

£25,979, which was an increase of £649 over that for 1897. A sum of £3,718 had also been paid to extraordinary expenditure, having been devoted mainly to the construction of new buildings in the gardens and to the acquisition of a young male giraffe, which, although it arrived in apparently good health, did not, unfortunately, live long in the gardens. After payment of the ordinary and extraordinary expenditure a balance of £1,584 had been carried forward. The number of visitors to the gardens in 1898 had been 710,848, being 6,707 less than the corresponding number in 1897. The number of animals living in the gardens on December 31st last was 2,656, of which 818 were mammals, 1,363 birds and 475 reptiles and batrachians.

CONSUL-GENERAL HOLLOWAY, of St. Petersburg, sends to the Department of State, under date of March 28, 1899, translation of an article from the 'Novoe Vremia' of the 17th instant, referring to the first trip of the new 10,000-ton ice boat recently built in England for the purpose of keeping the ports of St. Petersburg and Riga open during the winter months, as follows: The ice boat *Ermak* arrived at Cronstadt March 5th-17th. This boat was made after plans prepared by Admiral Makaroff and built in England. Owing to the fogs, it had to remain two days in Belt. Near Reval it met with very thick ice, but still continued moving at 7 knots per hour. Near Seskei it met with large fields of ice, from 9 to 10 feet above the water line. Here the *Ermak* could not move on; but, with the aid of its machinery, it acquired a swinging motion, and the water running out of a special apparatus in the boat melted the ice under the vessel, which moved on, dispersing the ice mountains. The ice boat presses on the ice with its prow; the screw that is under it lets out water, which softens the ice, and the movement of the screw makes the ice go under it and breaks it into rather small pieces. This ice boat has no keel and should, therefore, be subject to great rolling, but, in order to avoid this, there is a receptacle in the hull of the vessel, filled with water, which is arranged in such a way that the water does not allow the vessel to sway too much one side or the other, and keeps it in equilibrium. The

boat was met at Cronstadt with great triumph and music. Hundreds of people went out to meet it, running alongside of it on the ice. The ice boat belongs as yet to the Ministry of Finance. It is at the same time a passenger boat, a freight boat and a tug boat. It can accommodate nineteen first-class passengers, for which it has a fine cabin, decorated with imperial portraits, with double windows, double illuminators, and a special ventilator, which lets warm air into the cabin. The walls are of oak. The boat is lighted by electricity. On March 31st the Consul-General adds: "The new iceboat *Ermak* left Cronstadt on the 25th of March and opened the port of Reval, plowing through from 16 to 18 feet of ice, releasing three commercial steamers that were frozen fast some distance from the shore. On the morning of March 27th the *Ermak* left Reval, clearing the way to the sea for four vessels. During the first four days of the *Ermak's* arrival at Russian ports she released sixteen vessels from the ice and opened the way for them to proceed to sea."

UNIVERSITY AND EDUCATIONAL NEWS.

MR. SAMUEL CUPPLES has increased his gift of \$150,000 for a building for Washington University, St. Louis, to \$250,000 for two buildings.

MR. MAXWELL SOMMERVILLE has presented to the University of Pennsylvania his collection of engraved gems and ethnological collections, said to be of the value of \$600,000.

THE *Jewish Chronicle* publishes full details of the bequests of Baroness de Hirsch. They amount in all to about \$9,000,000, which is distributed chiefly among Hebrew charities throughout the world. The bequests include 7,000,000 fr. to the Teachers' Training School of the Hebrew Alliance at Paris and 3,000,000 fr. for elementary education in Galicia.

NECESSARY alterations are being made in the physical laboratory of Western Reserve University in order to erect an observatory upon it. The University has recently received a gift of a ten-inch refractor made by Messrs. Warner and Swasey. Mr. Samuel Mather, the donor of the laboratory, has offered to bear the expense of mounting the instrument.

HARVARD University has recently received two collections of shells which are at present being made ready for exhibition. One of these, given to the University by the heirs of Warren Delano, was made by Mr. Ballestier at the beginning of the present century and consists of specimens from the East Indies. The other is a very complete collection of American land shells made by Mr. E. Ellsworth Call.

THE Committee of Birmingham University announced, on May 18th, that the conditions attached to Andrew Carnegie's offer of \$250,000 to the institution had been fulfilled, the subscriptions having reached \$1,272,900. Mr. Chamberlain had also received a letter from the anonymous donor who had already given \$187,500, offering an additional \$62,500 if the proposed endowment is increased to \$1,500,000.

IN view of the large increase in the number of students attending the Institute of Technology at Darmstadt, the sum of 1,137,000 Marks has been appropriated to enlarge the buildings and 45,700 Marks for equipment. In addition to these improvements, an engineering laboratory will be erected at a cost of 270,000 Marks.

OXFORD and Cambridge Universities have offered to admit to the privileges of affiliation graduates of McGill University and all matriculated students who have completed two academic years of study at McGill and have passed the intermediate examination for the degree of Bachelor of Arts. These terms, if accepted by the McGill corporation, will permit an undergraduate who has passed the intermediate examination to take his degree at Oxford or Cambridge in two years.

A COMMISSION has been established to take charge of the relations between the City and the University of Paris. It consists of members of the Municipal Council and officers of the University, with M. Gréard, Vice-Rector of the University, as President.

DR. HUGO MÜNSTERBERG, professor of psychology at Harvard University, will deliver the commencement address at the Women's College of Baltimore, his subject being 'The Relation of Psychology to General Education.'

PROFESSOR ALFRED CORNU, the eminent French physicist, has been appointed Rede lecturer in Cambridge University for the coming year.

PROFESSOR EDWARD H. KEISER, for the last fourteen years professor in chemistry at Bryn Mawr College, has accepted the professorship of chemistry in Washington University to succeed Professor Charles R. Sanger, who has been appointed to a position in the chemical department of Harvard University.

DR. HOWARD AYRES, professor of biology in the University of Missouri, has been elected President of the University of Cincinnati.

DR. F. C. FERRY has been appointed assistant professor of mathematics, and Dr. W. Waidner instructor in physics, in Williams College.

DR. C. E. ST. JOHN has been appointed professor of physics and astronomy in Oberlin College, and Dr. L. Dickson has been promoted to a professorship of mathematics in the University of California.

DR. F. H. SAFFORD, instructor in mathematics at Harvard University, has been appointed assistant professor of mathematics and mathematical physics at the University of Cincinnati to succeed Professor L. A. Bauer, whose appointment as Chief of the newly-established Division of Terrestrial Magnetism of the U. S. Coast and Geodetic Survey we announced last week.

THE table at the biological laboratory at Cold Spring Harbor, provided for by the John D. Jones Scholarship of Columbia University, has been filled by the appointment of Mr. John C. Torrey. H. C. Surface, of Cornell University, has been chosen to be the first beneficiary of the Dyckman fund for biological research. Mr. Surface is well known for his work on the fishes of New York State.

THE Babbot Fellowship of Vassar College has been awarded to Miss Anne Moore, assistant in biology. Miss Moore will spend next year in studying biology at Chicago University.

AT the University of Berlin, Dr. S. Schwendener, professor of botany, has celebrated his 70th birthday, and Dr. H. Munk, professor of physiology, his 60th birthday.