

burgh are the following: D. A. Allan, lecturer in geology, Armstrong College, Newcastle-upon-Tyne; S. E. Bastow, managing director, Bruce Peebles and Co., Limited; D. L. Bryce, student of microzoology, Quekett Microscopical Club, Surrey; H. G. Cannon, professor of zoology, Sheffield University; T. M. Finlay, lecturer in paleontology, Edinburgh University; A. W. Greenwood, assistant in the animal breeding research department, Edinburgh University; J. M. Gulland, demonstrator in organic chemistry, Oxford University; H. S. Holden, senior lecturer in botany, University College, Nottingham; O. D. Hunt, assistant naturalist, Plymouth Marine Station, temporary lecturer in zoology, Glasgow University; J. Hyslop, lecturer in mathematics, Glasgow University; E. T. Jones, professor of natural philosophy, Glasgow University; W. P. Kennedy, Carnegie research fellow in physiology, Edinburgh University; J. M. M. Kerr, professor of midwifery, Glasgow University; C. G. Lambie, lecturer in clinical medicine and assistant in therapeutics, Edinburgh University; D. McIntyre, assistant physician, Glasgow Royal Maternity and Women's Hospital and Glasgow Samaritan Hospital; M. R. Madwar, assistant Helwan Observatory, Egypt; F. N. K. Menzies, medical officer of health and school medical officer, London; T. P. Noble, professor of surgery, University, Bangkok, Siam; W. J. Owen, Member Royal Society Victoria, histologist, National Museum of Australian Zoology; C. Patterson, Marine Engineers, lecturer in mechanical engineering, design and theory of machines, Edinburgh University; H. H. Read, senior geologist, H. M. Geological Survey; J. E. Richey, district geologist, H. M. Geological Survey, Scotland; I. Sandeman, science master, George Heriot's School; R. Schlapp, lecturer in applied mathematics, Edinburgh University; F. W. Sharpley, professor of electrical and mechanical engineering, Indian School of Mines, Dhanbad, India; E. Shearer, professor of agriculture and rural economy, Edinburgh University; C. W. Wardlaw, lecturer in botany, Glasgow University; W. T. H. Williamson, assistant lecturer in chemistry, Edinburgh and East of Scotland College of Agriculture.

NATIONAL RESEARCH FELLOWSHIPS IN THE BIOLOGICAL SCIENCES

THE board of national research fellowships in the biological sciences announces the following appointments and reappointments for the year 1927-28, made at its meeting on February 4 and 5:

REAPPOINTMENTS

Kenneth S. Cole, biophysics
 Sherburne F. Cook, botany
 Carroll Lane Fenton, paleontology
 Adriance S. Foster, botany

Samuel M. Gordon, biochemistry
 Harry D. Kruse, biochemistry
 Eduardo Quisumbing, botany
 R. C. Travis, psychology
 Conway Zirkle, botany

NEW APPOINTMENTS

Dean Turner Burk, botany
 Robert Emerson, botany
 Hudson Hoagland, psychology
 Theodore F. Karwoski, psychology
 Otto Klineberg, psychology
 Raymond C. Parker, zoology
 Gregory G. Pincus, zoology
 George Salt, zoology
 Charles F. Swingle, botany
 Raymond H. Wallace, botany

The second, and in all probability the final, meeting of the board for the year for the consideration of 1927-28 appointments is planned for the latter part of May. Applications for this meeting should be filed by April 15. Information and application forms may be obtained from the Secretary, Board of National Research Fellowships in the Biological Sciences, National Research Council, Washington, D. C.

FRANK R. LILLIE, *Chairman*

*Board of National Research Fellowships
 in the Biological Sciences*

SCIENTIFIC NOTES AND NEWS

THE two hundredth anniversary of the death of Isaac Newton on March 20 will be celebrated at Grantham in Lincolnshire, where Newton attended the grammar school and at Woolsthorpe Manor House, his birthplace, six miles away. There will be meetings at which Sir J. J. Thomson, Sir F. Dyson, Dr. Horace Lamb, Professor G. H. Hardy and Dr. J. H. Jeans will speak.

ON February 24 a dinner was given in honor of Dr. A. P. Coleman, F.R.S., professor emeritus of geology in the University of Toronto. It was arranged by some of his colleagues, former students and other friends, and was the occasion of the presentation to the University of Toronto of a portrait of Professor Coleman and also of a fund for the maintenance of a gold medal to be known as the Coleman Medal. This medal is to be awarded annually to the student who has obtained, at the time of graduation, the highest standing in his class in geology and mineralogy.

