

- pital. "Some Reasons for the Recent Increase in Bronchial Carcinoma."
- January 4.—Nathan Lewis Hatfield Lecture XXI. Walter Bauer, associate professor and tutor in medicine, Harvard Medical School; physician, Massachusetts General Hospital, Boston. "Studies Pertaining to the Origin and Nature of Hypertrophic Arthritis."
- February 1.—Nathan Lewis Hatfield Lecture XXII. C. N. H. Long, Sterling professor of physiological chemistry, Yale University. "Diabetes Mellitus in the Light of Our Present Knowledge of Metabolism."
- March 1.—Mary Scott Newbold Lecture XLII. W. B. Castle, professor of medicine, Harvard Medical School; associate director, Thorndike Memorial Laboratory, Boston City Hospital. "The Diagnosis and Treatment of Anemia."
- April 5.—Claude S. Beck, associate professor of surgery, Western Reserve University; associate surgeon, University Hospitals, Cleveland. "The Surgical Approach to Diseases of the Heart."
- May 3.—Mary Scott Newbold Lecture XLIII. William J. Kerr, professor of medicine, University of California; physician-in-chief, University Hospital, San Francisco. "A New Approach to the Etiology and Treatment of Angina Pectoris."
- LECTURES FOR THE GENERAL PUBLIC
- November 18.—Alfred Stengel, vice-president in charge of medical affairs, University of Pennsylvania. "Currents and Counter-Currents in the Progress of Medicine."
- January 20.—George P. Muller, professor of surgery, Jefferson Medical College. "Surgical Trends and Medical Progress."
- April 14.—Earl D. Bond, professor of psychiatry, University of Pennsylvania; director, Institute for Mental Hygiene, Pennsylvania Hospital. "The Modern Interpretation of Mental Disorders."

NOMINATIONS FOR THE PRESIDENCY OF THE AMERICAN CHEMICAL SOCIETY

DR. CHARLES L. PARSONS, secretary of the American Chemical Society, has announced the nomination of

fourteen candidates for the presidency of the society. The nominations are made by the local sections and they will be voted upon in a pool of the 23,000 members of the society. The names of the four members receiving the largest number of votes will be brought before the council for election.

The president-elect of the society will take office on January 1, 1939, and will become president a year later. Professor Charles A. Kraus, of Brown University, now president-elect, will be president during 1939, succeeding Dean Frank C. Whitmore, of Pennsylvania State College.

The list of candidates follows:

- Erle M. Billings, business and technical personnel director of the Eastman Kodak Company, Rochester, N. Y.
- Professor H. S. Booth, of Western Reserve University, Cleveland, Ohio.
- Gustav Egloff, director of research of the Universal Oil Products Company, Chicago.
- Gustavus J. Esselen, president of Gustavus J. Esselen, Inc., Boston.
- Francis C. Frary, director of research of the Aluminum Company of America, New Kensington, Pa.
- Per K. Frolich, director of the Chemical Laboratories of the Standard Oil Development Company, Elizabeth, N. J.
- Professor Harrison Hale, of the University of Arkansas.
- Professor W. D. Harkins, of the University of Chicago.
- Professor Samuel C. Lind, dean of the Institute of Technology of the University of Minnesota.
- E. Emmet Reid, emeritus professor of chemistry, the Johns Hopkins University.
- Walter A. Schmidt, president and general manager of the Western Precipitation Company, Los Angeles.
- Professor Hugh S. Taylor, of Princeton University.
- Ernest H. Volwiler, vice-president of Abbott Laboratories, Chicago.
- Professor Hobart H. Willard, of the University of Michigan.

SCIENTIFIC NOTES AND NEWS

THE John Fritz Gold Medal has been awarded to Dr. Frank Baldwin Jewett, vice-president of the American Telephone and Telegraph Company and president of the Bell Telephone Laboratories, for "vision and leadership in science and for notable achievement in the furtherance of industrial research and development in communication." The award is made by a committee composed of representatives of the American Society of Civil Engineers, the American Institute of Mining and Metallurgical Engineers, the American Society of Mechanical Engineers and the American Institute of Electrical Engineers.

LOUIS SHATTUCK CATES, president of the Phelps Dodge Corporation, was elected William Lawrence

Saunders gold medallist at a meeting on October 17 of the board of directors of the American Institute of Mining and Metallurgical Engineers.

