

these meetings. These programs and the many interests offered at the Century of Progress exposition add unusually attractive features to our usual pleasant summer meetings.

The society will hold a session on Tuesday afternoon in Mandel Hall at which Professor Tullio Levi-Civita, of the University of Rome, will speak on "Some Mathematical Aspects of the New Mechanics," and Professor G. D. Birkhoff, of Harvard University, will speak on "Quantum Mechanics and Asymptotic Series." At a symposium at ten o'clock Wednesday morning in Mandel Hall, Professor Lipót Fejér, of the University of Budapest, will speak on "The Infinite Sequences Arising in the Theories of Harmonic Analysis, of Interpolation, and of Mechanical Quadratures," this to be followed by addresses by Professor C. N. Moore, of the University of Cincinnati, "On the Use of Cesàro Means in Determining Criteria for Fourier's Constants," and Professor Dunham Jackson, of the University of Minnesota, on "Certain Problems of Closest Approximation." A second symposium will be held at two o'clock on Wednesday in the Italian Building on the Fair Grounds; addresses will be given by Professor Levi-Civita on "Nets on a Surface and Extension of Trigonometry," by Professor W. C. Graustein, of Harvard University, on "Invariant Methods in Differential Geometry," and by Professor Enrico Bompiani, of the University of Rome, on "Deformations of Higher Species of Surfaces and Manifolds." At two o'clock on Friday, in Eckhart Hall, an address will be given by Professor L. E. Dickson, of the University of Chicago, on "Recent Progress in Additive Number Theory," following which there will be a session of short papers on number theory. Sessions for the reading of short papers will be held on Monday afternoon and Thursday and Friday mornings.

Among the addresses of the week by physicists will be the following: At 4:30 Tuesday, at the Fair Grounds, Dr. Bjerknes, Geophysical Institute, Bergen, Norway, on "Atmospheric Soundings, Methods and Results"; at 4:30 Wednesday, in the Italian Building, Enrico Fermi, University of Rome, on "Theory of Hyperfine Structures"; at 8:00 P. M. Wednesday, place to be announced, Dr. F. W. Aston, University of Cambridge, on "The Story of Isotopes" and Dr. R. A. Millikan, California Institute of Technology, on "New Light on Nuclear Physics"; at 4:30 Thursday, in the Italian Building, Professor Niels Bohr, of the University of Copenhagen, on "Space and Time in Contemporary Physics." Other addresses by the visiting scientists will be announced in the current issues of *SCIENCE*.

The joint dinner of the mathematicians and their guests will be held on Friday evening at 6:30 at

Judson Court. On Monday evening the American Association and its associated societies will hold a general reception on the grounds of the Century of Progress. The American Association will hold a dinner on Thursday evening at which the visiting scientists will be guests.

#### CHEMISTRY AT THE CHICAGO MEETING

ACCORDING to an announcement sent out by the American Chemical Society, joint sessions with the sections of the medical sciences, physics and geology and geography of the association have been arranged by the Section of Chemistry, of which Professor Arthur B. Lamb, of Harvard University, president of the American Chemical Society, is chairman.

Professor Francis W. Aston, of the University of Cambridge, England, Nobel prize winner in chemistry for 1922, and Professor The. Svedberg, of the University of Upsala, Sweden, Nobel prize winner in chemistry for 1926, will head a contingent of foreign chemists who will take part.

Professor Aston and Professor Robert A. Millikan, of the California Institute of Technology, Nobel prize winner in physics for 1923, will deliver addresses at a public meeting Wednesday night, June 21. Professor Aston will speak on "The Story of Isotopes," a subject which has thrown new light on the structure of atoms, building blocks of the universe, and Professor Millikan will discuss nuclear physics.

American chemists from universities and government and industrial bureaus of research will detail advances in the application of mathematics to chemistry's problems and gains in chemistry's war on disease.

Two recipients of the Langmuir Medal of the American Chemical Society, annually awarded to the young chemist who shows most promise of achievement, will present papers. They are Professor Linus Pauling, of the California Institute of Technology, first medal winner, and Dr. Oscar K. Rice, of Harvard University, second medal winner. Dr. Henry Eyring, of Princeton University, who was awarded the prize of the American Association for the Advancement of Science for 1932, will also participate.

A symposium devoted to the earth's age will bring together the sections of chemistry, physics and geology and geography on Wednesday afternoon, June 21, at two o'clock in Rosenwald Hall. The secretary of the section is Professor J. H. Simons, of Northwestern University.

Because of the importance of chemistry to medicine, the Section of Chemistry will meet jointly with the Medical Section on Monday morning, June 19, at 9:30 o'clock in Thorne Hall for a symposium on the relation of colloid chemistry to biological problems.

Professor Svedberg, who won the Nobel prize for his work in colloid chemistry, will describe a new investigation into the sedimentation constants and molecular weights of the respiratory proteins. Professor Filippo Bottazzi, Istituto di Fisiologia, Naples, and Professor W. J. V. Osterhout, Rockefeller Institute for Medical Research, will address the session.

