

the sympathy of the board in their bereavement.

ORIGINAL PUBLICATIONS OF EDWARD G. GARDINER

"Beiträge zur Kenntniss des Epitrichiums und der Bildung des Vogelschnabels," Inaugural-Dissertation, Leipzig, 1884. Also in *Archiv für Mikroskopische Anatomie*, Bd. XXIV., 1885, pp. 289-338, Taf. XVII.-XVIII.

"Notes on the Structure of the Quills of the Porcupine," *Technology Quarterly*, Vol. I., p. 392, 1889.

"The Origin of Death," *Technology Quarterly*, Vol. IV., p. 178, 1891.

"Weismann and Maupas on the Origin of Death," Biological Lectures delivered at the Marine Biological Laboratory of Woods Hole, Vol. I., Ginn & Co., Boston.

"Early Development of *Polychærus caudatus*, Mark," *Journal of Morphology*, Vol. XI., No. 1, pp. 155-171, 1895.

"The Growth of the Ovum, Formation of the Polar Bodies and Fertilization in *Polychærus caudatus*," *Journal of Morphology*, Vol. XV., No. 1, pp. 73-110, Plates 9-12, 1898.

For a number of years prior to his death Dr. Gardiner had been engaged upon a monograph of the *Turbellaria acæla*, which was to have been his principal scientific work, but which was never completed.

SCIENTIFIC NOTES AND NEWS

As we have already announced would be the case, Sir E. Ray Lankester relinquished the directorship of the Natural History Departments of the British Museum on December 31. The trustees have not yet appointed a new director of these departments and it appears to be very uncertain whether they have any intention of doing so. The keepership of the Zoological Department, which was also held by Sir Ray Lankester, likewise remains unfilled.

M. BOURGET, of the Toulouse Observatory, has been appointed director of the Marseilles Observatory, to succeed M. Stephan, who has retired.

THE council of the Institution of Electrical Engineers has elected Lieutenant-Colonel R. E. B. Crompton, C.B., to the presidency of the institution, vacant by the death of Lord Kelvin.

PROFESSOR R. S. LULL, curator in vertebrate paleontology, Peabody Museum, Yale University, was elected president of the American Society of Vertebrate Paleontologists at the meeting in New Haven on December 28.

PROFESSOR MARSTON T. BOGERT, of Columbia University, has been elected president of the Chemists' Club, New York.

THE council of the Geological Society of London has made the following awards: the Wollaston medal to Dr. Paul Groth, professor of mineralogy in the University of Munich; the Murchison medal to Mr. A. C. Seward, professor of botany in the University of Cambridge; the Lyell medal to Mr. R. D. Oldham, formerly of the Geological Survey of India; the Wollaston Fund to Mr. H. H. Thomas, of the Geological Survey of England; the Murchison fund to Miss Ethel G. Skeat, while the Lyell fund is divided between Mr. H. J. Osborne White and Mr. T. F. Sibly for their respective work on the Cretaceous and Carboniferous rocks of England.

THE Liverpool School of Tropical Medicine has decided to confer the Mary Kingsley memorial medal on Mr. Joseph Chamberlain "in recognition of the great work he inaugurated by the establishment of schools of tropical medicine."

MR. MORRIS K. JESUP, president of the American Museum of Natural History, has been made a corresponding honorary member of the Senckenbergische Naturforschende Gesellschaft in appreciation of his gift of the *Diplodocus* skeleton to the Senckenberg Museum at Frankfurt on the Main, Germany.

DR. EMIL FISCHER and Dr. J. H. van't Hoff, professors of chemistry in the University of Berlin, have been given the honorary degree of doctor of engineering by the Technical Institute at Brunswick.

WE learn from *Nature* that Sir Norman Lockyer has been unanimously elected president and an honorary member of the Penzance Natural History and Antiquarian Society in recognition of his services to the study of the circles and other prehistoric remains in west Cornwall.

M. M. NYRÉN, of the Pulkowa Observatory, retired from his office at the end of 1907.

PROFESSOR F. B. CROCKER, head of the department of electrical engineering in Columbia University, has been appointed secretary of the American section of the international electrotechnical commission, which includes representatives from twelve of the principal countries. This commission has undertaken the universal standardization of electrical machinery and apparatus.

