

neering, and Charles F. Chandler, pioneer in industrial chemistry, was appointed dean of the faculty and professor of analytical chemistry. Various officers of the college volunteered their services. Torrey lectured on botany, Joy on geology, Peck on mechanics and mine surveying, Reed on physics, Van Amringe on mathematics.

Though founded as a School of Mines, provision was early made for courses leading to the Ph.B. and the C.E. degrees; later architecture, mechanical engineering and electrical engineering courses were added, and it became eventually the School of Engineering of Columbia University.

Though academically a part of the School of Engineering, the title School of Mines is still borne by the mining and metallurgical departments. Pioneer work is still being done. A separate course in mineral dressing, with provision for advanced instruction was recently established, and the first laboratory equipped to make tests upon underground excavations, considered as structures, has also recently been established there.

The School of Mines has a long list of distinguished graduates. Among those prominent in fields other than mining and metallurgy are Irving Langmuir, '03, director of research of the General Electric Company and Nobel prize laureate in 1932; H. Hobart Porter, '86, president of the American Waterworks and Electric Company. The late Nathaniel Lord Britton, '79, for many years director-in-chief of the New York Botanical Garden, and Carl Barus, '77, professor emeritus of physics at Brown University and formerly dean of the Brown Graduate Department.

THE SILLIMAN LECTURES AT YALE UNIVERSITY

THE twenty-sixth series of lectures on the Mrs. Hepsa Ely Silliman Foundation will be given at Yale University during October by Dr. Edwin Powell Hubble, astronomer of the Mount Wilson Observatory, Pasadena, California. The series, entitled "The Realm of the Nebulae," will consist of eight lectures given on Mondays, Wednesdays and Fridays, at 4:15 P. M., in Stratheona Hall, beginning on October 14.

The lectures will present the available information derived from direct observations in the observable region of space considered as a sample of the universe. They will sketch the formulation of the problems and indicate the nature of the material, the methods which have penetrated the field and the results to which they lead. Finally, the results will be compared with those to be expected in current theories of cosmology.

Following are the subjects of the individual lectures:

1. The Exploration of Space
2. Classification of Nebulae
3. Distribution of Nebulae
4. Distances of Nebulae
5. The Velocity-Distance Relation
6. The Local Group
7. The General Field
8. The Realm of the Nebulae

The subject is one of compelling scientific interest and will be handled by one who is a recognized leader in this field. Dr. Hubble is not only a master of the current theories of cosmology, but has with his associates at Mt. Wilson made the observations upon which these theories, particularly those of Einstein, deSitter and others, have been based.

SCIENTIFIC NOTES AND NEWS

DR. HOWARD McCLENAHAN, secretary of the Franklin Institute and director of the museum and of the Benjamin Franklin Memorial, has resigned as director but will continue as secretary of the institute, a position that he has held since 1925. Henry Butler Allen, chief metallurgist of the Henry Disston Company, has been elected director and will take up the work on October 1. Dr. McClenahan has been granted a year's leave of absence, which he plans to spend in travel abroad.

At a meeting of the Board of Trustees on September 5, Clement Clarence Williams, since 1926 dean of the College of Engineering of the State University of Iowa, was elected president of Lehigh University. At the same meeting the title of president emeritus was conferred on Dr. Charles Russ Richards, whose resignation as president became effective on August 31.

Dr. Richards became president of the university in 1921, succeeding Dr. Henry S. Drinker, who also retired with the title of president emeritus after serving as president for fifteen years.

IN connection with the sixth International Botanical Congress, which opened at Amsterdam on September 2, under the presidency of J. C. Schoute, professor of botany and director of the laboratory at Groningen, Dr. Elmer D. Merrill, retiring director of the New York Botanical Garden, now director of botanical work at Harvard University, and Dr. Donald Reddick, professor of plant pathology at the New York State College of Agriculture at Cornell University, were elected corresponding members of the Netherlands Botanical Association.

