SPECIAL ISSUE CONTAINING THE REPORTS OF THE KANSAS CITY MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE AND ASSOCIATED SOCIETIES. EDITED BY BURTON E. LIVINGSTON, PERMANENT SECRETARY.

SCIENCE

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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

The First Kansas City Meeting, December 28, 1925, to January 2, 1926

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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

THE PERMANENT SECRETARY'S REPORT ON THE KANSAS CITY MEETING

GENERAL FEATURES

THE eighty-second meeting of the American Association for the Advancement of Science began Monday evening, December 28, 1925, and came to an end on Saturday, January 2, 1926. For the first time in its history, the association and a number of the associated societies met in Kansas City, Missouri. This was the annual meeting for the association year 1925–26.

The Kansas City meeting was peculiarly a hotel convention, with almost all the sessions in hotel rooms. Owing to the exceptionally convenient location of a number of large hotels in Kansas City, and also to the excellent room assignments worked out by the local committee on arrangements, the meeting was less scattered than is often the case when university buildings are used for such meetings. Most of the sessions were held within a very few blocks of the headquarters hotel. Many who were present at the meeting were able to attend the sessions in which they were interested without leaving the building in which they had their lodgings; hats and overcoats were but infrequently needed.

Meteorologically the Kansas City meeting was unusually fortunate. Until Saturday, the closing day, the skies were generally fair. The meeting period began with stimulating low temperatures and each day was warmer than the preceding. Those who remained latest experienced warm, cloudy and rainy weather on Saturday.

As has been said, this was the first time the association has met in Kansas City. The city is centrally located, being called by its citizens the "Heart of America." Many who had been unable to attend the meetings of recent years were able to be present this year. The citizens of Kansas City were very hospitable and showed great interest in the sessions. The local newspapers were exceptionally helpful and gave much fine publicity to the meeting, both before it opened and during its period. It is certain that the association benefited greatly by visiting Kansas City and it is equally sure that many people of the city and the surrounding region will be helped and stimulated and inspired for a long time to come.

This meeting occurred under the presidency of Michael I. Pupin, of Columbia University, who presided at a number of the sessions. The retiring president at Kansas City was Dr. J. McKeen Cattell, editor of SCIENCE and the *Scientific Monthly*. Dr. Cattell delivered the retiring president's address on Monday evening.

Besides the fifteen association sections holding sessions at Kansas City there were also present twenty-nine scientific societies and other organizations that are independent of the association itself but closely related to it in their fields of work. Following is a list of these organizations, arranged according to the association sections to which they are respectively related, together with the names of their several secretaries.

Related to Section A (Mathematics):

American Mathematical Society; R. G. D. Richardson, Brown University, Providence, R. I.

Mathematical Association of America; W. D. Cairns, Oberlin College, Oberlin, Ohio.

Related to Section B (Physics):

American Physical Society; Harold W. Webb, Columbia University, New York City.

American Meteorological Society; Charles F. Brooks, Clark University, Worcester, Mass.

Related to Section F (Zoological Sciences):

Entomological Society of America; C. L. Metcalf, University of Illinois, Urbana, Ill.

American Association of Economic Entomologists; C. W. Collins, Melrose Highlands, Mass.

American Society of Parasitologists; W. W. Cort, 310 W. Monument St., Baltimore, Md.

Wilson Ornithological Club; Gordon Wilson, 1434 Chestnut St., Bowling Green, Ky.

Related to Section G (Botanical Sciences):

Botanical Society of America; I. F. Lewis, University of Virginia, University, Va.

American Phytopathological Society; R. J. Haskell, Bureau of Plant Industry, Washington, D. C.

American Society of Plant Physiologists; Wright A. Gardner, Alabama Polytechnic Institute, Auburn, Ala.

Related to Sections F and G:

Ecological Society of America; A. O. Weese, University of Oklahoma, Norman, Okla.

American Microscopical Society; H. J. Van Cleave, University of Illinois, Urbana, Ill.

American Nature-Study Society; E. Laurence Palmer, Renwick Heights, Ithaca, N. Y.

