906 returns were received from 21 states and ter-

ritories; in 1907 only 18 reported. The reports received indicate a death rate per thousand employees of 3.31 in 1906 and 4.86 in 1907, and the number of tons mined for each life lost decreased from 194,950 to 145,471. The state which had the lowest death rate per thousand (0.95) in 1907 was Missouri, where 499,742 tons of coal were mined for each life lost. Michigan was second on the roll of honor as far as death rate per thousand employees was concerned, and Kentucky was second in the number of tons mined for each life lost. The death rate in Michigan was 1.76 per thousand; in Kentucky it was 1.89. Kentucky mined 336,035 tons of coal for each life lost; Michigan mined 290,837 tons. Arkansas reported a death rate of 1.97 in 1907, with 133,522 tons mined for each life lost, and Utah, with a death rate of 2.72, mined 324,601 tons for each life lost. West Virginia reported the largest death rate in 1907—12.35 per thousand—and the lowest production for each life lost—65,969 tons. New Mexico stood next to West Virginia, with a death rate of 11.45 and a production of 77,322 tons for each life lost, and Alabama was next, with a death rate of 7.2 per thousand and a production of 92,535 tons for each life lost.

Nature states that silver medals are this year offered by the Industrial Society of Mulhouse for the synthesis of a gum possessing the properties of Senegal gum, and for a handbook treating of the drugs used in the dyeing and printing industries; a medal of honor is offered for an economical substitute for dried egg-albumen, or for a decolorized blood-albumen for the same purpose. Other awards will be given for papers on the coloring matter or on the carmine in cochineal; the theory and manufacture of alizarin reds; the composition of aniline black; the transformation of cotton into oxycellulose; the composition of coloring matter and synthesis of a natural color, various mordants, bleaching processes and colors, etc. Papers, etc., must reach the Président de la Société Industrielle de Mulhouse, Alsace-Lorraine, before February 15, 1909.

The smelter production of copper in the United States in 1907, according to L. C. Graton, of the United States Geological Survey, was 868,996,491 pounds. From the record figures of 1906 this is a decrease of 48,809,191 pounds, or 5.6 per cent., the largest actual decrease ever recorded and the largest relative decrease since the American copper industry became important. This is the first time since 1901 that the annual production has been smaller than that of the preceding year, and the first time since 1872 that it has been smaller than that of the second year preceding. The total given above is made up of the fine copper content of blister produced and of the smelter output of ingot and anode copper from Michigan. Of this quantity, approximately 10,075,048 pounds in blister were produced in foreign smelters from domestic materials exported. In addition to the domestic materials handled, smelters in this country turned out as blister 64,145,648 pounds from foreign ore, concentrates, and matte. Domestic blister containing 42,350,963 pounds was exported unrefined, while blister from foreign sources containing approximately 183,530,132 pounds fine copper was imported for refining in this country. The greatest decreases in smelter output are shown by the returns from the three states that rank highest. Montana's production, which was 294,701,252 pounds in 1906, was but 224,263,789 pounds in 1907, and the state yielded first place to its rival, Arizona, whose production, however, showed a decrease of nearly 6,000,000 pounds, from 262,566,103 pounds in 1906 to 256,778,437 pounds in 1907. Michigan still holds third place, with its production decreased from 229,695,730 pounds in 1906 to 219,131,503 pounds in 1907. Decreased production is also shown by the returns from Alaska, Oregon, Washington and North Carolina. Many of the other copper-producing states showed substantial gains. The output of Utah, the fourth state in point of production, was nearly 16,000,000 pounds in excess of that of 1906—66,418,370 pounds in 1907 as against 50,329,119 pounds in the preceding year. The production of California increased from 28,153,202 pounds in 1906 to 33,696,602 pounds in 1907; that of Colorado

from 7,427,253 pounds in 1906 to 13,998,496 pounds in 1907; that of New Mexico from 7,099,842 pounds in 1906 to 10,140,140 pounds in 1907, and that of Idaho from 8,578,046 pounds in 1906 to 9,707,299 pounds in 1907. Nevada and Vermont also showed productive gains.

A NOTE in the London *Times* says that the fine herd of Indian cattle presented to the London Zoological Society by the president, the Duke of Bedford, has been a considerable attraction, and now that two of the cows—of the Mysore and Hissar breeds—have produced calves, the interest of visitors in these animals has increased. In the same house is a black calf of the Chartley × Vaynol blood, two abnormally colored calves having been thrown in succession by the same cow. A serow born in the garden proved to be an example of the Sumatran species (*Capricornis sumatrensis*), but, unfortunately, it lived only a few days in the menagerie. The other, which has been in the collection for more than two years, is in excellent condition; so far as can be ascertained, it is the first to reach England. For some little time the waders' aviary has been under repair; the birds have been removed to the covered-in paddocks in front of the anthropoid house, but will probably be brought back in the course of a few days. The curassow chicks hatched out in the northern pheasantry are doing very well, and now mount up on the high perches. The practise of feeding the young was continued by the mother for more than a fortnight. In the aviaries in the new bird house is the finest collection of birds of paradise ever brought together. The last importation was effected by the society in conjunction with Sir William Ingram, by whom Mr. Horsbrugh was sent out to New Guinea. News has been received that the collector now working there for Sir William Ingram has obtained a great prize—a fine male of Prince Rudolph's bird of paradise (*Paradisornis rudolphi*), first obtained by Hunstein and described by Finsch and Meyer in 1885. In this species the side-plumes, of which there are two on each side, are blue, which is the dominant note of the plumage. The type-specimen is in the Dresden Museum, and when Dr. Bowdler Sharpe wrote his monograph on the birds of paradise there was no skin of a male in the national collection in Cromwell-road.

UNIVERSITY AND EDUCATIONAL NEWS

THE annual report of the treasurer of Yale University for the fiscal year ending June 30, 1908, shows additions to the funds during the year of $1,263,444. The principal items are $63,149 from the Yale Alumni fund; from the Archibald Henry Blount bequest, $337,291; from the Lura Currier bequest, $100,000; by bequest of D. Willis James, $95,250; from contributions to the university endowment and extension fund, $335,665; and from balance of the Ross library fund, $112,220. From the Blount bequest $242,903 has been used to repay advances made by alumni to secure the Hillhouse property. Gifts to income amounted to $76,494, of which $30,000 came from the Alumni Fund Association. The following table is given showing the cost and receipts per student in the different departments:

Department	Students in Attendance	Average Cost per Student	Average Receipts per Student	Percentage of Receipts to Expenses
Graduate	357	$159.45	$ 40.17	25.2
Academical	1,315	339.56	152.27	44.8
Sheffield Scientific	948	279.66	160.25	57.3
Theological	80	641.03	.....	...
Law	339	177.14	122.86	69.3
Medical	137	396.90	130.22	32.9
Art	39	315.02	69.25	21.9
Music	83	268.99	140.12	52.1
Forestry	61	469.39	119.17	25.3
All departments..	3,359	$296.85	$133.25	44.9

GOVERNOR G. W. DONOGHY, of Arkansas, President John Tillman, of the State University, and George B. Cook, state superintendent of education, have been visiting representative institutions of higher education in the middle west to gather information with a view to recommending an appropriation of $500,000 for the extension and improvement of the State University of Arkansas.

THE zoology department of the University of Kansas has received a large consignment of marine biological specimens collected during