DR. CLARK L. HULL, professor of psychology at Yale University, was elected president of the American Psychological Association at the recent meeting at the University of Michigan. Dr. Harold Ellis Jones, director of research at the Institute of Child Welfare of the University of California, and Dr. Mark Arthur May, professor of educational psychology at Yale University, were elected members of the council of directors. Dr. G. W. Allport, of Harvard University, was chosen as representative of the association on the Social Science Research Council.

EDGAR S. NETHERCUT, secretary and director of the Western Society of Engineers for eighteen years, has been elected secretary emeritus. He is succeeded by Leigh S. Keith.

NAOHIKO MASAKI has been elected chairman of the board of directors of the Japanese Association of Museums. He succeeds the late Chiyomatsu Ishikawa.

PROFESSOR LUDOLPH BRAUER, for many years professor of internal medicine at the University of Hamburg and director of the Eppendorf Hospital, known especially for his work on tuberculosis, celebrated his seventieth birthday on July 1.

SIR FREDERICK GOWLAND HOPKINS, professor of biochemistry at the University of Cambridge and president of the Royal Society, and Dr. R. Inada, professor of medicine at the University of Tokyo, have been elected non-resident fellows in the division of biological, physical, chemical and natural sciences of the Paris Academy of Medicine.

PROFESSOR W. SCHULEMANN has been elected an honorary corresponding member of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine.

THE Johnson Memorial Prize of the University of Oxford for 1935 has been awarded to Dr. T. G. Cowling, Brasenose College, lecturer in mathematics at the University College of Swansea, for an essay entitled "Convection in Stars."

PROFESSOR C. W. CROCKETT, professor of mathematics and astronomy at the Rensselaer Polytechnic Institute, has been made professor emeritus.

PROFESSOR D. C. GILLESPIE has been appointed chairman of the department of mathematics of Cornell University. The retiring chairman is Professor W. B. Carver.

DR. L. N. DUNCAN, director of the agricultural extension service and a member of the administrative committee which has been in charge of the Alabama Polytechnic Institute, has been appointed president.

DR. WALTER MCK. MILLER, of Tufts College, has

been appointed assistant professor of mathematics at the Massachusetts State College, Amherst.

M. H. FILSON, assistant professor of chemistry at Ohio Northern University, has been appointed head of the department of chemistry and physics at Mississippi Woman's College.

DR. HARVIER, until recently associate professor of therapeutics in the faculty of medicine of the University of Paris, has been named professor to succeed Professor Loeper, who has been elected to the chair of clinical medicine.

DR. K. MADDERS has been awarded a Halley Stewart fellowship in order to continue the research carried out under the direction of Dr. R. D. Lawrence in the Diabetic Clinic of King's College Hospital, London, and has also been granted clerical assistance for that purpose.

P. V. CARDON, since 1928 director of the Utah Experiment Station and since May, 1934, regional director of the land policy section of the AAA, in New Mexico, Arizona, Colorado, Utah, Nevada and California, has resigned to accept an appointment as principal agronomist in charge of the Division of Forage Crops and Diseases, of the Bureau of Plant Industry, Washington, D. C. He succeeds Dr. A. J. Pieters, who became head of the division in 1931.

DR. WILLIAM H. MARTIN was recently appointed director of research at the New Jersey Experiment Station. He will supervise research projects and budgets.

DR. HOWARD ROSS TOLLEY, professor of agricultural economics and director of the Giannini Foundation at the University of California, will return to the university after spending a year as head of the department of planning and research of the Agricultural Adjustment Administration.

DR. FRANCIS D. COMAN, of the School of Medicine of the Johns Hopkins University, who was medical director of the first Byrd Expedition to the Antarctic, has been given leave of absence and sailed on July 15 on an expedition to the South Seas. He will gather meteorological and other data for a projected commercial airline to the Antipodes.

DR. STANLEY P. REIMANN, director of the Lankenau Hospital Research Laboratory, Philadelphia, has gone to Germany to attend cancer conferences at the biologic laboratory at Oppau, near Heidelberg. He will also visit the Free Cancer Hospital in London.

JAMES M. WALTER, assistant pathologist of the Department of Agriculture, has left for England, where he will spend from two to five years studying the

Dutch elm disease. He will make his headquarters at Oxford.