Phi Sigma Biological Research Society; C. I. Reed, Baylor University Medical School, Waco, Texas.

Joint Genetics Sections of American Society of Zoologists and Botanical Society of America; D. F. Jones, Connecticut Agricultural Experiment Station, New Haven, Conn.

Union of American Biological Societies; B. M. Duggar, Missouri Botanical Garden, St. Louis, Mo.

Related to Section K (Social and Economic Sciences):

Metric Association; Howard Richards, Jr., 156 Fifth Ave., New York, N. Y.

Related to Section O (Agriculture):

American Society of Agronomy; P. E. Brown, Iowa State College, Ames, Iowa.

American Society for Horticultural Science; C. P. Close, College Park, Md.

Association of Official Seed Analysts; A. L. Stone, University of Wisconsin, Madison, Wis.

Potato Association of America; William Stuart, U. S. Department of Agriculture, Washington, D. C.

Geneticists Interested in Agriculture; E. D. Ball, Sanford, Fla.

Related to Section Q (Education):

Phi Delta Kappa Fraternity; Clayton R. Wise, 10403 St. Clair Ave., Cleveland, Ohio.

Related to all Sections:

Society of Sigma Xi; Edward Ellery, Union College, Schenectady, N. Y.

Gamma Alpha Graduate Scientific Fraternity; J. E. Ackert, Kansas State Agricultural College, Manhattan, Kans.

Pi Mu Epsilon Mathematical Fraternity; E. D. Roe, Jr., 123 Ostrander Ave., Syracuse, N. Y.

Honor Society of Phi Kappa Phi; C. H. Gordon, University of Tennessee, Knoxville, Tenn.

Sigma Delta Epsilon Graduate Women's Scientific Fraternity; Edna Feltges, Orlando, Fla.

The eighty-second meeting lacked nothing to render it successful. While the number who attended was not as large as at some of the recent meetings, it was nevertheless as large as might be expected for a meeting so far west of the center of American scientific work. The total registration was 1,931. The residence distribution of those who registered is shown below.

REGISTRATION AT KANSAS CITY, BY STATES AND PROVINCES

Alabama	4
Arizona	6
Arkansas	21
British Columbia	1
California	42
Colorado	43
Connecticut	7
Delaware	4
District of Columbia	43
Florida	13
Georgia	10
Idaho	2
Illinois	136
Indiana	34
Iowa	134
Kansas	335
Kentucky	3
Louisiana	11
Maine	4

Manitoba	5
Maryland	17
Massachusetts	21
Michigan	37
Minnesota	52
Mississippi	7
Kansas City, Mo.	231
Missouri	202
Montana	5
Nebraska	65
Nevada	1
New Brunswick	1
New Hampshire	1
New Jersey	8
New York	80
North Carolina	4
North Dakota	9
Ohio	52
Oklahoma	55
Ontario	11
Oregon	7
Pennsylvania	34
Quebec	3
Rhode Island	2
Saskatchewan	2
South Dakota	11
Tennessee	8
Texas	45
Utah	5
Vermont	2
Virginia	8
Washington	7
West Virginia	7
Wisconsin	55
Wyoming	8
Miscellaneous, outside of United States and Canada	10
Total	1,931

In this connection it is interesting to compare the registration records for the last six meetings, as shown below. Note that the record for the Kansas City meeting is considerably larger than that for the second Toronto meeting.

Third Chicago Meeting (Dec., 1920), 2,413.
Second Toronto Meeting (Dec., 1921), 1,832.
Fourth Boston Meeting (Dec., 1922), 2,339.
Third Cincinnati Meeting (Dec., 1923), 2,211.
Fifth Washington Meeting (Dec., 1924), 4,206.
Kansas City Meeting (Dec., 1925), 1,931.

As in the case of other meetings, it is certain that many were in attendance at Kansas City who neglected to register, especially local people. There is no doubt that the total actual attendance markedly exceeded 2,000.

Altogether there were 117 sessions at Kansas City for the reading of papers and addresses. These were distributed throughout the week as follows:

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
14	35	34	25	7	2

There were 985 papers and addresses given at the Kansas City meeting.