DR. JOHN VAN NOSTRAND DORR, president of the Dorr Company, Incorporated, will be presented with the Medal of the Society of Chemical Industry on November 4, at a joint meeting of the American Section of the Society of Chemical Industry and of the American Chemical Society, at the Chemists' Club, New York City. The medal is given for "valuable application of chemical research to industry," and was awarded to Dr. Dorr for his inventions that have permitted large-scale, low-cost operations in many chemical, metallurgical and sanitational operations.

It is reported in *Nature* that Professor B. W. Holman, assistant professor of mining in the Imperial College of Science and Technology, has been awarded the Gold Medal of the National Bureau of Scientific and Industrial Research by the French Minister of Instruction and Fine Arts.

THE doctorate of laws was conferred by Lafayette College at the annual Founders Day celebration on Dr. Gilbert H. Grosvenor, president of the National Geographic Society.

AMONG the honorary degrees conferred by Loyola College, Baltimore, on the occasion of the installation on October 20 of the Rev. Edward B. Bunn, S.J., as president of the college, was the doctorate of laws on Dr. John Charles Hubbard, professor of physics at the Johns Hopkins University.

DR. LEONARD CARMICHAEL, from 1928 to 1936 professor of psychology at the University of Rochester, will be installed as president of Tufts College on November 4. Dr. James B. Conant, president of Harvard University, will be a speaker at the luncheon following the ceremony.

At the meeting of the fifth International Congress for Experimental Cytology, which was held at Zürich from August 7 to 13, Dr. Warren H. Lewis, of the department of embryology of the Carnegie Institution of Washington and the Johns Hopkins Medical School, was elected president. Dr. Harald Okkels, of the department of anatomy of the University of Copenhagen, was reelected secretary. The next congress will be held in Stockholm in August, 1940, with Dr. Runnström, of Stockholm, as local president in charge of the program.

DR. ANDRÉ CROTTI, of Columbus, Ohio, was elected president of the International Congress of Surgeons at the Philadelphia meeting. Dr. Fred M. Douglas, of Toledo, Ohio, was elected president of the United States Chapter.

A LIFE-SIZED portrait of Dr. T. U. Taylor, for more than forty years dean of the College of Engineering at the University of Texas, has been presented to the college by his former students. The portrait, painted in oils by Mrs. Mary Talbot Landrum, will hang in the Engineering Building.

DR. JOHN T. BUCHHOLZ, professor of botany at the University of Illinois, has been appointed head of the department to succeed Dr. Charles F. Hottes, who retired with the title emeritus at the close of the academic year. A banquet, attended by 125 of his colleagues, friends and former students, was given in honor of Dr. Hottes, and a portrait painted by Miriam Buchholz was unveiled and hung in the reading room of the Natural History Library.

DR. JOHN W. ROY NORTON, assistant director of preventive medicine of the North Carolina State Board of Health, has been appointed professor of public health administration in the division of public health of the School of Medicine of the University of North Carolina.

DR. HIRAM BENTLEY GLASS, of Stephens College, Columbia, Mo., has been appointed assistant professor of biology at Goucher College. Dr. Harriette Dryden Vera has been appointed instructor in physiology and hygiene.

DR. HERBERT C. HANSON has become director of the North Dakota Experiment Station. Other appointments include Darlene M. Knowles, home economics specialist, to conduct research in nutrition problems and rural and urban family life and to direct studies on home-making; and Stanley Saugstad, assistant in entomology, to assist in field studies relative to the life cycle and control of insects and wild life.

DR. J. HOLMES MARTIN, professor of poultry husbandry and genetics at the University of Kentucky, has been made director of the new Regional Poultry Research Laboratory of the U. S. Department of Agriculture at East Lansing, Mich. He will take up the work on January 1.

DR. LLOYD C. FOGG, assistant professor of zoology at the University of New Hampshire, will become director of the zoological laboratory on the Isle of Shoals when its twelfth session opens next June. He succeeds Dr. C. Floyd Jackson, professor of zoology and entomology and dean of the College of Liberal Arts, who has resigned as director.

Nature reports that on advice furnished by the general officers of the British Association the scientific representatives on the Scientific Advisory Committee of the Trades Union will be: Nutrition and agriculture, Sir Daniel Hall and Sir John Orr; physics, Professor Allan Ferguson and Professor P. M. S. Blackett; chemistry, Professor F. G. Donnan and Professor A. C. G. Egerton; physiology and psychology, Professor Winifred Cullis; population, Professor L. Hogben; metallurgy, Professor J. D. Bernal; geology and geography, Professor P. G. H. Boswell; engineering, J. S. Wilson.

