

SPECIAL ISSUE CONTAINING THE PRELIMINARY ANNOUNCEMENT OF THE DES MOINES
MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE
AND ASSOCIATED ORGANIZATIONS, DECEMBER 27, 1929, TO JANUARY 2, 1930.
EDITED BY BURTON E. LIVINGSTON, PERMANENT SECRETARY

SCIENCE

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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

PRELIMINARY ANNOUNCEMENT OF THE DES MOINES MEETING

Edited by Professor BURTON E. LIVINGSTON

PERMANENT SECRETARY

ANNOUNCEMENTS AND REPORTS

THIS preliminary announcement is planned to give such information about the arrangements for the Des Moines meeting as can be published at this time, especially such information as may be useful before the opening of the meeting. Additional notes may appear in later issues of SCIENCE. This meeting will be the eighty-sixth meeting of the American Association. It will be the meeting for the association year 1929-1930. It will be the first meeting to be held in Des Moines. While it will probably not be as large a meeting as some of the recent ones it will be satisfactorily representative of the main fields of science, and those who attend will be able to make selection from a very large number of addresses and contributions

touching all the sciences, which will fill convocation week very thoroughly. This is to be the annual week of American science and all who are interested in the advancement of science and education are cordially invited to be present throughout the whole week. The Des Moines sessions for the reading of papers will not be restricted to members of the association and the societies meeting with it, but they are to be freely open to every one.

The general program for this meeting, a book of over two hundred pages, will be available at the registration offices in the Shrine Temple, Des Moines, at nine o'clock on Friday, December 27, and thereafter. It will be supplied free to all who register and may be purchased by others. Any person who does not

attend the meeting may have a free copy of the program sent by mail as soon as it is published by writing to the permanent secretary's office, Smithsonian Institution Building, Washington, D. C., if the request is received before December 20. Requests received later may not receive attention until after the close of the meeting.

General reports of the meeting will be published in SCIENCE about February 1, probably filling most of the pages of two special issues. A free copy of the reports may be secured by any one, without regard to membership in the association or societies, if the request therefor is received by the permanent secretary before January 20. Of course all who regularly receive SCIENCE will receive the special issues without any special request.

IMPORTANT NOTICES FOR THOSE PLANNING TO ATTEND THE DES MOINES MEETING

Arrangements for hotel rooms at Des Moines should be made at once, or as soon as possible, by all who expect to be present at this meeting. A list of Des Moines hotels with pertinent information has appeared in SCIENCE for November 1, 1929, page 420, and headquarters hotels for the sections and societies as well as the locations of most of the session rooms are given in a later section of the present announcement. Requests for room reservations should be addressed directly to the hotels, stating the kind of room wanted in each instance and the date of the first night of occupancy.

All who are to present papers at this meeting should immediately send two copies of each paper to Mr. Austin H. Clark, director of the press service of the American Association, addressing them in the care of the permanent secretary's office in Washington. It is well to send a third copy to the section or society secretary in whose program the paper is to be presented. If the full manuscript can not be sent to Mr. Clark, be sure to send him two copies of an abstract.

When purchasing your railway ticket to Des Moines be sure to secure a certificate *for the Des Moines meeting of the American Association for the Advancement of Science and Associated Societies*, and bring the certificate with you to the registration offices for the meeting.

Members should bring with them to Des Moines their enrolment cards for 1929-30, which will serve to identify them as in good standing for the current year. These cards are somewhat smaller than those of recent years, to facilitate their being carried in pocket book or billfold. All who attend any of the Des Moines sessions should register with the American Association, whether or not they are members.

THE MAIN FUNCTIONS OF THE ANNUAL MEETINGS OF THE AMERICAN ASSOCIATION

(By Austin H. Clark)

The annual meetings of the American Association for the Advancement of Science and the associated organizations serve a double purpose. In the first place, they bring scientific workers together and give opportunity for the presentation of technical addresses and discussions on the latest advances in all lines of science. At these gatherings students in all branches of science are able to exchange ideas and information and by this means to get a clearer insight into what is being done in their own and in other fields than they could get merely by reading printed memoirs. Besides this the investigators, who are generally located in widely scattered universities, colleges, schools, museums or other institutions of learning throughout the country, are able to meet one another and to form or renew friendships which in later years serve to stimulate interest in the search for scientific truth. For the younger men especially this kind of personal contact is a very great advantage; they are able at these meetings to meet the recognized leaders in their several special lines, gaining by this means an increased confidence in the real value of their own work and learning how their special studies and investigations fit into the structure of science as a whole and into the structure of human activities and of human thought.

In the second place, the American Association realizes a great responsibility to the general public. The ultimate aim of all scientific work is the betterment of human welfare, both in its material and in its non-material aspects. Every established scientific fact and every well-grounded generalization has a definite bearing on some phase or other of human activity or of human thought. The curious facts of one decade may become correlated to give the basic principles of the next decade. The possibilities for the advance of science and for its incorporation into the life of the community appear to be unlimited, but science can not advance far unless it has the confidence of the people as a whole, nor can the people gain much from scientific work unless science is presented to them in ways to attract their attention and command their interest. The association therefore aims to facilitate and encourage interest and appreciation of science on the part of intelligent people in general and to aid in the humanizing of science as much as possible. At each annual meeting there are given a number of non-technical lectures, addressed to the public, which present scientific subjects in a broad way and in readily intelligible language. These lectures show samples of the recent results of scientific study and illustrate the manner in which the generalizations

and theories of science are gradually built up from observational data by means of constructive correlation. They also deal with the more concrete problem of just how scientific knowledge is practically useful in our daily lives. Also, because we must look forward to the day when scientific work must pass into the hands of the coming generation, the association arranges for its meetings a number of talks planned especially for the youth of the community. These are given by recognized authorities but in simple language and in an interesting style.

The speakers for the non-technical lectures to be given at Des Moines are being selected by a special committee, of which Dr. D. W. Morehouse is chairman, and these lectures promise to surpass those given at earlier meetings in interest and timeliness as well as in number and variety.

The Press Service of the American Association is arranging, as is usual at the annual meetings, for releasing to the daily press material from the Des Moines programs, for "science stories" that will interest the public. Many such articles will appear in the newspapers of the United States and Canada in the week of the meeting and thereafter. In recent years some of these have been copied repeatedly and have eventually found their way around the world. The representatives of the press, including Science Service, have been very cordial in their cooperation with the Press Service in this endeavor and their aid is assured for the meeting now announced.

Another means for encouraging public confidence in science and scientific workers and for bringing science directly to the people has recently become available through the development of radio broadcasting and radio reception, and the association has provided many brief radio talks on scientific topics from its recent meetings. Such talks, by eminent workers in science and popular lecturers and writers, are heard at great distances, sometimes throughout the United States and even beyond its borders. An excellent series of radio talks is being arranged for the Des Moines meeting by the Press Service, with the cooperation of Science Service and the broadcasting organizations.

ANNUAL MEETINGS PREVIOUSLY HELD IN THE WEST

In the eighty-one years of the existence of the American Association only six annual meetings have been held west of the line joining Chicago, St. Louis and New Orleans. In August, 1893, the meeting place was Madison, Wisconsin; Dubuque, Iowa, was the meeting place in August, 1872; two annual meetings have been held at Minneapolis, Minnesota, in August, 1883, and December, 1910; the meeting of December, 1925, was held at Kansas City, Missouri, and Denver

was the meeting place in August, 1901. The intervals between these western meetings were eleven, ten, eight, nine and fifteen years, but it is now only four years since the Kansas City meeting, which was unusually successful in many ways. The people of Des Moines will welcome this meeting with characteristic cordiality and the local arrangements will be excellent.

SOME FEATURES OF GENERAL INTEREST AT THE DES MOINES MEETING

The Des Moines meeting is to be held under the presidency of Dr. Robert A. Millikan, one of our great leaders in physical research, director of the Norman Bridge Physical Laboratory, of the California Institute of Technology, Pasadena. President Millikan is to give a public address in the Shrine Temple on Sunday afternoon at three o'clock on "The Alleged Sins of Science." The retiring president for this meeting is Professor Henry Fairfield Osborn, well known for his popular writings as well as for his productive and important research work in paleontology and for his fine accomplishment in the development of the American Museum of Natural History, in New York City, of which he is president. Professor Osborn will deliver the main address of the official opening session, in the Shrine Temple, on Friday evening, December 27, at 8:15. His subject will be "The Discovery of Tertiary Man." As usual, the annual Sigma Xi lecture will be given in the evening of the second day of the meeting, which will be Saturday, December 28. This annual lecture is regularly arranged by the Society of the Sigma Xi, being presented at a general session of the American Association. The lecturer this year is Dr. George H. Parker, one of America's leading zoologists, of Harvard University, who will speak on "What Are We About?" The lecturer at the general session Monday evening is to be announced later. On Tuesday evening there will be a lecture by Dr. George F. Kay, of the University of Iowa, on the Pleistocene geology of the Iowa region, with results of recent studies on glaciation in that region and with reference to the influence of glaciation on present human culture. Dr. A. E. Kennelly, of Harvard University, will speak before the general session of the association on Wednesday evening, his subject being "The Laws of Fatigue, Men and Horses." The Josiah Willard Gibbs lecture, arranged each year by the American Mathematical Society, will be given on Tuesday afternoon at 4:30 o'clock by Dr. Irving Fisher, of Yale University. Dr. Fisher's topic will be "The Application of Mathematics to the Social Sciences." Many non-technical lectures, in addition to the ones mentioned above, are being arranged by a special committee, and this meeting will surpass all earlier ones in this respect. A general session on Monday

or Tuesday will be devoted to the economic aspect of the present status of science workers, the program being in charge of the Committee of One Hundred on Scientific Research, of which Dr. Rodney H. True, of the University of Pennsylvania, is secretary.

The general reception will be held in the Shrine Temple on Friday evening, December 27, following the opening session. The general exhibition of apparatus, materials and books will be a social gathering place for the meeting. It will be housed in the Shrine Temple.

The association is greatly indebted to Dr. D. W. Morehouse, president of Drake University, Des Moines, who is general chairman of the local committee for this meeting, and to the other members of the local committee. To their early, continued and untiring efforts will be due all the local arrangements. The difficult problem of room assignments for the many sessions has been very ably handled. Mr. George E. Hamilton, of the Des Moines Convention Bureau, is secretary of the local committee. He and his bureau have given much valuable service to the association. The members of the general committee, most of whose members are chairmen of special committees, and the local representatives of the sections are named below.