Sessions were held in the following buildings: Aladdin Hotel, Muehlebach Hotel, Baltimore Hotel, Chamber of Commerce, Coates House, Kansas City Athletic Club, University Club, Kansas City School of Law, Lathrop Trade School, Junior College, Manual Training High School and Westport Junior High School.

The general headquarters were at the Muehlebach Hotel, which generously placed a number of complimentary rooms at the disposal of the association. The registration and publicity offices and the science exhibition, respectively in charge of Mr. Sam Woodley (executive assistant), Mr. Lyle Stephenson (chairman of the publicity committee for this meeting) and Major H. S. Kimberly (director of the Kansas City exhibition), were all in the Aladdin Hotel. A number of other hotels were headquarters for societies and supplied session rooms. To the managements of all these hotels the association expresses its cordial thanks. Most of the lanterns used at the Kansas City session were loaned by the Bausch and Lomb Optical Company, of Rochester, N. Y., who thus supplied twenty-eight lanterns and thirteen daylight screens, as well as a number of microscopes. For these great helps the association is very grateful to the Bausch and Lomb Optical Company.

Preparations for the Kansas City meeting were in charge of the local committee and its subcommittees, aided by the local representatives of the sections. The personnel of each of these groups is shown below.

The Local Committee

A. Ross Hill, *general chairman.*
H. J. Waters, *vice-chairman* (deceased October 27, 1925).
Lyle Stephenson, *vice-chairman.*
W. M. Symon, *secretary.*
J. F. Porter.
Geo. Melcher.
Albert Saeger.
J. M. Knappenberger, *assistant secretary.*

The Subcommittees

Finance: J. F. Porter, president of the Kansas City Power and Light Co.

Publicity: Lyle Stephenson, R. A. Long Building, 10th and Grand Ave.

Hotels and Housing: W. M. Symon, manager, Convention Bureau, Chamber of Commerce.

Transportation and Signs: Geo. Melcher, 226 Library Building.

Exhibits: Albert Saeger, Junior College.

Dinners and Banquets: W. M. Symon, manager, Convention Bureau, Chamber of Commerce.

Local Representatives for Sections of the Association

Section A (Mathematics), U. G. Mitchell, 1313 Massachusetts Ave., Lawrence, Kans.; *Section B (Physics)*, Ben F. Eyre, 306 Land Bank Building, Kansas City; *Section C (Chemistry)*, Herman Schlundt, University of Missouri, Columbia, Mo.; *Section D (Astronomy)*, D. E. Haynes, University of Missouri, Columbia, Mo.; *Section E (Geology and Geography)*, H. A. Buchler, Rolla, Mo.; Vernon F. Marsters, 123 Railway Exchange Building, Kansas City; *Section F (Zoological Sciences)*, H. H. Lane, University of Kansas, Lawrence, Kans.; *Section G (Botanical Sciences)*, Albert Saeger, Junior College, Kansas City; *Section H (Anthropology)*, C. A. Ellwood, University of Missouri, Columbia, Mo.; *Section I (Psychology)*, W. A. Andrews, Kansas State Agricultural College, Manhattan, Kans.; *Section K (Social and Economic Sciences)*, N. S. McKelvy, 1022 West 54th St., Kansas City, Mo.; *Section L (Historical and Philological Sciences)*, Purd Wright, Public Library, Kansas City; *Section M (Engineering)*, J. F. Porter, Kansas City Power and Light Co., Kansas City; *Section N (Medical Sciences)*, W. W. Duke, 1814 Federal Reserve Bank Building, Kansas City; *Section O (Agriculture)*, W. A. Cochel, Central Shorthorn Breeders' Association, Hotel Baltimore, Kansas City; *Section Q (Education)*, George Melcher, 226 Library Building, Kansas City; *Representative at large*, W. M. Symon, Convention Bureau, Chamber of Commerce, Kansas City, Mo.

Dr. H. J. Waters was much interested in the preparations for the meeting. He took active part in bringing the association to Kansas City and in the early work of the local committee. A very great loss was felt on account of his death, which occurred on October 27, 1925.