WILLIAM G. COCHRAN, mathematical statistician of the Rothamsted Experimental Station, arrived at Ames, Iowa, on October 17 to work with the Statistical Laboratory for two months under a cooperative agreement between the Iowa State College and the U. S. Department of Agriculture.

PROFESSORS CARL J. DRAKE and C. H. Richardson, of the department of zoology of the Iowa State College, left for Argentina on October 21. At the invi-

tation of the Agricultural Society of Argentina, they will make a study of grasshopper and locust problems, and the application there of control measures being used in the United States.

DR. JOHN F. FULTON, Sterling professor of physiology in the School of Medicine of Yale University, spoke on October 20 at a meeting of the university chapter of the Society of Sigma Xi. His subject was the history of oxygen with particular reference to Robert Boyle, John Mayow and Joseph Priestley.

DR. W. J. HUMPHREYS, collaborator of the U. S. Weather Bureau and emeritus professor of physics at the George Washington University, gave on October 14 an address entitled "Sky Splendors and Sky Puzzles" before the Rittenhouse Astronomical Society of Philadelphia.

DR. GEORGE HOWARD PARKER, professor emeritus of zoology, formerly director of the Harvard Zoological Laboratories, lectured on October 19 before the American Academy of Arts and Sciences, Boston. His subject was: "Modern Views on the Action of the Nervous System as Illustrated by the Color Changes of Animals."

At the annual meeting of the Association of American Medical Colleges, which opened at Syracuse on October 24, the presidential address was given by Dr. Alan M. Chesney, dean of the School of Medicine of the Johns Hopkins University. Among the principal speakers was Dr. Thomas Parran, Jr., surgeon general of the United States, whose address was entitled "The Future of the Public Health Movement." The opening session included a symposium on the place of preventive medicine in the medical curriculum.

At the New York meeting of the clinical congress of the American College of Surgeons, the fourth annual oration on surgery, delivered by Dr. Walter W. Chipman, professor emeritus of the McGill University Medical College, was a tribute to Dr. Allen B. Kanavel, a founder and former president of the college.

THE Section for Psychology of the American Association for the Advancement of Science will meet in Richmond, Va., from Tuesday, December 27, to Thursday, December 29. In addition to the usual program of contributed papers there will be, on Wednesday, December 28, a symposium on "Recent Advances in the Psychology and Physiology of Audition," under the chairmanship of Dr. Elmer A. Culler, of the University of Rochester.

THE eighth semi-annual meeting of the Eastern Photoelasticity Conference will be held on December 10 at Columbia University. A symposium on three-dimensional photoelasticity is planned for the technical sessions. Further information may be obtained

by addressing R. D. Mindlin, Columbia University, New York City.

THE first meeting of the newly organized Philadelphia Geological Society under the presidency of Professor Edward H. Watson, chairman of the department of geology at Bryn Mawr College, was held on October 20 in the library of the Academy of Natural Sciences. A short address by Charles M. B. Cadwalader, president of the academy, opened the meeting, and the principal speaker was Professor W. Berryman Scott, of Princeton University, who spoke on "Philadelphia as a Center of Vertebrate Paleontology Sixty Years Ago." This society has grown from small informal meetings at the University of Pennsylvania, which were instituted in 1934 by Dr. A. Williams Postel, of the department of geology. Plans for the expansion of the society were drawn up last spring by a committee under the chairmanship of Dr. B. F. Howell, of the department of geology and paleontology of the Academy of Natural Sciences.

It is reported in *Nature* that the International Union against Cancer, which comprises ninety-two organizations representing fifty-two nations, has succeeded in arranging for an International Week against Cancer for November 23 to 30, which it is hoped will take place simultaneously in fifty countries. In connection with the celebrations, an international commemoration of the discovery of radium, electrons, x-rays and Hertzian waves will take place on November 23 at the Sorbonne. Papers will be presented by O. Hahn, Berlin-Dahlem; G. Hevesy, Copenhagen; G. P. Thomson, London; M. von Laue, Berlin; A. Sommerfeld, Munich; J. Errera, Brussels; F. Carter Wood, New York; J. D. Bernal, London; H. Stubbe, Berlin-Dahlem; A. Bouwers, Eindhoven, and L. Marton, Brussels, in addition to French men of science. Further particulars of the meeting can be obtained from the secretary-general of the Semaine Internationale contre le Cancer, 18 rue Soufflot, Paris (V).

