will be open to approved schools of all denominations, although they can not be employed for giving specifically theological instruction.

In distributing the funds the board will aim especially to favor those institutions which are well located and which have a local constituency sufficiently strong and able to insure permanence and power. No attempt will be made to resuscitate moribund schools or to assist institutions which are so located that they can not promise to be permanently useful.

Within these limits there are no restrictions as to the use of the income. It may be used for endowment, for buildings, for current expenses, for debts, for apparatus, or for any other purpose which may be found most serviceable.

It is known that Mr. Rockefeller has had this gift in contemplation for a long time, and Mr. Gates has been studying the subject in his behalf for many months. If the fund proves to be as useful as is now anticipated Mr. Rockefeller will undoubtedly make large additions to it in future years.

The present members of the board are as follows: Robert C. Ogden, chairman; George Foster Peabody, treasurer; Wallace Butterick, secretary and executive officer for the states south of the Potomac and Ohio Rivers, and Arkansas, Louisiana and Texas; Starr J. Murphy, secretary and executive officer for the states of the north and west; Frederick T. Gates, Daniel C. Gilman, Morris K. Jesup, Walter H. Page, Albert Shaw, John D. Rockefeller, Jr., Hugh H. Hanna, William R. Harper and E. Benjamin Andrews. There are four vacancies in the board which are expected to be filled later.

HONORARY DEGREES AT HARVARD UNIVERSITY.

AT the recent commencement Harvard University conferred seven honorary degrees. Those given to men of science, with the remarks made by President Eliot, were as follows:

Honorary Master of Arts.—Frederick Pike Stearns—chief engineer of the Metropolitan Water and Sewerage Board, with special charge of the waterworks, immense works in earth, masonry and metal, ten years in construction, planned and executed with good judgment, boldness and long foresight, and with demonstrated success as regards the adequacy, purity and reasonable cost of the supply.

Honorary Doctor of Science.—James Homer Wright—pathologist, both teacher and investigator, strong contributor to the advance of that biological science which holds out to mankind good promise of deliverance from mysterious evils long endured.

Doctors of Laws.—Henry Marion Howe—a Boston Latin School boy, Harvard bachelor of arts and Institute of Technology bachelor of science, an author on copper, iron and steel, distinguished for scientific imagination and a good English style, professor of metallurgy in Columbia University, consulting metallurgist honored by the profession in England, France, Germany, Russia and his native land. Reginald Heber Fitz—for thirty-five years a teacher of pathological anatomy and of the theory and practise of physic, skilful and acute diagnostician, much trusted consulted physician, sagacious contributor to the progress of medicine.

SCIENTIFIC NOTES AND NEWS.

YALE UNIVERSITY has conferred its doctorate of science on Professor George E. Hale, director of the Solar Observatory of the Carnegie Institution, and on Dr. T. W. Richards, professor of chemistry at Harvard University, and its degree of doctor of laws on Dr. Abraham Jacobi, emeritus professor of the diseases of children at Columbia University.

DARTMOUTH UNIVERSITY has conferred its doctorate of laws on Dr. C. L. Dana, a graduate of the class of '72, professor of nervous diseases in the Cornell Medical School.

DR. LUDWIG BOLTZMANN, the eminent mathematical physicist of Leipzig, arrived at Berkeley on June 26, where he will lecture before the summer school of the University of California.

PROFESSOR PAUL EHRLICH, of Frankfort-on-Maine, and Professor Ramón y Cajal, of Madrid, have been elected foreign associates of the Paris Academy of Medicine.

Dr. Julius Wiesner, professor of botany at Vienna, has been elected a member of the Danish Academy of Sciences.

Professor H. S. Graves, of the Forest School of Yale University, has returned to New Haven after his trip around the world. He paid special attention to forest conditions in India.

Dr. Arthur Schuster, professor of physics at the University of Manchester, has been nominated by the council of the Royal Society as one of their representatives on the committee of management appointed by the treasury for the Meteorological Office in London. He has also been elected as a representative of the council of the Royal Society on the council of the International Association of Academies.

By a unanimous vote of the board of trustees of the University of Pennsylvania the Rev. Dr. Hermann Vollrat Hilprecht, research professor of assyriology and professor of semitic philology and archeology of the University of Pennsylvania, was on June 27 acquitted of the charges recently brought against him concerning his integrity in the matter of his explorations in Babylonia.

M. Perrier has been reappointed for five years director of the Paris Museum of Natural History.

Mr. J. J. Lister, M.A., Fellow of St. John's College, Cambridge, has beeen nominated to occupy the university table at the laboratory of the Marine Biological Association at Plymouth.

Sir John Wolfe Barry has been elected to succeed the late Mr. James Mansergh as chairman of the British Engineering Standards Committee.

