

try under the late Dr. Robert Hare. He was graduated from the university as doctor of medicine, but never practised regularly. In 1838 he was appointed assistant geologist of the first geologic survey of Pennsylvania. In 1845 he was elected professor of natural philosophy and chemistry in the Central High School of Philadelphia and retained this position for fourteen years.

In 1839 he was associated with Robert and James Rodgers, in analyzing limestone, coal, iron ore, etc. While engaged in these analyses he discovered a new compound of platinum chloride with nitric oxide. Because of this discovery he was elected to the American Philosophical Society, and in 1840 helped to organize the American Association of Geologists. He was the only surviving founder of this association and of its successor, the American Association for the Advancement of Science, of which he was a fellow for sixty years. In 1848 he also discovered the first of the violent explosives, perchloric ether, which he proved was ten times as powerful as gunpowder. He also found a safeguard against its unexpected explosion by dilution with alcohol. He was thus an important pioneer in the field of smokeless powder.

Dr. Boyè was the author of many papers on scientific subjects. In 1845 he invented a process of refining oil from cotton. Heretofore the product refined was almost black and very thick. His method produced a bland and colorless oil adapted for cooking or for salad dressing. At the age of eighty-one Dr. Boyè made an extended trip to Alaska, and at the age of eighty-five visited Honolulu and witnessed the transfer of the Hawaiian Island to the United States.

In his will Dr. Boyè devised the sum of \$12,000 to the University of Pennsylvania Hospital.

THE DARWIN CENTENARY

THE council of the senate of Cambridge University reports that the committee appointed by the council has informed the council that in July of last year letters signed by the chancellor were sent to more than 300 universities, colleges, academies and other cor-

porate bodies inviting them to appoint delegates to attend the Darwin celebration from June 22 to June 24, 1909. In answer to these invitations more than 200 delegates have been appointed. Since the beginning of the year individual letters of invitation have also been sent by the vice-chancellor to certain distinguished men of science, benefactors of the university and others.

A letter containing an invitation to a banquet on June 23 has been sent to about 150 resident members of the university, including heads of colleges, officers, professors and readers, members of council, university lecturers, demonstrators and other teachers connected with biological departments, fellows of Christ's College, contributors to the volume of essays, "Darwin and Modern Science," to be published by the University Press, and a few others selected on account of their official position or because of their connection with biological science. It is proposed to hold the banquet in the new Examination Hall, and it is estimated that between four and five hundred of those who have been invited will be present.

It is proposed that a letter of invitation to the reception by the chancellor in the Fitzwilliam Museum, on June 22, should be sent by the vice-chancellor to every member of the electoral roll.

A copy of the provisional program has been sent to all delegates. The committee has furnished the council with an approximate estimate of the expense likely to be incurred in carrying out the program. This amounts to considerably more than £500, but it is hoped that it may be possible to provide the excess above that sum by private subscriptions, and the council does not therefore ask the senate to authorize the expenditure of more than £500 from the university chest.

SCIENTIFIC NOTES AND NEWS

THE many friends of Major J. W. Powell, both in this country and abroad, will be glad to learn that congress appropriated \$5,000 for the erection of a memorial to him, on the brink of the Grand Canyon of the Colorado which he explored.

DR. J. J. STEVENSON, who has recently retired from the active duties of the chair of geology at New York University, has gone to California. He expects to spend the summer in Europe.

MR. C. L. VAN DINE, Stanford, about 1900, late territorial entomologist of Hawaii, has been appointed special agent of the Department of Agriculture in charge of sugar-cane and rice investigations. Mr. David T. Fullaway, Stanford, 1908, his assistant, is promoted to be territorial entomologist of Hawaii.

PROFESSOR WM. W. PAYNE has resigned the directorship of Goodsell Observatory, Carleton College, and has retired upon the Carnegie Foundation. He retains charge of the observatory time service and is still owner, editor and publisher of *Popular Astronomy*. Dr. H. C. Wilson has been appointed director of the observatory.

MR. R. C. PUNNETT has been appointed superintendent of the museum of zoology, at Cambridge, in succession to Dr. S. F. Harmer, who recently accepted the keepership in zoology at the British Museum of Natural History.

