to the Negro, and his studies in fractures stand as classics.

Dr. Reid, the recipient of the first award to be made, is at present professor of surgery at the University of Cincinnati. For years he served as assistant to the late Dr. W. S. Halsted, professor of surgery in The Johns Hopkins University. During this association with Professor Halsted, Dr. Reid became an ardent admirer of Professor Matas and through the years his admiration and appreciation for Dr. Matas and Professor Halsted caused him to direct his efforts in the field of vascular surgery, in which he has won high distinction.

SCIENTIFIC NOTES AND NEWS

AT the Boston meeting of the American Physical Society Professor Arthur H. Compton, of the University of Chicago, was elected president and Professor R. W. Wood, of the Johns Hopkins University, was elected vice-president.

PROFESSOR A. B. COBLE, of the University of Illinois, has been elected president of the American Mathematical Society for the year 1934. The vice-presidents are Professor J. W. Alexander, of Princeton University, Professor Marston Morse, of Harvard University, and Professor H. S. Vandiver, of the University of Texas.

DR. GEORGE H. PARKER, professor of zoology at Harvard University, has been elected president of the Society of the Sigma Xi.

DR. CHAS. F. MARVIN, chief of the U. S. Weather Bureau, has retired, having reached the age of seventy-five years. Dr. Marvin will have served the bureau for fifty years next September and until then is expected to remain in an advisory capacity. He was appointed chief of the bureau in 1913, the President acting on the advice of the National Academy of Sciences before making a selection. Dr. Marvin is succeeded by Dr. W. R. Gregg, who has been in the service of the bureau since 1904. Since 1915 Dr. Gregg has occupied the position of principal meteorologist and since 1917 has been in special charge of aerological investigations.

DR. JOHN L. RICE, who has served for ten years as public health officer of New Haven, Connecticut, has been appointed by Mayor LaGuardia commissioner of health of New York City. Dr. Rice is chairman of the section for health officers of the American Public Health Association. Dr. S. S. Goldwater, advisory expert for many institutions in the United States and abroad, consultant on health and hospitals to the Board of Estimate in 1917 and formerly head of Mount Sinai Hospital, has been appointed commissioner on hospitals.

PROFESSOR P. A. DANGEARD, director of the laboratory of botany at the University of Paris, has been elected vice-president of the Paris Academy of Sciences. Election to the presidency will follow automatically in 1935.

M. R. THIRY, professor of mechanics in the University of Strasbourg, has been elected a correspondent of the Paris Academy of Sciences in the section for mechanics.

THE *British Medical Journal* reports that Dr. Alexander von Lichtenberg, professor of surgery at Berlin, has been made a foreign member of the Swedish Medical Society; Dr. Max Heinrich, Fischer professor of cerebral investigation at Berlin, a corresponding member of the Royal Medical Academy at Rome, and Dr. Erich Lexer, professor of surgery at Munich, a foreign member of the Lombardy Surgical Society.

THE gold medal of Villanova College for 1934 will be presented on January 28 to Abbé Georg LeMaître, of Belgium, visiting professor at the Catholic University, Washington. The medal is presented annually by the college to a Catholic who has performed distinguished service to science.

THE Legion of Honor of France has been awarded to Dr. James H. Kimball, meteorologist since 1895 at the New York Station of the U. S. Weather Bureau, "for the aid he, as one of the world's foremost aviation weather authorities, gave to the French aviators flying the Atlantic."

CAPTAIN ALBERT W. STEVENS, U. S. Army Air Corps, has been awarded the Franklin L. Burr prize of the National Geographic Society of the value of $1,000 in recognition of his work on aerial photography, particularly his photograph from 26,000 feet altitude of the moon's shadow during the total solar eclipse of 1932.

DR. JOSIAH F. REED was awarded the Seibert Memorial Prize of the Harrisburg Academy of Medicine at its annual banquet. The award, which is $500, to be used in visiting medical centers in Europe, was established in memory of the late Dr. William Seibert, Steelton, by his sister, the late Anna Mary Seibert. It is given every two years to a member of the academy who has done notable work. Dr. Reed is an obstetrician on the staff of the Harrisburg Hospital.

AT the thirty-first annual meeting of the American Society of Zoologists held at Cambridge from December 28 to 30, the following officers were elected: *President,* A. H. Sturtevant; *Vice-president,* H. W. Rand; *Secretary,* H. B. Goodrich; *Treasurer,* B. H. Willier; *Member of the Executive Committee,* Charles Zeleny.