To Dr. A. Ross Hill the association is greatly indebted and very thankful for his broad and efficient service as general chairman of the local committee.

Mr. Lyle Stephenson took very active part in the preparations for this meeting and it is a pleasure to record the association's great indebtedness to him and to express its appreciative thanks.

Mr. W. M. Symon, manager of the Convention Bureau of the Kansas City Chamber of Commerce, was secretary of the local committee and performed the duties of that very important office with exceptional efficiency. He was ably assisted by Mr. J. M. Knappenberger during the last two months preceding the opening of the meeting. To both these gentlemen the cordial thanks of the association are here expressed.

The permanent secretary wishes to record the great appreciation felt by all who attended the Kansas City meeting, and especially by the officers of the association and the societies that met with it on this occasion, for the continued effort and attention given to the great work of preliminary arrangements by the members of the local committee and its subcommittees and by the local representatives of the sections. To one and all are given hearty thanks.

Those who went to Kansas City for this meeting enjoyed the privilege of reduced railway rates on the certificate plan, making the round trip at a cost of one and one half times the regular one-way fare in each case. No charge was made by the railway companies for the validation of transportation certificates. The science workers of America are very grateful to the railway associations that united in making this reduction possible. Several thousand dollars in the aggregate was thus saved for science work. Arrangements for reduced railway rates for the annual meetings are made between the permanent secretary's office and the railway associations, and the rates apply to all who register at the meetings.

OFFICIAL REPRESENTATION AT THE KANSAS CITY MEETING

Cards of invitation were sent out, as usual, asking research institutions and laboratories and scientific organizations to name representatives for the meeting. The following are the names of those that did so:

British Association for the Advancement of Science; Royal Society of Canada; U. S. National Research Council; Carnegie Institution of Washington; Scripps Institution for Biological Research; U. S. Army, Chemical Warfare Service; U. S. Navy, Bureau of Navigation; U. S. Geological Survey; U. S. Public Health Service; U. S. Weather Bureau; University of Arkansas; University of California; Leland Stanford University; Colorado College; University of Denver; DePauw University; Iowa State College; Drake University; University of Iowa; University of Kentucky; Louisiana State University; Johns Hopkins University; Brooklyn Botanic Garden; Bakelite Corporation; New Jersey Agricultural Experiment Station; Rutgers University; University of Buffalo; New York University; Muskingum College; Lehigh University; Drexel Institute; Leeds and Northrup Company; Mellon Institute for Industrial Research; University of Pittsburgh; Brown University; Southern Methodist University; College of Industrial Arts (Denton, Tex.); State College of Washington; University of Washington; West Virginia University; Lawrence College; McGill University; University of Toronto.

THE PRELIMINARY ANNOUNCEMENT AND THE GENERAL PROGRAM

The preliminary announcement of the annual meeting was this year, for the first time, published in the official journal, SCIENCE, occupying seventeen pages of the issue for November 27, 1925. A copy of that issue of SCIENCE was sent to every subscriber to the *Scientific Monthly*, as well as to every name on the subscription list of SCIENCE itself. In this way all

members of the association were reached, as well as many others, in a very convenient manner and at a greatly decreased cost to the association for printing and mailing. The announcement contained, as in recent years, a large amount of information on the arrangements for the meeting, as much as was available at the time of its publication.

After the completion of the manuscripts for the preliminary announcement attention was immediately turned to the preparation of the general program. Most of the material for this was ready by December 15 and the actual work of printing was accomplished after that date. Considerable amounts of additional material and many alterations had to be inserted while the book was in press. The program editor was Dr. Sam F. Trelease, who has very efficiently served the association in this capacity for several years. He was ably assisted by Mrs. Trelease. Dr. and Mrs. Trelease went early to Kansas City and devoted the last ten days before the meeting to the very onerous task of seeing the book through the press. To their tireless efforts are mainly due the general excellency of the publication. To the program editor and Mrs. Trelease the permanent secretary wishes here to express the thankful appreciation of the association and of the societies that met with it this year.

