SCIENTIFIC NOTES AND NEWS

THE annual stated meeting of the National Academy of Sciences will be held under the presidency of Dr. W. W. Campbell, in the building of the academy at Washington, on April 22, 23 and 24. The autumn meeting will be held at the University of Virginia on November 18, 19 and 20.

THE spring meeting of the Executive Committee of the American Association for the Advancement of Science will be held in New York City on April 14. Communications to be brought to the attention of the committee should be sent to the permanent secretary, the Smithsonian Institution Building, Washington, D. C.

DR. FREDERICK G. NOVY, retiring dean of the University of Michigan Medical School, at a special executive faculty meeting on February 7 was presented with a bronze plaque. The resolution inscribed on the plaque acknowledged Dr. Novy's years of service to the university and noted the regret of his colleagues that he will no longer be associated with them. Dr. Novy is succeeded as dean by Dr. Albert C. Furstenberg.

ON the occasion of his retirement on March 15 as Governor General and Commander-in-chief of New Zealand after five years of office, Lord Bledisloe presented to the Dominion a portrait of Lord Rutherford, a native of New Zealand, painted by Oswald Birley, also a New Zealander. The portrait will be hung in the new National Art Gallery at Wellington. Mr. Birley painted some three years ago a portrait of Lord Rutherford, which was presented to the Royal Institution and Lord Bledisloe commissioned him to paint the replica, which has now been sent to New Zealand.

IN honor of the eighty-eighth birthday on February 10 of Hofrat Dr. Gustav Riehl, emeritus professor of dermatology at the University of Vienna, the issues of the *Wiener klinische Wochenschrift* of February 8 and of the *Wiener medizinische Wochenschrift* of February 9 were dedicated to him.

THE annual award of the Pittsburgh Section of The American Chemical Society was on February 17 presented to Charles Edward Nesbit, chief chemist of the Edgar Thompson Steel Works and for many years the treasurer of the Pittsburgh Section. The title of the accompanying paper by Mr. Nesbit was "The Disintegration of Fire-Brick Linings in the Iron Blast Furnace."

THE Joseph A. Capps Prize for 1934 of the Institute of Medicine of Chicago has been awarded to Lars F. Gulbrandsen, instructor in bacteriology and public health at the University of Illinois College of Medicine, for his paper on "Invasion of the Body Tissues by Orally Ingested Bacteria and the Defensive Mechanism of the Gastro-Intestinal Tract." The prize of $500, established by an anonymous donor in honor of Dr. Joseph A. Capps, is awarded annually for the most meritorious medical research by a graduate of a medical school in Chicago completed within two years after graduation.

THE Osborne Reynolds Medal for meritorious contributions to the progress of the British Institution of Chemical Engineers has been awarded to H. J. Pooley, general secretary of the Society of Chemical Industry.

ROBERT J. MOORE, of the Bakelite Corporation, was reelected chairman for 1935–36 of the American Section of the Society of Chemical Industry at the meeting of the society held in New York City on March 8. Other officers elected for the ensuing year are: W. D. Turner, Columbia University, *vice-chairman;* Foster Dee Snell, Foster Dee Snell, Incorporated, *secretary;* J. W. H. Randall, consultant, *treasurer.* New members of the executive committee are: Wm. H. Gesell, Lehn and Fink, Incorporated; Elmer K. Bolton, E. I. du Pont de Nemours and Company; J. B. Rather, Socony-Vacuum Corporation; E. R. Weidlein, the Mellon Institute.

DR. JOHN F. BOVARD, dean and director of physical education at the University of Oregon and Oregon State College, has been elected president of the Northwest District of the American Physical Education Association.

DR. PETER O. OKKELBERG, professor of zoology in the University of Michigan, has been appointed to the newly created post of assistant dean of the graduate school. He will continue as secretary of the school, a position that he has filled during the past five years.

DR. RUDOLPH E. LANGER, professor of mathematics at the University of Wisconsin, has been appointed lecturer on mathematics and tutor in the division of mathematics at Harvard University.

DR. WILLIAM ORR SWAN, professor of chemistry at Southwestern, Memphis, Tenn., has been appointed head of the department of chemistry at the Virginia Military Institute. He succeeds Colonel Hunter Pendleton, who has served for the past forty-five years.

DR. I. R. POUNDER, assistant professor of mathematics at the University of Toronto, and Dr. A. H. S. Gillson, associate professor of mathematics at McGill University, have been promoted to full professorships.