THE newly elected officers of the Botanical Society of America are: *President,* E. D. Merrill, director of the New York Botanical Garden; *Vice-president,* H. L. Shantz, president of the University of Arizona. The treasurer, H. A. Gleason, New York Botanical Garden, and the secretary, were elected one year ago, for longer terms. Officers of the sections of the society, elected or announced at the same meeting, are: General Section—*Chairman,* William H. Eyster, Bucknell University, Lewisburg, Pa.; *Secretary,* Adriance S. Foster, University of Oklahoma. Physiological Section—*Chairman,* Charles F. Hottes, University of Illinois; *Secretary,* E. F. Hopkins, Cornell University. Systematic Section—*Chairman,* O. E. Jennings, Carnegie Museum, Pittsburgh; *Secretary,* Edward H. Graham, Carnegie Museum, Pittsburgh.

OFFICERS of the American Society of Plant Physiologists are: *President,* Dr. C. O. Appleman, University of Maryland; *Vice-president,* Dr. H. R. Kraybill, Purdue University; *Secretary,* Dr. A. E. Murneek, University of Missouri.

THE Genetics Society of America has elected as *President,* Sewall Wright, and as *Vice-president,* D. F. Jones. These, together with the *Secretary-Treasurer,* P. W. Whiting; the *Retiring President,* R. A. Emerson, and the *President for 1932,* L. C. Dunn, constitute the executive committee for the coming year.

THE newly elected officers of the Ecological Society are as follows: *President,* George D. Fuller, University of Chicago; *Vice-president,* Paul S. Welch, University of Michigan; *Secretary-Treasurer,* Arthur G. Vestal, University of Illinois. Newly elected members of the Editorial Board of *Ecology* for three years to succeed Needham, Nichols, Pearson and Powers are: Bertram Wells, F. C. Gates, W. P. Taylor and Francis Harper. The newly elected members of the Editorial Board of "Ecological Monographs" for three years to succeed Juday and Transeau are: Paul B. Sears and A. H. Wright.

J. FRANKLIN COLLINS, senior pathologist of the U. S. Department of Agriculture at Providence, R. I., has retired at the age of seventy years, after serving as forest pathologist for twenty-one years. Mr. Collins also has been lecturer in botany at Brown University.

DR. ROBERT DAVIS, head of the American Library in Paris, has resigned as superintendent of the American Hospital at Neuilly, which post he had accepted for a period of eighteen months. Dr. MacIlroy, director of the school of medicine at Richmond College, Virginia, will take his place.

WILLIAM A. SCHOENFELD, dean of agriculture and director of the agricultural experiment station at Oregon State College, has recently been appointed by W. I. Meyer, governor of the Farm Credit Administration, a member of the board of directors of the regional office of the Federal Farm Credit Administration at Spokane, Washington. This appointment will not interfere with his work at the college.

COLONEL SAMUEL PRICE WETHERILL, JR., president of the Philadelphia Art Alliance and member of the executive committee and former president of the Tri-State Regional Planning Federation, has been elected chairman of the Board of Trustees of the Philadelphia College of Pharmacy and Science at a meeting of the trustees on January 9. He has been a member of this board since 1921. He succeeds Joseph W. England, who had been chairman from 1924 until his death on December 2.

DWIGHT B. DEMERITT, professor of forestry at the University of Maine, was recently appointed to succeed the late Professor J. M. Briscoe as head of the department.

MR. F. R. KILLE has been appointed instructor in zoology at Swarthmore College. Dr. W. J. Scott has been granted a year's leave of absence and Robert K. Enders has been appointed acting chairman of the department of physiology and zoology.

UNIVERSITY readers have been appointed in the University of London as follows: Botany, Birkbeck College, Dr. F. C. Steward, Leeds; Epidemiology and vital statistics, London School of Hygiene and Tropical Medicine, Dr. A. B. Hill, University of London.

DR. HERBERT U. WILLIAMS, professor of pathology and bacteriology, University of Buffalo School of Medicine, is on leave of absence until March, to visit the Philippine Islands and the East Indies.

PROFESSOR H. K. HAYES, chief of the division of agronomy and plant genetics at University Farm, Minnesota, has accepted an invitation to deliver the Spragg Memorial lectures at Michigan State College, instituted in memory of a former head of the work in plant breeding at Michigan State College. Dr. Hayes will deliver five lectures over the period of the series.

DR. JEAN R. OLIVER, professor of pathology at Long Island College of Medicine, will deliver the tenth Ludvig Hektoen Lecture of the Frank Billings Foundation of the Institute of Medicine of Chicago on February 23. His subject will be "The Problem of Architectonics in Terminal Bright's Disease."