M. DELAFOND will succeed M. Nivoit as director of the Paris School of Mines.

THE University of Edinburgh will, at the approaching spring graduation, confer the honorary degree of LL.D. on Professor Alexander Crum Brown, till lately professor of chemistry in that university.

DR. ADOLF FRANK, the eminent chemist, has celebrated his seventy-fifth birthday.

THE portraits of the following former vice-chancellors have been presented to the University of London, and have been framed and hung in the vice-chancellor's room: Sir John W. Lubbock, Sir John Shaw-Lefevre, Sir Edward Ryan, Sir George Jessel, Sir Julian Goldsmid, Sir John Lubbock (now Lord Avebury), Sir James Paget, Sir Henry Roscoe, Dr. A. Robertson (now bishop of Exeter) and Dr. P. H. Pye-Smith.

THE following fifteen men of science have been nominated by the council of the Royal Society for election to membership: Mr. E. C.

C. Baly, Sir Thomas Barlow, Bart., Rev. E. W. Barnes, Dr. F. A. Bather, Sir Robert A. Hadfield, Mr. A. D. Hall, Dr. A. Harden, Mr. A. J. Jukes-Browne, Professor J. G. Kerr, Professor W. J. Lewis, Professor J. A. McClelland, Professor W. McFadden Orr, Dr. A. B. Rendle, Professor J. Lorrain Smith and Professor J. T. Wilson.

MR. J. G. BARTHOLOMEW, head of the Geographical Institute, the map house of Edinburgh, has been elected an honorary corresponding member of the Société de Géographie of Paris.

THE Smith's Prizes at Cambridge have been adjudged as follows: H. W. Turnbull, B.A., Trinity College, for his essay "The Irreducible Concomitants of Two Quadratics in n Variables"; G. N. Watson, B.A., Trinity College, for his essay "The Solution of the Homogeneous Linear Difference Equation of the Second Order, and its Applications to the Theory of Linear Differential Equations of Fuchsian Type."

DR. FREDERIK VAN EEDEN, of Amsterdam, who twenty years ago established a successful clinic for the mental treatment of disease, is at present in this country.

DR. HUBERT LYMAN CLARK has sailed for Jamaica to make collections on the reefs at Port Antonio.

At the last meeting of the Middletown Scientific Association Dr. W. G. Cady, associate professor of physics at Wesleyan University, gave a lecture on "Electrical Oscillations."

THE Chicago Chapter of the Sigma Xi Society held its winter meeting on March 9. Professor W. L. Tower presented a paper on "Some Effects of Changed Environment upon Evolution Processes." Nine new members were admitted to the society.

THE Lowndean professor at Cambridge, Sir Robert Ball, F.R.S., lectured on "Ancient and Modern Views of the Constitution of the Milky Way" before the Cambridge Antiquarian Society on March 1.

SIR VICTOR HORSLEY will deliver the Linacre lecture at St. John's College, Cambridge, on

May 6, the subject of the lecture being the "Motor Area of the Brain."

MR. HENRY BAUSCH, second vice-president of the Bausch and Lomb Optical Company, and especially interested in the department of microscopes and scientific apparatus, died on March 2, at the age of fifty years.

DR. HERMANN EBBINGHAUS, professor of philosophy at the University of Halle, founder and editor of the *Zeitschrift für Psychologie*, one of the most eminent German psychologists, has died at fifty-nine years of age.

THE death is also announced of Professor Victor Egger, professor of philosophy and psychology at the Sorbonne, and distinguished chiefly by his work in psychology.

At the meeting of the National Academy of Sciences in April, 1908, as part of the movement for encouragement of cooperative research, a special committee was appointed on paleontological correlation consisting of Messrs. Walcott, Dall, Scott and Osborn. A grant of \$500 was voted from the Bache Fund. As chairman of the section of vertebrate paleontology Professor Osborn has secured the cooperation of a number of foreign and American paleontologists, including Louis Dollo, of Brussels; Eberhard Fraas, of Stuttgart; Charles Depéret, of Lyons; Ernst Koken and F. von Huene, of Tübingen; S. W. Williston, of Chicago, and W. B. Scott, of Princeton. The council of the New York Academy of Sciences has voted to cooperate in this work by the publication of a series of correlation bulletins. The first bulletin now in press contains a report of progress for 1908. The author of the second bulletin is Professor Dollo, who covers the succession of vertebrates in Belgium. The third covers the work of Santiago Roth on the succession of mammalian horizons in Patagonia.