It is fitting to call attention in this place to the great service rendered to the association and to American science and learning by Columbia University, which made it possible for the program editor to devote such a large portion of his time to this very important work during the weeks just preceding the meeting. Columbia University, particularly the Botanical Department, may well take pride in its generous attitude in this connection.

The section and society secretaries were in general unusually prompt this year in sending their program manuscripts to the permanent secretary's office. Of the numerous special programs included in the general program all were received in time to be included in the main book; only a few changes required attention in the program supplement. The efficient cooperation and helpful attitude of the section and society secretaries is greatly appreciated by the permanent secretary and the program editor.

The general program of the Kansas City meeting is a book about 14.8 x 21.5 cm. in page size, containing 182 pages. The cover is white, with lettering in red, the Kansas City color. The book is this year trimmed a little smaller than heretofore, to allow it to be more readily slipped into a coat pocket. For convenience in make-up and printing it is paged in two sections; the first thirty-two pages are numbered in Roman numerals and the special programs begin on page 1. At the back and on tinted paper are the section on "Events of General Interest" and that giving the complete "Summary of Events" by days. The unusually difficult work of printing the book was performed by the Punton Brothers Publishing Company, of Kansas City, who gave very exceptional service. To that company's efficient organization and to the personal attention and hearty cooperation freely given by the members of its staff are due the fact that such an excellent book could be manufactured in such a very limited time. The supply of programs was available Saturday evening, with ample time to spare, for registration did not begin till Monday morning.

A single supplement to the general program was published this year, which was available Tuesday noon. It contains eight pages, presenting a "Summary of the Science Exhibition" and a few corrections and additions for the general program.

Copies of the Kansas City general program and the supplement may be secured on request from the permanent secretary's office, in the Smithsonian Institution Building, Washington, D. C.

FINANCIAL ARRANGEMENTS FOR THE KANSAS CITY MEETING

The total extra cost of the meeting, aside from the secretarial and travel expenses of the section secretaries, was about $4,500. This was made up of the following items, stated approximately:

Preliminary announcement	$ 425.00
General program and supplement, editing	350.00
do., printing	1,600.00
Travel, preliminary trips to Kansas City	120.00
Assistance, for registration, etc.	600.00
Lantern operators, etc.	230.00
Badges	100.00
Messenger service (for Union of American Biological Societies)	70.00
Reception	350.00
Miscellaneous items	655.00
	$4,500.00

This extra expense was met in part by local donations, amounting to about $1,355, in part by a contribution of $1,500 from the Convention Bureau of the Kansas City Chamber of Commerce, and in part by validation fees paid by those in attendance who had railway certificates to be validated. These fees aggregated $570.50. One copy of the general program was given gratis to each registrant and additional copies were on sale at 50 cents each; from sale of extra programs the income was $16.50. The total income was $3,142, leaving a balance of about $1,058 to be paid from the current funds of the permanent secretary's office, derived almost wholly from the annual dues paid by members of the association.

It is hoped that future meetings may be cared for in some way so as not to require financial support from the current funds. The annual meetings should produce no deficit.

THE SCIENCE EXHIBITION

The science exhibition, which has recently become an important part of the annual meeting, was this year much better arranged and handled than ever before. It occupied the two upper floors of the Aladdin Hotel, very recently completed. The management of the exhibition was in the hands of Major H. S. Kimberly, of Washington, D. C., and of Professor Albert Saeger, of the Kansas City Junior College, chairman of the local subcommittee on exhibits. To both of these are here expressed the appreciation and thanks of the association. The cooperation of the management of the Aladdin Hotel, who helped much toward making the exhibition a success, is also greatly appreciated.

The expenses of the exhibition were met by the commercial firms that exhibited their products and by several individuals who made donations for that purpose. Major Kimberly gave most of his time to this work during the last six weeks preceding the meeting. A charge was made for space used by commercial firms, but space was provided free for the exhibits of individual scientists and research institutions and laboratories.