DR. HAROLD C. UREY, of Columbia University, delivered the second lecture under the Dohme lecture series for 1933–34 at the Johns Hopkins University on January 12 on "Some Differences in the Thermodynamic Properties of the Hydrogen Isotopes." Dr. Urey was formerly associate in chemistry at the Johns Hopkins University from 1924 to 1928.

DR. CHARLES F. CRAIG, director of the department of tropical medicine, Tulane University of Louisiana School of Medicine, New Orleans, will give the second Jessie Horton Koessler Lecture of the Institute of Medicine of Chicago on January 26. He will discuss amebic dysentery. Dr. Ludvig Hektoen is chairman of the board of governors of the institute.

DR. HERBERT GROVE DORSEY, principal electrical engineer of the U. S. Coast and Geodetic Survey, gave a lecture before the Washington Society of Engineers on January 3, on "Modern Hydrographic Surveying." The lecture included a demonstration of the fathometer for visual measurement of ocean depths and working models of ship and hydrophone station equipment used by the Coast Survey in Radio Acoustic Position Finding.

DR. ARTURO CASTIGLIONI, professor of the history of medicine in the University of Padua, recently gave the Nathan Lewis Hatfield Lecture of the College of Physicians of Philadelphia on "The Medical School at Padua and the Renaissance of Medicine."

PROFESSOR J. R. LEARMONTH, of the University of Aberdeen, gave in January a course of three lectures, illustrated by lantern slides, at St. Bartholomew's Hospital Medical College, London, on "The Surgery of the Nervous System, with Reference to the Use and the Elucidation of Physiological Phenomena."

A BEQUEST of $25,000 is made from the estate of the late Mrs. Mary Hyndman to establish the James Gilmour Hyndman Fellowship in preventive medicine at the University of Cincinnati. Dr. Hyndman was a member of the faculty of the college for several years before his death.

THE University of Arkansas has recently been granted by the Federal Public Works Administration a loan of $1,665,000, including a grant of 30 per cent. of the cost of labor and materials. Out of this fund $1,165,000 will be used to erect a library building and a chemistry building at the main university at Fayetteville and the remaining $500,000 will be used to construct a building for the Medical School at Little Rock. Plans and specifications for all three of the buildings are ready and it is expected that construction will begin within the next two months.

PRESIDENT JOHN LLOYD NEWCOMB, of the University of Virginia, has received official authorization of the appropriation of $379,000 toward the construction of new engineering buildings by the federal public works administration. The construction of the new engineering group will, Dr. Newcomb estimates, keep an average of 144 men busy for a year or more. When work is started about 100 men will be employed, and the number will increase until 150 are on the payroll of the project. The size of the buildings and the character of the equipment to be installed will make it impossible to open them for teaching purposes until September, 1935. But there will be little delay in starting construction, and bids are to be advertised for within 30 days.

A COMMITTEE for Survey of Research on the Gonococcus and Gonococcal Infections has been formed by the Division of Medical Sciences of the National Research Council, in cooperation with the American Social Hygiene Association. Its purpose is to collect, analyze and collate the facts already established and the efforts now in progress to add to knowledge of the gonococcus and gonococcal infections, especially as regards bacteriology, pathology, immunity, mechanism of infection and some of the forms of therapy. At the close of the preliminary survey, the committee, with the assistance of a conference of experts, will compile a report with the object of stimulating interest in the study of the gonococcus, of providing a point of departure and of suggesting promising leads for further investigation. Dr. Stanhope Bayne-Jones, *chairman,* invites the cooperation of workers interested in this field. Other members of the committee are Dr. Edward L. Keyes, Dr. Walter Clarke, *secretary,* and Dr. Francis Blake, chairman of the division, *ex-officio.* Headquarters have been established at Room 1101, 450 Seventh Avenue, New York, where communications and reprints will be welcomed.

UNDER the direction of Ray S. Owen, professor of topographic engineering at the University of Wisconsin, field work has been started by unemployed civil engineers and surveyors in Wisconsin for the purpose of extending the present network of triangulation belts and level lines of the geodetic control survey of the United States. The work is being done under an appropriation of $42,616 which has been allotted by the state civil works administration. Professor Owen is the Wisconsin representative of the U. S. Coast and Geodetic Survey, and has charge of all the field work in Wisconsin. Local CWA units throughout the state are cooperating in the establishment of concrete monuments for traverse stations. As rapidly as civil engineers and surveyors in each section are organized and traverse points established, they are being sent out into the state. At present there are more than 27 engineers working on the project. The Wisconsin quota is 320 men of a total number of 15,030 for the entire country. The work consists of developing a supplementary network to the existing first-order triangulation system by means of which miscellaneous points of prominence and importance will be located

and will serve as controls for future survey work performed by cities in the state. This will enable such surveys to be in accordance with the precise first-order system and make them of greater importance for future reference and record.

