

sion of biology, and will organize its various branches. Ample funds have been provided for the endowment, construction and equipment of the laboratories by members of the Board of Trustees of the institute and by the General Education Board.

As in the existing departments of the institute, emphasis will be placed primarily on research and graduate study; and, even in these directions, no attempt will be made to cover at once the whole science of biology, but rather, efforts will be concentrated on the development of those of its branches which seem to offer the greatest promise as fields of research. As rapidly as leaders can be found, it is proposed to organize groups of investigators in general physiology, genetics, biophysics, biochemistry, developmental mechanics, and perhaps later experimental psychology. The choice of these fields of modern research implies that emphasis will be laid on the intimate relations of biology to the physical sciences. That a closer association of these sciences with biology is imperative is becoming more and more apparent as indicated by the development of special institutes for such work. In England, Germany, Russia, Scandinavia and France research institutes, specializing in different biological fields, yet primarily concerned with the applications of mathematical, physical and chemical methods to biological subjects, have developed in recent years. The latest example is a gift of thirty million francs to the Paris Academy of Sciences to organize an Institute of Physico-Chemical Biology, for the purpose of studying "the physico-chemical mechanism of the phenomena of life."

The California Institute is undertaking this development of biological research by the application of physical and chemical methods not only because of its intrinsic importance, but also because the close association with the strong research departments of physics and physical chemistry of the institute can not fail to contribute greatly to its success. Most physiological laboratories have in the past, for practical reasons, been associated with medical schools; and few of them have been in intimate contact with the research staffs and had the use of the research facilities of laboratories which are primarily devoted to fundamental investigations in the physical sciences.

For the study of biology the institute will in 1928 and thereafter make the following provision. It will introduce into its four-year undergraduate course in science, which in its last two years now has options in physics, chemistry, mathematics and geology, a new option in biology. This option will include those fundamental biological subjects that are an essential preparation for work in any special field of pure or applied biology; and the four-year course as a

whole will in addition afford a far more thorough training in the basic sciences of physics, chemistry and mathematics than students of biology, medicine or agriculture commonly receive. This undergraduate course will be supplemented by a fifth-year course, leading to the degree of master of science in biology, in which students may specialize in study and research in various branches of the science. Special opportunities will also be offered for the pursuit of more advanced courses and extended researches leading to the degree of doctor of philosophy, to students desiring to become college teachers, research men, or professional experts.

SCIENTIFIC NOTES AND NEWS

SIR CHARLES SCOTT SHERRINGTON, O.M., professor of physiology at the University of Oxford, will give three lectures under the Edward K. Dunham Lectureship for the Promotion of Medical Research in the Amphitheater of the Harvard Medical School at five o'clock on Monday, October 10, on "Observations on Stretch Reflexes"; Thursday, October 13, on "Modes of Interaction between Reflexes," and Monday, October 17, on "Some Factors of Coordination in Muscular Acts."

THE faculty of the Medical School of the University of Wisconsin gave a dinner recently at the Maple Bluff Country Club in honor of Dr. Aristides Agramonte, professor of bacteriology, University of Havana, and Dr. Salanos Ramos, dean of the medical school of that university, which was attended by about sixty-four physicians, President Glenn Frank, of the University of Wisconsin, and members of several faculties. Dr. Charles R. Bardeen, dean and professor of anatomy, was toastmaster; Dr. Frank welcomed the visitors, who are on a tour of inspection of medical schools, and Dr. Agramonte spoke of health work in Cuba and the development of the medical school of the University of Havana, which was founded in 1728.

PROFESSOR H. E. ARMSTRONG, the distinguished British chemist, and Mrs. Armstrong celebrated their golden wedding on August 30, on which occasion there was presented to them a portrait of Professor Armstrong by T. C. Dugdale. At the same time there was presented an illuminated album, signed by a large number of workers in chemical science.

F. C. ELFORD, of the U. S. Department of Agriculture, has been elected president of the World's Poultry Congress, the fourth meeting of which will be held in England in 1930.

DR. KARL SIEK, professor of surgery in the University of Hamburg, has been appointed honorary

professor by the University of Göttingen in recognition of his services in organizing medical education in Turkey.