DR. LORRAIN S. HULBURT, collegiate professor of mathematics in the Johns Hopkins University, has retired from active service. Dr. Hulburt has been a member of the faculty of the university for thirty-

four years. He will continue to live in Baltimore. Dr. A. Cohen, for many years associate professor of mathematics in the university, succeeds Dr. Hulburt as collegiate professor of mathematics.

DR. WILLARD ROUSE JILLSON, state geologist and director of the Kentucky Geological Survey, has been elected a fellow in the Royal Geographical Society, London.

ERNEST THOMPSON SETON, naturalist of Greenwich, Conn., has been awarded the John Burroughs Memorial Association medal, for his recent work on "The Lives of the Game Animals." The medal will be presented at the annual meeting of the association on April 2 at the American Museum of Natural History. Last year the medal was awarded to William Beebe for his literary work in connection with the *Arcturus* expedition.

DR. LUCIEN HOWE, emeritus professor of ophthalmology at the University of Buffalo, has been awarded the Leslie Dana medal, given each year through the Missouri Association for the Blind to the individual who has accomplished the most for the blind in the United States and Canada.

DR. EDWARD W. ARCHIBALD, professor of surgery at McGill University, Montreal, has been elected an honorary fellow of the New York Academy of Medicine.

DR. GEORGE BACHMANN, professor of physiology at Emory University, was inducted as a fellow of the American College of Physicians at the meeting held recently in Cleveland.

DR. ETIENNE BURNET, assistant director of the Pasteur Institute at Tunis, and Dr. Chaumier, of Tours, known for his vaccine lymph, have been elected national correspondents of the French Academy of Medicine.

PROFESSOR U. M. KOLOSOV, of the Sverdlovsk University (Urals), has been elected a member of the French Entomological Society for his work on the insects of Eastern Russia.

At the annual general meeting of the British Physiological Society, held on February 11, Professor O. W. Richardson was elected president.

At the anniversary meeting of the Geological Society of London, held on February 18, the following officers were elected: *President*, Dr. F. A. Bather; *vice-presidents*, Dr. J. W. Evans, Professor E. J. Garwood, Dr. E. Greenly, Mr. H. W. Monckton; *secretaries*, Mr. W. Campbell Smith and Dr. J. A. Douglas.

PROFESSOR ALEXANDER EVGENIEVICH FERSMAN, the well-known Russian mineralogist, was elected vice-

president of the Academy of Sciences of Leningrad, Russia, at a special meeting which was attended by many members of the academy from Moscow, Kieff, Kharkoff and other cities in Russia, who came to Leningrad especially for this occasion. Professor Fersman is well known as the author jointly with Dr. Victor Goldsmidt of a volume on the crystal forms of diamonds. He has written a number of scientific works, among them a unique volume on "The Russian Natural Color Stones" and two volumes on "The Known Precious Stones of Soviet Russia."

PERCY VIOSCA, state biologist of Louisiana and president of the Southern Biological Supply Company, Inc., has been appointed director of the fisheries division, Department of Conservation, of Louisiana.

DR. GEORGE GRANT MACCURDY, of Yale University, director of the American School of Prehistoric Research, has been designated to represent the Paris Society at the commemoration of the two hundredth anniversary of the founding of the American Philosophical Society, to be held in Philadelphia, April 27 to 30.

DR. WILLIAM BOWIE, of the U. S. Coast and Geodetic Survey, was the official representative of the American Association for the Advancement of Science at the annual meeting of the Joseph A. Holmes Safety Association held in Washington on March 5.

DR. J. G. FITZGERALD, professor of hygiene, will be given leave of absence in order to attend the International Rabies Conference called by the health committee of the League of Nations to meet in Pasteur's old home in Paris next April.

DR. JULIAN L. COOLIDGE, professor of mathematics at Harvard University, has been appointed Harvard exchange professor to France, in place of Professor A. B. Hart, for the second half of the current academic year.

DR. WILLIAM B. PORTER sailed on March 3 for Europe, where he will spend several months visiting medical centers preliminary to assuming the full-time professorship of medicine at the Medical College of Virginia at Richmond.

BEGINNING with the first of the new year and continuing on up to September 1, a leave of absence has been granted to Dr. W. T. Pearce, dean of the School of Chemistry at the North Dakota Agricultural College.