THE U. S. Geological Survey in cooperation with the State Geological Survey has established at the College of Engineering, University of Illinois, Urbana, Illinois, a Mine Explosion and Mine Rescue Station. The purpose of the station is to interest mine operators and inspectors in the economic value of such modern appliances as the oxygen hel-

metts and resuscitation apparatus as adjuncts to the normal equipment of mines. The station also will concern itself with the training of mine bosses and others in the use of such apparatus. Its service is to be rendered gratuitously, and so far as possible, to all in Illinois, Indiana, Michigan, west Kentucky, Iowa and Missouri. The formal opening of the station is to constitute a part of the proceedings of a fuel conference which is to be held at the University of Illinois from March 11 to 13.

On the first of March, Captain John Donnell Smith, of Baltimore, sent to the Smithsonian Institution the second consignment of his herbarium, consisting of more than seven thousand sheets of ferns. The entire herbarium, consisting of over one hundred thousand mounted plants, together with his botanical library of sixteen hundred volumes, was formally presented to the Institution in 1905.

A GIFT of £1,000 from Mr. C. F. Foster, and of a second £1,000 by Mrs. Rawlins, towards the intended new Archeological Museum, at Oxford, are announced. These sums, like further sums given by the Foster family, who have now subscribed £6,000, are given in memory of Mr. W. K. Foster.

It will probably be arranged that members taking part in the meetings of the British Association at Winnipeg from August 25 to September 1, may travel at the single fare rate of £7 11s. for the return journey between Quebec or Montreal and Winnipeg. This also applies to side trips in eastern Canada, the local single first-class fare being charged for the round trip, and it holds good for the round trip to points west of Winnipeg, the return ticket to the Pacific Coast points permitting members to return by the Crows' Nest Pass route.

A JOINT resolution passed both houses of congress authorizing the secretary of state to issue an invitation for the eighth International Congress of Applied Chemistry, to be held in this country. All the national societies interested in chemistry, educational institutions, corporations, etc., have been invited

to send delegates to a meeting to be held at the Chemists Club on April 3, to form an organization.

At a meeting of the business committee and the German members of the International Cancer Research Association, held at Berlin, on January 4, it was agreed, on the proposal of Professor von Czerny, to convene a conference on cancer at Brussels during the exhibition in that city. The final decision was left to the board of directors, which will meet during the session of the German Surgical Congress at Berlin, April 14 to 18.

It is expected that the Antarctic exploring steamer *Nimrod* will return to New Zealand at the end of March or the beginning of April. The headquarters of the expedition are at Lyttelton, the port of Canterbury, in the South Island, and that will be the *Nimrod's* destination when she comes out of the Antarctic regions. It is possible, however, that she will touch at a more southern port before reaching Lyttelton. She may put in at Half-moon Bay, in Stewart Island, off the southern coast of New Zealand, or at the Bluff, the southernmost port on the mainland.

THE program of the Forest Club of the University of Nebraska for the second semester is as follows:

February 16—"The Commercial Forest Nursery," by Mr. L. O. Williams.

March 2—"Lumbering in Washington," by E. G. Polleys.

"Microscopic Study of Woods," by G. N. Lamb.

March 16—"Factors Affecting Stream Flow," by Dr. Condra.

March 30—"Formation of Forest Soil," by Professor Barber.

"Moisture Studies in Forest Soils," by Professor Keyser.

April 27—"Scientific Problems in Forest Plantations," by Professor Phillips.

May 11—"State Problems in Wisconsin," by A. G. Hamel.

"Utilization in Wisconsin," by J. C. Ketrledge.

May 25—"Forest Types in the Philippines," by G. Pagaduan.

"Forest Utilization in the Philippines," by M. Lazo.

