

determinations by other investigators showed that the other 40 per cent. was 70 per cent. protein, 24 per cent. lipid and 6 per cent. carbohydrate. From this analysis influenza virus resembles a small organism more than a large molecule.

By using a separation cell in the ultracentrifuge it was possible to show that biological activity of influenza virus is associated with the 115  $\mu$  spheres and their aggregates and not with the small granules. This cell has a barrier about half way down, so that after ultracentrifugation, top and bottom layers can be removed and tested separately. Correlation between biological activity and content of particles can then be established in the two layers.

The conclusion that influenza virus is a particle 115  $\mu$  in diameter was confirmed by the finding that this particle and biological activity migrated with the same speed under an electric field in the Tiselius apparatus.

The Eli Lilly and Company award of \$1,000 and a bronze medal is made annually to an American scientist under thirty-five years who has accomplished outstanding research in biological chemistry. The purpose of the award is to stimulate fundamental research in biological chemistry in the United States.

### THE INTER-AMERICAN TYPHUS CONFERENCE IN MEXICO

THE Public Health and Welfare Department (Secretaría de Salubridad y Asistencia) of Mexico is calling an Inter-American Typhus Conference to be held in Mexico City from October 7 to 13, sponsored jointly by the Institute of Inter-American Affairs and the Pan American Sanitary Bureau.

The purpose of the conference is to bring together leading workers in the typhus field in the American Republics in order that they may present and discuss the latest developments, both in the field of research and in the practical control of the disease.

Inasmuch as epidemic typhus is a serious problem in many of the American Republics and leaders of the typhus control program in the United States Armed Forces have experienced success in the control of this disease, it is believed that the calling of such a conference is opportune.

Invitations to leading scientists are being issued, but other individuals who have an interest in this subject will be welcome to attend the meeting. Correspondence should be directed to the Secretaría de Salubridad y Asistencia, Mexico, D. F.

## SCIENTIFIC NOTES AND NEWS

DR. T. WAYLAND VAUGHAN, emeritus director of the Scripps Institution of Oceanography, has been awarded the Mary Clark Thompson Medal and honorarium of the National Academy of Sciences for 1945, in "recognition of outstanding achievement in his purposeful and ingenious coordination of observations and generalizations made in and bearing on the fields of stratigraphic geology and paleontology."

DR. FRANCIS G. BLAKE, Sterling professor of medicine and dean of the School of Medicine of Yale University, was presented with the Charles V. Chapin Memorial Award for 1945 of the City of Providence during the one hundred and thirty-fourth annual meeting of the Rhode Island Medical Society. The presentation was made by Hon. Dennis J. Roberts, mayor of Providence, following the delivery of the annual Charles V. Chapin oration. This lecture was entitled "Some Recent Advances in the Control of Infectious Diseases."

COLONEL EDWARD T. WENTWORTH, M.C., A.U.S., organizer and commander in Europe of the nineteenth General Hospital, has been named Albert David Kaiser medalist of 1945 by the Rochester Academy of Medicine "for outstanding services to the medical profession of county and state and for zeal in ministering to the defenders of our country in two wars."

THE Legion of Merit of the Army has been awarded to Lieutenant Colonel John A. Geddes, formerly research chemist of E. I. du Pont de Nemours and Company.

THE Osler Memorial Medal of the University of Oxford for 1945 has been awarded to Professor C. G. Douglas, F.R.S., tutor in natural sciences and fellow of St. John's College.

THE gold medal of the British Royal Society of Medicine was presented on July 4 to Brigadier Sir Lionel Whitby at the annual meeting of the society. The medal is awarded triennially to "a man or woman who has made valuable contributions to the science and art of medicine." It was awarded to Sir Lionel Whitby in recognition of his distinguished work in relation to the problems of wound shock and the transfusion of blood and the blood derivatives.

THE American Society of Plant Physiologists has elected the following officers for terms beginning July 1: *President*, Dr. Paul J. Kramer, Duke University; *Vice-president*, Dr. Earl S. Johnston, Smithsonian Institution; *Secretary*, Dr. Robert B. Withrow, Purdue University; *Member of Executive Committee*, Professor D. R. Hoagland, University of California; *Member of Editorial Board of Plant Physiology*, Dr. H. A. Spoeher, Carnegie Institution of Washington.

