

PROFESSOR FRANK GEORGE WREN, Walker professor of mathematics, dean of the School of Arts and Sciences of Tufts College, died on July 17 at the age of sixty-six years.

DR. HARRY AUGUSTUS ITTER, professor of geology at Lafayette College, died on July 14 at the age of forty-one years.

DR. MATTHEW YOUNG, lecturer in anatomy at University College, London, died on May 25 at the age of fifty-six years.

THE death is announced at the age of ninety years of Dr. Edoardo Maragliano, Senator of Italy, who had been president of the medical faculty and rector of the University of Genoa, and for forty-three years professor of clinical medicine.

SCIENTIFIC NOTES AND NEWS

The Archives of Pathology for July is dedicated to Dr. S. Burt Wolbach, Shattuck professor of pathological anatomy in the Harvard Medical School, pathologist of the Peter Bent Brigham Hospital and of other Boston hospitals. Dr. Walter B. Cannon writes an introduction to this special issue, which contains research articles by many of Dr. Wolbach's present and former students and associates.

DR. PHILIP E. SMITH, professor of anatomy at the College of Physicians and Surgeons of Columbia University, was recently awarded the Charles Mickle Fellowship of the University of Toronto in recognition of his work on the pituitary gland. The fellow receives the annual income from an endowment fund of \$25,000 provided under a bequest by the late Dr. W. J. Mickle. It is awarded annually "to that member of the medical profession who is considered by the council of the Faculty of Medicine of the University of Toronto to have done most during the preceding ten years to advance sound knowledge of a practical kind in medical art or science."

DR. D. C. WARREN, of the poultry department of the Kansas State College at Manhattan, was presented with the \$1,000 Borden Award "for outstanding research work in poultry husbandry in the United States and Canada during the past seven years," at the thirty-second annual meeting of the Poultry Science Association, which was held last month at Cornell University.

DR. KARL B. McEACHRON, director of the "Lightning Laboratory" of the General Electric Company in Schenectady, N. Y., received the award of the B. F. Goodrich Company "for distinguished public service" in special ceremonies at the World's Fair in commemoration of the hundred and eighty-fifth anniversary of Benjamin Franklin's kite experiment with lightning.

DR. WARREN H. LEWIS, who is retiring as research associate in the department of embryology of the Carnegie Institution of Washington and professor of physiological anatomy in the Johns Hopkins University, has been appointed a member of the Wistar Institute of Anatomy and Biology in Philadelphia, as

of July the first. The Carnegie Institution is maintaining at the Wistar Institute the program of Mrs. Warren H. (Margaret A. R.) Lewis, research associate in the institution, on the same basis as in past years at the laboratories of the Carnegie Institution in Baltimore, and the International Cancer Research Foundation is continuing to assist the investigations of Dr. and Mrs. Lewis by a grant for research assistance as in past years.

DR. KARL K. DARROW, research physicist at the Bell Telephone Laboratories, has been appointed visiting professor of physics on the William Allan Neilson Foundation at Smith College for the second semester 1940-41. He will be the fifth scholar to occupy the chair, which was founded in 1927 as a gift to William Allan Neilson in recognition of his completion of ten years service as third president of Smith College. The foundation was permanently endowed by alumnae, undergraduates and friends of the college in June, 1935. Dr. Darrow will present a series of lectures in the field of atomic physics suitable for members of the department and for advanced students, seniors and graduate students of other departments. He will also contribute to a seminar in nuclear physics.

RECENT promotions at the College of Medicine of the State University of Iowa include the following: Dr. Erwin G. Gross, chairman of the department of pharmacology; Dr. Walter R. Ingram, professor and head of the department of anatomy, neuroanatomy, histology and embryology; Dr. Rubin Flocks, associate professor of urology, and Dr. Irving H. Borts, assistant professor of hygiene and preventive medicine.

DR. CARL C. PFEIFFER, formerly instructor in pharmacology at the University of Chicago, has been appointed associate professor of pharmacology at Wayne University Medical School.

THE REV. CHARLES A. BERGER, of the department of biology at Woodstock College, Md., has become head of the department of biology at Fordham University. Dr. George Antonoff, of the Universities of Manchester and Cambridge, has been appointed visiting professor of chemistry.