THE fifth lecture in the Harvey Society course will be delivered by Professor George W. Crile of the Western Reserve University, at the New York Academy of Medicine building on January 25, at 8:30 P.M. Subject: "Shock." All interested are cordially invited to be present.

DR. C. P. STEINMETZ recently lectured at the University of Illinois, on alternating current railway motors. The meeting was under the auspices of the Urbana Section of the American Institute of Electrical Engineers.

A SERIES of twelve lectures on Nutrition: digestion, metabolism and selection of foods, will be given at Teachers College, Columbia University, beginning on January 13, 1908, and weekly thereafter. The lectures will be given by Dr. William J. Gies, of the College of Physicians and Surgeons, Dr. Henry C. Sherman, of the School of Chemistry and Teachers College, and Miss Anna Barrows, of the department of domestic science, Teachers College.

THE deaths are announced of Dr. P. Lachmann, professor of botany at Grenoble at the age of fifty-six years, of Dr. A. W. Krassnow, professor of astronomy and director of the observatory at Warsaw, at the age of forty-one years, and of Dr. H. Giessler, formerly professor of chemistry at Stuttgart Chemical Institute at the age of sixty years.

THE U. S. Civil Service Commission announces an examination on February 5-6, to fill vacancies as they may occur in the position of topographic aid, in the Geological Survey, at salaries ranging from \$840 to \$1,200 per annum, depending upon the experience and

ability of the applicant, and in other branches of the service. It also announces an examination on February 5 to fill a vacancy in the position of scientific assistant, \$720 per annum, in the Bureau of Fisheries, and vacancies requiring similar qualifications as they may occur.

SENATOR DICK, of Ohio, introduced in the senate on January 15 a joint resolution to provide for a Mining Technology Branch in the Geological Survey and a bill for the establishment of a Bureau of Mining Technology.

MR. SMITH, of California, has introduced in the house of representatives a bill for the protection of animals, birds and fishes, in the forest reserves in California, which was referred to the committee on the public lands.

THE city of Berlin has appropriated \$12,500 toward the fund for combating tuberculosis to be named in honor of Dr. Robert Koch. About \$40,000 have been subscribed from private sources.

AT the examinations recently held in Peking for official degrees men who had studied in American universities were awarded the highest honors. Out of a large number examined, only seven were given the highest degree obtainable, and of these five were graduates of the University of California, while the other two had studied in Japan.

THE third meeting of the Commission for the Study of Problems relating to Human Nutrition, appointed by the University of Illinois, was held at the university, Urbana, December 27-28. All the members of the commission were present, including Dr. Theobald Smith, of Harvard; Professor Chittenden, of Yale; Professor Abel, of Johns Hopkins; Professor A. P. Mathews, of the University of Chicago, and Professor Grindley, of the University of Illinois. The commission considered fully the detailed plans at present being used in connection with the nutrition investigations which are being made at the University of Illinois in the study of the influence of cured meats upon the health of man. They also thoroughly inspected the laboratories, the equipment and the houses used for the experiments. The members of

the commission visited the nutrition club, taking two meals with the members. The work already done was approved, and arrangements were made for extending in several ways the scope of the investigation now in hand.

AMERICAN geologists who are interested in modern interpretations of Alpine structure will find a valuable series of colored sections in several pamphlets by Professor C. Schmidt, of Basel, as follows: "Bild und Bau der Schweizeralpen," which appeared as a supplement to Vol. XLII. of the Swiss Alpine Club, 1907 (Finckh, Basel, 5 francs), contains, besides a beautifully illustrated text, a small geological map and a remarkable group of sections illustrating the extreme extension now given to the idea of overthrust folds. "Führer zu den Exkursionen der deutschen geologischen Gesellschaft im südlichen Schwarzwald, im Jura und in den Alpen," August 1907, by Schmidt, Buxtorf and Preiswerk (Schweizerbart, Stuttgart, 5 Marks), containing a number of more detailed sections, as well as the same group of general sections. "Ueber die Geologie des Simplongebietes und die Tektonik der Schweizeralpen" (Eclog. geol. helv., IX.), with a number of detailed sections and a general geological map of the Alps between St. Gotthard and Mont Blanc. "Tektonische Demonstrationsbilder" (to be had of the author, 1 franc), with some of the same Alpine sections and several additional sections for the Vosges and the Schwarzwald.