At Columbia University, the retirement with the title professor emeritus is announced of Dr. William King Gregory, vertebrate paleontology; of Dr. James Wesley Jobling, pathology; of Dr. Alwin Max Pappenheimer, pathology; of Dr. Walter Rautenstrauch, industrial engineering, and of Dr. Marie Reimer, chemistry.

DR. MAYNARD K. HINE has been made dean of the Indiana University Dental School. He succeeds Dr. William H. Crawford, who was recently appointed dean of the Dental School of the University of Minnesota.

DR. MACDONALD FULTON, formerly professor of bacteriology at Southwestern Medical College, Dallas, has been appointed visiting professor of pediatric research at the Medical Branch at Galveston of the University of Texas. He will be in charge of bacteriological studies relating to *Salmonella* organisms as part of the Child Health Program supported by the William Buchanan Foundation of Texarkana.

At Western Reserve University, Dr. James A. Doull, head of the department of preventive medicine and public health, will occupy the newly established Elisabeth Severance Prentiss Chair in Preventive Medicine. This department is financed by the annual income from the Elisabeth Severance Prentiss Fund. It is hoped that this sum will be increased by grants from foundations and other sources.

DR. WILLIAM C. BELL has been appointed assistant professor of paleontology and stratigraphy at the University of Minnesota to fill the position left vacant by Dr. C. R. Stauffer, who retired on June 30. Dr. Bell is now in the Army Air Corps, where he has served as supervisor of instruction at an Advanced Navigation School, and photo intelligence officer at a Combat Crew Training Station. He will take over the work at the university as soon as his military services are terminated.

DR. EDWARD L. TATUM, assistant professor of biology at Stanford University, has been appointed associate professor of botany at Yale University.

DR. HERBERT C. MILLER, assistant professor of pediatrics at the Yale University School of Medicine, has become professor and head of the department of pediatrics of the School of Medicine at Kansas City of the University of Kansas.

DR. A. R. KEMMERER, chemist for the Texas Agricultural Experiment Station, has been appointed head of the department of human nutrition of the Agricultural Experiment Station of the University of Arizona, effective on September 1.

DR. WARREN J. MEAD, of the Massachusetts Institute of Technology, who has been on leave of absence

to serve as director of Reynolds Research at Glen Cove, L. I., during the war period, has resumed his work as head of the department of geology of the institute. He will continue to act as research consultant for the Reynolds Metals Company.

PROFESSOR MELVIN L. MANNING, director of the High Voltage Research Laboratory at Cornell University, has resigned to become assistant chief engineer of the Kuhlman Electric Company in Bay City, Michigan.

DR. W. A. SELLE, professor of physiology at the Medical Branch at Galveston of the University of Texas, is for several months a guest research worker at the Massachusetts Institute of Technology on problems in physical medicine under the auspices of the Baruch Committee on Physical Medicine.

DR. WILMA T. DONAHUE has been appointed director of the Michigan Psychological Services of the Institute for Human Adjustment at the University of Michigan. Michigan Psychological Services is a facility for extending the university's program in research, training of professional workers and service in the field of clinical psychology.

DR. FRANK L. GUNDERSON, biochemist, executive secretary of the Food and Nutrition Board of the National Research Council, Washington, will become associated in October with Pillsbury Mills, Inc., in Minneapolis, where he will be concerned with product research and development. It is expected that he will continue work with the Food and Nutrition Board and its committees on an occasional consulting basis.

DR. WILLIAM L. JELLISON, of the National Institute of Health, has been detailed to the War Department upon its request, to serve at the Field Headquarters of the United States of America Typhus Commission in the India-Burma Theater.

DR. JAMES WATT, of the U. S. Public Health Service; Dr. W. W. Frye, of Vanderbilt University, and Dr. H. A. Reimann, of Jefferson Medical College, Philadelphia, are members of a group which is now *en route* for China to assist in fighting a cholera epidemic in Chungking. The expedition is being sent out under the auspices of the United Nations Relief and Rehabilitation Administration.

THE British Committee of Privy Council for the Organization and Development of Agricultural Research has appointed Professor T. G. B. Osborn, Dr. J. L. Simonsen, F.R.S., and W. J. Wright as members of the Agricultural Research Council in succession to Professor E. J. Salisbury, F.R.S., Sir Robert Robertson, F.R.S., and Sir Robert Greig, whose terms of office as members of the council have expired.