At the recent commencement at Union College, Schenectady, N. Y., the honorary degree of doctor of science was conferred on Olin H. Landreth, professor of engineering at that institution and consulting engineer of the New York State Board of Health.

At its thirty-eighth annual commencement Muhlenberg College conferred the degree of doctor of science on Professor Lewis M. Haupt, formerly of the U. S. Corps of Civil Engineers and late of the Nicaragua and Panama Canal Commission.

The degree of doctor of laws was conferred upon Professor John C. Hemmeter of Baltimore by St. John's College, Annapolis on June 21. In his address at the convocation exercises, Professor Hemmeter advocated the affiliation of St. John's College with the professional schools (medicine, law, dentistry, pharmacology) of the University of Maryland. In 1784 both these institutions formed a federation into the University of Maryland, which ceased to exist by the act of 1825. Professor Hemmeter is also in favor of including the Maryland Agricultural College (already largely owned and administered by the state) in the affiliation as the 'School of Agriculture and Technology' of the University of Maryland.

Mr. W. R. Sorley, M.A., of King's College, Cambridge, Knightbridge professor of moral philosophy, has been approved by the general board of studies for the degree of doctor in letters.

The De Morgan medal of the London Mathematical Society has this year been awarded to Dr. H. F. Baker, F.R.S., for his researches in pure mathematics.

The Hamburg prize for promoting progress in chemistry and pharmacognosy has been awarded this year to Professsor E. Schmidt of Marburg. The presidents of the British Pharmaceutical Society, the Chemical Society and the Linnean Society are members *ex officio* of the committee in charge of this biennial prize.

Mr. James Mansergh, F.R.S., a British engineer, well-known for his work on water-supply and sewage, died on June 15.

The University of the State of New York held its forty-third annual convocation at Albany on June 28, 29 and 30. The meeting was devoted to a discussion of industrial, commercial and agricultural education. Among those who took part were President Edmund J. James, of the University of Illinois; Mr. Robert T. Ogden, of New York; Mr. Frank A. Vanderlip, of New York; Professor J. W.

Jenks, of Cornell University, and Dean W. A. Henry, of the Wisconsin Agricultural Experiment Station.

INFORMATION from Ottawa states that the Dominion Astronomical Observatory has been practically completed. The telescope has been mounted, astronomer W. F. King, with his staff, has taken possession of the building and observation work has begun. The telescope is a refracting instrument 19 feet 6 inches long, with a 15-inch lens. In addition to the telescope, the observatory has transit spectroscopic instruments and the equipment of a first-class institution. The building cost $92,000 and the telescope $14,000.

AN astronomical observatory, to be known as the Cecil Duncombe Observatory, is to be established in connection with the University of Leeds. A building with an aluminium dome is being built at one of the highest points in the city, and in it will be placed the telescope recently presented to the university by Captain C. W. E. Duncombe, together with the transit instrument presented by the late Mr. W. E. Crossley.

DURING the present season the U. S. Geological Survey will undertake work in Alaska, as follows: An investigation of the gold placers of Beaver Creek will be made by Mr. R. W. Stone. The ore deposits of Berners Bay will be studied by Mr. C. W. Wright, those of the Ketchikan district and the Wrangell region by Messrs. F. E. and C. W. Wright. Stratigraphic and paleontologic investigations will be carried on in southeastern Alaska by Mr. E. M. Kindle in cooperation with Mr. F. E. Wright. The coal fields of Herendeen Bay will be investigated by Mr. Sidney Paige, who will also prosecute economic and stratigraphic studies on Kodiak Island. Mr. U. S. Grant, assisted by Mr. Paige, will make a geologic reconnaissance of the country about Prince William Sound and will investigate its mineral resources. A geologic reconnaissance of the Matanuska coal fields will be made by Mr. G. C. Martin. In the Nome region Messrs. F. H. Moffit and F. L. Hess will study the geology and mineral resources. They will also investigate the more important placer districts of Seward Peninsula, and Mr. Hess will examine the tin deposits of the York region. A geologic reconnaissance of the country around Yakutat Bay will be made by Professor R. S. Tarr, who will be assisted by Messrs. B. S. Butler and Lawrence Martin. A geologic reconnaissance in the Yukon-Tanana region, between Dawson and Fairbanks, will be undertaken by Messrs. L. M. Prindle, assisted by Mr. A. Knopf. Geologic and topographic surveys and investigations of mineral resources will be supervised by Mr. A. H. Brooks in southeastern Alaska, about Controller Bay, in Matanuska region, about Yakutat Bay, on Alaska Peninsula, Seward Peninsula, and in the Yukon-Tanana region. Geologic and topographic surveys of the country around Controller Bay will be made by Messrs. G. C. Martin, and A. G. Maddren, geologists, and Messrs E. G. Hamilton and W. R. Hill, topographers. A detailed topographic survey of the Solomon River region will be made by Mr. T. G. Gerdine, assisted by Messrs. W. B. Corse and B. A. Yoder. Topographic and geologic surveys will be made west of Fairbanks between Circle City and Chena by Messrs. D. C. Witherspoon and R. B. Oliver, topographers, and Mr. R. W. Stone, geologist.