PROFESSOR N. H. MANDERFIELD, head of the department of metallurgy and mineral dressing of the Michigan College of Mining and Technology, Houghton, who has worked at the industrial applications of the subject and in mineral dressing curricula, has been made chairman of a newly established department of mineral dressing. Walter Keck has been promoted from an assistant to an associate professorship of mineral dressing.

DR. ARTHUR S. ADAMS, assistant to the president of the Colorado School of Mines, has been appointed assistant to the dean of the College of Engineering of Cornell University. He will be an addition to the present administrative staff of the college with functions in the general area of academic development.

ALLYN RYERSON JENNINGS, since 1936 general superintendent of the Department of Parks of New York City, was appointed general director of the New York Zoological Park and of the New York Aquarium at a meeting on July 15 of the board of trustees of the society. He succeeds Dr. W. Reid Blair, who retired on May 1, having reached the age of sixty-five years. He had been connected with the park for thirty-eight years, for fourteen years as director. Harry Sweeney, Jr., of the Park Department, who for the last two years has directed the New York City exhibit at the World's Fair, was appointed assistant general director. George E. Spargo, assistant park commissioner, will succeed Mr. Jennings as ranking officer of the Park Department.

JAMES STOKLEY, who had been a member of Science Service until 1931, when he accepted a position with the Franklin Institute, Philadelphia, later becoming director of the Buhl Planetarium, Pittsburgh, has rejoined the Service. He will take the place of Robert D. Potter, staff writer in the physical sciences, who resigned on June 1 to become science editor of the *American Weekly*.

JAMES H. CRITCHETT, vice-president of the Electro Metallurgical Company and of the Union Carbide and Carbon Research Laboratories, Inc., New York, past president of the American Electrochemical Society, has become a member of the Division of Chemistry and Chemical Technology of the National Research Council.

DR. CLARENCE ORION CHENEY, professor of clinical psychiatry at the Cornell University Medical College, has been appointed a member of the medical board of the New York Hospital.

DR. FRIEDRICH W. KLEMPERER, of the Harvard University Medical School, has been appointed editor of the section on Biochemical Techniques and Apparatus of *Biological Abstracts*, in succession to the late Dr. Glenn E. Cullen.

LINCOLN T. WORK, assistant professor of chemical engineering at Columbia University, has been appointed director of research and development of the Metal and Thermite Corporation, New York, N. Y.

DR. T. G. YUNCKER, professor of botany at DePauw University, has returned to the United States after a year's absence in the south seas under the auspices of Bishop Museum at Honolulu. Collections were made in the Manua group of the Samoan Islands and also on the island of Niue, which had not previously been visited by botanists.

DR. A. G. PLAKIDAS, associate plant pathologist at the Louisiana Agricultural Experiment Station, has a year's leave of absence, beginning on September 1, for special study at Cornell University under a grant from the General Education Board.

THE Norman Lockyer lecture of the British Association was given at Hull on June 24 by Professor W. L. Bragg.

A CONFERENCE on Science, Philosophy and Religion in their Relation to the Democratic Way of Life will be held at the Jewish Theological Seminary of America, New York City, on September 9, 10 and 11. Dr. Edwin G. Conklin, professor of biology emeritus at Princeton University, executive vice-president of the American Philosophical Society, will speak before the division of the Natural Sciences, and a paper by Dr. Albert Einstein, Institute for Advanced Study at Princeton, N. J., will be presented by title.

A COUNCIL of Scientific Societies of Western New York, composed of two representatives from each participating society or group, has been formed to stimulate and to form a central clearing house for scientific activities in the Niagara Frontier. It plans to bring together individual investigators and to encourage national societies to visit Buffalo; to act as adviser to the schools, museums, local groups and individuals; to encourage local scientific exhibitions and demonstrations; to further publication of research and to assemble and maintain a bibliography of scientific publications concerning the area or by residents of the area. Irving G. Reimann is president of the council, A. H. Bennett and Dr. Ellen M. Nicholson are vice-presidents; Miss Kathryn Alden Schenck is secretary, and Professor W. P. Alexander treasurer.

THE U. S. Civil Service Commission has announced examinations to fill engineering positions in the government in various specialized fields. Salaries range from \$2,600 to \$4,600 a year, less a retirement deduction of 3½ per cent. Applications should be filed with the Commission's Washington office not later than August 5. There are also announced examinations to secure explosives engineers for the Federal service.

