at approximately monthly intervals. This gonad-stimulating material produced mostly follicular stimulation in the immature rat which was similar to the reaction obtained with material from the urine of human females at certain phases of their menstrual cycle and also during menopause.

Our studies in the male, which are being continued, would seem to lend further support, from the hormonal standpoint, to the view that a monthly sex cycle exists in the human male.

The investigation is being extended to ascertain the possible correlation of the findings with the mental state and other clinical manifestations.

The work is being aided, in part, by a grant from the Thomas W. Salmon Memorial Fund of the New York Academy of Medicine.

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NEW YORK STATE PSYCHIATRIC INSTITUTE AND HOSPITAL

# REPORTS

## MILTON AND CLARK AWARDS

AWARDS amounting to $36,290 have been assigned from the Milton and Clark funds to members of the teaching and research staff of Harvard University in order that they may carry on study in fields in which they are interested. The names of the recipients of those awards which concern the sciences and the subjects of the proposed research are here given:

Ralph Beatley, associate professor of education, to defray the cost of an experimental edition of a school text in demonstrative geometry.

Charles L. Bickel, instructor in chemistry, to study the action of organic magnesium compounds on oxido ketones and their oximes.

Marland P. Billings, assistant professor of geology, for a study of the geology of the Franconia, Mt. Cube and Woodsville quadrangles.

Bartholomeus J. Bok, assistant professor of astronomy, to analyze star-counts.

Charles F. Brooks, director of the Blue Hill Observatory, to investigate solar radiation.

Frank M. Carpenter, assistant curator of invertebrate paleontology, to collect fossil insects at Creede, Colo.

Arthur Casagrande, lecturer on soil mechanics, to study the action of frost in soils, rocks and building materials.

Randolph W. Chapman, assistant in geology, and F. S. Miller, research assistant, to study contact metamorphism in the southern Sierra Nevadas and adjoining regions.

Harold J. Coolidge, Jr., assistant curator of mammals, to make observations on skin color and pigmentation in chimpanzees of various ages, at the Yale Anthropoid Station, Orange Park, Fla.

Franzo H. Crawford, assistant professor of physics, to study the absorption of polyatomic gases in regions below the absorption limit of atmospheric air.

Philip J. Darlington, Jr., assistant curator of insects, to collect insects in Santo Domingo and to study their distribution, leading to a study of the zoogeography of the Caribbean region.

Jacob P. Den Hartog, assistant professor of applied mechanics, to study dynamic instabilities caused by the flow of air.

Merritt L. Fernald, professor of natural history, to illustrate the technical details of critical or newly studied plants and to make clear, by mapping, their geographic affinities.

Paul R. Gast, assistant professor of forestry, to determine the effect of varied radiation intensity on the growth rate of trees.

Russell Gibson, assistant professor of economic geology, to continue field investigation of the regional geology, igneous geology and mineral resources in northwestern Montana.

Charles H. Greene, instructor in chemistry, to study the rate of precipitation of silver chloride.

Chester S. Keefer, assistant professor of medicine, to determine the immune processes concerned in the recovery from gonococcal arthritis.

Edwin C. Kemble, professor of physics, to continue the theoretical study of the properties of atoms and molecules.

Theodore Lyman, director of the Jefferson Physical Laboratory, and J. C. Street, instructor in physics, for an investigation of cosmic rays.

Donald H. Menzel, assistant professor of astronomy, for an investigation of the spectral variations of novae and the chromosphere.

Harry R. Mimno, assistant professor of physics, to measure the effective height of the Kennelly-Heaviside layer.

Henry A. Murray, Jr., assistant professor of abnormal and dynamic psychology, to conduct experimental studies of personality.

Ralph B. Perry, professor of philosophy, to record the thought and character of William James, as revealed in unpublished correspondence, notes and marginalia.

Percy E. Raymond, professor of paleontology, and William E. Schevill, assistant curator of invertebrate paleontology, for a study of Ordovician and Salurian formations and faunas in Esthonia.

Chalmer J. Roy, instructor in geology, for a study of silicification of the limestones in the Tri-State zinc-lead district.

Paul J. Sachs, assistant director of the Fogg Art Museum, to complete a catalogue Raisonné of original master drawings.