DR. FREDERICK SEITZ, of Princeton University, has been appointed instructor in physics at the University

of Rochester, where he will have charge of the work in theoretical physics.

THE *Journal* of the American Medical Association reports that following the resignation of Kiheiji Onodera, president of the Tokyo Imperial University, the fifth presidential election took place on December 15. Professor Dr. Mataro Nagayo, dean of the medical department of the university, was elected the next president by the majority of 98 out of 164 votes. He was born in 1878 and had been director of the Infectious Disease Research Laboratory from 1919 to 1933. He was also president of the Cancer Research Institute. His present post of dean will be taken over by Professor Dr. Hisomi Nagai, professor of physiology in the university.

DR. NATHANIEL WALES FAXON, since 1922 director of the Strong Memorial Hospital of the University of Rochester, has been appointed director of the Massachusetts General Hospital and the Massachusetts Eye and Ear Infirmary, Boston. Dr. Faxon, who graduated from Harvard Medical School in 1905, was assistant director of the Massachusetts General Hospital from 1919 to 1922. He succeeds Dr. George H. Bigelow, who has been missing since December, 1934.

DR. ARTHUR D. LITTLE, who has retired as president of Arthur D. Little, Inc., has been elected chairman of the board. Dr. Little becomes chairman within a year of the fiftieth anniversary of the organization. His staff now includes graduates of twenty-two universities and technical schools.

SIR GEORGE NEWMAN will retire on March 31 from the posts of chief medical officer of the British Ministry of Health and of the Board of Education, and will be succeeded by Dr. A. Salusbury MacNalty, who, in turn, will be succeeded by Dr. Thomas Carnwath as deputy to the chief medical officer.

THE position of assistant entomologist at the Rothamsted Experimental Station, England, made vacant by the appointment of H. C. F. Newton as advisory entomologist to the West Midland Province, at the Harper Adams Agricultural College, Newport, has been filled by A. Coulston Evans, assistant plant pathologist at the Long Ashton Research Station of the University of Bristol.

THE Committee on Scientific Research of the American Medical Association has made a grant of $200 to Professor Israel S. Kleiner, of the New York Homeopathic Medical College and Flower Hospital, for work on the analysis of various materials for ascorbic acid (Vitamin C). The research work will be actively conducted by Dr. Henry Tauber.

THE Executive Committee of the Federation of American Societies for Experimental Biology announces the following awards of fellowships for attendance at the fifteenth International Physiological Congress, which will be held in Leningrad and Moscow next August. In physiology, Dr. J. M. Wolfe, Vanderbilt University; on biochemistry, Dr. Abraham White, Yale University; on pharmacology, Dr. Bernard M. Jacobson, Harvard Medical School, and in pathology, Dr. William Mahoney, Yale University.

DR. F. GREGORY HALL, professor of zoology at Duke University, has received a grant from the National Research Council to permit him to join an expedition that will leave in April for the Andes in northern Chile to study the physiological effects of extremely high altitudes on men and animals.

DR. NORBERT WIENER, professor of mathematics at the Massachusetts Institute of Technology, has been granted a leave of absence for the next academic year to join the faculty at the National Tsing Hua University at Peking, China.

DR. ARNOLD A. ZIMMERMANN, assistant professor of anatomy at the University of Illinois College of Medicine, Chicago, will continue his studies on the lymphatics of the opossum in the laboratories of the Wistar Institute of Anatomy, Philadelphia.

DR. JAMES JESSE TURNER, professor of biology at Hiram College, Ohio, has returned to the college after conducting an ecological study of the flora of the southeastern states, including the coastal plain and the swamps of Florida.

DR. HANS ZINSSER, of the Harvard Medical School, was the principal speaker at the annual dinner of the Columbia Alumni Club of Paris on February 12. Dr. Zinsser spoke of his work and in particular of the effect of disease on the political and military history of the world.

DR. DAVID P. BARR, professor of internal medicine in the School of Medicine of Washington University at St. Louis, recently returned from a trip to Australia, where he delivered a series of lectures at the special invitation of the Melbourne Permanent Post Graduate Association. This association conducts for the benefit of the physicians of the state of Victoria more or less continuous post graduate instruction. During the past decade it has been their custom to invite each second year a physician or surgeon either from England or from the United States to assist in this instruction and to give a series of stated lectures.

