

which was taken from the stomach of a hog in October, 1899. This was one of several similar balls. When it came into my possession it had been somewhat compressed, so that it was somewhat cuboidal in form. Evidently, however, its form originally was pretty nearly spherical. From a preliminary study of the substance of the ball, I find that it consists entirely of vegetable fibers, and as far as the examination has gone these fibers appear to be those of alfalfa (*Medicago sativa*).

Externally, the ball is grayish in color with darker brown spots over the surface. The interior is buff color, and the whole is quite hard. It resembles in a general way the hair balls which are so frequently found in the stomachs of cattle, but is considerably heavier. This preliminary notice is made in order to call the attention of botanists who are situated near packing-houses where swine are killed to the possibility of finding more of these curious formations. A careful examination will be made of the fibrous material composing the ball, and a full report then published. Photographs have been taken of the ball, and these will be reproduced when the investigation has been completed.

CHARLES E. BESSEY.

UNIVERSITY OF NEBRASKA.

MEMORIAL OF THE LATE WALTER REED.

ON the fifteenth of August a meeting was held in Bar Harbor of friends of the late Major Reed, M.D., U.S.A., to whom in a large degree is due both the discovery of the mode by which yellow fever has been spread, and also the consequent suppression of that dire disease. Representative men were present from different parts of the country and letters were received from various members of committees already appointed to promote the collection of a memorial fund in grateful commemoration of Dr. Reed's services. Important suggestions were presented from President Eliot, Dr. W. W. Keen, Professor J. W. Mallet and others. Dr. Daniel C. Gilman, chairman of a committee appointed by the American Association for the Advancement of Science, presided, and Dr. Stuart Paton

acted as secretary. Among those who took part in the conference were Dr. W. H. Welch, of Baltimore; Dr. Janeway, of New York; Dr. Abbott, of Philadelphia; Dr. Herter, of New York; Dr. Barker, of Chicago; Dr. Putnam, of Buffalo; Dr. Fremont Smith, of Bar Harbor; and Dr. Sajous, of Philadelphia; and besides these medical gentlemen, Bishop Lawrence, of Massachusetts, and Messrs. Morris K. Jesup, president of the New York Chamber of Commerce; John S. Kennedy, president of the Presbyterian Hospital of New York, and William J. Schieffelin, of New York. The following conclusions were reached: that an effort should be made to raise a memorial fund of \$25,000 or more, the income to be given to the widow and daughter of Dr. Reed, and after their decease the principal to be appropriated either to the promotion of researches in Dr. Reed's special field, or to the erection of a memorial in his honor at Washington. Arrangements were made for the publication of circulars explaining this movement, and asking cooperation not only from the medical profession, but from all liberally disposed individuals who appreciate the value of Dr. Reed's services to mankind.

SCIENTIFIC NOTES AND NEWS.

THE American Chemical Society will hold its next meeting in Convocation Week in conjunction with the meeting of the American Association for the Advancement of Science.

DR. EMIL TIETZE, director of the Imperial Geological Institute of Austria, was chosen president of the Ninth International Geological Congress, which opened at Vienna on August 20.

DR. E. VON LEYDEN, professor of pathology at the University of Berlin, celebrated the fiftieth anniversary of his doctorate on August 11.

DR. R. LYDEKKER, F.R.S., has been elected a foreign member of the Accademia dei Lincei of Rome.

The Botanical Gazette states that Mr. C. G. Lloyd, of Cincinnati, has been elected a member of the German Botanical Society and of the Botanical Society of France.

MR. CHARLES J. BRAND has been appointed to an assistant curatorship in the Department of Botany of the Field Columbian Museum.

DR. NICOLAS LEON, archeologist and ethnologist of the National Museum of Mexico, has returned to the City of Mexico after a visit to the state of Coahuila, where important excavations are being conducted.

THE daily papers state that Dr. Nathan A. Cobb, pathologist of the department of agriculture of New South Wales, has declined the position of chief of the Philippine Agricultural Bureau, giving as his reason his intention of shortly returning to the United States.

WE learn from the *Botanical Gazette* that Homer H. Foster, professor of botany in the University of Washington, has resigned in order to take up commercial work in connection with a hardwood lumber firm in Chicago.

Nature states that Mr. A. S. le Souef has been appointed director of the Zoological Garden at Sydney in succession to the late Mr. Catlett. Mr. Dudley le Souef, his elder brother, has been director of the Zoological and Acclimatization Society at Melbourne for several years, and a younger brother is director of the newly established garden at Perth, in Western Australia.