THE GENERAL LOCAL COMMITTEE FOR THE DES MOINES MEETING

- D. W. MOREHOUSE, president of Drake University, *general chairman of the local committee*.
 J. W. STUDEBAKER, *vice-chairman*; superintendent of the Des Moines Public Schools.
 L. B. SPINNEY, *vice-chairman*; Iowa State College, Ames, Iowa.
 G. E. HAMILTON, *secretary of the general committee and chairman of the special committee on hotels, dinners, etc.*; Des Moines Convention Bureau.
 WALTER L. BIERRING, *chairman of the special committees on finance and local membership*; 1210 Bankers Trust Building.
 T. J. EDMONDS, *chairman of the special committee on news service*; Iowa Tuberculosis Association, 518 Frankel Building.
 E. C. LYTTON, *chairman of the special committee on personnel and registration*; Drake University.
 HENRY NOLLEN, *chairman of the special committee on reception and entertainment*; Equitable Life Insurance Company of Iowa, Equitable Building.
 C. L. PYE, *chairman of the special committee on meeting places, equipment and exhibits*; Iowa State Teachers Association, 416 Shops Building.
 R. C. WOOLMAN, *chairman of the special committee on local transportation, information, signs, etc.*; Independent School District, 629 Third St.

LOCAL REPRESENTATIVES FOR THE ASSOCIATION SECTIONS AT DES MOINES

Section A (Mathematics), I. F. Neff, 2801 Brattleboro Ave., Des Moines.

Section B (Physics), P. S. Helmick, Drake University, Des Moines.

Section C (Chemistry), A. J. Rider, 1315 41st St., Des Moines.

Section D (Astronomy), D. W. Morehouse, Drake University, Des Moines.

Section E (Geology and Geography), Jas. H. Lees, Iowa Geological Survey, State House, Des Moines.

Section F (Zoological Sciences), L. S. Ross, 1308 27th St., Des Moines.

Section G (Botanical Sciences), I. E. Melhus, Iowa State College, Ames.

Section H (Anthropology), Sherman Kirk, 1060 31st St., Des Moines.

Section I (Psychology), R. H. Sylvester, 1606 Pleasant St., Des Moines.

Section K (Social and Economic Sciences), Herbert W. Bohlman, 1000 20th St., Des Moines.

Section L (Historical and Philosophical Sciences), Olynthus B. Clark, 1234 32nd St., Des Moines.

Section M (Engineering), Anson Marston, Iowa State College, Ames.

Section N (Medical Sciences), John H. Peck, 1222 Bankers Trust Bldg., Des Moines.

Section O (Agriculture), Mark Thornburg, State House, Des Moines.

Section Q (Education), W. F. Barr, Drake University, Des Moines.

Representative for organizations not related to any particular section, Jean Carroll, Meredith Publications, Des Moines.

GENERAL OFFICERS OF THE ASSOCIATION AND COMMITTEES FOR 1929

President

Robert A. Millikan, California Institute of Technology, Pasadena, Calif.

Retiring President

Henry Fairfield Osborn, American Museum of Natural History, New York, N. Y.

Vice-presidents, Retiring Vice-presidents and Secretaries of the Sections

Section A (Mathematics):

Vice-president, E. T. Bell, California Institute of Technology, Pasadena, Calif.

Retiring Vice-president, Raymond C. Archibald, Brown University, Providence, R. I.

Secretary, Charles N. Moore, University of Cincinnati, Cincinnati, Ohio.

Section B (Physics):

Vice-president, Charles E. Mendenhall, University of Wisconsin, Madison, Wis.

Retiring Vice-president, P. W. Bridgman, Harvard University, Cambridge, Mass.

Secretary, A. L. Hughes, Washington University, St. Louis, Mo.

Section C (Chemistry):

Vice-president, Samuel Colville Lind, University of Minnesota, Minneapolis, Minn.

Retiring Vice-president, C. E. Kenneth Mees, Eastman Kodak Co., Rochester, N. Y.

Secretary, R. R. Renshaw, New York University, New York, N. Y.

Section D (Astronomy):

Vice-president, Harlow Shapley, Harvard University, Cambridge, Mass.

Retiring Vice-president, J. S. Plaskett, Dominion Astrophysical Observatory, Victoria, B. C., Canada.

Secretary, Philip Fox, Northwestern University, Evanston, Ill.

Section E (Geology and Geography):

Vice-president, George Frederick Kay, University of Iowa, Iowa City, Iowa.

Retiring Vice-president, Frank Leverett, University of Michigan, Ann Arbor, Mich.

Secretary, Kirtley F. Mather, Harvard University, Cambridge, Mass.

Section F (Zoological Sciences):

Vice-president, Charles Manning Child, University of Chicago, Chicago, Ill.

Retiring Vice-president, Michael F. Guyer, University of Wisconsin, Madison, Wis.

Secretary, Geo. T. Hargitt, Syracuse University, Syracuse, N. Y.

Section G (Botanical Sciences):

Vice-president, J. Arthur Harris, University of Minnesota, Minneapolis, Minn.

Retiring Vice-president, C. E. Allen, University of Wisconsin, Madison, Wis.

Secretary, Sam F. Trelease, Columbia University, New York, N. Y.

Section H (Anthropology):

Vice-president, A. V. Kidder, Phillips Academy, Andover, Mass.

Retiring Vice-president, Fay-Cooper Cole, University of Chicago, Chicago, Ill.

Secretary, Charles H. Danforth, Harvard Medical School, Boston, Mass.

Section I (Psychology):

Vice-president, Madison Bentley, Cornell University, Ithaca, N. Y.

Retiring Vice-president, Howard C. Warren, Princeton University, Princeton, N. J.

Secretary, John E. Anderson, Institute of Child Welfare, University of Minnesota, Minneapolis, Minn.

Section K (Social and Economic Sciences):

Vice-president, Henry Lewis Rietz, University of Iowa, Iowa City, Iowa.

Secretary, Charles F. Roos, Cornell University, Ithaca, N. Y.

Section L (Historical and Philological Sciences):

Vice-president, Henry Osborn Taylor, 135 East 66th St., New York, N. Y.

Retiring Vice-president, G. M. Bolling, 777 Franklin Ave., Columbus, Ohio.

Secretary of the Subsection on Linguistics, Leonard Bloomfield, University of Chicago, Chicago, Ill.

Secretary of the Subsection on Historical Sciences, Joseph Mayer, 26 Jackson Place, Washington, D. C.

Section M (Engineering):

Vice-president, H. F. Moore, University of Illinois, Urbana, Ill.

Retiring Vice-president, Robert Lemuel Sackett, Pennsylvania State College, State College, Pa.

Secretary, N. H. Heck, U. S. Coast and Geodetic Survey, Washington, D. C.

Section N (Medical Sciences):

Vice-president, Ludvig Hektoen, University of Chicago, Chicago, Ill.

Retiring Vice-president, A. J. Goldforb, College of the City of New York, New York, N. Y.

Secretary, Charles W. M. Poynter, College of Medicine, University of Nebraska, Omaha, Nebr.

Section O (Agriculture):

Vice-president, Merritt F. Miller, University of Missouri, Columbia, Mo.

Retiring Vice-president, C. A. Mooers, University of Tennessee, Knoxville, Tenn.

Secretary, P. E. Brown, Iowa State College, Ames, Iowa.

Section Q (Education):

Vice-president, Frank N. Freeman, University of Chicago, Chicago, Ill.

Retiring Vice-president, Truman L. Kelley, Stanford University, Calif.

Secretary, Willis L. Uhl, University of Washington, Seattle, Wash.

Permanent Secretary

Burton E. Livingston, Johns Hopkins University, Baltimore, Md. (Association mail address: Smithsonian Institution Building, Washington, D. C.)

General Secretary

Frank R. Lillie, University of Chicago, Chicago, Ill.

Treasurer

John L. Wirt, Carnegie Institution of Washington, Washington, D. C.

Secretary of the Council and Program Editor

Sam F. Trelease, Columbia University, New York, N. Y.

Executive Assistant

Sam Woodley, Smithsonian Institution Building, Washington, D. C.

Auditor

A. G. McCall, U. S. Department of Agriculture, Washington, D. C.

Director of Press Service

Austin H. Clark, U. S. National Museum, Washington, D. C.

Exhibition Manager

H. S. Kimberly, Smithsonian Institution Building, Washington, D. C.

Members of the Executive Committee of the Council¹

J. McKeen Cattell (1930), *chairman*; Garrison-on-Hudson, N. Y.

Karl T. Compton (1929), Princeton University, Princeton, N. J.

¹The number in parenthesis denotes the calendar year at the end of which the member's term of office is to expire.

- David R. Curtiss (1931), Northwestern University, Evanston, Ill.
 Joel H. Hildebrand (1931), University of California, Berkeley, Calif.
 Vernon Kellogg (1932), National Research Council, Washington, D. C.
 Frank R. Lillie (1932), *general secretary*; University of Chicago, Chicago, Ill.
 Burton E. Livingston (1932), *permanent secretary*; Johns Hopkins University, Baltimore, Md.
 Robert A. Millikan (1929), *president* of the association; California Institute of Technology, Pasadena, Calif.
 F. R. Moulton (1929), 327 S. La Salle St., Chicago, Ill.
 Henry B. Ward (1930), University of Illinois, Urbana, Ill.
 Edwin B. Wilson (1932), Social Science Research Council, 230 Park Ave., New York, N. Y.

The Council of the Association

The council consists of: (1) the president, the general secretary, the permanent secretary and the treasurer; (2) the members of the executive committee not otherwise members of the council; (3) the chairmen of the sections; (4) the section secretaries; (5) the representatives of the affiliated organizations, and (6) eight elected members. The elected members of the council are as follows, the number shown in parenthesis being that of the calendar year at the end of which the member's term of office is to expire.

- L. O. Howard (1932), U. S. Department of Agriculture, Washington, D. C.
 D. T. MacDougal (1932), Desert Laboratory, Tucson, Ariz.
 Austin H. Clark (1931), U. S. National Museum, Washington, D. C.
 Arthur H. Compton (1931), University of Chicago, Chicago, Ill.
 L. E. Dickson (1930), University of Chicago, Chicago, Ill.
 David White (1930), U. S. Geological Survey, Washington, D. C.
 John C. Merriam (1929), Carnegie Institution of Washington, Washington, D. C.
 Rodney H. True (1929), University of Pennsylvania, Philadelphia, Pa.

Members of the Committee on Grants for Research²

- Charles P. Berkey (1932), for Geology; Columbia University, New York, N. Y.
 William Charles White (1932), for Medicine; Hygienic Laboratory, U. S. Public Health Service, Washington, D. C.
 Walter S. Adams (1931), for Astronomy; Mt. Wilson Observatory, Pasadena, Calif.
 Karl F. Kellerman (1931), for Botany; Bureau of Plant Industry, Washington, D. C.
 W. Lash Miller (1930), for Chemistry; 8 Hawthorne Ave., Toronto, Ont., Canada.
 Oswald Veblen (1930), for Mathematics; Princeton University, Princeton, N. J.

