ciety for Pharmacology and Experimental Therapeutics, the American Society of Biological Chemists and the American Society for Experimental Pathology.) (O) The American Society of Agronomy, the Society of American Foresters, the American Society for Horticultural Science, the Association of Official Seed Analysts, the Potato Association of America, the Crop Protection Institute and the Geneticists Interested in Agriculture. (Q) The Phi Delta Kappa Education Fraternity. (X) The Society of Sigma Xi, the American Association of University Professors, the Gamma Alpha Graduate Scientific Fraternity and the Sigma Delta Epsilon Graduate Women's Scientific Fraternity. (Reports for these have been published, as above.)

BURTON E. LIVINGSTON,
Permanent Secretary

THE MATHEMATICAL SOCIETIES AT THE WASHINGTON MEETING

(*A report for Section A appeared in* SCIENCE *for February 6*)

The American Mathematical Society

President, G. D. Birkhoff.

Secretary, R. G. D. Richardson, Brown University, Providence, R. I.

(*Report by R. G. D. Richardson*)

The American Mathematical Society held its thirty-first annual meeting from Monday to Thursday, inclusive. The sessions on Monday afternoon and Tuesday morning and afternoon were devoted to the reading of short papers. Joint sessions were held on Wednesday morning with the Mathematical Association of America and Section A of the American Association for the Advancement of Science and on Thursday morning with the Mathematical Association and Sections A, B and D. The following trustees, officers and other members of the council were elected: *President,* G. D. Birkhoff; *vice-president,* G. C. Evans; *assistant secretary,* Arnold Dresden; *member of editorial committee of the Bulletin,* E. R. Hedrick; *member of editorial committee of the Transactions,* H. H. Mitchell; *members of the council,* G. A. Campbell, E. W. Chittenden, A. J. Kempner, H. E. Slaught, Virgil Snyder; *trustees,* G. D. Birkhoff, L. P. Eisenhart, W. B. Fite, Robert Henderson, R. G. D. Richardson.

The Mathematical Association of America

President, H. L. Rietz.

Secretary-Treasurer, W. D. Cairns, Oberlin College, Oberlin, Ohio.

(*Report by W. D. Cairns*)

The Mathematical Association held its ninth annual meeting on Wednesday and Thursday, with an attendance of 268. The following officers for 1925 were elected or appointed: *President,* J. L. Coolidge; *vice-presidents,* A. A. Bennett and Dunham Jackson; *trustees for three years,* R. C. Archibald, L. P. Eisenhart, E. V. Huntington and H. L. Rietz; *secretary-treasurer,* W. D. Cairns; *representatives in Council of A. A. A. S.,* W. D. Cairns and T. M. Focke. Fifty-one individuals and two institutions were elected to membership, the association now numbering 1,740 individual and 109 institutional members. The financial report showed a small balance for the fiscal year. The trustees voted to hold the next two annual meetings at Kansas City and Philadelphia, to approve the organization of a Southern California Section, the sixteenth section of the association, and to approve a very favorable arrangement made by Mrs. Mary Hegeler Carus to further the publication of the Carus Monographs.

The separate program of the association consisted of seven papers, as follows:

Outlines of fields of research: the mathematics of finance: G. C. EVANS, Rice Institute.

Outlines of fields of research: general analysis: T. H. HILDEBRANDT, University of Michigan.

On the empirical representation of certain production curves: C. E. VAN ORSTRAND, U. S. Geological Survey.

Preliminary report of the committee on standard departments of mathematics in colleges: R. D. CARMICHAEL, University of Illinois.

Application of Ritz's method to practical problems in engineering: WILLIS WHITED, Pennsylvania State Department of Highways.

Browse: a course in scientific literature: BESSIE I. MILLER, Rockford College.

New conformal world maps derived from elliptic functions: DR. O. S. ADAMS, U. S. Coast and Geodetic Survey.

Sections A, B and D met in joint session Thursday morning with an attendance of 250, Professors W. F. G. Swann and J. A. Miller presiding in turn. Professor H. N. Russell, of Princeton University, spoke on "Stellar evolution," giving a classification of stars according to brightness and color. He pointed out how the plotting of the surface temperatures against the amount of light emitted gives definite clusterings on the diagram, running in what Eddington calls the main sequence from hot white stars to cooler red stars but with a branch composed of the giant stars for which brighter light is accompanied by lower temperature. It was explained how the consideration of inner temperature, rate of radiation of heat and radioactive changes, with the con-

vertibility of mass and energy, are at present used to account for the evolution of the stars which is implied in the diagram above referred to.