STEPS have been taken at the University of Leeds to secure a research fellow to investigate the cause and cure of chronic rheumatism and allied conditions, in order that he may enter on his duties early in 1934. This is the outcome of a deputation, headed by the Earl of Harewood, visiting the university and proposing a scheme of cooperation between the university and the Royal Bath Hospital, Harrogate. An advisory committee of the university has been set up to take general supervision of the work.

DISCUSSION

PALEOZOIC AGE OF THE ROCKS OF CENTRAL NEW HAMPSHIRE

ON the new geological map of the United States issued during the past summer by the U. S. Geological Survey, most of central New Hampshire is shown as "pre-Cambrian, some early Paleozoic rocks may be included." The representation of the geology of this state was based in large part upon a map which I submitted in January, 1932, to Mr. George W. Stose, editor of geological maps for the U. S. Geological Survey. Field work during the summers of 1932 and 1933 has shown that my assignment of the rocks of central New Hampshire to the pre-Cambrian is erroneous. Many of the schists are definitely metamorphosed Silurian and Devonian. Others are pre-Silurian, probably Ordovician but possibly older. Most of the intrusive rocks are younger than the Lower Devonian, but a few are Late Ordovician or older. It is very probable that there are no pre-Cambrian rocks in central New Hampshire, and perhaps in the whole state.

I assigned the rocks of central New Hampshire to the pre-Cambrian on the basis of field work in the North Conway quadrangle during the summers of 1925 and 1926 and the Littleton and Moosilauke quadrangles in 1931. There are no fossiliferous strata within thirty-five miles of the North Conway quadrangle, and the conclusion that many of the schists and orthogneisses are pre-Cambrian was based on long-range correlation. The writer stated that "the evidence as a whole is admittedly inconclusive, but it favors an early paleozoic or pre-Cambrian age of the Montalban schists."[1]

A pre-Cambrian age was also suggested by field work in the Littleton and Moosilauke quadrangles in 1931. The fossiliferous Silurian and Devonian are underlain by a great thickness of slates and volcanics, the metamorphism of which is low-grade. These rocks were believed to be Cambrian and Ordovician. To the southeast of the Silurian and Devonian and the supposed Cambrian and Ordovician are metamorphic rocks of intermediate grade and high grade. Because of their higher metamorphism and an apparent stratigraphic position beneath the supposed Cambrian and Ordovician, they were believed to be older than any of the other rocks and thus pre-Cambrian.

I fully realized, however, that the data were not conclusive and that more field work would be necessary before a definite decision could be reached. Unfortunately, my manuscript of the map had to be prepared in 1932 during this period of uncertainty. On the basis of the data available I assigned the rocks of central New Hampshire to the pre-Cambrian.

As field work progressed during the summer of 1932 and the stratigraphy and structure of the metamorphic rocks of intermediate grade were unraveled, it became clear that they were merely the more heavily metamorphosed equivalents of the Devonian, Silurian and older rocks. Moreover, it was established that most of the intrusive rocks, originally assigned to the pre-Cambrian, are actually younger than the lower Devonian. Finally, in the summer of 1933, with the extension of the field work, it became apparent that even the high-grade metamorphic rocks are Paleozoic.

The conclusion that most of the schists and igneous rocks of New Hampshire are Paleozoic is not a new idea. In the early part of the present century Hitchcock reached a similar conclusion[2] and in a sense the writer is merely substantiating a suggestion put forth thirty years ago.

Table I shows the stratigraphic units established during the past three summers in west-central New Hampshire between the Connecticut and Ammonoosuc Rivers. The age of the Fitch and Littleton formations is based upon paleontological data which will be presented in detail in a forthcoming paper by Arthur B. Cleaves and the writer. The Clough is either Lower or Middle Silurian. The age of the Albee, Ammonoosuc and Partridge formations is not known, other than pre-Silurian. Reconnaissance work strongly sug-

[1] Marland Billings, "The Petrology of the North Conway Quadrangle in the White Mountains of New Hampshire," *Proc. Am. Acad. Arts and Sci.*, Vol. 63, p. 79, 1928.

[2] C. H. Hitchcock, "New Studies in the Ammonoosuc District of New Hampshire," *Bull. Geol. Soc. Am.*, Vol. 15, pp. 461–482, 1904.