² The number in parentheses denotes the year at the end of which the member's term of office is to expire.

- L. G. Hoxton (1929), *Chairman of the Committee*, for Physics; University of Virginia, Charlottesville, Va.
 Vernon Kellogg (1929), for Zoology; National Research Council, Washington, D. C.

Members of the Finance Committee

- George K. Burgess (1932), *Chairman of the Committee*, U. S. Bureau of Standards.
 Arthur L. Day (1931), Geophysical Laboratory, Carnegie Institution of Washington.
 A. F. Frissell (1929), 530 Fifth Ave., New York City.
 Herbert Gill (1930), Bethesda, Md.
 John L. Wirt (1932), *Treasurer of the Association*, Carnegie Institution of Washington.

The Standing Committee of One Hundred on Scientific Research

- Chairman*, Robert A. Millikan, President of the American Association.
Secretary, Rodney H. True, University of Pennsylvania, Philadelphia, Pa.

The Secretaries' Conference

- Chairman*, George T. Hargitt, Syracuse University, Syracuse, N. Y.
Secretary, Philip Fox, Dearborn Observatory, Northwestern University, Evanston, Ill.

The Academy Conference

- Chairman*, Howard E. Enders, Department of Biology, Purdue University, LaFayette, Ind.
Secretary, D. W. Morehouse, Drake University, Des Moines, Iowa.

The Committee on the Place of Science in Education

- Chairman*, Otis W. Caldwell, Columbia University, New York, N. Y.

The Committee on Source Books in the History of Science

- Chairman*, Gregory D. Walcott, Long Island University, Brooklyn, N. Y.

The Committee on Booklists for Popular Reading in Science

- Chairman*, Joseph L. Wheeler, Enoch Pratt Free Library, Baltimore, Md.

Members of the Committee on Prize Awards for the Des Moines Meeting

- Charles E. Allen (*chairman*), University of Wisconsin.
 P. W. Bridgman, Harvard University.
 Fay-Cooper Cole, University of Chicago.
 S. C. Lind, University of Minnesota.
 H. L. Rietz, University of Iowa.

ORGANIZATIONS THAT ARE TO HOLD SESSION AT DES MOINES, WITH DATES OF THEIR SESSIONS AND OTHER INFORMATION

Note.—Names of organizations are arranged in the order of the association sections. Each affiliated society has one or two representatives in the association council, as indicated by one or two asterisks before the society

name. A cross before a name indicates that the society is associated but not affiliated. The president, secretary and council representatives are named for each associated or invited society. Officers of the sections of the association have been named in an earlier part of this announcement. Dates of meetings are to be read as inclusive. Hotel headquarters and meeting places are generally shown. In a few instances some data are omitted because of lack of information.

A. Mathematics.

** American Mathematical Society. December 30 to January 1. Headquarters and meeting place, Fort Des Moines Hotel. *President*, E. R. Hedrick; *secretary*, R. G. D. Richardson, Brown University, Providence, R. I.; *council representatives*, Louis Ingold and Mark H. Ingraham.

** Mathematical Association of America. December 30 to January 1. Headquarters and meeting place, Fort Des Moines Hotel. *President*, J. W. Young; *secretary*, W. D. Cairns, Oberlin College, Oberlin, Ohio; *council representatives*, W. D. Cairns and Dunham Jackson.

B. Physics.

** American Physical Society. December 30 to January 1. Headquarters and meeting place, Hotel Savery. *President*, H. G. Gale; *secretary*, Willard L. Severinghaus, Columbia University, New York, N. Y.; *council representatives*, Karl T. Compton and P. S. Helmick.

* American Meteorological Society. December 27 and 28. Headquarters and meeting place, Fort Des Moines Hotel. *President*, W. J. Humphreys; *secretary*, Charles F. Brooks, Clark University, Worcester, Mass.; *council representative*, W. J. Humphreys.

C. Chemistry.

Section C, with the Midwest Regional Group of the American Chemical Company and the Iowa State College Section of the American Chemical Society. December 27 and 28. Headquarters and meeting place, Fort Des Moines Hotel.

D. Astronomy.

Section D. December 30 and 31. Headquarters and meeting place, Fort Des Moines Hotel.

E. Geology and Geography.

Section E. December 30 and 31. Headquarters, Brown Hotel; meeting place, Young Men's Christian Association.

F. Zoological Sciences.

** American Society of Zoologists. December 30 to January 1. Headquarters and meeting place, Hotel Savery. *President*, Caswell Grave; *secretary*, Dwight E. Minnich, University of Minnesota, Minneapolis, Minn.; *council representatives*, W. C. Allee and Frank Eugene Lutz.

** Entomological Society of America. December 28 to 30. Headquarters and meeting place, Hotel Savery. *President*, C. T. Brues; *secretary*, J. J. Davis, Purdue University, LaFayette, Ind.; *council representatives*, C. L. Metcalf and W. A. Riley.

** American Association of Economic Entomologists. December 30 to January 2. Headquarters and meeting place, Hotel Savery. *President*, T. J. Headlee; *secretary*,

C. W. Collins, Melrose Highlands, Mass.; *council representatives*, C. H. Richardson and Franklin Sherman.

* American Society of Parasitologists. December 27 to 31. Headquarters and meeting place, Hotel Savery. *President*, N. A. Cobb; *secretary*, W. W. Cort, School of Hygiene and Public Health, Johns Hopkins University, Baltimore, Md.; *council representative*, Henry B. Ward.

† Wilson Ornithological Club. December 27 and 28. Headquarters, Hotel Savery; meeting place, City Library. *President*, Lynds Jones; *secretary*, Jesse M. Shaver, Peabody College, Nashville, Tenn.

G. Botanical Sciences.

Section G and associated societies. December 31. Headquarters, Fort Des Moines Hotel; meeting place to be announced.

** Botanical Society of America. December 30 to January 1. Headquarters and meeting place, Chamberlain Hotel. *President*, Margaret C. Ferguson; *secretary*, Arthur J. Eames, Cornell University, Ithaca, N. Y.; *council representatives*, A. H. Reginald Buller and I. F. Lewis.

** American Phytopathological Society. December 28 to 31. Headquarters, Chamberlain Hotel; meeting place, Grant Club. *President*, R. J. Haskell; *secretary*, F. C. Meier, Bureau of Plant Industry, U. S. Department of Agriculture, Washington, D. C.; *council representatives*, C. W. Edgerton and Donald Reddick.

** American Society of Plant Physiologists. December 30 to January 1. Headquarters, Chamberlain Hotel; meeting place to be announced. *President*, Scott V. Eaton; *secretary*, Henry R. Kraybill, Purdue University, LaFayette, Ind.; *council representatives*, Charles A. Shull and P. D. Strausbaugh.

F-G. Societies related to both Section F and Section G.

** American Society of Naturalists. January 1. Headquarters, Chamberlain Hotel; meeting place to be announced. *President*, George H. Parker; *secretary*, L. J. Cole, University of Wisconsin, Madison, Wis.; *council representatives*, Charles Rupert Stockard and B. M. Duggar.

** Ecological Society of America. December 30 to January 1. Headquarters and meeting place, Chamberlain Hotel. *President*, W. C. Allee; *secretary*, A. O. Weese, University of Oklahoma, Norman, Okla.; *council representatives*, Royal N. Chapman and Homer LeRoy Shantz.

** American Microscopical Society. December 31. Headquarters, Chamberlain Hotel. *President*, Gilbert Morgan Smith; *secretary*, H. J. Van Cleave, University of Illinois, Urbana, Ill.; *council representatives*, Gilbert Morgan Smith and H. J. Van Cleave.

† Phi Sigma Biological Research Society. December 27 and 28. Headquarters, Chamberlain Hotel; meeting place to be announced. *President*, Paul B. Sears; *secretary*, A. I. Ortenburger, University of Oklahoma, Norman, Okla.

Genetics Sections, American Society of Zoology and Botanical Society of America. December 30 to January 1. Headquarters, Chamberlain Hotel; meeting place to be announced. *Chairman*, A. F. Blakeslee; *secretary*,

P. W. Whiting, University of Pittsburgh, Pittsburgh, Pa.

H. Anthropology.

Section H. December 30 and 31. Headquarters and meeting place, Fort Des Moines Hotel.

I. Psychology.

Section I. December 27 and 28. Headquarters and meeting place, Fort Des Moines Hotel.

K. Social and Economic Sciences.

Section K. December 28 to January 1. Headquarters and meeting place, Fort Des Moines Hotel.

† Metric Association. December 30. Headquarters, Fort Des Moines Hotel; meeting place to be announced. *President*, George F. Kunz; *secretary*, Howard Richards, 156 Fifth Ave., New York, N. Y.

L. Historical and Philological Sciences.

Section L, Part 1 (History of Science). Headquarters, Fort Des Moines Hotel; meeting place to be announced.

Section L, Part 2 (Linguistic Sciences). A session is being planned but no definite information is yet available.

M. Engineering.

Section M. December 28 to 30. Headquarters and meeting place, Fort Des Moines Hotel.

N. Medical Sciences.

Section N. December 31 to January 1. Headquarters and meeting place, Hotel Savery.

O. Agriculture.

** American Society of Agronomy. December 28. Headquarters, Randolph Hotel; meeting place, County Court House. *President*, M. J. Funchess; *secretary*, P. E. Brown, Iowa State College, Ames, Iowa.; *council representatives*, H. K. Hayes and R. M. Salter.

* Society of American Foresters. December 30 and 31. Headquarters, Randolph Hotel; meeting place to be announced. *President*, Paul G. Redington; *secretary*, R. E. Marsh, 517 Lenox Bldg., 1523 L St. N.W., Washington, D. C.; *council representative*, Harris Collingwood.

* American Society for Horticultural Science. December 30 to January 1. Headquarters, Randolph Hotel; meeting place, County Court House. *President*, V. R. Gardner; *secretary*, H. B. Tukey, New York State Agricultural Experiment Station, Geneva, N. Y.; *council representative*, W. H. Alderman.

† Association of Official Seed Analysts of North America. December 31 to January 2. Headquarters, Randolph Hotel; meeting place, County Court House. *President*, F. S. Holmes; *secretary*, A. L. Stone, University of Wisconsin, Madison, Wis.

† Potato Association of America. December 30 to January 1. Headquarters, Randolph Hotel; meeting place, County Court House. *President*, F. M. Harrington; *secretary*, H. C. Moore, Michigan State College, East Lansing, Mich.

Geneticists Interested in Agriculture. December 31. Headquarters, Randolph Hotel; meeting place to be announced. *Secretary*, H. L. Ibsen, Kansas State Agricultural College, Manhattan, Kans.