A summary of the exhibition appeared in the supplement to the general program, which was available Tuesday afternoon. The following is an outline of the exhibits:

The Bausch and Lomb Optical Co., Rochester, N. Y.: Microscopes and microscope accessories, projection apparatus, etc. Most of the lanterns and the daylight screens used in the session rooms were kindly loaned by this company.

The General Biological Supply House, Inc., Chicago, Ill.: Microscope and lantern slides, models, preserved materials and laboratory guides.

The Carrier Engineering Corporation, Newark, N. J.: Processing cabinet and thread-testing machine.

The Coleman and Bell Co., manufacturing chemists, Norwood, Ohio: Chemicals, indicators, solutions, test papers, etc.

The Leeds and Northrup Co., Philadelphia, Pa.: Galvanometers, rheostats, portable photometer, potentiometer, apparatus for measuring radio frequency.

E. Leitz, Inc., New York City: Microscopes and microscope accessories, photomicrographic camera, colorimeter, living bacteria magnified 1,500 times.

The Mallinckrodt Chemical Works, St. Louis, Mo.: Reagents and chemicals for special purposes.

The Southern Biological Supply Co., Inc., New Orleans, La.: A collection of specially preserved biological specimens.

The Spencer Lens Co., Buffalo, N. Y.: Microscopes, projectors, colorimeters, refractometers.

The World Book Co., Yonkers, N. Y.: A series of scientific text books.

The association greatly appreciates the friendly and helpful cooperation of the above-named firms, whose partaking in the exhibition made it possible. The general attractiveness and value of the exhibition was in great measure due to a number of elaborate exhibits from several bureaus of the U. S. Government. *The Chemical Warfare Service*, of the U. S. Army, illustrated, among other things, its recent studies on combatting the cotton boll weevil by means of poisons, also its new and successful methods for preserving wood against teredo damage. The *U. S. Bureau of Standards* showed replicas of the U. S. standards of length and mass, several electrical standards and standards of other sorts, also some corrosion tests on various metals, some radio apparatus, etc. *The U. S. Bureau of Fisheries* illustrated researches and methods on oyster and fish propagation. Fish eggs were seen in various stages of incubation and also the fry. The use of copper oleate for net preservation was shown, also samples of shark leather. The tanning, plucking and dyeing of Pribilof Island sealskins was illustrated, and some very valuable blue-fox skins were shown. *The Fixed Nitrogen Research Laboratory*, of the U. S. Department of Agriculture, showed a working model of its new synthetic ammonia apparatus. *The U. S. Navy* showed features of the Navy educational system, of special interest to educators. *The Smithsonian Institution* exhibited Mrs. Charles D. Walcott's new publication of remarkable color-plates of American wild flowers. For these exhibits the association is deeply grateful.

About twenty-five exhibits were shown by individual research workers, organizations or laboratories. These were a very important part of the exhibition and were greatly appreciated by all, but limitations of space prevent their being enumerated here. The program supplement contains the list, copies of which may be secured from the permanent secretary's Washington office. Motion pictures depicting a number of interesting and instructive applications of science were shown from time to time during the exhibition. Tea was served afternoons.

A new feature of the Kansas City meeting was the exhibition smoker, which occurred on New Year's Eve, with refreshments and entertainment furnished by the exhibitors. The smoker was largely attended and was a great success. Beginning Tuesday noon, a count was kept of the number of visitors who entered the exhibition, the total number counted being 3,476. It is estimated that at least 500 should be added to this number, to care for visitors who called

before the count was inaugurated. Thus, there were about twice as many visits to the exhibition as there were registrations for the meeting.

It is planned that the science exhibition will be still further improved and enlarged for future years. Individual research workers are specially urged to plan throughout the year for the exhibition of their apparatus, etc., so that they may be ready to take part in this very important feature of the annual convention. The Philadelphia exhibition next year should be larger and more attractive and valuable than anything of the kind hitherto attempted by the association, which requests specially the helpful cooperation of scientific workers in all fields.