WE learn from the *British Medical Journal* that Mr. Young J. Pentland, of Edinburgh, has relinquished his publishing business in favor of Mr. Henry Frowde, Oxford University Press, and Messrs. Hodder and Stoughton. The copyright volumes transferred include the well-known "Text-book and Manual of Anatomy," by Professor D. J. Cunningham; the "Text-book of Physiology," by Professor Schäfer; the "Manual of Bacteriology," by Professors Muir and Ritchie; the "Manual of Surgery," by Messrs. Thomson and Miles; the "Outlines of Zoology," by Professor J. Arthur Thomson, etc. These works will for the future be published by Mr. Frowde and Messrs. Hodder and Stoughton.

A NEWSPAPER despatch from San Francisco states that with only seven cases of plague reported during the month of December and but three cases remaining under treatment at the isolation hospital, bubonic plague in San Francisco is almost eradicated as a result of the vigorous sanitary campaign conducted during the past four months, by the United States Marine Hospital Service, under the direction of Dr. Rupert Blue, and with the cooperation of the local health authorities. Dr. Blue's staff consists of Dr. W. C. Buckner, his executive officer, and fourteen medical officers from the Marine Hospital Service. Over \$200,000 has been expended in a campaign of sanitation and the monthly payroll at present is about \$43,000, of which the federal government is paying three fourths. It is estimated that approximately 130,000 rats have been destroyed during the past four months. Thirty-five thousand six hundred and forty-two rats were brought to the laboratory of the health department. Of this number, 11,391 were examined by bacteriologists for plague and 106 found to be infected. The total number of cases reported to date are 136; deaths 73; cured 60, remaining under treatment 3.

CONSUL-GENERAL RICHARD GUENTHER reports that a "Trade Hygienic Institute" is to be established in Frankfort, where all matters appertaining to the health and protection of German factory operatives and the working classes in general are to be studied and taught. He continues: "This institution will be the first of its kind and will have a highly important mission and a great field in which to work. Frankfort has been chosen on account of its being in close proximity to some of the great chemical factories, technical high schools and universities, and the many economic and social-scientific associations abounding in this city and vicinity. The 'Institute for Communal Advancement' in Frankfort, aided by contributions from prominent manufacturers, has raised 100,000 Marks (\$23,800) as an endowment for this 'Trade Hygienic Institute.' All the data concerning experiments and experience of physicians and others employed or interested in the care for the working classes,

also all reports emanating from official trade inspections, of labor associations, etc., is to be collected by this new institute, where they will be examined by experts and put to good use. Extensive laboratories fitted up with the best of modern appliances will be erected. This enterprise has its source in the belief held by its organization that a central point for this kind of science will greatly benefit the chemical and other industries, and especially the working classes connected therewith."

THE College of Agriculture of Cornell University will have a convention of farmers between February 17 and 22. The object of this meeting is to give practical demonstrations of the aims, methods, and results of the work of the college. At the same time will be held the annual meetings of the New York Poultry Society and of the State Agricultural Experimenters' League.

THE Bausch & Lomb Optical Company of Rochester, and the Bausch, Lomb, Saegmuller Company of that city, and the Carl Zeiss Optical Works of Jena, Germany, have united their interests, with the expressed purpose of carrying to the highest possible development the production of optical, physical and engineering instruments. The Zeiss works became under Professor Abbe a scientific institution, as well as a commercial firm. They now employ some thirty experts engaged in scientific research, and it will be fortunate if similar methods can be followed in this country.

THE United States Geological Survey's annual report on the mineral resources of the United States for 1906 is now ready for distribution. The separate chapters of this volume have been published from time to time as the statistics for the various minerals became available, and these assembled chapters form a book of 1,300 pages, provided with a table of contents, an introduction and an index. The volume comprises 47 separate reports, prepared by 27 authors, covering entirely the mineral production of the country, with descriptions and discussions of the deposits from which the minerals are obtained, reports of imports and exports and many com-