Q. Education.

Section Q. December 26 to 28. Headquarters and meeting place, Fort Des Moines Hotel.

X. Organizations related to the American Association as a whole.

* American Nature-Study Society. December 27 and 28. Meeting place, Insurance Exchange Building. *President*, Bertha C. Cady; *secretary*, Ellen Eddy Shaw, Brooklyn Botanic Garden, Brooklyn, N. Y.; *council representative*, J. Andrew Drushel, 209 Edgewood Avenue, Westfield, N. J.

** Society of the Sigma Xi. December 28. Meeting place, Fort Des Moines Hotel. *President*, F. R. Moulton; *secretary*, Edward Ellery, Union College, Schenectady, N. Y.; *council representatives*, Edward Ellery and F. R. Moulton.

** Honor Society of Phi Kappa Phi. December 31. Meeting place, Fort Des Moines Hotel. *President General*, R. C. Gibbs; *secretary general*, C. H. Gordon, University of Tennessee, Knoxville, Tenn.; *council representatives*, Carleton R. Ball and M. C. Merrill.

† Gamma Alpha Graduate Scientific Fraternity. December 30. Headquarters and meeting place, Fort Des Moines Hotel. *President*, G. W. Martin, *secretary*, Rodney W. Babcock, De Pauw University, Greencastle, Ind.

Sigma Delta Epsilon Graduate Women's Scientific Fraternity. December 30 and 31. Meeting place, Ranson Tea Room. *President*, Stella Mary Hague; *secretary*, Helen Jean Brown, Ohio State University, Columbus, Ohio.

ASSOCIATED SOCIETIES NOT MEETING WITH THE ASSOCIATION AT DES MOINES BUT MEETING ELSEWHERE IN CONVOCA-TION WEEK, WITH TIMES AND PLACES OF THEIR MEETINGS AND THE NAMES OF THEIR SECRETARIES

Note.—The information here given has been supplied by the society secretaries.

American Astronomical Society. Boston, Mass., December 30 to January 2. *Secretary*, R. S. Dugan, Princeton University Observatory, Princeton, N. J.

Geological Society of America. Washington, D. C., December 26 to 28. *Secretary*, Charles P. Berkey, Columbia University, New York, N. Y.

Paleontological Society of America. Washington, D. C., December 26 to 28. *Secretary*, R. S. Bassler, U. S. National Museum, Washington, D. C.

Mineralogical Society of America. Washington, D. C., December 26 to 28. *Secretary*, Frank R. Van Horn, Case School of Applied Science, Cleveland, Ohio.

Association of American Geographers. Columbus, Ohio, December 26 to 28. *Secretary*, D. H. Davis, University of Minnesota, Minneapolis, Minn.

National Council of Geography Teachers. Columbus, Ohio, December 26 to 28. *Secretary*, George J. Miller, State Teachers College, Mankato, Minn.

American Anthropological Association. Poughkeepsie, N. Y., December 27 to 29. *Secretary*, A. Irving Hallowell, University of Pennsylvania, Philadelphia, Pa.

- Archaeological Institute of America. Boston, Mass., December 26 to 28. *Secretary*, Rollin H. Tanner, New York University, New York, N. Y.
- American Folk-Lore Society. Poughkeepsie, N. Y., December 27 to 29. *Secretary*, Gladys A. Reichard, Barnard College, New York, N. Y.
- American Economic Association. Washington, D. C., December 27 to 30. *Secretary*, Frederick S. Deibler, Northwestern University, Evanston, Ill.
- American Sociological Society. Washington, D. C., December 27 to 30. *Secretary*, Ernest W. Burgess, University of Chicago, Chicago, Ill.
- American Statistical Association. Washington, D. C., December 27 to 30. *Secretary*, Willford I. King, 236 Wooster St., New York, N. Y.
- History of Science Society. Durham, N. Car., December 28 to 29. *Secretary*, Frederick E. Brash, Library of Congress, Washington, D. C.
- Linguistic Society of America. Cleveland, Ohio, December 30 and 31 and January 1. *Secretary*, Roland G. Kent, University of Pennsylvania, Philadelphia, Pa.
- Society of American Bacteriologists. Ames, Iowa, December 30 and 31 and January 1. *Secretary*, J. M. Sherman, Cornell University, Ithaca, N. Y.
- American Philosophical Association. Eastern Division: New York City, between Christmas and New Year's; Western Division: Los Angeles, between Christmas and New Year's. *Secretary*, H. G. Townsend, University of Oregon, Eugene, Oregon.
- Phi Delta Kappa Fraternity. Chicago, Ill., December 31. *Secretary*, Paul M. Cook, 1800 Republic Bldg., Chicago, Ill.
- American Association of University Professors. Durham, N. Car., December 28; Chapel Hill, N. Car., December 30. *Secretary*, H. W. Tyler, Massachusetts Institute of Technology, Cambridge, Mass.
- Bibliographical Society of America. Chicago, Ill., December 28. *Secretary*, A. H. Shearer, Grosvenor Library, Buffalo, N. Y.

THE AMERICAN ASSOCIATION PRESS SERVICE AT THE DES MOINES MEETING

(By *Austin H. Clark*)

The Press Service of the American Association for the Advancement of Science, which has developed from the earlier news service, furnishes to the public, by means of the press, readable and timely accounts of scientific news. It brings scientific workers and newspaper writers together for their mutual aid and for the dissemination of science news. For the Des Moines meeting releases for the press will be prepared beforehand, from manuscripts and abstracts received from those who are to present papers or give addresses at the meeting. All who are to present papers at Des Moines are asked to send, as soon as possible, duplicate copies of each of their manuscripts, to the A. A. S. Press Service (A. A. A. S. P. S.), Smithsonian Institution Building, Washington, D. C. A single copy will not suffice and both copies are to be sent to

the same address. Each manuscript should bear, at the top of the first page, the name of the organization before which the paper is to be presented, with information as to the date of presentation as nearly as that may be stated.

Whenever a paper for this or any other scientific meeting is being typed it will be advantageous to all concerned, including the public, if several clear carbon copies are made; such manifolding is readily accomplished and results in copies enough so that two can be sent at once to the association. Other copies should be sent to the secretaries of the organizations at whose sessions the papers are to be given. The manuscripts sent to the association are not for publication as such. They are used by newspaper writers in the preparation of science news. No news story is released before the date on which the paper is presented at the meeting. The Press Service supplies the representatives of the press with the material received from the authors, the date of release being marked on each sheet. It sometimes furnishes such additional information as may be available and it aids press representatives to secure interviews with authors when such interviews are requested.

All manuscripts for use in connection with the Des Moines meeting should reach the Washington office by December 20. Manuscripts that arrive later may not receive attention. The best science stories are written long before the meeting opens, when the writers may have time for consultation and study in their preparation. It is best to have manuscripts in the hands of the Press Service before December 1. If full manuscripts can not be sent, then authors of papers and addresses for this meeting should send two copies of an adequate abstract of each paper.

Both manuscripts and abstracts should be written in the simplest possible language, so as to be readily understood by any educated person with no presupposed knowledge of the subject treated. Especially should the broader aspects of the subject be presented and its possible bearing on work in other lines and on thought in general.

Until the date of release all author's manuscripts are regarded as strictly confidential communications, accessible only to accredited representatives of the press and to the members of the association's committee on prize award. There need be no hesitation about sending accounts of new and unpublished work. Authors may themselves send additional copies to newspaper representatives or to the news-gathering agencies, but articles based on such copies may not always be used under the sponsorship of the American Association's Press Service. In any event, two copies are needed by the Press Service.

The director of the Press Service, Austin H. Clark, is ready at all times to answer questions regarding the

work of the service and to aid authors and press writers as far as possible. But it must be remembered that Mr. Clark is apt to be pressed for time in the last ten days before a meeting opens. In that period it is difficult for him to do justice to all communications.

The press is now by far the most important medium for the dissemination of scientific knowledge among the people. It is consequently a duty of science workers to do their part, to the end that their findings and ideas may be clearly set before the public. Prepare readable manuscripts and send them early and in duplicate.

THE DES MOINES AWARD OF THE AMERICAN ASSOCIATION PRIZE

The seventh annual award of the American Association prize, of one thousand dollars, will occur at the close of the Des Moines meeting. Through the generosity of an anonymous member six of these prizes have been awarded by the association and it is expected that these annual awards will continue indefinitely. The prize is awarded each year to the author of a noteworthy paper presented at the annual meeting. All papers presented at the Des Moines meeting are to be automatically eligible for consideration by the committee on prize award, the membership of which is shown on an earlier page of this announcement. It is not necessary that an author be a member of the association. There is to be no open competition and no submitting of papers for the prize. It is supposed, however, that manuscripts of papers that may possibly be considered by the committee on prize award will all be in the hands of the Press Service, through the arrangements described above. No special action should be taken by authors who hope to be considered in this connection and no attempt should be made to enlighten members of the committee excepting at their own request. The secretary in charge of each scientific program will be expected to present one or more nominations for consideration by the committee and the committee is expected to make selection from the nominations thus submitted. Nominations are to be in writing, signed by the secretary who sends them, and they are to be addressed to the committee on award, care of Sam Woodley, *executive assistant*, at the registration offices in the Shrine Temple, or else they may be sent to Mr. Woodley in the Fort Des Moines Hotel. Secretaries and members of the committee may examine the manuscripts that have been received by the Press Service, which will have offices in the Shrine Temple. In making the award the committee is instructed to make no attempt to select the "best" paper presented, for useful comparisons are not possible in different fields

of science; the intention is simply that the prize shall be awarded to the author of some notable contribution presented at Des Moines. Previously published work may be considered when pertinent. The donor of the prize desires to aid younger authors by this means rather than to honor older men. The prize is not to be awarded in the same field of science for two consecutive years. The permanent secretary and the other general officers of the association have nothing at all to do with the award, nor can they be in position to give out any information concerning the nominations until after the award has been officially announced through the Press Service. The proceedings of the committee on prize award are to be strictly confidential.

The name of the prize winner will be announced in the daily press throughout the United States and Canada, probably on Thursday or Friday, January 2 or 3, and the permanent secretary's office will inform the winner, by telegram if that means is necessary. The treasurer's check for one thousand dollars will be issued to the winner of the prize just as soon as possible after the close of the meeting.

A list of the names of those to whom the association prize has been awarded is shown below, together with the topics dealt with in the winning papers.