DR. GUY W. CLARK, since 1919 assistant professor of pharmacology in the University of California Medical School at Berkeley, has resigned to become director of the pharmaceutical department of the Lederle Antitoxin Laboratories.

FRANK C. WHITMORE, head of the department of chemistry at Northwestern University, is on sabbatical leave to serve in Washington as chairman of the Division of Chemistry and Chemical Technology of the National Research Council.

IN the absence from this country of Dr. C. E. McClung, professor of zoology in the University of Pennsylvania, managing editor of *The Journal of Morphology and Physiology*, contributors are requested to send their manuscripts directly to the Wistar Institute, 36th Street and Woodland Avenue, Philadelphia, Pa. Dr. McClung expects to spend some months at the Naples Station.

DR. CHAS. L. SWISHER, professor of physics at the North Dakota State College, has been granted a leave of absence by that institution in order to permit him to accept an assistant professorship in physics at Yale University for the coming year.

DR. FRED F. MCKENZIE, instructor and assistant in animal husbandry in the Experiment Station of the University of Missouri, has resigned to accept a position as director of the College of Agriculture at the International College, Smyrna, Turkey.

PHILIP L. RILEY, instructor in the department of biology and public health at Massachusetts Institute of Technology, has been appointed director of health education in the public schools of Cleveland, Ohio.

FREDERICK H. RAWSON has been elected a member of the board of trustees of the Field Columbian Museum. Mr. Rawson, who is chairman of the board of directors of the Union Trust Company of Chicago, has been actively interested in the work of the museum for years as life member, corporate member and patron.

THE Committee on Scientific Research of the American Medical Association has recently voted to Dr. Edward Reynolds and Dr. Earnest A. Hooton, of Harvard University, a grant of \$1,000 for a research on the mechanism of the erect posture by X-ray study of the living in the erect position.

DR. R. HUGERSHOFF, of Dresden, gave on September 16 an illustrated lecture and demonstration on the "Aerocartograph," a new process of making contour maps from aerial photographs, before members of the

U. S. Geological Survey and other federal mapping agencies.

DR. JOSEPH JASTROW, formerly professor of psychology in the University of Wisconsin, will this autumn give a series of lectures on "The Psychology of the Emotions," under the joint auspices of the New School for Social Research and the Child Study Association of America.

MISS IDA M. MELLEN, assistant to the director of the New York City Aquarium, will broadcast a series of seventeen talks from WNYC, beginning with a talk on "The New York Aquarium and its Denizens," on November 6, at 9 p. m. Eleven talks on fishes will follow, other subjects being whales, seals, sea birds, alligators and turtles.

PROFESSOR GEO. T. HARGITT has presented to the library of the Marine Biological Laboratory that part of the late Charles W. Hargitt's library that contains the literature on Coelenterates. The gift comprises a collection of the literature of the group that could be gathered together in no way so completely as that of selection by such a specialist as Dr. Hargitt. A memorial tablet will be placed on the wall of the library stack-rooms to commemorate Dr. Hargitt's life and work and his connection with the laboratory. The libraries of Glendower Evans, C. O. Whitman, Edward G. Gardiner and many others have also in part, or in whole, been deposited in the library.

At the Leeds meeting of the British Association it was announced that the council was supporting a movement to purchase Charles Darwin's home and estate at Downe.

It is proposed by Germans resident in Brazil to erect a memorial to the naturalist Fritz Müller in Blumenau, where he spent the greater part of his life.

THE municipal council of Paris has approved the erection of a statue to the physician and physiologist Vulpian, whose researches on the nerves and vasomotor phenomena are well known. The statue, the work of the sculptor Paul Richer, member of the institute, will be placed near the Faculté de médecine.

THE death is announced on January 14 of Sarah Frances Whiting, from 1876 to 1912 professor of physics and physical astronomy and from 1904 to 1916 director of the Whitin Observatory, becoming on her retirement director emeritus. Miss Whiting was eighty-one years old.

FRANK CLINTON WRIGHT, editor of *The Engineering News Record*, died on September 18, aged forty-six years.

DR. MABEL M. BROWN, assistant professor of botany in the University of New Hampshire, died on September 16.

