is occupied by one of the six departments, physics and chemistry of the College of Liberal Arts, and civil, mechanical, electrical and chemical engineering.

Established through a gift from Walter P. Murphy, inventor and manufacturer of railroad supplies, the institute was opened in 1939 and moved into its new building last fall. When it is fully under way it will have an enrolment of 900 men, all pursuing a five-year cooperative course which calls for alternating a three-month period of study in the classroom with an equal period of work in industry. This plan is designed to train the student in practical as well as theoretical engineering; to assist industry in training its future executives, and to assist boys with limited means to gain technical education.

Students are now employed in the plants of seventy cooperating firms in various parts of the country. They are placed in jobs related to their chosen field of engineering and remain with the same firm throughout their course, after which they are engaged as full-time employees and have the benefit of their experience. Wherever possible the job is with a firm in the student's home town, so that he may live at home. Students are paired to replace each other each quarter, so that the job in industry is always filled.

At the dedication ceremonies, the principal addresses will be made by Donald Nelson, head of the War Production Board; Charles F. Kettering, president of the General Motors Research Corporation; Lieutenant General William Knudsen, member of the advisory War Production Board; and Jesse Jones, U. S. Secretary of Commerce. More than 800 representatives of industry, railroads, educational institutions and business will attend. Two hundred sixty-three industrial and business leaders are members of the honorary advisory committee for the event.

NATIONAL RESEARCH COUNCIL FELLOWSHIPS IN THE NATURAL SCIENCES

THE National Research Fellowship Board in the Natural Sciences of the National Research Council has made the following fellowship appointments for the academic year 1942–1943:

Harry Gregory Albaum (Ph.D., biology, Columbia University, 1938). To work at the University of Wisconsin on the relation between metabolism and growth in higher plants.

Thomas Hunter Allen (Ph.D., zoology, State University of Iowa, 1941). To work at the University of Chicago on "Does activation involve splitting of protyrosinase?"

Elizabeth Jean Armstrong (Ph.D., geology, Bryn Mawr College, 1939). To work at Columbia University on the conditions governing the formation of quartz crystals.

Elkan Rogers Blout (Ph.D., chemistry, Columbia University, 1942). To work at Harvard University on the structure of Yohimbine.

Robert Thornton Brumfield (Ph.D., botany, Yale University, 1942). To work at Harvard University on cell-lineage studies in plant organs by means of x-ray-induced chromosome rearrangements.

Victor Alexander Drill (Ph.D., physiology, Princeton University, 1941). To work at Northwestern University on the specificity of liver function tests in the detection of hepatic damage produced by various experimental procedures and the relation of the damage to the Kupfer cells.

Harry Emmett Gunning (Ph.D., physical chemistry, University of Toronto, 1942). To work at Harvard University on the conductance of dilute solutions of electrolytes.

Daniel Lambert Harris (Ph.D., zoology, University of Pennsylvania, 1942). To work at the University of California on a physical and chemical analysis of the structural elements of protoplasm.

Julius David Heldman (Ph.D., physical chemistry, Stanford University, 1942). To work at the University of California on kinetic and equilibrium studies of the homogeneous catalytic isomerization of paraffin hydrocarbons.

William Albert Hiltner (Ph.D., astronomy, University of Michigan, 1942). To work at the McDonald Observatory of the University of Texas on a photometric atlas of typical stellar spectra.

Byron Robinson Houston (Ph.D., plant pathology, University of California, 1939). To work at the University of Wisconsin on a physiologic comparison of strains of *Corticium solani*. The correlation of morphology, nutritional requirements and pathogenicity with special reference to the basidial stage.

Hugh McKinney Hulburt (Ph.D., physical chemistry, University of Wisconsin, 1942). To work at Princeton University on the kinetics of chemical reactions in flow systems.

Nathan Kornblum (Ph.D., organic chemistry, University of Illinois, 1940). To work at Harvard University on a stereochemical study of the forces existing between electrostatically charged groups in the same molecule.

Howard Levi (Ph.D., mathematics, Columbia University, 1942). To work at the Institute for Advanced Study on ideals of differential polynomials.

Joseph Carl Robnett Licklider (Ph.D., psychology, University of Rochester, 1942). To work at Harvard University on the effects of previous acoustic stimulation upon sound localization.

Charles Duncan Michener (Ph.D., entomology, University of California, 1941). To work at Harvard University and the Massachusetts State College on the comparative morphology and evolution of the abdominal appendages of insects.

Foil Allan Miller (Ph.D., chemistry, the Johns Hopkins University, 1941). To work at the University of Minnesota on the Raman and infrared spectra of some compounds of biological importance.

Francis Eugene Randall (Ph.D., biology, Harvard Uni-

versity, 1942). To work at the Western Reserve University on the relationships of the bony and fleshy noses in man and their reconstruction possibilities.

Herschel Roman (Ph.D., genetics, University of Missouri, 1942). To work at the California Institute of Technology on (1) problems of gene action; (2) the location of genes in the physical chromosome.