- (1) The Cincinnati award, January, 1924. L. E. Dickson, for contributions to the theory of numbers.
- (2) The Washington award, January, 1925. Divided equally between Dr. Edwin P. Hubble, for contributions on spiral nebulae, and Dr. L. R. Cleveland, for contributions on the physiology of termites and their intestinal protozoa.
- (3) The Kansas City award, January, 1926. Dr. Dayton C. Miller, for contributions on the ether-drift experiment.
- (4) The Philadelphia award, January, 1927. Dr. George D. Birkhoff, for mathematical criticism of some physical theories.
- (5) The Nashville award, January, 1928. H. J. Muller, for contributions on the influence of X-rays on genes and chromosomes.
- (6) The New York award, January, 1929. Oliver Kamm, for contributions on the hormones of the pituitary gland.

TRANSPORTATION TO AND FROM DES MOINES

Reduced railway rates, by the certificate plan, have been granted for this meeting by the railway passenger associations of the United States and Canada, whose courtesy and public spirit will be greatly appreciated. The round-trip fare for a person attending the meeting is to be one and one half times the regular one-way fare.

Tickets to Des Moines are to be purchased within time limits as follows: December 24 to 30, inclusive,

for the following lines: Canadian Eastern lines, Central lines, Southeastern lines and Trunk lines. For New England lines the time limits are December 23 to 29, inclusive. For the Western and Transcontinental lines the inclusive dates are December 20 to 26 from California; December 21 to 27 from Arizona, British Columbia, Nevada, northern Idaho, Washington and Oregon (except *via* California); December 19 to 25 from Oregon (*via* California); December 22 to 28 from Montana, southern Idaho and Utah; December 23 to 29 from New Mexico, Wyoming and Colorado (except Julesburg); December 24 to 30 from Julesburg, Colorado, and from Illinois, Iowa, Kansas, Manitoba, Minnesota, Missouri, Nebraska, northern Michigan, North Dakota, South Dakota and Wisconsin. For the Southwestern lines the inclusive dates are December 23 to 29 from Texas and December 24 to 30 from Arkansas, Kansas, Louisiana, Missouri and Oklahoma; also from Memphis, Tennessee, and Natchez, Mississippi. The following Southwestern lines do not offer the reduced excursion fares: Arkansas and Louisiana-Missouri Railway, Fort Smith and Western Railroad, Graysonia, Nashville and Ashdown Railroad, Kansas, Oklahoma and Gulf Railway, Mississippi River and Bonne Terre Railway and National Railways of Mexico. The Canadian Western lines are unable to offer reduced railway fares from points in their territory.

Persons residing in the regions of reduced rates (almost all the United States and Canada) should each purchase a first-class, full-fare, one-way, through ticket to Des Moines, being sure to secure a certificate on the "Standard Certificate Form," reading for the Des Moines meeting of the "American Association for the Advancement of Science and Associated Societies." A receipt is not required and will not be useful.

Persons residing outside the regions of reduced rates should each purchase a round-trip ticket to the nearest station issuing through tickets to Des Moines and situated within the region of reduced rates. On arrival at that station a one-way ticket to Des Moines and a certificate, as directed in the preceding paragraph, should be secured.

Upon arrival at Des Moines every one should register immediately, at the registration offices for the meeting, in the Shrine Temple, located on Pleasant St. between Ninth and Tenth Sts. Be sure to fill in all blanks on the registration card and leave the card at the registration desk, where you will receive a numbered identification card, which will be receipted for the registration fee paid. (See Registration, below.) Then leave your railway certificate at the validation desk, being sure that the identification card (which you keep) is there marked to show that you

have deposited a certificate. Your certificate will subsequently be endorsed by the association and then validated by the agent of the transportation companies. Call for it later at the validation desk, where you left it, presenting your identification card.

Unvalidated certificates will not be honored for the purchase of return tickets and unendorsed certificates can not be validated. Registration is therefore necessary in order to have a railway certificate validated. Each person registering is entitled to the validation of his own certificate.

For the return trip, railway agents at Des Moines will honor any properly endorsed and validated certificate if presented at least thirty minutes before the scheduled time of departure of the train for which it is to be used. Each person presenting an endorsed and validated certificate may purchase a continuous-passage one-way, return ticket for one half of the regular fare, by the same route as that followed on the trip to Des Moines. Certificates may be validated from December 27, 1929, to January 2, 1930. The last date on which return tickets may be purchased is January 6.

Some trouble and perhaps some delay may be avoided if sleeping-car accommodations are reserved upon arrival at Des Moines, before going to hotels or meeting places or to the registration offices in the Shrine Temple. Otherwise it is often convenient to give the validated certificate, with proper instructions for purchasing the return ticket and sleeping-car accommodations, to the porter of your hotel, who attends to these matters for you while you are otherwise engaged. But sufficient time must be allowed.

TRANSPORTATION IN DES MOINES

The Shrine Temple and the hotels that will be used by those attending the meeting are all within easy walking distance of the Rock Island and Union railway stations. The Northwestern station is more distant, about fourteen blocks from the Fort Des Moines Hotel. Directions for reaching the Shrine Temple and the hotels may be had at all railway stations. The taxicab rate in Des Moines is twenty cents for the first quarter mile and ten cents for each additional half mile. No extra charge is made for more than one passenger.

TRANSPORTATION BETWEEN DES MOINES AND AMES

Some of the sessions of the Des Moines meeting are to be held at Ames, the seat of the Iowa State College, which is to act as host for the Ames sessions. The trains of the Chicago and Northwestern Railway Company may be conveniently used for transportation between the two cities. The distance is about thirty-five

miles and the train time is about fifty minutes. An electric line is also available.

HOTEL ACCOMMODATIONS

Information about Des Moines hotels has been published in *SCIENCE* for November 1, 1929, pages 419-20. The headquarters hotels for the various societies that are to meet with the association this year are shown in an earlier part of this announcement. If hotel reservations have not already been made they should be made at once, by addressing the hotels directly.

All the sessions at Des Moines will be held within walking distance from the hotels; lodgings and session rooms are all to be in the business region of the city and distances will be short this year. Many of the session rooms will be in the headquarters hotels.

Those desiring lodging accommodations outside of hotels should write very soon to Mr. George E. Hamilton, Chamber of Commerce, Des Moines, who will be glad to make reservations in fraternity houses or in other available houses. Prices per day will be from one dollar upwards for these rooms and the number of available rooms will be large.

REGISTRATION AT THE DES MOINES MEETING

The main registration offices for the meeting will be located in the Shrine Temple, on Pleasant St. between Ninth and Tenth Sts. Registration is to be in charge of Mr. Sam Woodley, executive assistant of the American Association. The offices will be open from 9 to 6 daily, throughout the period of the meeting. Registration is necessary in order to secure the official identification card, the official badge, the general program, etc., and in order that railway certificates may be endorsed and validated. All who attend any of the sessions should register as promptly as possible, whether they are members of the association or not, using official registration cards that will be provided.

The registration fee for the Des Moines meeting is to be two dollars, but paid-up members of the American Association for the Advancement of Science may register by paying only one dollar if they show their enrolment cards for 1929-30. Life members of the association may register without paying any registration fee and without showing their cards if they so request, for each registration clerk will be provided with a complete list of life members. But the records of paid-up annual members will not this year be taken to the meeting and paid-up annual members who attend will need their enrolment cards to show that they are enrolled for the current year. Associates for this meeting and personally invited foreign associates may register without paying any registration fee if

they show their credentials to the registration clerk. Associates should show their associateship cards and foreign associates should show either their cards or the invitations received from the permanent secretary's office. The registration fees will be applied to help defray some of the costs of the meeting.

Annual members who are in arrears for association dues may pay their arrearages at the registration offices before they register or at the same time. They may then register with payment of the reduced registration fee. Non-members may join the association or may become associates for this meeting by making the proper payments before they register, thus securing the advantage of the reduced registration fee.

To register, fill in the blanks on a registration card and present the card at the registration desk, paying the proper registration fee. The registration clerk will keep the card and will return to you a numbered identification card, which will entitle you to the privileges of the meeting, including the official badge, and a copy of the general program. If you have a railway certificate for validation, leave it at the validation desk, where your identification card will be marked to show that a certificate has been left. (See above, under Transportation to and from Des Moines.) Delegates from institutions and organizations, and all personally invited foreign associates, are specially requested to register as such, noting on their registration cards their exact status in this particular.

ASSOCIATION MEMBERSHIP

The approach of the great annual meeting presents an opportune time for increasing our membership, and all members of the American Association are asked to secure new members or to send to the permanent secretary's office in Washington before December 15 names and addresses of persons who might be interested in joining the association. This request is effective throughout the year, but it is specially desirable that a large number of new members be enrolled before the opening of the meeting.

Copies of a booklet on "The Organization and Work of the American Association," as well as membership application cards and sample copies of the journals, may be secured at any time from the permanent secretary's office. Membership in the association includes a subscription to the weekly journal *SCIENCE*, or the *Scientific Monthly*, for the calendar year beginning at the close of the annual meeting. The journal alone is worth more than the annual membership dues. Annual members of the association may have both *SCIENCE* and the *Scientific Monthly* by paying \$3.00 in addition to the annual dues (\$8.00 in all), if the additional payment accompanies the remittance of annual dues. Annual members of the association may

also subscribe for the *Science News-Letter* at the specially reduced price of \$3.00 per year, if the additional remittances accompany their payment of dues in each case. Life members may receive one or both of the extra journals by paying \$3 for each subscription.

New members of the association regularly pay an entrance fee of five dollars, but this is now remitted to members of any affiliated organization, including the affiliated state academies. Those who take advantage of this privilege and join at the Des Moines meeting without paying the entrance fee should fill in the blanks on a blue membership application card and present card and dues for 1929-30 (\$5.00) when they register. All who attend the Des Moines meeting are asked to join the American Association when they register, unless they are already enrolled.

ASSOCIATES AND FOREIGN ASSOCIATES

Those who are not members of the American Association and who do not wish to join at this time are invited to become associates for this meeting. The associate fee is five dollars. Associates have all the privileges of the meeting, except voting, and they will receive the general reports of the meeting when these are published about February 1. They are to register without paying any registration fee. Associate fees will be used to help defray the costs of the meeting.

Visitors from outside of the United States and Canada who are not members of the association may be invited to the meeting as foreign associates. Members of the association may recommend to the permanent secretary persons who should receive official invitations, giving reasons. Such recommendations should arrive in the permanent secretary's Washington office before December 20, and the present address, as well as the home address, of the recommended person should be given in each instance. Eligibility to this honor is about the same as eligibility to fellowship in the association.

INFORMATION SERVICE, MAIL, EXPRESS, TELEGRAMS, ETC.

Those in attendance at the Des Moines meeting may obtain information of all sorts by applying at the information desk in the registration offices. Attention is called, however, to the visible directory of those in attendance, from which may be obtained names and both home and Des Moines addresses of those who have registered.