THE Commission of Inquiry into the educational systems of the United States in their bearing upon commerce and industry, projected last year by Mr. Alfred Mosely, C.M.G., but postponed owing to the unsettlement over the education bill, will start from Southampton on October 3, Mr. Mosely himself preceding it by two or three weeks to make arrangements for its reception. The commission consists of about thirty members including Professor W. E. Ayrton, Professor Magnus Maclean and Dr. W. H. Gaskell.

DR. GUSTAV STEINMANN, professor of geology at Freiburg, accompanied by Baron Bistram and Dr. Hoek, have started on an expedition to the Bolivian Andes.

It is stated in *Nature* that for the study of bird migration, Mr. W. Eagle Clarke, assistant keeper in the Natural History Department of the Edinburgh Museum of Science and Art, has obtained permission from the Elder Breth-

ren of Trinity House to spend a month upon the Kentish Knock Lightship, situated off the mouth of the Thames, and about twenty-one miles from the nearest point of land. The position of the vessel affords exceptional opportunities for observing the east and west autumnal movements of birds across the southern waters of the North Sea.

DR. MARTIN KELLOGG, president of the University of California from 1890 to 1899 and previously professor of Latin, has died at the age of seventy-five years.

DR. FREDERICK LAW OLMSTED, the eminent landscape architect, has died at the age of eighty-one years.

THE death is announced of M. Meunier Chalmers, the French geologist and paleontologist, professor at the Sorbonne.

NEWS has recently been received of the death, in Paraguay, of Signor Guido Boggiana, a young Italian explorer and man of science. He was murdered by the Chamacoco Indians, and his notes and photographs were destroyed.

THERE will be a civil service examination on October 21 and 22 to fill fourteen vacancies in the position of civil engineer in the Philippine service with salaries ranging from \$1,400 to \$1,800 a year.

THE French Association for the Advancement of Science held its annual meeting at Angers last month under the presidency of M. Emil Levasseur, the eminent economist.

THE International Geodetic Association met from August 4 to 14 under the presidency of General Bassot, of the Institute of France.

M. ROUX has given the Osiris prize of \$20,000, and M. Metchnikoff a prize of \$1,000 that he has recently received, to the Pasteur Institute, to be used for their experiments.

PIETRO CARTONI has given \$200,000 to found a sanatorium for tuberculous patients at Rome, in memory of his two sons, who died of tuberculosis.

A NATIONAL sanitary congress is to be held at Milan in 1905, on the occasion of the exhibition which we have already mentioned. The work of the congress will be divided

among the following sections: sanitary assistance; public hygiene; clinico-scientific and therapeutic; medical jurisprudence and accidents to workmen; professional interests.

At the instance of the German minister of commerce several high mining officials will shortly be sent to England to make a thorough study of the hygienic and sanitary arrangements in mining districts.

ACCORDING to *Terrestrial Magnetism* the Dutch government has granted the means for a new magnetic survey of the Dutch archipelago during the years 1904-1907. During each of these years the field work is to cover two to four months, only a general survey being possible with the present means. A beginning has already been made, observations having been made on the 'tin island,' Billiton, and at some points in the neighborhood of Batavia, and it is also hoped to secure values at different stations in Java partly to obtain early information regarding the secular variation.

A DAILY medical journal, edited by Dr. M. W. Curran, is announced for publication, beginning in October.

MAJOR PENTON, principal medical officer of the Soudan, has written a letter to Major Ronald Ross, which the latter communicates to the *London Times*. Major Penton writes: As the prevention of malarial fever is of the utmost importance to us in the Soudan, I have recently paid two visits to Ismailia to study on the spot the measures which, on your recommendation, are now being enforced for the destruction of mosquitoes. The results have been remarkably successful. The town is practically free from mosquitoes, which only a short time ago were very abundant. Mosquito-nets can almost be dispensed with, for one can now sleep without being bitten, as I found from personal experience. The operations you recommended are in full swing. Two marshy swamps to the north-east of the town have been filled up with sand, and a third, the largest, will shortly be dealt with. It will be drained by a pipe twenty-two centimeters in diameter, to convey away the water. Other marshes to the south of