AT a meeting of the Electrochemical Society, held this week in New York City, Professor W. W. Stender, of the University of Leningrad, reported upon the new alkali-chlorine industry of Russia.

DR. C. A. EDWARDS, principal of University College, Swansea, Wales, gave a lecture at the museum of the Franklin Institute, Philadelphia, on March 8, entitled "A Consideration of the Internal Atomic Disturbances that Occur during the Straining of Metallic Crystals."

BARTRAM THOMAS, the English explorer and orientalist, lectured on his first crossing of the Great Southern Desert of Arabia before the University of Virginia on March 4.

PROFESSOR JOSEPH NEEDHAM, who is Sir William Dunne reader in biochemistry at the University of Cambridge, gave during March a series of three Terry lectures at Yale University. He spoke on the general topic of "Order and Life." The Terry lectures have been given in previous years by John Dewey, Robert A. Millikan, Arthur H. Compton, William E. Hocking and Henry Norris Russell.

THE fourth lecture in the Smith-Reed-Russell series at the School of Medicine of the George Washington University was given before the faculty and students on March 5 by Dr. E. V. McCollum, professor of biochemistry of the Johns Hopkins Medical School. Dr. McCollum's subject was "The Rôle of the Vitamins in Relation to the Bodily Resistance to the Infectious Diseases."

PROFESSOR HAROLD C. UREY, of Columbia University, gave a lecture on Monday, March 18, at the University of Rochester before a joint meeting of the Rochester Sections of the American Chemical Society and the Optical Society of America. His subject was "Isotopic Equilibria and Separation of Isotopes." Future meetings of the Rochester Section of the Optical Society are as follows: April 9, Dr. W. E. Forsythe, Cleveland, Ohio, "Light Sources for Photographic Purposes"; April 23, Professor Brian O'Brien, University of Rochester, "The National Geographic-United States Army Air Corps Stratosphere Flight"; May 14, Dr. Lyman J. Briggs, director, National Bureau of Standards, "The Work of the National Bureau of Standards."

THE New York Branch of the American Psychological Association will hold its sixth spring meeting at Princeton University, on Saturday, April 13, beginning at 9 o'clock. There will be sessions on comparative psychology, child and differential psychology, physiological psychology, experimental psychology and social and abnormal psychology; and an address by the honorary president, Dr. Joseph Jastrow.

THE one hundred and ninety-eighth regular meeting of the American Physical Society will be held in Washington, D. C., on April 25, 26 and 27. The Thursday and Friday sessions will be held at the Bureau of Standards and the Saturday sessions at the National Academy building. Other meetings during 1935 are as follows: June 21–22, Minneapolis; June 24–28, Los Angeles; November 29–30, Baltimore; December, the Pacific Coast; annual meeting, St. Louis, Mo.

THE first annual meeting of the American Institute of Tropical Medicine will open in New York City on Tuesday, April 16.

THE International Congress of Neurology will be held in London from July 29 to August 2.

DATES for the ninth season of the Allegany School of Natural History in Allegany State Park, New York, conducted by the Buffalo Society of Natural Sciences in cooperation with the New York State Museum and affiliated with the University of Buffalo, have been set for July 5 to August 24, 1935. Dr. Robert E. Coker, of Chapel Hill, N. C., is director of the school. The following courses will be given: in field botany by Dr. Robert B. Gordon, of the Ohio State University; in field geology by Gordon I. Atwater, of the University of Iowa; in the natural history of birds by Aretas A. Saunders, of the Central High School, Bridgeport, Conn.; in nature study, by Professor William P. Alexander, of the Buffalo Museum of Science; in field zoology, by Dr. Robert E. Coker. The administrative staff will include: Mrs. Robert E. Coker, dean of women; Esther W. Eno and Oscar M. Waddell, of the Buffalo Museum of Science, secretary and camp manager, respectively.

Nature reports a bequest from Lady Dewar, who died on January 7, of ten thousand pounds to the Royal Institution. The gift is free of duty, and is made on the condition that the income is to be used for the purpose of furthering scientific research in the institution and as a permanent memorial to the work there of her husband, Sir James Dewar, who succeeded Tyndall as superintendent of the institution in 1887. Lady Dewar has also left to the institution Sir James's medals and diplomas and his scientific papers and apparatus, together with a sum of money to provide accommodation for them. A large part of his apparatus, in particular that used in his low temperature researches, has remained at Albemarle Street since his death, and in recent years has been displayed in the institution's collection. The papers and objects now presented are additional material likely to be of historic value in relation to the period of Dewar's professorship. Lady Dewar's other bequests include £4,000 to the Royal Society's Mond Laboratory at Cambridge and £3,000 to the Royal Academy of Music. The residue of the estate is left for the furtherance of research in chemistry and physics at one of the Universities of Edinburgh, St. Andrews, Glasgow or

Aberdeen, or for the assistance of bacteriological research in connection with the Royal Infirmary of Edinburgh and the Glasgow Royal Infirmary.