The examination covers five grades, with salaries ranging from \$2,600 to \$5,600 a year, less the retirement deduction. Applications should be on file with the Commission's Washington office on August 19. Further information regarding these examinations may be obtained from the Secretary of the Board of U. S. Civil Service Examiners at any first- or second-class post office, or from the U. S. Civil Service Commission, Washington, D. C.

ALPHA EPSILON DELTA, the national honorary pre-medical fraternity, recently installed a new chapter at the Ohio State University. On May 31 Dr. Emmett B. Carmichael, of the School of Medicine of the University of Alabama, who is executive councilor of the fraternity, installed thirty students and four members of the faculty of the charter group as the Ohio Alpha Chapter. Members of the faculty initiated as honorary members of the fraternity were: Dr. H. E. Setterfield, associate professor of anatomy in the College of Medicine; Dr. Alva W. Smith, associate professor of physics; Dr. Raymond J. Seymour, professor of physiology in the College of Medicine, and Dr. Joseph N. Miller, instructor in parasitology.

THE Desert Laboratory at Tucson, Arizona, has been turned over by the Carnegie Institution of Washington, D. C., to the Forest Service. The Desert Laboratory was concerned with the study of arid and semi-arid regions which comprise almost a fourth of the area of continental United States.

A FELLOWSHIP has been established in the National

Research Council for the year 1940-41 through funds provided by the RCA Manufacturing Company, Inc., for the purpose of investigating biological problems such as the structure of viruses, bacteria and other micro-organisms, and tissue cells with the electron microscope. It will carry a stipend of \$3,000 and will be known as the RCA Fellowship, to be awarded by the following committee of the National Research Council, who will act also in an advisory capacity to the fellow: Stuart Mudd, *chairman*, M. Demerec, Caryl P. Haskins, J. H. Kempton, C. W. Metz, W. M. Stanley and V. K. Zworykin. The work will be carried on in the Research Laboratories of the RCA in Camden, N. J. In considering candidates, preference will be given to versatile young men of United States citizenship, who have sound training in micro-biology, a doctor's degree and a record of original work. Applications, in quadruplicate, on forms which will be supplied on request, together with supporting documents, should be submitted on or before August 15 to the Division of Biology and Agriculture, National Research Council, 2101 Constitution Avenue, Washington, D. C.

APPROPRIATIONS of the Federal Government to the various states for improvement of game conditions amount to the sum of \$2,300,000. Michigan received the largest amount, \$127,322; Texas was second with \$120,297, and New York third with \$120,163. Participating states are required to contribute 25 per cent. of the cost of any project. The total sum available in aid of wild life for the present year is \$3,066,667.

DISCUSSION

THE NATURE OF THE INTERMOLECULAR FORCES OPERATIVE IN BIOLOGICAL PROCESSES

IN recent papers P. Jordan¹ has advanced the idea that there exists a quantum-mechanical stabilizing interaction, operating preferentially between identical or nearly identical molecules or parts of molecules, which is of great importance for biological processes; in particular, he has suggested that this interaction might be able to influence the process of biological molecular synthesis in such a way that replicas of molecules present in the cell are formed. He has used the idea in connection with suggested explanations of the reproduction of genes, the growth of bacteriophage, the formation of antibodies, and other biological phenomena. The novelty in Jordan's work lies in his suggestion that the well-known quantum-mechanical resonance phenomenon would lead to attraction be-

tween molecules containing identical groups and to autocatalytic reproduction of molecules. Jordan himself expressed some doubt as to whether resonance attraction could really be operative in this way; after studying the question, we have reached the conclusion that the theory can not be applied in the ways indicated by him, and that his explanations of biological phenomena on this basis can not be accepted. In this note we wish to state our objections to Jordan's hypothesis and to formulate briefly our view of the present status of the chemical problems involved in these phenomena. We shall not discuss here Jordan's biological arguments for the occurrence of autocatalytic reactions, as distinct from the arguments concerning their mechanism.

Let us consider two identical molecules or parts of molecules, A and B, which interact with each other, the interaction being perhaps the electrostatic interaction of electric dipoles in the molecules, as considered by Jordan. If both molecules are in their lowest

¹ P. Jordan, *Phys. Zeits.*, 39: 711, 1938; *Zeits. f. Phys.*, 113: 431, 1939; *Fundam. Radiol.*, 5: 43, 1939; *Zeits. f. Immun.forsch. u. exp. Ther.*, 97: 330, 1940.