DR. MARY LOUISE FOSTER has received leave of absence from Smith College to go to Madrid to equip the new laboratory and organize the course in chemistry given to the women of the University of Madrid under the combined auspices of the Junta para am-

plición de los estudios científicos and the International Institute for Education of Girls in Spain.

DR. BERNHARD NEBEL, of the University of Halle, Germany, is spending six months at the New York State Agricultural Experiment Station under the auspices of the International Education Board. Dr. Nebel is making a study of the fruit breeding work at the station, and later will spend some time at the California Experiment Station at Davis in a study of citrus fruits.

DIRECTOR FRANCISCO LOPEZ DOMINGUEZ, of the Insular Experiment Station of Porto Rico, has been appointed delegate to the meeting of the International Society of Sugar Cane Technologists, Havana, Cuba, representing the Insular Department of Agriculture of Porto Rico and the Sugar Producers' Association. He sailed on March 3 and expects to return about May 1. Dr. Melville T. Cook, plant pathologist of the Insular Experiment Station, has been appointed acting director during the absence of the director.

DR. ALFRED EISENSTEIN, of Vienna, and Mr. H. B. Jespersen, of Copenhagen, are spending a few weeks with Arthur D. Little, Inc., of Cambridge, Mass., with whom they are associated as European correspondents and consultants.

DR. ROGER ADAMS, professor of chemistry at the University of Illinois, addressed the scientific staff of the Rockefeller Institute for Medical Research, New York, on March 11 on "Chaulmoogra Oil."

DR. BURTON E. LIVINGSTON, professor of plant physiology at the Johns Hopkins University, delivered the annual address before the Tau chapter of Phi Sigma at Duke University, February 28, on "The Relation of Water to Plants."

ON February 26, Barnum Brown, curator of fossil reptiles, American Museum of Natural History, New York, delivered an address to the Royal Canadian Institute, on the subject "Highways and Byways in Burma."

DR. ROBERT H. GAULT, director of the vibro-tactile research laboratory, Smith College, Northampton, Mass., addressed the Franklin Institute on March 24 on "The Interpretation of Speech by Tactual and Visual Impression."

ON February 23, Professor Paul S. Welch, of the department of zoology, University of Michigan, gave a public lecture before the Michigan chapter of Sigma Xi on "Biological Research Conditions in Europe."

DR. WILLIAM BOWIE, chief of the division of geology, U. S. Coast and Geodetic Survey, gave three lectures on isostasy before the students and faculty of the department of geology of the University of Wisconsin on the afternoons of February 16, 17 and

18; and one general lecture on isostasy to the public, on the evening of February 18.

PRESIDENT EMERITUS E. A. BIRGE, of the University of Wisconsin, gave an address on March 1 before the university chapter of Sigma Xi entitled "Science."

PROFESSOR SAMUEL G. BARTON, of the department of astronomy at the University of Pennsylvania, gave a lecture on "The Earth's Motions and their Consequences" at the Brooklyn Institute of Arts and Sciences on March 11.

DR. HUGH S. CUMMING, surgeon-general United States Public Health Service, will be the commencement speaker at the Medical College of Virginia at Richmond on May 31. Dr. Cumming is an alumnus in medicine both of the University of Virginia and the Medical College of Virginia.

DR. FRANK H. LOUD, emeritus professor of mathematics and astronomy in Colorado College, has died at the age of seventy-five years.

DR. JAMES ROBERT ERSKINE-MURRAY, F.R.S., well-known British authority on wireless telegraphy, died on February 12, aged fifty-eight years.

CARLOS MARIA SCHUEL, student of natural history and curator of the local museum, died at Jujuy, Argentina, on February 7, at the age of sixty-nine years.

WORD has been received from Leningrad of the death of Dr. Jacobson, the well-known coleopterist.

DR. R. A. MILLIKAN, director of the Norman Bridge Laboratory of Physics of the California Institute of Technology, will deliver a course of twelve lectures before the graduate school of the Ohio State University on "Twentieth Century Discoveries in Physics." The dates and subjects of the individual lectures are as follows: April 11 at 8 P. M., "The Birth of Two Ideas"; April 12 at 4 P. M., "The Discovery of the Electron"; April 12 at 8 P. M., "Seeing the Invisible"; April 13 at 8 P. M., "Gulliver's Travels in Science"; April 14 at 4 P. M., "Light Darts"; April 14 at 8 P. M., "Stripped Atoms"; April 15 at 4 P. M., "The Birth of a Light Ray"; April 15, at 8 P. M., "Cosmic Rays"; April 16 at 11 A. M., "Relativity inside an Atom"; April 18 at 4 P. M., "Pulling Electrons out of Metals"; April 18 at 8 P. M., "Isotopes and their Significance"; April 19 at 4 P. M., "Spectroscopic Prediction."