IN recognition of the bequest of his valuable library of some 5,000 volumes to the Field Museum of Natural History, the late Dr. Berthold Laufer, formerly curator of anthropology at the museum, has been posthumously honored by election as a contributor of the institution. Contributors form a special class of membership designating those whose gifts in money or materials range in value from $1,000 to $100,000.

TWO new fellowships for graduate students in botany and chemistry for the coming year at the University of Oklahoma have been announced by Dr. Homer L. Dodge, dean of the graduate school. The Ray M. Balyeat fellowship, offering a $600 stipend for study in any school, will be given to encourage students to study chemical substances concerned with allergy. A fellowship and stipend, not yet determined, to encourage the study of wild plants of Oklahoma and their possibility as ornamentals, is being offered by Oklahoma garden clubs.

A NEW quarantine prohibiting movement of elm trees out of regulated areas in New York, New Jersey and Connecticut, because of the spread of the Dutch elm disease, took effect on February 25. The quarantine applies to all plants or parts of plants of all species of elms, whether grown in nurseries, forests or on private property. The campaign is under the direction of L. H. Worthley, of the Bureau of Entomology and Plant Quarantine, U. S. Department of Agriculture, with headquarters at White Plains, New York.

DISCUSSION

BALANCED DIETS, NET ENERGY VALUES AND SPECIFIC DYNAMIC EFFECTS

IN a recent number of SCIENCE[1] H. H. Mitchell presents a theoretical discussion of the subject of this communication, involving certain of the writer's published conclusions.

After developing a line of argument similar to and in harmony with that of the writer in the publication of the so-designated "law of maximum, normal nutritive value," Mitchell discusses the significance of this principle in relation to net energy values, saying, in part:

> With these definitions in mind, the first implication of the above-defined conception of nutritive balance in a ration or diet is that except for differences in digestibility, the net energy of all perfectly balanced rations is the same under the same conditions of feeding, or somewhat more precisely, the net availability of the metabolizable energy of all perfectly balanced rations is maximal for any imposed conditions of feeding.

Further, he says:

> However, Forbes' recently announced "law of maximum, normal nutritive value," although it advocates the use of completely balanced rations in determinations of net energy values, does not state nor imply that the net availability of the metabolizable energy of such rations will be maximal and identical.

It is true that, in my "law of maximum, normal nutritive value"[2] I avoided making any statement or implication to the effect that the net availability of the metabolizable energy of completely balanced rations is maximal and identical (though we had discussed the idea), because I can not conceive of balanced rations—as practicable entities—being so perfectly balanced that there would be no individuality of dynamic effect of the nutrients serving the same purposes in different rations, and that there would be no differences in either the excess nutrients, or in substances present without nutritive value, which would affect the economy of utilization of metabolizable energy.

One must remember, in theorizing, that in feeding practice we deal not with pure nutrients, of known identity and character, but—in each feeding stuff—with a vast complication of little-known substances.

Also, it is only fair to call attention to Mitchell's misstatement to the effect that my law of maximum, normal nutritive value "advocates the use of completely balanced rations in the determination of net energy values." In publishing this principle I did not mention "completely balanced rations," but did use the expression "a ration which is qualitatively complete and quantitatively sufficient"—which has a distinctly different meaning in that the idea of a complete diet provides only for the presence of all required nutrients, in the necessary quantities, while the perfectly balanced ration—literally—must not only be complete, but must not contain an excess of any nutrient. It is true, however, that, at an earlier date, I had—less carefully—used the expression "completely balanced rations" in a similar discussion.[3]

Proceeding further, Mitchell calls attention to my statement that "an individual foodstuff expresses its normal and most characteristic nutritive value—only as it is a part of a ration which is qualitatively com-

[1] SCIENCE, 80: 558–561.
[2] SCIENCE, 77: 306–307.
[3] *Proc. Amer. Soc. Animal Production, Ann. Meeting,* 1932: 32–40.