DR. CARL L. HUBBS, of the Scripps Institution of Oceanography, writes to SCIENCE that he has received word from Dr. F. P. Koumans that the Rijksmuseum van Natuurlijke Historie at Leiden, Holland, and its collections are undamaged and that he and his family are well.

THE annual meeting for initiation of new associates and members of the Stanford Chapter of Sigma Xi was held on the evening of May 30. The president of the chapter, Professor George Parks, announced the election of twenty-three associates and seventeen members, and presented diplomas to those who were able to be present. An address on the "Origins of the Experimental Method" was given by Professor F. O. Koenig, of the department of chemistry. Officers of the chapter for the coming year are: *President*, Professor Gabor Szegö, mathematics; *Vice-president*, Professor Paul Farnsworth, psychology; *Secretary-Treasurer*, Professor Willis Johnson, biology; *Assistant Secretary-Treasurer*, Professor Hubert Loring, chemistry.

THE annual meeting of the chapter of Sigma Xi at Lehigh University was held on the evening of June 6. The meeting was preceded by a dinner at which sixty-two members and guests were present. President Lawrence Whitecomb received into membership five members and three alumni members. The election of officers for 1945-1946 was announced as follows: *President*, Professor T. H. Hazlehurst; *Vice-president*, Professor W. J. Eney, and *Secretary*, Assistant Professor R. D. Stout. Professor John M. Fogg, Jr., of the University of Pennsylvania, gave the annual address, entitled "Studies on the Flora of Pennsylvania." The attendance at the lecture was over one hundred.

THE Electron Microscope Society of America is planning to hold its third annual meeting on November 30 and December 1 at the Frick Chemical Laboratory of Princeton University. The purpose of the meeting is to acquaint the members with the rapid advances in the past year in the applications and techniques of electron microscopy and diffraction in currently important problems in physics, chemistry and biology. As a result of the acute transportation shortage and in accordance with the rules of the Office of Defense Transportation, the attendance at the meeting will be limited to those living in the commuting area of Princeton, N. J., and to fifty members from outside this commuting area. Those falling into the latter category must apply for permission from the Program Chairman, John Turkevich, Department of Chemistry, Princeton University, Princeton, N. J.

*Industrial and Engineering Chemistry* states that the McDonough Bill, which has been introduced in

Congress, provides for the release of scientists now in military service and for the deferment of a minimum number of students annually to pursue studies in science at the universities. The journal points out that "passage of this bill would begin the restitution that must be made to rebuild our scientific resources and that responsibility for its active support lies with every scientist in America."

It is reported in *Chemical and Engineering News* that the House of Representatives passed unanimously June 19 the May Bill, H.R. 3440, which authorized an annual appropriation of \$8,000,000 to the National Academy of Sciences for a permanent program of post-war military and naval research in technical and scientific fields. The bill has been sent to the Senate, where approval is expected. Activities would be directed by a Research Board for National Security, made up of Army, Navy and other government officials. During the debate on the measure, Representative Gordon L. McDonough, of California, sponsor of H.R. 2827 which would exempt scientists and other key personnel from the draft, said that the United States is the only nation that has failed to provide adequate safeguards against the loss of needed chemists, engineers, physicists and other highly skilled personnel. Representative Walter H. Judd, of Minnesota, joined in the criticism, asserting that the United States is systematically destroying our potential scientists of to-morrow without realizing the seriousness of the situation.

THE scope of the *Polymer Bulletin*, inaugurated in April, 1945, under the auspices of the Bureau of High Polymer Research at the Polytechnic Institute of Brooklyn, will be extended when on January 1 it will become a national *Journal for High Polymer Research*. It will be devoted to the publication of original papers and surveys in the entire field of the chemistry and physics of high polymeric substances. It will reflect mainly the scientific progress and development in the field of plastics and elastics. The editor will be Dr. H. Mark, and the assistant editors, Drs. Paul M. Doty and Charles C. Price. The editorial board will be composed of well-known American and foreign scientific men. It is published by Interscience Publishers, Inc., New York.

In consultation with the War Policy Committee, the president and secretary have made arrangements to hold the summer meeting of the American Mathematical Society at the New Jersey College for Women, Rutgers University, from September 15 to 17. By invitation of the Program Committee, Professor S. S. Chern, of the Institute for Advanced Study at Princeton, will deliver an address on "Some New Viewpoints in Differential Geometry in the Large";

Professor Samuel Eilenberg, of the University of Michigan, an address on "Topological Methods in Abstract Algebra," and Professor Witold Hurewicz, of the University of North Carolina, an address entitled "Some Aspects of Ergodic Theory."