By signing the bill for the creation of the Calaveras National Forest, California, President Roosevelt has completed the legislative act which saves the most famous grove of trees in the world. The first Calaveras bill was introduced in the senate four years ago by Senator Perkins, of California. Bills for the same purpose were passed in the upper house of Congress a number of times, but failed of favorable consideration in the house. There is to be a practical exchange of the timber in the groves for stumpage on other forest land owned by the government. The land to be acquired under the bill includes about 960 acres in what is known as the North Calaveras Grove in Calaveras County, and 3,040 acres in the South Grove in Tuolumne County. The North Grove contains ninety-three giant sequoias and in the South Grove there are 1,380 big trees. Any tree under eighteen feet in circumference, or six feet through, is not considered in the count of large trees. Besides the giant sequoias there are hundreds of sugar pines and yellow pines of large proportions, ranging to the height of 275 feet and often attaining a diameter of eight to ten feet. There are also many white firs and incense cedars in the two tracts. The North Grove contains ten trees each having a diameter of twenty-five feet or over, and more than seventy having a diameter of fifteen to twenty-five feet. Most of the trees have been named, some for famous generals of the United States and others for statesmen and various states of the union. "The Father of the Forests," now down, is estimated by Hittel, in his "Resources of California," to have had a height of 450 feet and a diameter at the ground of more than forty feet when it was standing. "Massachusetts" contains 118,000 board feet of lumber; "Governor Stoneman" contains 108,000 board feet, and the "Mother of the Forest," burned in the terrible forest fire which licked its way into a part of the grove last summer, contains 105,000 board feet. Each of these trees named grows as much lumber as is grown ordinarily on fifteen or twenty acres of timberland. The bark runs from six inches to two feet in thickness.

It is said that the Ohio State legislature once passed a bill establishing the value of π to accord with the views of some circle-squarer. It is perhaps scarcely fair to put in the same class the bill now before the British parliament. This bill "to promote the earlier use of daylight in certain months yearly"—formerly known shortly as the Daylight Saving Bill—is down for a second reading in the House of Commons. The operative clauses of the bill, as summarized in *Nature*, are as follows: (1) From two o'clock in the morning Greenwich mean time in the case of Great Britain, and Dublin mean time in the case of Ireland, of *the third Sunday in April* in each year until two o'clock in the morning, Greenwich mean time in the case of Great Britain, and Dublin mean time in the case of Ireland, of *the third Sunday in September* in each year the local time shall be in the case of Great Britain one hour in advance of Greenwich mean time and in the case of Ireland one hour in advance of Dublin mean time, and from two o'clock in the morning Greenwich mean time in the case of Great Britain, and Dublin mean time in the case of Ireland, of *the third Sunday in September* in each year until two o'clock in the morning Greenwich mean time in the case of Great Britain, and Dublin mean time in the case of Ireland, of *the third Sunday in April* in each year the local time shall be in the case of Great Britain the same as Greenwich mean time and in the case of Ireland the same as Dublin mean time. (2) The time hereby established shall be known as summer season time in Great Britain and Ireland, and whenever any expression of time occurs in any Act of Parliament, deed, or other legal instrument, the time mentioned or referred to shall, unless it is otherwise specifically stated, be held in the case of Great Britain and Ireland to be summer season time as prescribed by this Act. (3) Greenwich mean time as used for the purposes of astronomy and navigation shall not be affected by this Act. (4) This Act shall apply to the United Kingdom of Great Britain and Ireland, and may be cited as the Summer Season Time (Great Britain and Ireland) Act, 1909.