THE THIRD AMERICAN ASSOCIATION PRIZE

For the third time, the annual prize of the American Association for the Advancement of Science was awarded at the Kansas City meeting. It will be remembered that these thousand-dollar prizes are awarded from a fund given to the association by one of its members, who wishes his name withheld, and that funds are available for three more prizes, after the one just awarded. According to the terms of the gift and rules adopted by the association council, the prize is to be awarded to some person presenting at the annual meeting a notable contribution to the advancement of science. All papers presented on the programs of the Kansas City meeting were eligible for consideration, whether or not their authors were members of the association. The secretary of each section and society that met at Kansas City was asked to consult others and submit titles of papers presented in the sessions of his organization, for consideration in the making of the award. These nominations were thoroughly investigated and considered by the Committee on the Award of the Kansas City Prize, and the name of the winner was announced Saturday at the close of the meeting.

The Committee on Award was composed of the following members:

W. C. Mendenhall, *chairman;* U. S. Geological Survey.

H. P. Cady, chemistry department, University of Kansas.

K. T. Compton, physics department, Princeton University.

Henry C. Cowles, botany department, University of Chicago.

Carl E. Seashore, psychology department, University of Iowa.

To the chairman and other members of this committee are here expressed the cordial and appreciative thanks of the association. The importance of the American Association Prize is very great to American science and to the association and the task of deciding on the award is difficult and delicate.

The Kansas City Prize was awarded to Dr. Dayton C. Miller, professor of physics in the Case School of Applied Science, Cleveland, Ohio. The paper for which the prize was awarded was Professor Miller's address as president of the American Physical Society, given at a general session held jointly by the association and the society at 4 o'clock on Tuesday afternoon, December 29, in the Junior College Auditorium. The subject of Professor Miller's address was "The Michelson-Morley Ether-Drift Experiment: its History and Significance." Dr. Miller's prize-winning address will appear in a later issue of SCIENCE. The following very brief statements are based on an abstract supplied by him to the permanent secretary.

By means of the ether-drift interferometer, an instrument generally admitted to be suitable for determining the relative motion of the earth and the ether, 12,500 single measures of the ether drift were obtained at Mount Wilson in March, April, July, August and September, 1925. These experiments lead to the conclusion that there is a definite displacement of the interference fringes of the interferometer, corresponding to a relative motion of the earth and the ether at Mt. Wilson of approximately ten kilometers per second. In order to account for these observations as the result of an ether drift two assumptions may be made: (1) that there is a constant motion of the solar system with a velocity of two hundred kilometers per second or more, toward a point in the constellation Draco, near the pole of the ecliptic and having a right ascension of 255° and a declination of +65°; and (2) that, in effect, the earth drags the ether so that the apparent relative motion at the point of observation is one twentieth of the absolute motion, this drag also displacing the apparent azimuth of the motion about 40° to the westward. The first assumption is in general agreement with indications obtained by other methods and seems to offer no difficulty. The second assumption involves a considerable readjustment of the theories of the ether, inasmuch as it requires a modification of the accepted explanation of aberration. Another possibility is that the reduction of the indicated velocity of two hundred or more kilometers per second to the observed value of ten kilometers per second may be explained on the theory of the Lorentz-Fitz Gerald contraction without assuming a drag of the ether.

It is of interest to record here the earlier winners of the American Association Prize. The first award, made at the third Cincinnati meeting (1923–24), was to Professor L. E. Dickson, professor of mathematics

in the University of Chicago, for noteworthy contributions to the theory of numbers. The second was awarded at the fifth Washington meeting, 1924–25, being divided equally between two winners—Dr. Edwin P. Hubble, of the Mt. Wilson Observatory, and Dr. L. R. Cleveland, fellow of the National Research Council working at the Johns Hopkins School of Hygiene and Public Health. Dr. Hubble's paper was on "Cepheids in Spiral Nebulae." Dr. Cleveland presented two papers, on "The Ability of Termites to live perhaps Indefinitely on a Diet of Pure Cellulose," and on "The Effects of Starvation and Oxygenation on the Symbiosis between Termites and their Intestinal Protozoa, together with the Toxicity of Oxygen for Free-Living Parasitic Protozoa."