The subject of a third symposium, to be held at the International House on Wednesday morning, June 21, with the Chemistry and Physics Sections jointly participating, will be "Isotopes." Professor Aston, who received the Nobel prize for his work in isotopes, will give measurements of the relative abundance of isotopes.

Quantum mechanics in chemistry will be discussed at a symposium of the Chemistry and Physics Sections and the American Physical Society, Tuesday morning, June 20, at 9:30 o'clock in the International House. The speakers will include Professor J. C. Slater, of the Massachusetts Institute of Technology; Professor Pauling; Dr. Eyring, of Princeton University, and Professor R. S. Mulliken, of the University of Chicago.

Many chemists are expected to attend the joint session of the Section of Physics and the American Physical Society on Friday morning at 9:30 o'clock in the International House, which will be devoted to the breaking down of matter. The speakers include: Dr. J. D. Cockroft, of the University of Cambridge; Dr. M. A. Tuve, of the Carnegie Institution; Professor W. D. Harkins, of the University of Chicago, and Professor E. O. Lawrence, of the University of California.

The dinner of the Chicago Section of the American Chemical Society, in conjunction with the Section of Chemistry of the association, will be held on Friday night, June 23, at the Midland Club. Professor Svedberg will deliver the principal address, "The Sedimentation of Molecules in Centrifugal Fields," at a supplementary meeting in the Field Museum. A luncheon of the Chicago Chemists Club and the Section of Chemistry of the association will be held on Tuesday, June 20, at 12:30 o'clock in the International House. Brief informal and non-technical talks will be made.

#### THE MEDICAL SCIENCES AT THE CHICAGO MEETING

THE *Journal* of the American Medical Association reports that at the summer session of the American Association for the Advancement of Science in Chicago, June 19-23, Section N (the medical sciences) will sponsor four symposiums and a public meeting. Headquarters will be at the Knickerbocker Hotel. Monday morning, June 19, the section will join with Section C (chemistry) at Thorne Hall, Northwestern University, for a symposium on colloid chemistry as

related to biologic problems, with the following speakers:

Dr. Edwin J. Cohn, Harvard Medical School, Boston, "Electrostatic Forces in Systems Containing Biological Components"; Professor Theodor Svedberg, Upsala University, Sweden, "Sedimentation Constants and Molecular Weights of the Respiratory Proteins"; Professor Filippo Bottazzi, Naples, Italy, "Physicochemical Properties of Concentrated Blood Serum."

Tuesday morning, June 20, Section N will combine with Section F (zoology) in a symposium with the following speakers:

Professor Archibald V. Hill, London, England, "Physical and Chemical Changes in Nerve During Activity"; Dr. Wallace O. Fenn, University of Rochester, "Nerve Respiration"; Dr. Ralph W. Gerard, Chicago, "Chemical Activity of Nerve"; Dr. Herbert S. Gasser, New York, "Electric Phenomena in Nerve."

Wednesday morning a symposium on pathologic physiology will be held at Northwestern University, in which the following will participate:

Dr. William H. Park, New York, "B C G Vaccination"; Dr. Charles H. Best, Toronto, "Fatty Changes in the Liver of Normal and Diabetic Animals"; Dr. Arthur L. Tatum, Madison, Wisconsin, "Morphine Addiction and Morphine Tolerance"; Dr. Maurice B. Strauss, Boston, "Etiology of Pernicious Anemia and the Related Macrocytic Anemias."

Thursday morning, June 22, a surgical-endocrinologic symposium will be presented at Northwestern University by the following:

Dr. George W. Crile, Cleveland, "A Century of Progress in Surgery: Anesthesia, Antisepsis and Asepsis, Shock and Careful Handling of Tissues"; Dr. Max Ballin, Detroit, "Clinical Recognition and Surgical Treatment of Parathyroidism"; Dr. Percival Bailey, Chicago, "Surgical Control of Hypophyseal Disorders"; Dr. John deJ. Pemberton, Rochester, Minnesota, "Recent Developments in the Clinical Recognition and Surgical Management of Hyperfunction of the Thyroid Gland"; Dr. Evarts A. Graham, St. Louis, "Clinical Recognition and Surgical Management of Hypoglycemia Produced by Tumors of the Islets of Langerhans."

It is expected that Madame Marie Curie, Paris, co-discoverer of radium, will address some of these meetings.

A public meeting celebrating a century of progress in medicine will be held Tuesday evening, June 20, in Thorne Hall. The program arranged is as follows:

Dr. Morris Fishbein, Chicago, editor, the *Journal* of the American Medical Association, "Frontiers of Medicine"; Dr. Paul Dudley White, Boston, "Heart Disease"; Dr. Max Cutler, Chicago, "The Conquest of Cancer."