As the representative of the Mathematical Association, on the joint program, Professor Archibald Henderson, of the University of North Carolina, spoke on the subject, "Is the universe finite?" He mentioned the incredibility to the average person of the results of recent cosmogony, sought to add to the Einstein theory a reasonable hypothesis based on the mean density of the universe and to collate the recent estimates of the consequent radius of the universe. Exceedingly different methods of approach give agreements in the value of this radius, which are gratifying considering the profound difficulty and complexity of the problem. The results must be interpreted either as wholesale errors or as the relativistic consequence of the curvature of space.

The Pi Mu Epsilon Mathematical Fraternity

Director general, E. D. Roe, Jr.

Secretary general, Warren G. Bullard, 117 Redfield Place, Syracuse, N. Y.

(*Report by W. J. Bullard*)

The Washington Convention of Pi Mu Epsilon brought together delegates from the several chapters to discuss matters of vital import to the fraternity and to coordinate and unify the chapters. The fraternity was revealed as in a flourishing state, with nine chapters at present. The convention closed with a dinner that was much enjoyed by the delegates.

PHYSICAL SOCIETIES AT THE WASHINGTON MEETING

(*A report for Section B appeared in* SCIENCE *for February 6*)

The American Physical Society

President, Charles E. Mendenhall.

Secretary, Harold W. Webb, Columbia University, New York, N. Y.

(*Report by S. R. Williams*)

The 130th meeting of the American Physical Society was held from December 29 to 31, 1924, in the Bureau of Standards. Professor Charles E. Mendenhall, of the University of Wisconsin, presided at the meetings. The equipment and arrangements for projecting the slides of the various speakers were excellent. About 225 persons were present and about 80 papers were read. The following officers of the society were elected: *President,* D. C. Miller; *vice-president,* K. T. Compton; *secretary,* H. W. Webb; *treasurer,* G. B. Pegram; *members of Council,* F. C. Blake and W. F. G. Swann; *members of board of editors of Physical Review,* K. K. Darrow, E. C. Kemble and F. L. Mohler.

The program for Tuesday morning was specially interesting on account of a group of papers bearing on the Compton Effect. The Tuesday afternoon session was held jointly by the American Physical Society with Sections B and D of the American Association for the Advancement of Science and with the American Astronomical Society.

The American Meteorological Society

President, Willis I. Milham.

Secretary, Charles F. Brooks, Clark University, Worcester, Mass.

(*Report by Charles F. Brooks*)

The fifth anniversary meeting of the American Meteorological Society was fittingly held at the center of American meteorological activity, in the U. S. Weather Bureau. In numbers of sessions and papers presented this meeting exceeded all previous ones. One entire session was devoted to an aerological symposium centering around a discussion of the late Dr. C. LeRoy Meisinger's contribution to meteorology, the unsolved problems left by him, and the use of the growing Meisinger Aerological Research Fund to stimulate investigation in that field. The president of the society was made *ex-officio* chairman of the Meisinger Fund Committee and the chairman designated R. DeC. Ward, C. F. Marvin and W. R. Gregg as the other members of the committee. Plans for an international organization to make weather maps for the whole northern hemisphere were discussed and heartily endorsed. The presidential address, on "The year 1816—the causes of abnormalities," also treated of world meteorology, bringing out the essential rôle volcanic dust seems to have played in creating the low temperatures experienced at least in New England in the summer of 1816.

Of the 28 papers presented, four were concerned with instruments or methods, an outstanding paper being that on "The theory of the anemometer," by J. Patterson. Although the cup anemometer was invented 80 years ago we now for the first time have a thoroughly satisfactory and well-understood instrument that operates accurately through a wide range of velocities. Dr. V. Bjerknes, distinguished Norwegian meteorologist and author of the now well-known "polar front" theory of cyclones and anticyclones, described the simple means by which cyclones in the northern North Atlantic are designated by radio. Four papers on the physics of the air were presented, dealing with: Potential gradient during thunderstorms (Jensen), meteorology of eclipses (Clayton), fluid rotation (Vaughan) and variation of wind with height (Humphreys). Statistical meteorological studies included rainfall periodicities (Alter)