THE teaching staff for the new school for the study of outdoor natural history to be conducted this summer in the Allegany State Park, about 75 miles south of Buffalo, has been announced by Chauncey J. Hamlin, president of the Buffalo Society of Natural Sci-

ences, and Dr. Charles C. Adams, director of the New York State Museum. The director of the new school is Dr. Robert E. Coker, professor of zoology in the University of North Carolina. Dr. Coker will also give a field course in zoology, giving special attention to aquatic animals. The dean of women is Mrs. R. E. Coker, who will look after the welfare of the women. The instruction in field geology and physical geography is given by Professor Allen C. Tester, of the University of Iowa. The field botanical course will be given by Norman Taylor, botanist, of the Brooklyn Botanic Garden, and the field course on birds, by Aretas A. Saunders, of Fairfield, Conn. The nature study instruction will be given by W. P. Alexander, of the Buffalo Society of Natural Sciences, and the instruction covering park problems and park management, by Professor Henry R. Francis, of the department of recreational forestry of the New York State College of Forestry at Syracuse.

THE thirteenth annual convention of the American Association of Cereal Chemists will be held at Hotel Fontenelle, Omaha, Nebr., from May 30 to June 3.

AT the invitation of the American Association of Economic Entomologists and the Entomological Society of America, the fourth International Congress of Entomology will be held at Ithaca, N. Y., probably in the third week of August, 1928. A preliminary program will be issued in the near future.

PROPOSED anti-evolution legislation received a setback in the Minnesota legislature on March 10 when the house committee on education, by a vote of 12 to 5, recommended indefinite postponement of a measure that would bar teaching of evolution theories in tax-supported schools.

THE anti-evolution bill, introduced in the North Carolina legislature that has just concluded its session, was voted down in committee by a large majority. Those in favor of the bill decided not to bring it to a vote in the house.

AT the request of the United States geographical board, Governor W. J. Fields, of Kentucky, formed on March 9 the Kentucky Geographic Council to cooperate with the national board in the work of preparing a geographic dictionary of the United States. Dr. Willard R. Jillson, director of the Kentucky Geological Survey and state geologist, was made chairman of the council. The other members are Otto A. Rothert, of Louisville, secretary of the Filson Club, and H. V. McChesney, of Frankfort, first vice-president of the Kentucky State Historical Society.

ANNOUNCEMENT has been made of the establishment of a new journal by the Chinese Physiological

Society, entitled *The Chinese Journal of Physiology*, which is to be issued quarterly. The society is composed of the physiologists, biochemists and pharmacologists of China. Membership is open to all workers (Chinese and foreigners) in the physiological sciences in China.

FOUR German universities will celebrate the anniversary of their foundation this year—namely, Würzburg, founded 1402 (exact date unknown); Tübingen, October 9, 1447; Marburg, May 30, 1527, and Breslau, November 15, 1702.

THE Sir William Dunn school of pathology at Oxford University was opened on the afternoon of March 11, by Viscount Cave, lord chancellor of England and chancellor of the university.

THE American Forestry Association has announced an offer of \$100,000 by George D. Pratt, president of the association, to be applied toward a \$200,000 endowment to carry on the educational work of the association. The offer is contingent upon the raising of the remaining \$100,000. \$60,000 of this amount is already available in the reserve fund of the association. The remaining \$40,000 will be raised by solicitation among the members of the association and for new members.

THE University of Michigan has received a gift of \$45,000 a year from July 1, 1927, for five years, from anonymous sources, to be used toward "discovering and promoting scientific knowledge of the causes, prevention and cure of cancer and other growth processes." Under the terms of the gift President C. C. Little is designated director of the research contemplated. Dr. L. C. Strong, of the Bussey Institution, Harvard University, is to be one of the investigators.

MISCELLANEOUS gifts totalling \$32,550, besides apparatus and records, have been announced by Columbia University. Physics appliances valued at \$7,100 were donated by the Optometrical Society of the City of New York, the Optometrical Club of Brooklyn, the Epsilon Psi Epsilon Fraternity, the General Optical Company and the Hamilton Manufacturing Company, while the American Optical Company loaned an additional \$1,750 worth. Donors of money included: Mrs. Frederic S. Lee, Blair S. Williams and an anonymous donor, for immediate needs under the direction of the president, \$7,700; General T. Coleman du Pont, for special tuberculosis fund, \$5,000; Mrs. Edward D. Faulkner, for salaries in the department of surgery, \$2,500; Copper and Brass Research Association, for the copper and brass fund, \$2,500; A. S. Rosenthal, for medical research in pathology, \$2,500.

