

route of the Panama canal. This season can be used for especially difficult engineering operations. Furthermore, the heaviest work is in the interior, where the rainfall is not excessive. The conditions are less favorable in Nicaragua. Near the Gulf coast, where the heaviest excavations are required, the rainfall appears to be about 250 inches and there is no dry season. On the Pacific coast and in the interior there is less rainfall, and there is also a dry season. Even here, however, the rainfall seems to be somewhat greater than in the corresponding portions of the Panama district.

DAY DARKNESS IN LONDON.

A SHORT article of some interest in *Symons's Monthly Meteorological Magazine* for January concerns the number of hours during which artificial light was necessary in a London office (J. E. Clark, 'Day Darkness in the City'). The record has been kept since September, 1897, and runs through 1901. Office hours were from 9 to 5, and to 1 P. M. on Saturdays. A curve illustrates the diurnal distribution of dark quarter hours. There is a rapid rise from 9 to 10.15; then a marked fall to just before noon; then a slight rise; a fall after 12:30 until just before 1; a rise till after 1 and a steady and marked rise from about 2 on. The first rise is believed to be associated with the lighting of office fires. The noon rise seems to follow luncheon preparations in the restaurants, and that an hour later is thought to be due to the fact that lunching is then in full swing. The results of these observations are not without interest, but the explanation of the facts discovered on the basis of so few records cannot be accepted as at all convincing.

R. DEC. WARD.

SCIENTIFIC NOTES AND NEWS.

THE National Observatory question has assumed a new phase through the action of the secretary of the navy, in sending to Congress through the secretary of the treasury an estimate for the salary of a director of the naval (or national) observatory. The committees of Congress thus have the matter before them in a form in which it was never before pre-

sented, and it lies with Congress to decide whether it will accede to the recommendation.

PROFESSOR HERMON C. BUMPUS, formerly of Brown University, who has held during the past year the position of assistant to the president in the American Museum of Natural History, New York, was appointed director of the museum at the annual meeting of the board of trustees. This places the museum in the same position as regards administration as the Zoological Park and the Botanical Garden of New York. Morris K. Jesup was reelected president, William E. Dodge first vice-president, and Henry F. Osborn second vice-president.

PROFESSOR W. H. BREWER, for thirty-seven years professor of agriculture in the Sheffield Scientific School of Yale University, will retire from the active duties of the professorship at the end of the present academic year.

DR. J. KINYOUN, who has for fifteen years been connected with the U. S. Hospital Service and is at present commanding officer and chief surgeon of the hospital at Detroit, has resigned from the service.

MR. ALEXANDER AGASSIZ has had a portrait of himself painted by M. Jules Lefevre. The painting in which he is shown in the robe of members of the Paris Academy will be presented to Harvard University.

M. ANDRÉ, of Lyons, has been elected a correspondent of the Paris Academy of Sciences in the Section of Astronomy in the room of the late B. A. Gould.

THE Zoological Society of London will confer its gold medal on Sir Harry Johnston, whose remarkable discovery of the okapi has recently attracted so much attention, and its silver medal on Mr. E. W. Harper, of Calcutta, who has given many rare Indian birds to the society's collections.

SIR JOHN S. BURDON-SANDERSON, professor of physiology at Oxford University, has been given the degree of Doctor of Science by Owen's College, Manchester.

THE University of Jena has awarded and conferred an honorary doctorate on Herr Wilhelm Winckler, in recognition of his astronomical researches.

DR. C. S. BELL, of Turin, has been appointed director of the Botanical Gardens at Cagliari.

DR. A. A. IVANOV, assistant astronomer at Pulkova Observatory, has been appointed inspector in the St. Petersburg Institute of Weights and Measures and at the same time has been made docent in astronomy and geodesy at the University.

At the anniversary meeting of the Geological Society of London officers were elected as follows: President, Professor C. Lapworth, F.R.S.; Vice-Presidents, Sir Archibald Geikie, F.R.S., Mr. J. E. Marr, F.R.S., Professor H. A. Miers, F.R.S., and Professor H. G. Seeley, F.R.S.; Secretaries, Mr. R. S. Herries and Professor W. W. Watts; Foreign Secretary, Sir John Evans, F.R.S.; Treasurer, Dr. W. T. Blanford, F.R.S. The medals and funds were awarded in accordance with the announcement that we have already made.

M. BERTHELOT has been elected honorary president, and M. Moissan, president, of the council of the Chemical Society of Paris.

M. TEISSERENC DE BORT has made a visit to Denmark to establish a meteorological station in which kites and captive balloons will be used.

PROFESSOR BESSEY, of the University of Nebraska, is to give a course of twenty lectures on botany in the Colorado Springs Summer School, which is to be held in Colorado Springs, Colo., in July and August.

PROFESSOR VOLNEY M. SPALDING, of the University of Michigan, is at present on a botanic expedition to Florida.

MAJOR RONALD ROSS, of the Liverpool School of Tropical Medicine, left Liverpool on February 22 for Sierra Leone to make an examination of the drainage scheme being carried out there, and to study the health of the natives.

THE committee of the Medical School of the Johns Hopkins University, appointed to erect a memorial to the late Jesse William Lazear, who lost his life as the result of an experiment on the transmission of yellow fever by mosquitoes, reports that sufficient money has been subscribed to erect a memorial tablet and to

establish a library fund for the purchase of works relating to tropical diseases. The committee now hope that a sufficient sum may be subscribed to establish a permanent scholarship for the study of tropical diseases. Subscriptions for this purpose may be sent to Dr. Stewart Paton, treasurer, 213 West Monument Street, Baltimore, Md.

