

that it gives force to the idea that all typical kames are formed by streams debouching into water bodies, and sometimes by subglacial streams under hydraulic pressure. Streams debouching on the land would naturally produce either outwash plains or valley trains. The fact that basins or kettles, believed to be due to melting out of buried ice blocks, are usually abundant in areas of kames, seems to prove that the materials were laid down in standing water in close association with the stagnant ice margin, either on the ice or in hollows and valleys and reentrants in the ice.

*Extraglacial: Outwash Plains.*—These are the gravel and sand deposits spread out in front of the glacier by the outflow of the glacial streams and which can not be classed on the one hand as deltas or on the other as valley trains. Water-laid drift in facial contact or close association with the moraines and which can not be distinguished either as delta, kame or valley train, may safely be put in the indefinite class of outwash gravel plains. North of the divide where built in lakes they grade into deltas and kames. South of the divide they constitute most of the valley fillings, especially of the broader valleys which lay athwart the direction of ice flow.

A not uncommon feature of the gravel plains and one which shows the close relation to the glacier front, is the existence of ice-block kettles. The term "pitted plain" has been applied to the sand plains with numerous kettles. Another feature indicating their genesis is the preservation in some cases of the ice-contact slope. The outwash sand and gravel plains are more common in the southwest part of the state and in the Mohawk Valley. In the highlands the drainage was too free and vigorous. In the Champlain-Hudson Valley, lower levels, the sea-level waters distributed the glacial stream detritus, or it was

buried under the deluge of sand contributed by the rivers since the ice disappeared. The very extensive sandplains on both sides of the Hudson River and Lake Champlain, for example, the Saratoga district, must be classed as marine deltas. But on the walls of the great valley above the marine plain Woodworth has noted ice-contact slopes of glacial outwash deposits. In the Susquehanna district Tarr found numerous plains of this class.

*Extraglacial: Valley-Trains.*—South of the divide, where the drainage had free escape, some detrital filling of the valleys is common and occasionally abundant. The high-level flood plains along the valley sides and the elevated deltas of lateral tributaries testify to the glacial floods and their burden of detritus. The deposit by glacial flow is of course intermingled with and in places buried under land stream detritus. The valley trains may be regarded as heading in outwash plains, and one might regard the glacial gravel deposits in the entire length of the valleys north of the terminal moraine as outwash. This view would restrict the true valley-trains to the fillings of valleys beyond the terminal moraine or reach of the ice sheet. In this latter view the valley-train drift would occur in New York only along the south side of Long Island, and in the small area south of the Alleghany River.

HERMAN L. FAIRCHILD

UNIVERSITY OF ROCHESTER

(To be concluded)

#### SCIENTIFIC NOTES AND NEWS

PROFESSOR WILLY WIEN, of Würzburg, will deliver at Columbia University, during the month of April, a series of lectures on recent developments in theoretical physics. Professor Wien received the Nobel prize in physics in 1911 and is well known for his researches in radiation and the electrical constitution of matter.

On the occasion of the dedication of the new building of the Medical Department of the University of Georgia, on January 29, the LL.D. degree was conferred on Dr. William M. Polk, dean of Cornell University Medical College, and Dr. J. A. Witherspoon, president-elect of the American Medical Association.

DR. F. KÖRTE, who has been an important figure in the development of medicine in Germany, celebrated, on January 16, his ninety-fifth birthday.

KING CHRISTIAN has decorated Dr. V. Poulsen and Professor P. O. Pedersen with the medal of merit in gold on account of the honor they have brought to Denmark by their work in connection with wireless telegraphy and telegraphones.

M. B. BAILLAUD, director of the Paris Observatory, has been elected president, and M. H. Deslandres, director of the Meudon Observatory, vice-president, of the Paris Bureau des Longitudes for 1913.

DR. EBERHARD RIMANN, of the Technical Institute at Dresden, has been appointed director of the Geological Survey at Brazil in succession to Professor E. Hussac.

DR. E. M. KINDLE, since 1901 paleontologist in the U. S. Geological Survey, has accepted a similar position on the Geological Survey of Canada.

PROFESSOR H. E. CLIFFORD, who holds the McKay professorship of electrical engineering at Harvard University, will go in the second half-year to Annapolis, to organize graduate study in electrical engineering at the Naval Academy.