the town have been filled up. At my last visit I saw a gang of 180 workmen busily employed in filling up pools, mowing the coarse grass and undergrowth and clearing the numerous small channels or branches in connection with the main canal. The foreman of works informed me that when the men first commenced operations they were much worried with swarms of mosquitoes towards evening, but that now they scarcely saw any. Coincident with the destruction of mosquitoes and other larvæ, malarial fever at Ismailia this year shows a most striking improvement. All medical officers employed there are agreed upon this. Statistics show that up to the present it is the healthiest year on record. Dr. Pressat informed me that from January 1 to June 30 of this year there were only three cases of malarial fever in hospital, against 52 for the same period last year, and that throughout Ismailia there were 569 cases of fever from January 1 to May 30, 1902 (an average year), against 72 for the same period this year. It is more than probable, moreover, that many of the cases were relapses from previous infection. Bearing in view the remarkable diminution in malarial fevers that has attended the present operations against mosquitoes, it is more than probable that when they are completed, malarial fevers will have practically disappeared.

In his report to the United States Geological Survey on the production of petroleum in 1902, now in press, Mr. F. H. Oliphant notes the following points as the most conspicuous features in the production, sale and export of crude petroleum and its products for the year 1902: The production of crude petroleum was greater than that of any previous year; there was a slight decrease in production of the Appalachian field, and a slight increase in the Lima-Indiana field; the general average price for crude petroleum was less than in any year since 1898; stocks held in the Appalachian and Lima-Indiana fields showed a considerable decrease, principally in the Appalachian field; the exports of petroleum in 1902 were less than in 1901; no new pools were discovered in 1902. The total production in the United

States of crude petroleum in 1902 was 80,894,590 barrels, as against 69,389,194 barrels in 1901, an increase of 11,505,396 barrels, or 16.5 per cent. over that of 1901, and of 27 per cent. over that of 1900. The greatest portion of the increase in 1902 came from Texas and California, the gain being 5,830,994 barrels, or 132.7 per cent. for Texas, and 5,187,518 barrels, or 59 per cent., for California, as compared with their respective productions in 1901. The increase in Indiana in 1902 was 1,723,810 barrels, or about 30 per cent. over that of 1901. Louisiana produced for the first time in 1902, the production being 548,617 barrels. The increase in the production of Kansas was 152,598 barrels, or about 85 per cent. over 1901. Kentucky and Tennessee increased their production in 1902 by 47,799 barrels, or nearly 35 per cent. Indian Territory increased 27,000 barrels and Wyoming 850 barrels as compared with 1901. The largest decrease in production in 1902 as compared with 1901 was in West Virginia, where it amounted to 663,781 barrels, or about 4.5 per cent.; and Ohio, in its two fields, showed a decrease of 633,852 barrels, or nearly 3 per cent. The decrease in Pennsylvania was 561,498 barrels, or 4.5 per cent.; in New York, 86,888 barrels, or about 7 per cent.; in Colorado, 66,218 barrels, or about 14 per cent. The percentage of production by fields shows a remarkable change from 1900 to 1902. In 1900 the percentages were: Appalachian field, 57; Lima-Indiana field, 34; all other fields, nearly 9. In 1902 the respective percentages were: Appalachian field, 39; Lima-Indiana field, 29; all other fields, about 32. The value of the crude petroleum produced in 1902 was \$69,610,384, or 86 cents per barrel, that for 1901 having been \$66,417,335, or 95.7 cents per barrel, a decrease of 9.7 cents per barrel, or 10 per cent., in 1902. The gross amount received for the total product in 1902 was only \$3,193,013 greater than that in 1901, although the increase in output was about 16.5 per cent. greater.

A CORRESPONDENT writes to the London *Times* that the monthly general meeting of the Zoological Society, held on August 20, was