Persons attending the meeting may have mail, etc., addressed to them in care of the American Association for the Advancement of Science, registration office, Shrine Temple, Des Moines, Iowa. They should inspect the personal bulletin every day, which

will be conveniently located in the vicinity of the registration desks. If a person's name appears on this bulletin he should inquire at the proper desk for mail, etc. Uncalled-for telegrams will be sent to hotels each afternoon when the registration offices close, unless the person addressed has failed to register and give his hotel address. Unclaimed mail, etc., will be mailed to home addresses after the close of the meeting.

BUSINESS SESSIONS OF THE AMERICAN ASSOCIATION AT DES MOINES

The executive committee of the council is to meet at 10 o'clock on Friday, December 27, in the committee room, Fort Des Moines Hotel, and the council is to hold its first Des Moines session at 2 o'clock on the same afternoon. This council session is to be followed by the Des Moines session of the Academy Conference. Unless otherwise decided, the council will meet at 9 on Saturday, Monday, Tuesday and Wednesday and the executive committee will meet at 10 on the same days. The election of association officers for 1930 is to occur at the council session Tuesday morning. All council sessions will be held in the Green Room of the Fort Des Moines Hotel.

THE SECRETARIES' CONFERENCE AND THE ACADEMY CONFERENCE

The Secretaries' Conference of the American Association plans to hold its Des Moines session on Sunday evening, December 29, at the Fort Des Moines Hotel, following the annual secretaries' dinner. The secretary of this conference is Dr. Philip Fox, secretary of Section D, who has charge of its program. The chairman is Dr. George T. Hargitt, secretary of Section F. This conference consists of the secretaries of the association sections, the secretaries of the associated societies and the members of the executive committee of the association.

The Academy Conference of the American Association is planning to hold its Des Moines session at the close of the council session on Friday afternoon. This conference consists of the council representatives from the affiliated academies and three representatives of the association. The secretary of the conference this year is Dr. D. W. Morehouse, president of Drake University, Des Moines, who is preparing its Des Moines program. Topics of interest to the academies, especially in relation to the work of the association, are to be discussed. The chairman is Dr. Howard E. Enders, of Purdue University, LaFayette, Indiana.

THE SCIENCE EXHIBITION

The general exhibition of apparatus, materials and books for scientific research and science teaching will

be in the Shrine Temple, adjacent to the registration offices for the meeting. The exhibition will be open on Friday evening during the reception and from 9 to 5 on Saturday, Monday, Tuesday and Wednesday. It will furnish a convenient place where one may meet friends and spend a pleasant and profitable hour from time to time. All who attend the Des Moines meeting should be sure to visit the general exhibition.

The exhibition is in charge of Major H. S. Kimbely. Its expenses are met by fees paid by the commercial exhibitors and free space is given for scientific exhibits from investigators and from research and educational institutions. Individual investigators and non-commercial institutions are invited to enter exhibits for the free space. Arrangements should be made at once, by writing to the permanent secretary. All who read this announcement are asked to inform the permanent secretary at once of any individual or non-commercial institutions that might be interested in exhibiting new apparatus, methods, etc. It is desirable that these annual exhibitions should include more non-commercial exhibits than have been entered in the exhibitions of recent years. The aid of association members is specially requested in this connection.

SCIENTIFIC SESSIONS AT DES MOINES

Nearly all fields of science will be represented in the sessions of the sections and their related societies at the eighty-sixth meeting of the American Association. There will be many joint sessions of two or more organizations and many symposia of invited papers on timely topics, as well as a large number of society dinners, luncheons and smokers. A great many sessions will be devoted to the reading of technical contributions. The addresses of the retiring vice-presidents of the association and those of the presidents of the special societies will each be important in indicating the present status and the outlook in each of the several branches. It is, of course, impossible to present the numerous programs of the meeting in this announcement, for which the reader must await the appearance of the society programs and the general program. The latter will be printed in the last two weeks before Christmas, edited for the permanent secretary's office by the program editor, Dr. Sam F. Trelease, of Columbia University. As has been said, the general program will be available at 9 o'clock, December 27, at the registration offices for the meeting, in the Shrine Temple, and copies will be mailed promptly to those who are not going to attend the meeting, if they send in their requests early.

The following pages are devoted to preliminary notes on the special programs of the scientific sessions

at Des Moines. These notes have been compiled by the permanent secretary from accounts furnished by the several secretaries of societies and sections, to whom we are greatly indebted for the material presented here. It is, of course, to be remembered that all statements are of a preliminary nature.

These notes on the plans of the many organizations that will take part in the meeting at Des Moines are arranged under headings that correspond to the sections of the American Association. Generally each of the associated and invited societies is related primarily to a single association section, but in some instances the societies can be properly classified only by reference to two sections or to the association as a whole. In connection with these notes see the list of organizations planning to hold sessions at the Des Moines meeting, in an earlier part of this announcement, where the names of the society officers and the dates of the society meetings are shown, as well as their hotel headquarters and most of the places for their meetings.

MATHEMATICS.—The American Mathematical Society and Section A will meet jointly on Monday afternoon, December 30. The retiring vice-president for Section A, Professor R. C. Archibald, of Brown University, will deliver an address on the subject "Mathematics before the Greeks." A second address, entitled "An Unsolved Problem of Uniqueness in Potential Theory," will be given by Professor O. D. Kellogg, of Harvard University, at the invitation of the American Mathematical Society. On Tuesday afternoon there will be a joint session of the American Mathematical Society and the Mathematical Association of America, at which Professor L. L. Dines, of the University of Saskatchewan, will deliver an address entitled "Linear Inequalities and Some Related Properties of Functions." This address is to be given at the joint invitation of the two organizations. On the same afternoon, following the session just referred to, the seventh annual Josiah Willard Gibbs lecture, under the auspices of the American Mathematical Society and the American Association, will be delivered by Professor Irving Fisher, of Yale University, who will speak on "The Application of Mathematics to the Social Sciences." The selection of Professor Fisher as Gibbs lecturer is peculiarly appropriate in view of his having been a colleague of Gibbs; the subject of his address will undoubtedly arouse great interest because of his own brilliant work in the application of mathematics to economics.

On Tuesday morning, December 31, there will be a joint session of the American Mathematical Society, Section K (Social and Economic Sciences) and Section A, for the presentation of short papers dealing with the mathematical-statistical field. Further ses-

sions of the American Mathematical Society for the presentation of papers will be held on Monday and Tuesday mornings. The Mathematical Association of America will hold sessions on Wednesday morning and afternoon with a program of invited speakers. It is expected that the second award of the Chauvenet Prize of one hundred dollars will be made at one of these sessions; this prize is awarded for the best expository paper published in English by a member of the Mathematical Association during the period 1925-28 inclusive. The annual election of officers will also take place on Wednesday. An informal dinner for the mathematical group is scheduled for Tuesday evening.

PHYSICS.—As heretofore, Section B will meet with the American Physical Society and with the American Meteorological Society. The retiring vice-president, Professor P. W. Bridgman, will give an address on "Permanent Elements in the Flux of Present-day Physics." The following statement is a brief indication of its contents:

A search is made for the elements of permanent significance in our rapidly increasing experimental knowledge and our rapidly changing theoretical outlook, and the endeavor is made to find what the average physicist may best do under the circumstances. The details of most of our mathematical developments are probably transient in character and need not be studied too deeply by the non-specialist, but nevertheless certain broad fundamental principles have been uncovered which probably transcend the mathematics by which they were discovered and of which every one should endeavor to acquire command. Specific suggestions are made as to how to acquire such a command by applying the principles to various elemental situations.

The greater part of the program of the joint meeting will consist of the regular papers contributed to the American Physical Society and the American Meteorological Society. The days for the physical sessions are to be December 30 and 31 and January 1.

The American Meteorological Society will hold its regular meeting Friday and Saturday, December 27-28, at the Fort Des Moines Hotel. Aeronautical meteorology will have a prominent place, occupying one or two half-day sessions. Many practical phases of the subject will be discussed by pilots, air transport officials and meteorologists who have been in close contact with such matters. Radio transmission as related to aviation will also be discussed. In his second presidential address, Dr. W. J. Humphreys, of the U. S. Weather Bureau, will discuss the structure of the atmosphere, its dust content, electrification and limits. Dr. C. C. Wylie, of the State University of Iowa, will discuss recent meteors and what they indicate relative to the limits of the atmosphere. T.

A. Blair will discuss seasonal pressure changes to the west, as related to winter weather in the Missouri and Mississippi Valleys. A half-day session will be devoted to the work of cooperative observers and ways to encourage and interest them. This meeting will occur in one of the most important agricultural regions and considerable attention will be given to some phases of agricultural meteorology.

CHEMISTRY.—Section C plans to hold sessions at Des Moines on Friday and at Ames on Saturday, arranged with the cooperation of the midwest regional group of the American Chemical Society and the Iowa State College section of that society. The most prominent part of the program is to be a symposium on "Chemical Utilization of Agricultural Products." The retiring vice-presidential address for Section C will be given Saturday morning, by Dr. C. E. K. Mees, of the Eastman Kodak Company. The session at Ames will include an inspection of the very interesting experimental plant for making paper from corn-stalks, located on the campus of Iowa State College. This plant is supported partly by the state and partly by the U. S. Bureau of Standards. It will be in operation, making corn-stalk wallboard.

ASTRONOMY.—Section D (Astronomy) will hold sessions at the Fort Des Moines Hotel on Monday, and at the University and City Observatory on Tuesday afternoon. Through the courtesy of President D. W. Morehouse, of Drake University, transportation to the observatory will be provided, and opportunity will be given for an inspection of its equipment. It is planned that one of the sessions shall be in conjunction with Section L. At the Tuesday afternoon session, Dr. J. S. Plaskett, vice-president and chairman of Section D, will give his retiring address on "Motions of the B-type Stars." Other addresses to be given at Des Moines will be by Professor Edwin B. Frost, on "Some Aspects of Celestial Evolution," and by Professor Philip Fox on "The Adler Planetarium and Astronomical Museum of Chicago." Both these lectures will be illustrated with lantern slides.

GEOLOGY AND GEOGRAPHY.—Section E will hold sessions for the reading of papers on Monday and Tuesday, December 30 and 31. The address of the retiring vice-president for Section E, Professor Frank Leverett, of the University of Michigan, will be given at 4 o'clock on Monday, on "Problems of the Upper Ohio Drainage." There will be a dinner for geologists and geographers on either Monday or Tuesday evening. Des Moines is at the center of the classic area for the study of the glacial deposits of the Mississippi Valley, and it is expected that several papers dealing with Pleistocene problems will be presented. A joint session of Section E with Part 1 (History

of Science) of Section L is being planned. The general session Tuesday evening will be devoted to a non-technical address on some interesting social and economic relations of the Pleistocene geology of Iowa and adjacent states, by Dean George F. Kay, of the University of Iowa. Other papers will consider the stratigraphy of the Mississippi Valley, and still others will deal with general geological problems.