RICHARD M. HOLMAN, B.A. (Stanford, '07), senior instructor in botany, University of the Philippines, stationed from June, 1910, to June, 1912, at the College of Agriculture, Los Baños, Philippine Islands, is on leave of absence which extends to September, 1913. He is at present engaged in graduate study at Leipzig University.

PROFESSOR JAMES F. KEMP, of Columbia University, delivered a short course of lectures during the month of January, in the Faculty of Applied Science at McGill University, on

"The Services of Geology to the Mining Industry."

DR. MARTIN FISCHER, of the University of Cincinnati, delivered the address at the third winter commencement of St. Louis University School of Medicine, January 30, on the subject, "Principles of Treatment of Edema and Nephritis."

DURING the week of January 13 to 18, Mr. Vilhjalmer Stefansson visited the University of North Dakota, at which he was a former student, and delivered a series of three lectures, as follows: January 13, "Five Years of Arctic Exploration"; January 14, "The Discovery of the Blond Eskimo"; January 15, "The Mind of Primitive Man." Later in the week he was a guest of the Icelandic Society, of which he is a member.

ON January 29, Dr. Joseph Barrell, professor of structural geology in Yale University, gave an illustrated lecture on "A Reconstruction of Connecticut's Geologic Past," under the auspices of the Yale chapter of Sigma Xi.

THE seventh of the present course of Harvey Society lectures will be given at the New York Academy of Medicine on February 15, by Dr. Theodore C. Janeway, of Columbia University, on "Nephritic Hypertension: Clinical and Experimental Studies."

THE Mutual Life Insurance Company is providing a series of lectures in New York City. The lecture of January 29 was delivered by Surgeon-General Rupert Blue, United States Public Health Service, who spoke on the bubonic plague and other contagious diseases.

PROFESSOR ISAIAH BOWMAN, of Yale University, delivered a lecture on "The Physiography of the Central Andes" before the Geological Department of Columbia University on January 28.

DR. ORVILLE HORWITZ, until his illness head of the department of Genito-Urinal Surgery in Jefferson Medical College, Philadelphia, died on January 28, aged fifty-five years.

DR. JAMES P. TUTTLE, fifty-six years of age, a practising surgeon and professor emeritus

of surgery in the Polyclinic Hospital, New York, died on January 30.

DR. O. T. WILLIAMS, lecturer on pharmacology and demonstrator of biochemistry in the University of Liverpool, has died at the age of thirty-five years.

PROFESSOR BINZ, who held the chair of pharmacology at Bonn, has died at the age of eighty years.

DR. F. TELLER, chief geologist at the "Geologische Reichsanstalt," Vienna, and member of the Vienna Academy of Sciences, died on January 10, in his sixty-first year.

DR. R. COLLETT, professor of zoology in the University of Christiania, has died at the age of seventy years.

DR. AUGUSTUS WITKOWSKI, professor of experimental physics in the University of Cracow, died on January 21, at fifty-eight years of age.

THE Archduke Rainer, the oldest member of the Imperial Austro-Hungarian family, who died on January 27, at eighty-five years of age, was actively interested in scientific and artistic activity. Foreign journals state that at the Vienna Academy of Sciences, of which he was curator, he never missed an important sitting, while the Austrian museums owed their development largely to his support.

IN the Senate of the United States on January 24 Mr. Cummins submitted the following resolution, which was considered and agreed to:

*Resolved*, That the Committee on Naval Affairs is hereby authorized and directed to investigate the affairs of the Naval Observatory and its relation to the American Ephemeris and Nautical Almanac; and, further, to inquire into the wisdom and propriety of placing the management of the Naval Observatory in the hands of scientists, without regard to their connection with the Navy of the United States.

*Resolved further*, That the said committee be directed to make report of the matters herein referred to it as soon as practicable.

THE Harriman Research Laboratory, which was established in New York City in 1910 and is maintained by Mrs. E. H. Harriman

for the study of chemical problems connected with disease and owns and operates a building on the grounds of Roosevelt Hospital, has been incorporated.

A GOLD medal is offered by the American Laryngological Association for the best essay pertaining to laryngology or rhinology, preference being given to essays offering new suggestions of practical value arising from original work.

THE heirs of Herr Adolf Schwabacher, the Berlin banker, have established a foundation with 100,000 Marks, the income of which will be used to confer a prize in medicine every five years.