THE eleventh Chapter of Sigma Delta Epsilon, Graduate Women's Scientific Fraternity, was installed at the University of Minnesota on May 26. The installing officer was Dr. Dorothy Day, research associate in the Division of Plant Pathology and Botany of the University of Minnesota, who was national president of the fraternity in 1941 and 1942. The speaker of the evening was Dr. Margaret Sloss, of the department of veterinary pathology of Iowa State College. The local officers for 1945-46 are Jane Leichsenring, professor of nutrition, *President*; Violet Koski, teaching assistant in botany, *First Vice-president*; Kathleen Cummings, research assistant, Dight Institute of Human Genetics, *Second Vice-president*; Eloise Newcomb, teaching assistant in chemistry, *Treasurer*; Agnes Hansen, senior laboratory technologist in the department of botany, *Secretary*.

THE Chicago Dental Society, to encourage continued scientific research in all phases of dentistry, offers a cash prize of \$500 to the author of the most meritorious essay reporting an original investigation and containing new and significant material of value to dentistry. The winner of the award will be invited to present his essay at the eighty-first mid-winter meeting of the Chicago Dental Society to be held next year in February. Application forms and contest rules may be obtained by writing to the Chicago Dental Society, 30 N. Michigan Avenue, Chicago 2, Illinois. All applications must be filed by October 1.

THE compilation of the eighth edition of the National Research Council directory, "Industrial Research Laboratories in the United States," is now under way. The 7th edition appeared in 1940 and contained information concerning the industrial research laboratories of 2,264 companies and their subsidiaries. Although effort was made in 1940 to reach as large a number of laboratories as possible,

no doubt some in each field have been inadvertently omitted. It is important that contacts be made with these laboratories in compiling the forthcoming edition. The term "research" for the purpose of the directory is construed as including investigations looking toward the improvement of products or the reduction of cost of manufacture as well as fundamental research and applied research. It does not apply to laboratories concerned only with commercial testing. Research men should inquire of the directors of their laboratories whether questionnaires have been received. If not, one will be sent upon request to the Library, National Research Council. The directory is issued by the National Research Council with no expectation of profit. There is no charge for the inclusion of a statement regarding a laboratory in the publication and no obligation is incurred in furnishing data.

ON June 1, the United States Patent Office put into operation a new service to industry and inventors. Its purpose is to bring to the attention of the nation patented inventions under which the owners are willing to grant licenses on reasonable terms; it is hoped that such information will lead to greater employment opportunities in the reconversion period, as well as to permit industry to become acquainted with what is being done in various fields. To accomplish these purposes a Register of Patents Available for Licensing is now being established, and will be maintained in the United States Patent Office. Patents recorded on this register will be available to the public for inspection in Washington, D. C. Lists of such patents will be published in the *Official Gazette* of the Patent Office.

THE Aluminum Company of America has announced a grant of \$200,000 to the endowment fund of the Carnegie Institute of Technology for the establishment of a professorship of light metals in the department of metallurgical engineering. It is reported that the institute is endeavoring to raise a fund of \$4,000,000 by July 1, 1946, when, if it is successful, the Carnegie Corporation of New York has agreed to contribute \$8,000,000 to the permanent endowment funds of the institution.

## SPECIAL ARTICLES

### THE HEMOAGGLUTININATIVE PROPERTIES OF AMNIOTIC FLUID FROM EMBRYONATED EGGS INFECTED WITH MUMPS VIRUS<sup>1</sup>

In a previous report<sup>2</sup> it was stated that in spite of many attempts no evidence could be obtained which

<sup>1</sup> These investigations have been carried out as a project of the Commission on Measles and Mumps, Board for the

indicated that the virus of mumps was capable of multiplication within the tissues of the embryonated hen's egg. Since that time experiments have shown

Investigation and Control of Influenza and other Epidemic Diseases in the Army, Preventive Medicine Service, Office of the Surgeon General, United States Army.

<sup>2</sup> J. F. Enders, L. W. Kane, S. Cohen and J. H. Levens, *Jour. Exp. Med.*, 81: 93, 1945.