ZOOLOGICAL SCIENCES.—Section F and the American Society of Zoologists will hold joint sessions for reading of papers on Monday, Tuesday and Wednesday, December 30 and 31 and January 1. Following the practice of recent years, morning sessions will be devoted to the formal reading of papers and afternoon sessions to informal demonstration presentations; those presenting papers may choose whichever method best suits their material. Contributed papers from the section will appear in the program of the American Society of Zoologists, Section F holding no separate sessions for contributions. An announcement regarding the plans for Section F appeared in *SCIENCE* for August 23. The business session of the section is to precede the business session of the Society of Zoologists on Tuesday afternoon. The address of the retiring vice-president for Section F, Dr. M. F. Guyer, will be delivered immediately following the zoologists' dinner on Tuesday evening. Dr. Guyer's title is "The Germinal Background of Somatic Acquirements." The biologists' smoker will occur on Monday evening.

This will be the twenty-seventh meeting of the American Society of Zoologists, under the presidency of Dr. C. B. Davenport, of the Station for Experimental Evolution, Cold Spring Harbor, New York. Joint sessions with other societies are planned: with the American Society of Parasitologists Monday morning and with the Ecological Society of America Tuesday morning. The retiring address of President Davenport, on "Light Thrown on Evolution by Genetics," will be given as the closing event of the Wednesday morning session.

The Entomological Society of America will hold its twenty-fourth annual meeting from December 28 to 30 under the presidency of Dr. C. T. Brues, of the Bussey Institution, Harvard University. The Saturday morning session will open with the introductory business and reading of papers. The Saturday afternoon session will include a symposium entitled "Important Contributions which America Has Made to the Study of Insects." A trip to the Iowa State College, at Ames, to inspect the biological laboratories is planned for Sunday, December 29. The program will be continued Monday morning and afternoon. Monday evening the annual public address will be given by Dr. W. M. Mann, director of the National

Zoological Park. The annual entomologists' dinner will be held Tuesday evening.

The American Association of Economic Entomologists will hold its forty-second annual meeting from December 30 to January 2, Monday to Thursday. The Monday sessions will be devoted to the section of Plant Quarantine in the morning and afternoon and to the Extension Entomologists and Insect Pest Survey in the afternoon. On Tuesday will occur the opening business session of the General Association and the address of the president, T. J. Headlee, of the New Jersey Agricultural Experiment Station. The general association will continue its sessions through Wednesday and that portion of Thursday which will be needed. The section of Apiculture is scheduled to meet Wednesday afternoon. The entomologists' dinner will be held Tuesday evening. The program of the general association will include, among others, papers on the artificial and natural control of insect pests. By special invitation, entomologists are to visit the department of entomology of Iowa State College, at Ames, on Sunday, December 29. It will be well worth while for all entomologists attending the meeting to arrange to take advantage of this invitation.

The American Society of Parasitologists will hold its fifth annual meeting from December 27 to 31. A special feature of this meeting will be a symposium on the parasites of live-stock, including a moving picture film of the life cycle of the sheep liver fluke. The address of the retiring president, Dr. N. A. Cobb, will be entitled "Recent Aspects of Nematology." The luncheon and business meeting of the society will be held Sunday afternoon in the headquarters hotel. As has been customary for the last few years a joint session will be held with the American Society of Zoologists. Since the society is particularly strong in the Middle West a large attendance is expected. The indications are that there will be an unusually interesting series of programs of contributed papers.

The Wilson Ornithological Club has been fortunate in arranging a particularly interesting program for the Des Moines meeting, December 27 and 28, consisting of a wide variety of papers on bird life, with special reference to the Central States. Especially interesting will be motion pictures to be shown at the Friday afternoon session. Among these will be Dr. Gromme's excellent films.

BOTANICAL SCIENCES.—On Tuesday afternoon, December 31, Section G will hold a joint session with the associated botanical societies. Professor C. E. Allen, of the University of Wisconsin, retiring vice-president for the section, will deliver an address on "Inheritance in a Hepatic." This address will be followed by a symposium on botanical problems of

the corn plant, at which G. N. Collins, Paul Weatherwax, E. W. Lindstrom and others will speak. See also *Agriculture*, below, for announcement of a program on recent investigation on maize.

The Botanical Society of America will meet on Monday, Tuesday and Wednesday. The president for the meeting is Dr. Margaret C. Ferguson, of Wellesley College. Business sessions will be held each morning at 9, followed, at 10, by sessions of the five sections of the society. In the afternoons, joint sessions will be held with Section G of the American Association, the Ecological Society of America and the American Society of Naturalists. The General Section will probably hold a round-table discussion on the teaching of botany. The annual dinner for all botanists will be held Tuesday evening. At this time, Dr. A. H. R. Buller, of the University of Manitoba, will deliver the retiring presidential address. The section programs will be representative of their special fields and all branches of botany will be dealt with by papers to be presented at this meeting.

The American Phytopathological Society will meet during the period Saturday, December 28, to Tuesday, December 31, sessions being held in the Grant Club, which is conveniently located with reference to the Chamberlain Hotel, headquarters for the botanical groups. The president for the meeting is R. J. Haskell, of the U. S. Department of Agriculture. Numerous interesting and important papers will be presented. Joint sessions with other organizations are planned as follows: (1) on Monday afternoon an important program devoted to papers on virus diseases of plants and animals, with the Society of American Bacteriologists; and (2) with Section G on Tuesday afternoon, the papers being on topics of general interest. There will also be a round-table discussion Tuesday afternoon on extension work in plant pathology. The annual dinner of the Phytopathological Society is scheduled for Saturday evening. Much time has been spent by members of the dinner program committee in the arrangement of an unusual entertainment to follow the dinner. Tickets may be secured in advance (before Saturday noon) at the general registration offices for the meeting. The opening session will start at 10 on Saturday, with a session for contributions followed by a business session. A most interesting program is being planned for an informal supper for plant pathologists on Sunday evening. The Monday session will be held at the Iowa State College, at Ames, where I. E. Melhus, professor of plant pathology, and his associates will be hosts. Transportation from the hotel in Des Moines to the State College has been arranged. Two or more simultaneous sessions will be held during the morning, while the afternoon will

be devoted to the above-mentioned joint session on virus diseases. An important feature of the day at Ames will be a greenhouse virus-disease exhibit, for which months of preparation have been necessary. One of the high points of this meeting on Monday will be a luncheon served at Memorial Union Hall, Iowa State College.

The sixth annual meeting of the American Society of Plant Physiologists will be held December 30 to January 1. The president for this meeting is Dr. Scott V. Eaton, of the University of Chicago. The program will contain contributions in many of the different fields of plant physiology. A joint session will be held Tuesday morning with the American Society for Horticultural Science. At the annual dinner for all plant physiologists announcement will be made of the award of the first Stephen Hales Prize, recently established by the Society of Plant Physiologists through an endowment raised by subscription.

BIOLOGICAL PROGRAMS RELATED TO BOTH ZOOLOGY AND BOTANY.—The Des Moines meeting of the American Society of Naturalists will, as usual, include an afternoon symposium followed by the annual business meeting. The symposium this year is to be on "Radiation and Life," different phases of the subject being discussed by Professor Selig Hecht, Dr. R. A. Emerson and others. In the evening will occur the annual dinner, at which President George H. Parker will give his retiring presidential address.

The Ecological Society of America is to meet on Monday, Tuesday, Wednesday and Thursday. It is probable that the dinner and perhaps one or two other sessions may be held at Iowa State College, Ames. The president this year is W. C. Allee, of the University of Chicago. Joint sessions with other organizations are planned as follows: (1) with the Botanical Society of America, Monday afternoon; (2) with the American Society of Zoologists, Wednesday afternoon. Symposia, or less formal groups of papers and discussions, devoted to the following general subjects, are planned: "Hydrogen Ion Concentration," in charge of President Allee; "Range Ecology," in charge of Dr. Herbert C. Hanson, of Colorado Agricultural College; "Environmental Units and their Terminology," in charge of W. E. Allen, Scripps Institution for Oceanography. Several sessions will be devoted to papers of general ecological interest and to the business. The annual dinner is planned for Wednesday evening, probably at Ames; definite announcement will be made later.

The Genetics Sections of the American Society of Zoologists and the Botanical Society of America will hold regular sessions for the reading of papers on Monday, Tuesday and Wednesday mornings. There will be a short business session, for the election of

officers and to receive the report of a committee appointed to consider "what organization is for the best interests of genetics in America." On Tuesday and Wednesday afternoons there will be informal laboratory demonstrations and exhibits. An excursion to the Iowa State College of Agriculture and Mechanic Arts, at Ames, is being planned for Sunday, and the Monday morning program, of botanical papers in genetics, will be held at Ames. On Monday afternoon the Genetics Sections will join at Ames with the Geneticists Interested in Agriculture, in a symposium on "Genetic Experimentation with the Larger Domesticated Mammals."

The American Microscopical Society will hold its annual business meeting and election of officers on Tuesday afternoon, December 31, at 4:30. The national council of the Phi Sigma Biological Society will hold its meetings on Friday and Saturday, December 27 and 28, at the Fort Des Moines Hotel.

The BBB Honorary Biological Fraternity is to hold a breakfast Sunday at 10 o'clock and other sessions on Monday and Tuesday at 3. Its headquarters are to be in the Savery Hotel.

ANTHROPOLOGY.—The meetings of Section H will be on December 30 and 31. One or more sessions will be held in conjunction with the newly organized American Association of Physical Anthropologists, and a very interesting program in this field is anticipated. In accordance with the policy advocated by the executive committee, special provision is being made for the exhibition of specimens and the demonstration of instruments and methods. This mid-western meeting of Section H and the associated organizations will afford specially favorable opportunities for free discussion of anthropological problems relating to this particular section of the country. Arrangements for the annual dinner of anthropologists and other special features will be announced later.

PSYCHOLOGY.—Section I will hold its meetings on Friday and Saturday, December 27 and 28. The vice-president of the section is Professor Madison Bentley, of Cornell University. On the morning of December 27 a joint session, with invited speakers, will be held with Section Q (Education). In the afternoon another joint session with Section Q will be held for the presentation of the addresses of the retiring vice-presidents of these sections, Professor Howard C. Warren, of Princeton University, for Section I, and Professor Truman L. Kelley, of Stanford University, for Section Q. On Saturday, December 28, the sessions will be devoted to contributions by members of Section I. Apparatus and material for psychology is to be displayed in the general exhibition, and those who plan to bring exhibits to this meeting should

inform the secretary of Section I at once so that arrangements may be made for the needed space.