PROFESSOR LEO KÖNIGSBERGER, of Heidelberg, is preparing an extended biography of Hermann von Helmholtz, which will be published by Friedrich Vieweg and Son.

THE students of the University of California held memorial exercises in honor of the late Professor Joseph Le Conte on February 26, the anniversary of his birth. An address was made by Professor Thomas R. Bacon. The students of the university are collecting funds to assist in the erection of a granite lodge which the Sierra Club proposes to construct in the Yosemite Valley as a memorial to Dr. Le Conte.

DR. CHRISTIAN PENDER, professor of clinical surgery in the Rush Medical College of the University of Chicago, died on March 7, at the age of fifty-two years.

WE regret to record the following deaths among foreign men of science: Dr. Emil Holub, a distinguished African traveler, in Vienna on February 21, aged fifty-four years; Professor Moriz Kaposi, of the University of Vienna, well-known for his publications on diseases of the skin, on March 6, at the age of sixty-four years; Dr. Carlos Berg, director of the National Museum at Buenos Ayres, at the age of fifty-nine years; Dr. Johannis Pernet, professor of physics in the Polytechnic School at Zurich, at the age of fifty-seven years, and Captain Gaetano Casati, an Italian explorer who spent ten years in Africa, at the age of sixty-three years.

At the annual meeting of the Board of Managers of the New York Zoological Society it was reported that the society has contributed \$250,000 towards the Zoological Park and has \$18,000 in the treasury yet to expend, in addition to \$17,000 which has been expended upon the plans and designs for the buildings. The City of New York has expended \$425,000

in the general development of the park, and in the erection of a monkey house and lion house. The latter building will be open to the public in September next. During the past year a medical staff has been established in order to secure scientific treatment of the animals and to study the causes and prevention of diseases. This consists of Dr. Frank H. Miller, a veterinarian of European training; Dr. Howard Brooks, a well-known pathologist, and a laboratory assistant. A number of interesting facts have already been secured by this staff which will be reported later in SCIENCE. The Society has applied to the Board of Estimate and Apportionment for an additional sum of \$500,000, to be expended in the development of the physical features of the park, in forestry, and also in the construction of additional buildings, especially the antelope house, ostrich house and a larger bird house.

As we have already announced, the seventy-second annual meeting of the British Association for the Advancement of Science will be held at Belfast, beginning on September 10. Professor James Dewar is the president-elect, and the presidents of the sections are as follows: Mathematical and Physical Science, Professor John Purser; Chemistry, Professor Edward Divers; Geology, Lieutenant-General C. A. McMahon; Zoology, Professor G. B. Howes; Geography, Col. Sir T. H. Holdich; Economic Science and Statistics, Mr. E. Cannan; Engineering, Professor John Perry; Anthropology, Professor A. C. Haddon; Physiology, Professor W. D. Halliburton; Botany, Professor J. Reynolds Green; Educational Science, Professor Henry E. Armstrong. Professor Dewar's presidential address will be given on the evening of September 10; on September 11 there will be a soirée; on the evening of September 13 a discourse on 'Becquerel Rays and Radio-Activity' will be delivered by Professor J. J. Thomson; a lecture will be given to the operative classes on September 14 by Professor L. C. Miall; on Monday evening, September 16, a discourse on inheritance will be delivered by Professor W. F. R. Weldon, M.A., F.R.S.; on Tuesday evening there will be a soirée; on Wednesday,

September 18, the concluding general meeting will be held at 2:30 P.M.

LETTERS dated from Franz Josef Land, August 17, have been received at Copenhagen from members of the Baldwin-Ziegler Arctic expedition which left Tromsøe, Norway, on July 16, last year, on the steamers *America* and *Belgica*. The vessels arrived at Franz Josef Land, after trying experiences, with all on board well. The *America* intended to winter at Franz Josef Land, and then proceed northward until stopped by the ice, when the party on board of her was to start towards the North Pole. Mr. Baldwin hoped that the *America* would reach 83 degrees north.

At a meeting of the Royal Geographical Society, on February 24, Sir Clements Markham, president, described the progress of the British Antarctic expedition and laid special stress on the need of securing sufficient money for the relief ship which is to be sent out in June. Subscriptions for this purpose include: The Royal Society, £500; the Goldsmiths' Company, £200; Mr. L. W. Longstaff, £5,000; Miss Dawson-Lambton, £500; Miss E. Dawson-Lambton, £500; Mr. J. P. Thomasson, £500; Lady Constance Barne, £150; the Duke of Bedford, £100; Sir E. Cassel, £100; Mr. H. Leonard, £100; Dr. G. B. Longstaff, £100; Mr. Duncan Mackinnon, £100; the Duke of Northumberland, £100; and Mr. S. Vaughan Morgan, £75.

THE Royal Astronomical Society has received from Sir William Huggins a copy of the portrait of Galileo at Florence, and from Sir W. J. Herschel, a medallion in Wedgwood ware of Sir William Herschell.

THE council of the Royal Institute of British Architects has granted the sum of £50 to the Cretan Exploration Fund towards the completion of Mr. Arthur Evans's excavations at Knossos. Since the appeal issued in December the sum of £1,600 has been raised.

UNIVERSITY AND EDUCATIONAL NEWS.

PRESIDENT HARPER announced in his last quarterly statement that Mr. John D. Rockefeller gave on December 1, \$1,000,000 toward the general endowment fund of the University