George B. Wislocki, professor of anatomy, for the preparation of plates to accompany a manuscript en-

titled "The Placentation of the Manatee (*Trichechus latirostris*)."

Jeffries Wyman, Jr., assistant professor of zoology, for an investigation of the electrical properties of amino acids, peptides and proteins.

Henry B. Bigelow, professor of zoology and curator of oceanography, to study and report on the siphonophores collected by Dr. Johannes Schmidt.

Ancel Keys, instructor in biochemical sciences; David B. Dill, assistant professor of biological chemistry; William H. Forbes, instructor in biochemical sciences; John H. Talbott, instructor in medicine, to defray partially the cost of a study of the adaptation of man and animals to life at high altitudes.

The Milton Fund was established in 1924 under the will of William F. Milton, '58, which provided that the grants should be made "in the interests of or for promoting the physical and material welfare and prosperity of the human race, or to assist in the discovery and perfecting of any special means of alleviating or curing human disease, or to investigate and determine the value or importance of any discovery or invention."

## CENTRALIZING BELL SYSTEM RESEARCHES

BEFORE there was a telephone there was a telephone laboratory. In a corner of a Boston workshop Alexander Graham Bell carried on his researches. Ever since that time the parent company of the Bell Telephone System, which evolved from his invention, has maintained a telephone laboratory. In the early years of the Bell System the laboratory was at its headquarters in Boston. Two other laboratories, meanwhile, developed in conjunction with the Western Electric Company, the manufacturing unit—one in Chicago, and the other in New York. In 1907, these three laboratories were consolidated into a single unit in New York City. This combination of laboratories was then operated as the Engineering Department of the Western Electric Company.

Not all, however, the research problems of communication, in which the American Telephone and Telegraph Company was interested, were of a laboratory character. In its own organization, therefore, that company continued to maintain a development and research group. This group stood intermediate between the laboratory research and the actual operation of communication systems.

By 1925 the work of the laboratory unit had so grown in range and in intensity, and the magnitude of the personnel involved, that it could best be carried on in a corporation devoted solely to research and development. The organization, therefore, which had been maintained and operated as the Engineering Department of the Western Electric Company since 1907, was incorporated as Bell Telephone Laboratories. Its dual responsibility to the American Telephone and Telegraph Company, for fundamental researches, and to the Western Electric Company as the manufacturing unit of the system, for the embodiment of the results of these researches in designs suitable for manufacture, was emphasized in its corporate organization. The laboratory company is owned jointly by the American Company and by the Western Electric.

In the executive direction of the work of the laboratories there was emphasized the responsibility, which the American Telephone and Telegraph Company has assumed, as the corporate successor of Alexander Graham Bell, for ensuring to its associated companies in the system the technical progress of the communication arts. This was accomplished in part by organization and in part by the choice of executive personnel. As president of the Bell Telephone Laboratories there was elected Dr. F. B. Jewett. Dr. Jewett was also elected vice-president of the American Telephone and Telegraph Company to have charge of its research and development activities. Coordination of all the research activities within the American Company and within the laboratory unit was thereby assured under the supervision of a single executive.

It was while the laboratories were operated as the Engineering Department of the Western Electric Company that there came into existence the laboratory group known as the "Research Department." Its head in its early days was Dr. E. H. Colpitts, who had entered the Bell System in its Boston laboratory. In 1924 he returned to the American Company as assistant vice-president to take charge, under General Carty, of the "Development and Research Department" of that company; and he continued in that capacity under Dr. Jewett.

The Department of Development and Research in the American Telephone and Telegraph Company has had that particular name only since 1919. Its characteristic activities, however, preceded by years the adoption of its name, for they were part of those of the Engineering Department of the American Company. That department, organized under General J. J. Carty, as chief engineer, was concerned with the technical progress of the telephone art, the establishment and maintenance of suitable standards, and the solution of peculiar problems arising in the operating field.

In 1919 there was taken another step in functional organization. The much augmented engineering department was divided into two groups, namely, that concerned with problems of operation and engineering and that concerned with problems of development and research. The first-mentioned problems became the particular care of Bancroft Gherardi, who was then appointed vice-president of the American Tele-