SOCIAL AND ECONOMIC SCIENCES.—Section K will hold sessions on Saturday, Monday and Tuesday. The vice-president for the meeting is H. L. Rietz (University of Iowa), and the secretary is C. F. Roos (Cornell University). A joint session with Section A and the American Mathematical Society will occur Tuesday morning, the program being devoted to mathematical papers on statistics, economics and sociology. With Section M (Engineering) a joint session will occur Saturday morning, the program being a series of invitation addresses dealing with economic and statistical aspects of engineering; at this session will be given an address by Dr. W. A. Shewhart, of the Bell Telephone Laboratories, on "Quality Control of the Manufactured Article." The Monday sessions will be devoted partly to contributions and partly to invitation papers, dealing with statistics, economics and sociology. About a dozen of America's leading economists, statisticians and sociologists, including H. L. Rietz, E. B. Wilson, Henry Schultz, H. Hotelling, C. C. Zimmerman, J. E. Brindley, E. B. Reuter, G. D. Stoddard, P. A. Sorokin, G. R. Davies, C. I. Bray and C. F. Roos have already indicated that they will contribute to this program.

Those who are interested in social and economic sciences should not fail to note that the Josiah Willard Gibbs lecture, which is regularly provided by the American Mathematical Society and presented at a general session of the American Association, is this year to be given by Irving Fisher, of Yale University, who will discuss applications of mathematics in the social sciences. This lecture will be given on Tuesday afternoon at 4:30.

The Metric Association will present a program dealing with standardization on an international basis as the main feature of the annual meeting this year. Educational authorities, representatives of local industries and other business men and women are to participate. It is hoped that European and South American countries will be represented. A morning session will be followed by a "Weight and Measure" luncheon and an afternoon session, and the meeting will close with the annual "Metric" dinner. Among the speakers will be Arthur Bessey Smith, of the Automatic Electric Company, and Dayton C. Miller, of the Case School of Applied Science. Metric standardization has made such enormous strides during the past year that this will probably be one of the best meetings held by the Metric Association. All who are interested in the metric system in any way are cordially urged to attend and to take part in the discussions. Inquiries regarding the Des Moines meet-

ing should be addressed to the Metric Association, 156 Fifth Avenue, New York City.

HISTORICAL AND PHILOLOGICAL SCIENCES.—Section L now operates in two parts, Part 1 for the History of Science, and Part 2 for the linguistic sciences. A short program for Part 2 is being arranged. The Linguistic Society of America will hold its regular annual meeting at Cleveland, from December 30 to January 1. Historical sciences will be well represented at Des Moines. At least three sessions on the history of science are being planned by Dr. Joseph Mayer, secretary of Part 1 of Section L. An interesting series of timely papers will be presented, including especially papers of peculiar interest in the Middle West. A number of outstanding scholars have already been secured to make an important and colorful program in this important field of science. Among the topics will be: "Science and Literature of History," "Medieval Scientific Thought," "Making the Archives of a State available for Scholars," "Preserving the Indian Lore of the Mississippi Valley," "The Evolution of Agricultural Thought in the United States." A joint session by Section E (Geology and Geography) and Part 1 of Section L is being planned. An address by Dean George F. Kay, of the University of Iowa, on the relation of glaciation to the development of human culture in the Iowa region will be interesting to those who attend the sessions on the history of science. Dean Kay's address is to be given at the general session Tuesday evening.

ENGINEERING.—A joint session of Section M (Engineering) and Section K (Social and Economic Sciences) is planned for Saturday morning, December 28. This session will be devoted to a symposium on the use of statistics in engineering. There are to be two sessions on Monday. At one of these will be given the retiring vice-presidential address of R. L. Sackett, on "The Parallel Development of Science and Engineering." Among others there will be papers on the significance of the mapping program of the federal government, terrestrial magnetism and some recent practical applications and other subjects. An engineering luncheon is planned for Monday. At another session on Monday will be presented a program arranged by the engineering organization of Iowa. Some of the topics for this program are: "Application of Engineering to the Farm," "Elimination of Waste on the Farm," "Comparison between the Agricultural Problems of the United States of America and Those of the Union of Socialistic Soviet Republics," "Highway Department" and "Progress in Ceramics."

MEDICAL SCIENCES.—Section N is to meet on Tuesday, December 31, for a morning and an afternoon session in affiliation with the American Veterinary

Society, under whose auspices the program for these sessions is being arranged. Having in mind the increasing importance of animal diseases as a menace to the human family, the program will include much of the newer work in medical and veterinary parasitology, serum therapy of experimental pneumococcus and streptococcus meningitis, undulant fever, and other fields of similar interest. The subjects for discussion will not only be of interest to the medical profession and scientists, but should particularly appeal to the general public. The section program on Wednesday, January 1, will present reports on some of the newer researches which are doing so much to clarify medical problems, particularly in the fields of bacteriology and serology. At this session will be presented the annual vice-presidential address, by Dr. A. J. Goldforb, of the College of the City of New York, who will speak on "Medical Science." A joint session is to be held with the Iowa State Medical Association.

A public meeting of the section is planned in the afternoon to discuss questions of policy and plans. All who are interested in Section N are invited to attend this business session and take part in the discussions.

AGRICULTURE.—Section O will hold morning and afternoon sessions on Saturday, with the American Society of Agronomy, the program being a symposium on "Corn Research," arranged by Professor John B. Wentz, of Iowa State College. The invitation papers will cover many phases of recent investigation on maize. (See also Botanical Sciences, above, for announcement of a symposium on botanical problems of the corn plant.) An agriculture dinner will occur Saturday evening, at which time Director C. A. Mooers, of the University of Tennessee, will deliver the address of the retiring vice-president of Section O.

The American Society for Horticultural Science will hold its twenty-sixth annual meeting on Monday, Tuesday and Wednesday, December 30 and 31 and January 1. The annual horticulturists' dinner will occur on Tuesday evening, at which the address of the retiring president will be given by V. R. Gardner, of Michigan State College and director of the Michigan Experiment Station. Over ninety papers have been received for presentation, representing an unusually wide interest in many different phases of horticulture. There will be a joint session with the American Society of Plant Physiologists, probably Wednesday forenoon, and the election of officers is scheduled for the afternoon of that date.

The Society of American Foresters will meet Monday and Tuesday, December 30 and 31. Arrangements for the meeting are in the hands of the program committee, of which Carlile P. Winslow, director of the Forest Products Laboratory, is chairman. Paul

Redington, chief of the U. S. Biological Survey and president of the society, will give the opening address. This will be followed by a discussion of a national forest policy. A committee appointed by the society a year ago to study this question will present its report. This committee, headed by Barrington Moore, editor of *Ecology*, and composed of prominent foresters from all sections of the United States, will present recommendations that will be of national interest. Various phases of the forest problem—social, economic and industrial—will be discussed. The morning of the second day will be devoted to the presentation and discussion of technical subjects in silviculture, biochemistry, ecology, soils, forest utilization and other branches. The afternoon will be given over to reports of standing committees, one of the most important of which is the committee on forest education, headed by Colonel H. S. Graves, dean of the Yale Forest School. Officers' reports, resolutions and society business will follow.

The annual meeting of the Association of Official Seed Analysts of North America will be held December 31 and January 1 and 2. The program will be occupied largely with round-table discussions based on the work of the standing committees. The report of the legislative committee will be supplemented by an invitation paper on "Seed Law Enforcement," by H. R. Kraybill, state chemist and seed commissioner of Indiana. As a leading feature of the meeting, there has been planned a demonstration of comparative germination tests in soil and in an artificial substratum to serve as a basis for discussion of a more uniform interpretation of germination tests. There also will be papers reporting the results of investigations of problems relating to seeds.

The Potato Association of America will hold its sixteenth annual meeting December 30 and 31 and January 1. A special feature of the meeting will be a résumé of work done in the United States and other countries in the development of potato varieties from seedlings. A special exhibit of potato seedlings that show considerable merit will be on display at the meeting. Several papers will be presented by prominent physicians and dietitians on the value of the potato as an article of diet, also papers dealing with recent developments in cultural experiments, disease control and storage investigations.

The Geneticists Interested in Agriculture will meet Monday afternoon with the Genetics Sections and Section O, in a symposium on "Genetic Experimentation with the Larger Domesticated Mammals." Papers will be read by J. L. Lush, of the Texas Agricultural and Mechanical College, and by E. N. Wentworth, of Armour's Livestock Bureau.

The Crop Protection Institute will hold its annual dinner at 6:30 on Monday, December 30, in Yunker's Tea Room.

EDUCATION.—Seven sessions of Section Q are planned for Thursday, Friday and Saturday. The vice-president for this meeting is Dr. F. N. Freeman, of the University of Chicago. A joint dinner of the section and the Society of Phi Delta Kappa is planned for Thursday evening. A brief program will follow the dinner. Joint sessions will be held with Section I (Psychology) Friday forenoon and Friday afternoon. At the afternoon session the retiring vice-presidents of Sections I and Q, Dr. H. C. Warren (of Princeton University) and Dr. Truman Kelley (of Stanford University), will present addresses. The topics for the other sessions are: "Research in Elementary Education," Thursday morning; "Research in Secondary and Collegiate Education," Thursday afternoon; "Investigations in the Teaching of Science," Saturday morning.

PROGRAMS RELATED TO SCIENCE IN GENERAL.—The Society of the Sigma Xi is to meet with the association at Des Moines, but information concerning the prospective program has not come to the permanent secretary. The eighth annual Sigma Xi lecture will be given at the general session on Saturday evening, December 28. This lecture is always arranged by the society and is given on the second evening of the meeting. This year it is to be given by Dr. George H. Parker, of Harvard University, on the subject "What are We About?" The lecture will deal with the present situation in science.

The Honor Society of Phi Kappa Phi will hold its eleventh biennial convention December 31. At the morning session will be given an address by a speaker whose name will be announced later. The Education dinner will occur on Tuesday evening.

The Gamma Alpha Fraternity will meet Monday afternoon, and a fraternity breakfast will occur Tuesday morning.

The American Nature-Study Society is to meet on Friday and Saturday, December 27 and 28. The program will include addresses and discussions on nature-study problems of various kinds, especially that of nature education, and the annual dinner of the society and affiliated organizations will occur Saturday evening.

Sigma Delta Epsilon, Graduate Women's Scientific Organization, will have two breakfast meetings, the first, on December 30, will be for all women visitors, while the second, on December 31, will be specially for members of the organization. This society has expanded greatly since its establishment in 1921 and now has eleven chapters. The national president is Dr. Stella M. Hague, of the University of Illinois.