MISS ANNEKE PANNEKOEK, paleontologist at the Geological Institute of the University of Amsterdam, lectured on August 13 before the Paleontological Research Institution at Ithaca, N. Y., on the geology of the East Indies, with special reference to the Miocene Molluska of Sumatra and Java.

DR. C. E. TURNER, of the Massachusetts Institute of Technology, has been appointed by the University of Calcutta to deliver a course of six lectures relating to the organization of health education.

THE fifth Victor Horsley Memorial lecture will be delivered by Sir Walter Langdon-Brown, Regius professor of physics at the University of Cambridge, on November 19 on "The Integration of the Endocrine System." The chair will be taken by Sir Frederick Gowland Hopkins, president of the Royal Society.

THE new Hayden Planetarium of the American Museum of Natural History, New York City, will be opened on October 3. Dr. Clyde Fisher, curator of astronomy, will be director of the planetarium and William H. Barton, Jr., will be assistant curator.

DR. FRED J. SEAVER, managing editor of *Mycologia*, announces the receipt of another gift of \$1,000.00, which will be added to the *Mycologia* Endowment Fund held by the New York Botanical Garden. This is the second gift of one thousand dollars made by the same person, the name of the donor being withheld by request. It is hoped that when the interest on this endowment fund has reached sufficient proportions it may be used to defray the cost of special features of *Mycologia* which can not be met by the regular income.

The Experiment Station Record reports that following the granting to the governor of unusual authority in balancing the state budget, Michigan College has been granted for the ensuing biennium \$1,284,653, as compared with \$1,000,000 for the previous biennium. The agricultural extension funds were reduced from \$178,609 to \$166,250.

It is reported in *The Museum News* that the Oregon state legislature has passed a bill designating the anthropological collection of the University of Oregon

at Eugene as the Oregon State Museum of Anthropology. The bill provides that excavation and removal from state lands of archeological or anthropological material shall be under permit of the state land board and the president of the University of Oregon. Not less than half of all material so excavated is reserved for the state and is to be deposited in the State Museum at Eugene. The bill makes suitable provision for safeguarding the interests of museums, universities and other recognized institutions. L. S. Cressman has charge of the collections at Eugene.

A NEW agricultural building has been erected on the University of Hawaii campus. This two-story building, made of hollow concrete blocks, is 120 feet long by 60 feet wide and cost \$68,000. It will house the offices of the Hawaii Experiment Station and offices and laboratories for agronomy, chemistry, plant pathology and soils in addition to those of the Agricultural Extension Division.

SATURDAY afternoon lectures at the New York Botanical Garden during September, October and November, beginning on September 7, are: September—"Wild Flowers of the Season," Dr. John Hendley Barnhart, bibliographer and administrative assistant; "Germination of Seeds," Dr. William Crocker, Boyce Thompson Institute for Plant Research; "Local Ferns," George T. Hastings, Theodore Roosevelt High School; "Dahlias," Dr. Marshall A. Howe, assistant director. October—"Fall Work in the Garden," T. H. Everett, horticulturist; "Autumn Coloration," Dr. A. B. Stout, director of the Laboratories; "Mushrooms, Edible, Poisonous, and Otherwise Interesting," Dr. Fred J. Seaver, curator; "Fungi and Our Food Supply," Dr. B. O. Dodge, plant pathologist. November—"Why Orchids Fascinate," Carl T. Ramsey; "Color in the Winter Garden," Henry Teuscher, dendrologist; "Interesting Plants of the South-east," E. J. Alexander, assistant curator and curator of the local herbarium; "Clematis for American Gardens," J. E. Spingarn; "Water Features in the Garden," A. C. Pfander, assistant superintendent. These lectures are delivered in the Lecture Hall of the Museum Building; illustrated by lantern slides and otherwise; free to the public. Doors closed at 3:30.

DISCUSSION

DEFINITIONS OF MATHEMATICAL TERMS IN GENERAL ENGLISH DICTIONARIES

A STRIKING instance of the shortcomings of certain definitions of mathematical terms in widely used

English dictionaries is furnished by the fact that no satisfactory definition of the now widely used technical term group appears under the entry "group" in any one of the following four well-known works of