MRS. C. V. RILEY, widow of Dr. Riley, predecessor of Dr. L. O. Howard as chief entomologist of the U. S. Department of Agriculture, has donated to the library of the National Museum the scrapbooks of economic entomology which were kept by her husband in the period of his activity from 1865 to 1894. These volumes, about one hundred in number, contain many articles of great historical interest. In giving these scrapbooks to the museum, Mrs. Riley wished to have them housed in the same place as the Riley collection of insects.

UNIVERSITY AND EDUCATIONAL NOTES

THE University of Missouri will ask the state legislature for an appropriation of \$6,348,962.39 for the biennium of 1927-28. This is \$227,920.29 less than was requested two years ago. The Missouri School of Mines and Metallurgy is asking the state legislature for \$1,227,250 for the next two years.

A GIFT of \$25,000 to Howard University's medical school \$250,000 endowment fund by Julius Rosenwald, of Chicago, has been announced.

PHILLIPS ANDOVER ACADEMY has been presented with \$125,000 by A. I. du Pont, of Wilmington, Del., for use in completing the \$300,000 science building.

ON March 5 the medical college of The Long Island College Hospital, Brooklyn, inaugurated its new course in "Medical Literature and Bibliography." In a number of schools the importance of bibliographical knowledge has been stressed by individual teachers, but this is said to be the first established course of this nature included in the curriculum of a medical school in this country. An attempt is being made to show the student the value of literature which constitutes an important part of the background of his work; and to teach him how to use a library. The faculty has secured as a lecturer Mr. Charles Frankenberger, librarian of the Medical Society of the County of Kings, whose wide knowledge of bibliography and of the relative values of medical literature can now be made available for the medical student as a part of his training.

A FACULTY of mechanical engineering and mining chemistry and technique is to be founded in the University of Münster, Westphalia, at a cost of 1,500,000 marks. A contribution of 1,000,000 marks has been promised by the provincial government, and 500,000 marks have been received from industrial bodies.

DR. ALFRED OWRE, dean of the school of dentistry at the University of Minnesota, has been named dean

of the school of dental and oral surgery at Columbia University, succeeding Director Frank T. Van Woert, who is to be relieved of administrative duties at his own request.

AT Harvard University, Dr. Oliver D. Kellogg has been promoted to a full professorship of mathematics. Other promotions include those of Dr. E. A. Hooton, assistant professor of anthropology, and Dr. William Henry Westen, assistant professor of botany, to be associate professor.

PROFESSOR L. D. AMES, of the Texas Technological College, has been appointed professor of mathematics at the University of Southern California.

DR. H. B. ENGLISH, associate professor of psychology at Wesleyan University, has resigned to take a position at Antioch College.

DISCUSSION AND CORRESPONDENCE THE COLOR OF HYDRATED SILICA AND ALUMINA

DURING a study of the hydration of silica, alumina and ferric oxide I noticed that alumina became more and more colored as its hydration increased. The anhydrous oxide Al_2O_3 is snow white by either reflected or transmitted light. The hydrated form $\text{Al}(\text{OH})_3$ is a decided tan or even brown by transmitted light, but the complementary bluish white by reflected light. A small flake or chip of the hydroxide under a low power microscope shows the effect nicely since the light is easily shifted. Silica shows a precisely similar effect as the SiO_2 goes over to the orthosilicic acid $\text{Si}(\text{OH})_4$.

In other words, these hydrated oxides show a pronounced *dichroism* while the oxides do not. This dichroism is a useful qualitative test for the degree of hydration. Previous workers have evidently attributed the brownish color to traces of iron, overlooking the bluish tint of the same particle by reflected light. Either precipitates or suspensions of either hydrate show the effect very well. I have not been able to locate definite *steps* in the hydration of either oxide by this means, to do that would require rather precise spectrophotometric data. Most complex oxides apparently do *not* show similar dichroism on hydration, but only a hasty survey has yet been made.

An interesting application to meteorology is evident in relation to sky colors. Both silica and alumina are strongly hygroscopic, adsorbing water films (at even low humidities) many molecules deep. Due to the intense internal pressures in these films on minute particles, hydration is relatively rapid. Hence we should expect that dust particles (largely