parisons of home and foreign production, statements of prices and prospects, and notes on the technology of many of the products. In its general features this volume is similar in form and scope to the preceding reports on mineral resources published by the Geological Survey, the series covering altogether a period of twenty-seven years. For twenty-five years of this period the work of gathering these statistics has been in charge of Dr. David T. Day, but the present volume has been prepared in part under the supervision of Mr. Edward W. Parker, who has been for many years Dr. Day's assistant and collaborator. Hereafter Dr. Day will give his attention chiefly to the compilation of reports on petroleum and natural gas, substances concerning which accurate information has been difficult to obtain, and Mr. Parker will have administrative charge of the work of collecting and compiling the various reports and statistics that are published in this annual volume. Since the survey began its work on the mineral statistics of the country the value of the mineral production has increased more than fivefold. From \$364,928,298 in 1880 it has risen gradually, with some fluctuations, to \$1,902,517,565 in 1906, a sum representing the value of the mineral products in their first marketable condition. The larger producing states contributed to this total in 1906 in the following order and approximate proportions: Pennsylvania, 30 per cent.; Ohio, 11 per cent.; Illinois, 6 per cent.; New York and West Virginia, 4 per cent. each; Montana, Colorado and Michigan, 3.5 per cent. each; Arizona and Missouri, 3 per cent. each; Alabama and California, 2.5 per cent. each. The value of the mineral output of each of these twelve states was more than \$50,000,000, and their combined values amount to more than \$1,488,000,000.

In his annual report the Secretary of Agriculture says in regard to the new building for the department: "The work on the new building for the department has progressed satisfactorily during the year, and it is hoped to occupy the new quarters within the next month or two. As pointed out in my last report, in considering the question of a building, the imperative need for suitable labora-

tories to carry on the important investigations of the various bureaus and fireproof space for the library was recognized as paramount. The greater part of the indoor work of the department is conducted in laboratories, hence the absolute necessity for structures that would be well lighted, well ventilated, fireproof, and otherwise well adapted for the purpose. To accomplish these several objects and at the same time to secure opportunities for continued enlargement, the building has been arranged so that extensions could be made in segments as the work required. When the act authorizing the building was passed we could not foresee the rapid growth, by congressional action, of the department. On February 3, 1903, when the work was authorized, there were in Washington 1,100 persons employed in the Department of Agriculture. At the present time there are over 2,100—almost double the number on the date when the appropriation was made. While the original appropriation was so expended as to secure the greatest possible amount of floor space, this floor space is now totally inadequate to care for the increase of almost 100 per cent. in the number of employees. Full arrangements have been worked out for the occupancy of the present segments and the relinquishment of the several buildings for which rent is now being paid. The work will be completed within the appropriation made by Congress."

PROFESSOR J. A. ALLEN makes the following note in a recent *Bulletin of the American Museum of Natural History* on the revision of the nomenclature code by the International Zoological Congress: "As time goes on, the importance of strict adherence to authoritative rules of nomenclature becomes more and more apparent. Hence the world-wide welcome accorded the work of the Nomenclature Commission of the International Zoological Congress, and the increasing cordiality with which its Code of Nomenclature is received. The time is doubtless now ripe for the acceptance on the part of zoologists at large of an International Arbitration Commission on Nomenclature which shall not only provide a code of official rules, but be willing to act as arbiter in difficult and com-

plicated cases where experts may reach different conclusions. To most systematists questions of nomenclature are distasteful, and they would gladly accept the decisions of a properly authorized International Commission rather than fritter away valuable time in attempting to solve nomenclatural riddles. Success in this thankless line of work requires natural aptness for such investigations, coupled with long experience and interest in such work. Nine tenths, if not ninety-nine one hundredths, of those who have occasion to use the technical names of animals, have not the time, the inclination, nor the proper training to deal successfully with such problems. Yet their correct solution is of importance to all. The adoption of uniform rules of nomenclature is essential to stability in nomenclature, but if they contravene well-established principles that have become the basis of modern usage they are not likely to meet with general acceptance. Happily the fundamental rules of nomenclature are few, and for many years have been embodied in all modern codes of nomenclature. Matters of detail are of less importance than unanimity of agreement, which may be easily reached by compromise and the waiving here and there of personal preference on minor points."

UNIVERSITY AND EDUCATIONAL NEWS

FROM a source not yet announced, the Harvard Dental School has received promise of the funds necessary for the erection of a new building. The site which has been chosen is the lot at the corner of Longwood Avenue and Wigglesworth Street, Brookline, adjoining the property on which the buildings of the Medical School stand.

A NEW agricultural building is to be erected for the University of Maine, at a cost of about \$35,000.

PRESIDENT EDMUND J. JAMES, of the University of Illinois, has issued a call for a national conference to meet at Urbana, Ill., on February 4 and 5, to discuss the relations of graduate schools of American universities to the preparation of teachers for high schools, colleges and universities.