THE Dove Marine Laboratory at Cullercoats, which is to be occupied as a department of the Armstrong College, Newcastle-on-Tyne, was opened on December 29 by the Duke of Northumberland. From the account in the *London Times* we learn that the new building, which stands on the site of the old baths, contains an aquarium 30 feet by 23 feet, and there are 11 fish tanks. There is also a private aquarium, and provision is made in 36 tanks for the storing of materials for the workers for experiments, hatching and the like. Against the west wall is a concrete tank holding 15,000 gallons of salt water, which will give a continual flow through the various tanks, etc. In the center of the west gable is the coat of arms of the Hudleston and Dove families, and a polished granite tablet near the entrance bears the inscription: "Erected A.D. 1908 by Walter H. Hudleston, M.A., F.R.S., for the furtherance of Marine Biology and as a Memorial of his Ancestress Eleanor Dove." Mr. W. H. Hudleston, the donor of the building, presided. The Duke of Northumberland congratulated the people of Cullercoats on the new laboratory. He said there was one at Plymouth, one at Port Erin, in the Isle of Man, one in Lancashire, and three in Scotland, and the new building opened that day enabled them to fill up the gap. If they were to study the habits of fish and to give advice to those engaged in the industry, it was absolutely necessary to have these laboratories scattered up and down the coast. The county council of Northumberland was willing to contribute £100 per annum to that institution. It was willing to do more and to double that amount if the borough of Tynemouth came forward and subscribed £50. The duke paid a tribute to the generosity of Mr. Hudleston and to Professor Meek, who is to have charge of the laboratory.

At the thirty-first annual general meeting of the Institute of Chemistry, held at 30, Bloomsbury-square, W. C., Professor Percy F. Frankland, the retiring president, in the course of his address, said, as reported in the

London *Times*, that the roll of the institute had increased by 78 fellows, 30 associates and 68 students, and, notwithstanding the increasing stringency of the regulations, the number of candidates for examination had increased from 94 in 1906 to 150 in 1909. He believed these figures indicated that a real advance was taking place in the demand for highly-trained chemists. It was one of the chief duties of the institute to maintain a high level of training for professional chemists by demanding of candidates for its membership evidence of thorough training, and by requiring them to pass searching examinations. He yielded to no one in the advocacy of research as a part of training; there was however much training in originality of thought and experimental procedure which was not called research and much of what was called research that involved no originality in the thought or deed. He then stated that a special committee had been discussing the arrangements to be made in view of the approaching expiry of the lease of the present premises of the institute and had come to the conclusion that between £10,000 and £15,000 would have to be raised by voluntary contributions in order to provide even a modest but dignified home in which the institute could carry on its work. Dr. George Beilby, F.R.S., was elected president.

THE Colorado Desert, in southern California, is one of the most interesting and one of the most nearly rainless parts of the United States. It lies in a wide valley, the northwest extension of the great depression at whose south end is the Gulf of California. Before the overflow of Colorado River into the Salton Sea, which began about five years ago, this basin was, with the exception of Death Valley, the lowest dry land in the United States. It is also the hottest place in the country, according to the official records. Parts of the desert are wastes of shifting sand, kept in almost constant motion by strong winds. Other parts, on the borders of the Salton Sea, contain strongly alkaline areas, and in some places now covered by that sea large quantities of salt have been mined.

South of the Salton Sea, in the Imperial Valley, the soil consists of fine silt, deposited in past centuries from the overflowing waters of Colorado River. This part of the area is the scene of the spectacular and almost uncontrollable overflow which was the occasion of a special message from the President to Congress and which was closed after repeated failures only in 1907, by the Southern Pacific Company. Toward the north end of the valley in which this desert lies, for the most part below sea-level, is the Indio region, or the Coachella Valley, where underground waters have been utilized for irrigating several thousand acres of fertile land. Melons, barley and alfalfa are extensively grown on large areas, and smaller tracts have been planted in oranges, grapes, sweet potatoes and sugar beets. Date palms have been planted also, and on the agricultural experiment station farm at Mecca rare varieties of luscious dates, which heretofore have been produced only in the Arabian deserts and in the oases of northern Africa, are grown successfully. A report on the Indio region, including a sketch of the Colorado Desert, prepared by W. C. Mendenhall, has just been published by the U. S. Geological Survey as Water-supply Paper 225, which may be had free on application. The report includes a description of the geography and geology of the Colorado Desert and an account of the underground waters of the Indio region, and is illustrated by maps, sections and reproductions of photographs of interesting features of the country.

UNIVERSITY AND EDUCATIONAL NEWS

THE passage of the legislative appropriation bill carrying \$982,000 for the University of Kansas, gives the university all it asked, excepting an appropriation for a dormitory.

By the will of Ellen A. Kendall, her residuary estate is given Wellesley College to found a professorship bearing her name. It is provided that if the fund exceeds \$60,000 the income of the excess shall be used to aid worthy students.