THE Astronomical Society of Mexico has decided, beginning from 1913, to offer a medal and diploma to any astronomer who discovers a comet. The medal will bear the name of "Carolina Herschel Medal."

THE ninth International Physiological Congress will be held at Groningen September 2-6 under the presidency of Professor H. J. Hamburger.

AT a special general meeting of the Royal Geographical Society, on January 15, the president, Lord Curzon, of Kedleston, moved the resolution: "That the society approve of the election of women as fellows," and it was carried by 130 votes to 51.

THE Jesup lectures on Heredity and Sex, by Dr. Thomas H. Morgan, professor of experimental zoology in Columbia University, are now being given in the lecture hall of the Museum of Natural History on Wednesday evenings at 8:15. The subjects are as follows:

February 5—"The Evolution of Sex."

February 12—"The Mechanism of Sex Determination."

February 19—"The Mendelian Principles of Heredity and their Bearing on Sex."

February 26—"Secondary Sexual Characters and their Relation to Darwin's Theory of Sexual Selection."

March 5—"The Effects of Castration and of Grafting on the Secondary Sexual Characters."

March 12—"Parthenogenesis and Sex."

March 19—"Inbreeding and Fertility."

March 26—"Special Cases of Sex Inheritance."

THE Norman W. Harris lectures of Northwestern University will this year be given by Dr. J. S. Ames, professor of physics in Johns Hopkins University. The series, comprising six lectures on the subject "The Constitution of Matter," is as follows:

February 24—"General Properties of Matter; Mass."

February 25—"Corpuscles and Atoms; Electrical Mass."

February 26—"Radioactivity; Gravitation."

February 27—"Radiation; Formation of Molecules; Elasticity."

February 28—"Properties of Metals; Thermionics."

March 1—"Models of Atoms; Conclusion."

WE learn from the *Journal* of the American Medical Association that on January 25 the American Society for Physicians' Study Travels, with national headquarters in Philadelphia and proposed branches throughout the United States, was formally organized at a meeting of prominent medical men at Philadelphia. Dr. James M. Anders was elected president and Dr. Albert Bernheim was chosen as secretary. The society proposes to send travel parties to foreign countries to report on the methods of leading medical men and scientists in Europe and South America. All physicians and scientific men qualified to become affiliated with the American Medical Association will be eligible for membership, and also associate and honorary members will be elected among the prominent medical and non-medical men of this and foreign countries.

ON February 3 the city of Providence passed a resolution accepting as a gift from the Audubon Society of Rhode Island the Manly-Hardy collection of North American birds and also as a gift from Mr. Horace F. Carpenter his collection of shells and minerals with a library descriptive of the same. The conditions of the gifts are that they shall be properly cared for and exhibited at the Park Museum within three years from date of acceptance. This means that the city will erect an addition to the museum almost as large as the present structure, equipped to exhibit the

collections. The Manly-Hardy collection of North American birds, which has just been purchased by the Audubon Society of Rhode Island through subscriptions of its members and friends, is one of the most valuable private collections in existence and represents thirty-three consecutive years of work on the part of Mr. Hardy and his daughter, Mrs. Fannie Hardy Eckstorm. The collection is remarkable for its many specimens in breeding plumage, for some extinct and for numerous rare species. The Carpenter collection of shells and minerals represents about fifty years' work by Mr. Horace F. Carpenter, of Providence, and contains over three thousand species of shells, about five hundred different kinds of minerals and a library valued at over \$2,000.

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#### UNIVERSITY AND EDUCATIONAL NEWS

OHIO-MIAMI MEDICAL COLLEGE of the University of Cincinnati, has received \$125,000 from a donor whose name is being withheld. An effort is being made to raise an endowment fund of \$1,000,000.

DURING the past year three wills, involving property valued at \$125,000, have been probated in favor of Knox College. About half of this amount becomes available immediately for the endowment of a professorship in one of the departments of science, while the remainder is held in trust during the lifetime of the widow of one of the testators.

MR. EUGENE MEYER and his wife, of New York, have given Cornell University \$10,000 to endow a fellowship in memory of their son, Edgar J. Meyer, who graduated from Sibley College in the class of 1905 and whose life was lost by the sinking of the *Titanic*. The purpose of the fellowship is to encourage research in mechanical and electrical engineering.

THE *Journal* of the American Medical Association states that the College of Physicians and Surgeons of Chicago again passes under the control of the University of Illinois. This time it is a gift to the state institution partly