Arnold Hicks Sparrow (Ph.D., cytology, McGill University, 1941). To work at Harvard University on an investigation of chromosome mechanics with the aid of colchicine and x-ray-induced changes.

Luther Irwin Wade, Jr. (Ph.D., mathematics, Duke University, 1941). To work at the Institute for Advanced Study on a study of arithmetic properties of polynomials in a Galois field and related functions.

Harold Francis Weaver (Ph.D., astronomy, University of California, 1942). To work at the Yerkes Observatory on stars in galactic clusters showing anomalous K-line intensities.

Alvin Martin Weinberg (Ph.D., mathematical biophysics, University of Chicago, 1939). To work at Columbia University on the physico-mathematical aspects of nerve structure and function.

Alma Joslyn Whiffen (Ph.D., botany, University of North Carolina, 1941). To work at Harvard University on the nutrition and life histories of the Chytridiales.

THE AMERICAN ACADEMY OF ARTS AND SCIENCES

AT the annual meeting of the American Academy of Arts and Sciences, held at its house, 28 Newbury Street, Boston, on May 13, one new foreign honorary member, Lorenzo R. Parodi, of Buenos Aires, and twenty-one new fellows were elected.

Those elected in the natural and exact sciences were:

Mathematical and Physical Sciences: Wilmer Lanier Barrow, the Massachusetts Institute of Technology; Francis Birch, Harvard University; Samuel Cornette Collins, the Massachusetts Institute of Technology; Otto Struve, director, Yerkes Observatory.

Natural and Physiological Sciences: William Irving Clark, Worcester; Russell Gibson, Harvard University; Samuel Albert Levine, Harvard Medical School; William Ralph Maxon, U. S. National Museum; Hermann Joseph Muller, Amherst College.

The officers elected for 1942–1943 were:

President, Harlow Shapley; *Vice-president* for Class I, Percy W. Bridgman; *Vice-president* for Class II, S. Burt Wolbach; *Vice-president* for Class III, Sidney B. Fay; *Vice-president* for Class IV, Fred N. Robinson; *Corresponding Secretary,* Abbott P. Usher; *Recording Secretary,* Hudson Hoagland; *Treasurer,* Horace S. Ford; *Librarian,* Frederick H. Pratt; *Editor,* Robert P. Blake.

The meeting was addressed by Dr. Mark Graubard, who spoke on "Morale for a Democratic Offensive."

THE AMERICAN PHILOSOPHICAL SOCIETY

AT the annual general meeting of the American Philosophical Society held in the hall of the society in Philadelphia on April 23, 24 and 25, Dr. Edwin G. Conklin, of Princeton University, was elected president, and Dr. Frederick P. Keppel, president, retired, of the Carnegie Corporation, was elected a vice-president. Leicester B. Holland, Class IV, was elected a councilor to fill the unexpired term on the council of F. P. Keppel. *Members elected to the council* to serve for three years: Class I, C. E. Kenneth Mees; Class II, Douglas Johnson; Class III, Roland S. Morris; Class IV, Campbell Bonner.

Officers reelected were: *Vice-presidents,* William E. Lingelbach and Frank Aydelotte; *Secretaries,* W. F. G. Swann and Benjamin D. Meritt; *Curator,* Albert P. Brubaker; *Treasurer,* Fidelity-Philadelphia Trust Company.

Thirty resident members were elected. Those in the natural and exact sciences were:

Mathematical and Physical Sciences: Oliver Ellsworth Buckley, New York, N. Y.; Lee Alvin DuBridge, Rochester, N. Y.; Duncan Arthur MacInnes, New York, N. Y.; Robert Raynolds McMath, Pontiac, Mich.; Francis Dominic Murnaghan, Baltimore, Md.; Harald Malcolm Westergaard, Cambridge, Mass.; Robert Runnels Williams, Summit, N. J.

Geological and Biological Sciences: Leonard Carmichael, Medford, Mass.; Theodosius Dobzhansky, New York, N. Y.; Edward Adelbert Doisy, St. Louis, Mo.; Carl Owen Dunbar, New Haven, Conn.; Louis Otto Kunkel, Princeton, N. J.; Thomas Milton Rivers, New York, N. Y.; Lewis Hill Weed, Baltimore, Md.

Eight foreign members were elected as follows:

Harold Spencer Jones, Greenwich, England; Hendrik Anthony Kramers, Leiden, Netherlands; Ivan Matveitch Vinogradov, Moscow, U.S.S.R.; Octavio Méndez-Pereira, Panama City, Panama; Richard Henry Tawney, London, England; Paul van Zeeland, Brussels, Belgium; Amado Alonso, Buenos Aires, Argentina; William A. Craigie, Oxford, England.

SCIENTIFIC NOTES AND NEWS

THOSE receiving honorary degrees at the hundred and seventy-sixth anniversary of Rutgers College include Dr. Vannevar Bush, president of the Carnegie Institution of Washington, and Dr. Thomas Parran, Jr., surgeon general of the U. S. Public Health Service.

THE doctorate of science was conferred on May 19 at the commencement exercises of Brown University