THE Medical College of Virginia, Richmond, has received from the estate of the late Bettie Davis Wood securities valued at slightly more than a million dollars. This will be added to the endowment funds of the institution and used for general purposes. The bequest will be known as the Judd B. Wood and Bettie Davis Wood Memorial, named for the late Dr. Wood, who was a dentist of Richmond, and his wife, who together provided the bequest.

PLANS for the first building for the Institute for Advanced Study at Princeton have been approved by the board of trustees. At present members of the institute use the buildings and facilities of Princeton University. While relations with the faculty and advanced scholars of the university will continue, the

new hall will provide a center of activity for its now scattered students. It will be known as Fuld Hall, in honor of Felix Fuld, whose wife was one of the original founders of the institute. Construction will begin immediately and it is hoped that it will be ready for occupancy by the middle of September, 1939. The hall, which will be erected at the cost of \$500,000, will be constructed of colonial and Georgian brick. It will be approximately 250 feet in length, and will be situated on the Olden farm, a tract of about 450 acres adjoining the Graduate College of Princeton University. There will be studies for members of the professorial staff and students, in addition to seminar rooms, a library, a commons and a lounging room.

THE cornerstone for the new building of the New York Medical College, Flower and Fifth Avenue Hospitals was laid on October 20. This date is the fiftieth anniversary of the laying of the cornerstone of the old buildings at 64th Street and is eighty years since the founding of the institution by William Cullen Bryant. The new building is located between 105th and 106th Streets on Fifth Avenue. It is expected to be com-

pleted for occupancy by June, 1939. A special program given in the afternoon included speeches by Dr. George W. Crile and Mayor Fiorello H. La Guardia. The new building will house all the departments of the college as well as the out-patient department of the hospitals.

A DIVISION OF AGRICULTURAL AND INDUSTRIAL MARKETING was recently set up by the Oregon State Board of Higher Education, its purpose being "to increase the wealth and income of the people of Oregon by encouraging the use of scientific methods in marketing Oregon products." A committee has been appointed by the board to advise with the director of the new division on all important matters of policy and procedure. The term of service of members will be nine years, one member to be appointed each year. The nomination of a director will be made by a committee consisting of Dr. Frederick M. Hunter, chancellor of the Oregon State System of Higher Education, President Donald M. Erb, of the University of Oregon, and President George W. Peavy, of the Oregon State College.

DISCUSSION

NUCLEAR CONTROL OF CELL ACTIVITY

THE changes that take place during development resulting from the loss or shift of chromosomes or chromosome segments have a direct bearing on the control of growth. Stern has pointed out recently¹ that single cell mosaics indicate a regulation of characters expressed in the cytoplasm by the nucleus, evidently by means of diffusible substances that pass through the nuclear membrane, since there is no subsequent cell division and consequently no disappearance of the nuclear membrane.

In maize seeds single cell mosaics exhibit changes in color, in starch formation and in size and shape of cells. Color in the aleurone cell is expressed in pigmented granules in the cytoplasm. The nucleus is colorless. Starch is likewise laid down in the cytoplasm and may vary from the normal blue-staining starch to the red-staining erythroextrin, to the brown-staining sugary condition or to colorless. Changes in size of aleurone cells range from twice the diameter of normal cells up to ten times normal size or even more. Shape also varies widely from the normal spherical condition.

All these changes occur in single cells which appear alone or paired with other cells showing different alterations from normal. The effect of lethal conditions is also manifested in single cells. Lindgren and Scott²

illustrate an ascus in *Neurospora* with four of the eight ascospores aborted. These aborted and normal cells are arranged in such an order that the lethal action did not stop cell division until the second equational division had taken place. This is an apparent exception to the direct action of diffusible substances, since the lethal effect was delayed until after one cell division.

The evidence derived from genetic and cytological observations shows that changes originate in aberrant chromosome behavior. The exact nature of this aberration is not known in every case, but the final result of these nuclear changes is expressed in the cytoplasm. Since in the single cell mosaics no cell division has taken place following the first alteration in nuclear constitution, the changes in cell size, shape and composition are apparently due to some influence originating in the nucleus and passing through the nuclear membrane.

External agents, which may be physical, chemical or biological, can initiate changes in cell activity. They are either similar in their action to substances originating in the nucleus or they act upon the nuclear material in such a way as to bring about the production of more or less of the same substances. Since these induced growth alterations are sometimes permanent, in that they can be propagated indefinitely by tissue transplantation it would seem more likely that the effect

¹ *Amer. Nat.*, 72: 350, 1938.

² *La Cellule*, 45: 361, 1937.