DURING the field season of 1903, Mr. George C. Martin, of the United States Geological Survey, made an examination of the petroleum and coal fields in Alaska. A brief preliminary report of this investigation was included in a bulletin published by the survey last year. The final complete report is now available as Bulletin 250, under the title of 'The Petroleum Fields of the Pacific Coast of Alaska, with an Account of the Bering River Coal Deposits.' Indications of petroleum have been found in the Controller Bay, the Cooke Inlet and the Coal Bay regions. Though only a few wells have been drilled and it is too soon to predict an important future for the region as a petroleum producer, Mr. Martin's studies have shown that there is justification for further prospecting and that the region may yet be a source of illuminating oil. The petroleum is clearly a refining oil of the same general nature as Pennsylvania petroleum.

It resembles the latter in having a high proportion of the more volatile compounds and a paraffin base and in containing almost no sulphur. The Bering River coal, which comes from a field 12 to 25 miles inland from Controller Bay, is the best that has yet been found on the Pacific coast of North America. The coal area, as far as known, is restricted to the region north of Bering Lake and Bering River. It includes about 120 square miles. The physical properties of the coal are very much alike in all the seams and in all parts of the field visited by Mr. Martin. The coal resembles the harder bituminous coals of the east more than it does anthracite. It is doubtful, too, whether much of the coal could be sized so as to compete with anthracite coal for domestic use; and again, under ordinary handling it will probably crush to almost the same extent as the harder grades of semi-bituminous coal. That will not, of course, impair its value for steam purposes, but will necessitate careful handling if it is to compete with Pennsylvania or Welsh anthracite as a domestic fuel. The illustrations that accompany the report include geologic reconnaissance maps of the Controller Bay region and Cook Inlet oil field and sketch maps of the Cold Bay and Cape Yaktag petroleum fields, as well as an outline map showing the general location of the oil fields and the areas represented on the large-scale maps.

UNIVERSITY AND EDUCATIONAL NEWS.

Mr. John D. Rockefeller has given $1,000,000 to Yale University; other large gifts have been made towards the endowment fund of the university, the details of which have not been announced.

Mr. Stephen Moody Crosby, Dartmouth, '49, of Boston, has given $50,000 to the college toward the building fund. It was planned to raise $250,000 for this purpose, and Mr. Crosby's contribution completes that amount.

At a meeting of the board of trustees of the Iowa State College on June 7 at Ames, it was voted to confer the degree of bachelor of agricultural engineering on students who complete a prescribed course in this subject. Graduates of either engineering or agricultural courses are eligible after the completion of one year's advanced work. The Iowa State College is the first institution in America to organize comprehensive instruction in this line and prepare to confer the degree. Forty-nine agricultural students were graduated at Ames from the four year course in animal husbandry, agronomy, dairying and horticulture in the last class, including five who took advanced degrees.

Professor E. H. Moore, of the University of Chicago, and Professor J. Mark Baldwin, of the Johns Hopkins University, are giving courses of lectures on mathematics and psychology, respectively, in the summer school of the University of California.

The following appointments in the Sheffield Scientific School, Yale University, have been announced: assistant professor, Dr. Henry Andrew Bumstead, physics; instructors, Dr. Frank Bell Underhill, physiological chemistry; Mr. Beverly W. Kunkel, biology; Dr. Oliver C. Lester, physics; assistants in instruction, Mr. Clarence C. Perry, steam engine; Mr. Haroutune M. Dadourian, physics; Mr. William A. Lilley, Jr., descriptive geometry and drawing.

Dr. K. E. Guthe, associate physicist at the National Bureau of Standards, has been appointed professor of physics and head of the department of physics at the State University of Iowa.

Frederick C. Newcombe has been appointed professor of botany and Charles A. Davis, curator of the herbarium, at the University of Michigan.

Mr. Alexander Jay Wurts has received the first appointment to the faculty of the Carnegie Technical Schools, Pittsburg, that of professor and head of department of applied electricity.

M. W. Blackman, Ph.D. (Harvard, 1905), has been made instructor in comparative anatomy and embryology in the medical department of Western Reserve University.

Forrest Shreve, Ph.D., has been appointed Adams Bruce fellow at the Johns Hopkins University.