HENRY RICHARDSON PROCTER, professor at the University of Leeds and later honorary director of the research laboratory for the leather industry established in that university, died on August 17 at the age of seventy-nine years.

PROFESSOR C. PULLFRICH, of the Zeiss Optical Works at Jena, known for his investigations in optics, has died at the age of sixty-nine years.

As has been noted in *SCIENCE*, the fall meeting of the National Academy of Sciences will be held at Urbana, Illinois, at the University of Illinois, beginning on Tuesday, October 18. This is a departure from the usual custom of holding the meeting in November and beginning on Monday. Dr. A. L. Day, of the Geophysical Laboratory of the Carnegie Institution, will give an illustrated evening lecture on October 18 on "The Volcano Problem." The executive committee of the American Association for the Advancement of Science is to hold its October meeting in Urbana on October 16. The state geologists of the country are to assemble in Urbana on October 20 for a three days' field trip under the direction of the geologists of Illinois.

THE fifty-sixth annual meeting of the American Public Health Association will be held, under the presidency of Dr. Charles V. Chapin, at Hotel Gibson, Cincinnati, Ohio, from October 17 to 21.

THE American Society of Tropical Medicine will hold its twenty-third annual meeting in Boston, from October 21 to 22, under the presidency of Dr. George C. Shattuck, assistant professor of tropical medicine, Harvard University Medical School, Boston.

THE twenty-first annual convention of the Illuminating Engineering Society will be held in the Edgewater Beach Hotel, Chicago, from the eleventh to the fourteenth of October.

THE fourteenth annual meeting of the New England Section of the American Society of Agronomy will be held at Boston on December 2 and 3. Symposia on "Land Utilization Programs and Fertilizer Requirements of Specific Crops" will be held.

THE U. S. Civil Service Commission announces an examination for the position of technical editor for vacancies in the forest service at Washington and at the Forest Products Laboratory at Madison, Wis. The entrance salary is \$3,800 a year.

THE *Journal* of the American Medical Association states that the state department has advised the U. S. Public Health Service that the Egyptian lega-

tion in Washington desires brought to the attention of qualified American citizens the fact that the Egyptian government wants to employ a foreign specialist in medical entomology in the ancylostoma and bilharzia research section of the public health laboratories of the Egyptian government.

UNIVERSITY AND EDUCATIONAL NOTES

THE General Assembly of Georgia just adjourned appropriated \$1,000,000 per year for each of the years 1928 and 1929 to be used to equalize educational opportunities. This revenue is to be derived from a one half cent tax on each gallon of gasoline and a tax of one cent on each gallon of kerosene. If the revenue from these two taxes does not yield a million dollars the balance will be supplied out of the general treasury. All revenue from these two taxes will be used as an equalization fund, even though it should exceed one million dollars.

ISAAC E. EMERSON, chairman of the board of the Emerson Drug Company, has given two fellowships to the University of Maryland. One is for a professorship in biological testing yielding \$4,000 annually; the other, yielding \$1,500, is to maintain a fellow in pharmacology in the School of Medicine.

SIR EDWARD BROTHERTON, the chemical manufacturer, of Leeds, who has works in Leeds, Liverpool and other parts of the country, has made a gift of £100,000 for a new library for Leeds University.

DR. S. W. RANSON, professor of neuroanatomy at Washington University, St. Louis, has been appointed professor of neurology and director of a Neurological Research Institute at Northwestern University Medical School. Quarters for the new institute have been provided in the Ward Memorial Building, which was erected last year on the McKinlock campus. The institute will be devoted entirely to research and will conduct investigations in the anatomy, physiology and pathology of the nervous system and in clinical neurology and neurosurgery. Dr. Lewis J. Pollock, professor of neurology, and Dr. Loyal E. Davis, associate professor of surgery, will cooperate with Dr. Ranson. An assistant professor of neuropathology and an assistant professor of anatomical neurology as well as younger men with training in physiology and biochemistry will be appointed. Problems connected with the innervation and nervous control of the skeletal muscles will be among the first with which the institute will deal.

DR. J. C. HUBBARD, head of the department of physics at New York University, has been appointed professor of physics at the Johns Hopkins University.