of considerable importance, inasmuch as it settled future practice in matters about which there had been some doubt—the appointment by the council of members of their own body to official posts, and their engagement for special work, partly literary and partly scientific in its character. When the reorganization committee submitted its recommendations to a general meeting at the end of last year it was resolved to ask Mr. de Winton to undertake the post of superintendent, vacant through the resignation of the late Mr. Clarence Bartlett on account of ill-health, and to carry out the reorganization of the gardens. That gentleman accepted the charge, and since his appointment had done a good deal, not only in improving the gardens, but in cutting down expenses. The council found that the time allotted was too short to allow of his carrying out what had been planned, and, on being invited, he consented to accept the post for a second year. But, acting under legal advice, the council felt bound to submit the matter, with some others, to the decision of a general meeting. Dr. Guenther, who presided, accordingly put an official motion, of which, due notice had been given, to the effect that the appointment should continue during 1904 with emoluments at the rate of £400 a year and an official residence in the gardens. The chairman spoke warmly in favor of the motion, as did Dr. Henry Woodward, Mr. Oldfield Thomas and Mr. Bowes. Major Cotton did not oppose the motion, but urged the desirability of seeking a candidate outside the ranks of the council, and Professor Cunningham was of opinion that it would be desirable to have a decision as to whether members of council should be eligible for paid posts. The chairman admitted that the appointment was only a temporary one, made at a critical period in the history of the society. On being put from the chair, the motion was carried unanimously. Other motions dealt with payments for work done by two members of council—Dr. Sharp, as editor and recorder, and Mr. Boulanger, as recorder, for the *Zoological Record*, which gives titles and brief abstracts of zoological literature all over the world, and is published by the society

yearly. Dr. Henry Woodward and Mr. Oldfield Thomas explained the nature of the work, which can only be done by men of considerable scientific attainments and linguistic skill. Professor Cunningham suggested that the appointment of recorders in the different subjects should rest with the editor, and not with the council, to which the reply was that, as the editor was paid a merely nominal sum for his services, it would be unfair to impose this additional labor on him. The motion was carried without a dissentient, and the meeting adjourned to November 19.

The Geographical Journal states that a preliminary report has been received from the leader of the second expedition sent out to Brazil by the Royal Academy of Sciences of Vienna. After landing at Pernambuco, two excursions were made by rail to the neighborhood of Berberibe and Pas d'Alho, which gave a foretaste of the enormous wealth of bird-life in those tropical regions. A similar impression was made by excursions round Bahia, to Cabula, Rio Vermelho, the neighborhood of Barra near the Bahia lighthouse, and even on the outermost slopes, covered with vegetation, between the east of the town and the sea. Here was first seen the *Wistiti* (*Hapale Jacchus*), which is peculiar to Bahia and Pernambuco. On the journey to the Rio Sao Francisco extensive ornithological collections were made; a week was spent at Joazeiro, on the right bank of the great river. An imposing representative of the bird world here is the Nandu, or Ema (*Rhea macrorhyncha*). The characteristic mammals of this region are the armadillo (*Dasypus*), pouched rat and ant-eater. Fish are abundant in the river, but there are not many species. The Pirá (*Conarhynchus conirastris*), with a long curved tube-shaped snout, and Pacrí (*Myletes*), with a shark's mouth, are remarkable, being of larger size than most of the others. Hofrath Steindachner expects a particularly rich yield of fishes characteristic of the region from the stay at Barra, where the Rio Grande flows into the Sao Francisco. Lacertilians are represented in the neighborhood of Joazeiro by eight or nine species, including a very

delicate dark-striped Scincoid with a blood-red tail. Most of the small variegated or dark-colored snakes of this region are said to be poisonous. The Ema mentioned above is greatly valued as a destroyer of snakes, and is kept on the haciendas. The kites do their utmost in destroying animal 'undesirables,' and enjoy the greatest favor all over the country. The whole bird-life of the Joazeiro district resembles that of the Amazon region more closely than that of southern Brazil. In the middle of March the desolate solitudes of the bush were explored, starting from the railway at Carnahyba, and a nearly complete collection of the birds, consisting of some fifty specimens, was made. The most characteristic representatives are five species of pigeons and two of parrots.

UNIVERSITY AND EDUCATIONAL NEWS.

MRS. CYRUS H. McCORMICK and her three sons, of Chicago, have given \$10,000 to Washington and Lee University, the interest of which is to be devoted to the development of the department of physics. A new laboratory of engineering and physics, the gift of another friend in Chicago, whose name is for the present withheld, is expected to be ready for occupation next summer.

DR. JOHANN HJORT and others offer courses of instruction on marine investigations at Bergen during the months of September, October and November. There is no charge for the courses which include lectures, laboratory work and field work.

MR. C. F. BAKER has been appointed assistant professor of biology in Pomona College, Claremont, Cal.

DR. O. SCHMIDT and Dr. Julius Meyer have qualified as docents in chemistry in the universities of Bonn and Breslau, and Dr. R. Gans and Dr. Kohl as docents in physics in the universities of Tübingen and Vienna, respectively.

DR. R. BRAUNS, professor of mineralogy at Giessen, has been elected rector for the coming year.