LUNCHEONS, DINNERS, ETC.

The numerous luncheons, dinners, etc., of the Kansas City meeting were well attended and were successful in every way. A list of these follows:

Monday noon, December 28:
- Luncheon of the American Society of Plant Physiologists.
- Luncheon of the Metric Association.

Monday evening, December 28:
- Dinner of the Pi Mu Epsilon Mathematical Fraternity.
- Dinner of the Metric Association.

Tuesday evening, December 29:
- Dinner of the American Physical Society.
- Dinner of the Wilson Ornithological Club.
- Dinner for all botanists.
- Dinner of the Gamma Alpha Graduate Scientific Fraternity.
- Dinner of the Society of Sigma Xi.

Wednesday morning, December 30:
- Breakfast of the Sigma Delta Epsilon Graduate Women's Scientific Fraternity.

Wednesday evening, December 30:
- Joint dinner for mathematicians and their guests.
- Dinner for all zoologists.
- Dinner of the American Phytopathological Society.
- Dinner for Engineers and Chemists.
- Dinner of the American Society for Horticultural Science.
- Dinner of the Association of Official Seed Analysts.
- Dinner for Section Q (Education).
- Smoker for all entomologists.

Thursday evening, December 31:
- Dinner for the Crop Protection Institute.
- Dinner for all plant physiologists.
- Dinner of the Ecological Society of America.
- Dinner of the Honor Society of Phi Kappa Phi.
- Exhibition Smoker.

Friday evening, January 1:
- Dinner for all entomologists.

PUBLICITY AT KANSAS CITY

The Kansas City meeting received much attention at the hands of the daily press, and those who attended the meeting cooperated fully with the newspaper representatives. The publicity aspect of the meeting was a remarkable success. Not only the local papers of Kansas City, but many distant papers as well, took part in disseminating the results presented at the various sessions and in imparting to the public of the whole country as much as possible of the knowledge, faith and enthusiasm that move men of science at such a convention.

The publicity office, in the Aladdin Hotel, was in charge of Mr. Lyle Stephenson, who was tireless and very generous in his continued efforts to aid the press and in other ways to make the meeting the success that it was. Those who attended the meeting as well as those who read of it in distant newspapers are all grateful to Mr. Stephenson.

As in recent years, Science Service, of Washington, in which the American Association has official representation, cooperated with the publicity service in the important work of securing a wide newspaper publicity for the meeting.

The most important feature of the regular preparations for publicity at the annual meeting is the prompt securing of manuscripts and abstracts of the papers to be presented. As soon as the program manuscripts are received at the Washington office of the association letters are sent to all who are to deliver papers or addresses, asking that manuscripts be sent in for use by the publicity office and by Science Service. From the material received in response to these requests are prepared sheets that are released to the press on the proper days of the meeting.

GENERAL AND COMPLIMENTARY PROGRAMS AT KANSAS CITY

There were this year fourteen general programs arranged by the association as a whole, or jointly with some other organization. Seven of these were planned specially for science workers, with the general aim of rendering science in general more readily appreciable by the individual scientist, who is necessarily so largely engrossed in his own special field that it is somewhat difficult for him to envisage the work that is going on around him in other fields, even in a superficial way. These general sessions of the association are planned to present at each meeting certain aspects of some special fields of research in such a manner as to be easily comprehensible by all scientifically trained persons. Of course it is not possible to have every branch of scientific thought thus presented to the whole group in any single meeting, and it is surely not expected that all who attend the meeting may be present at all the general sessions. Conflicts between general sessions and the programs of the sections and societies must neces-

sarily occur. It appears, however, that the idea of having at the annual meeting a rather large number of general sessions of this scientific but not specially technical type is a good one; it seems to have met with approval at the meeting just closed and preparations are afoot for following the same general plan next year at Philadelphia. It should be remarked that the general sessions, while planned primarily for professional scientists, are in many cases also very suitable for educated and thoughtful people who are not specialists in science work.

The remaining seven general programs at the Kansas City meeting were planned specially for people not specially trained in any particular branch of science; they were complimentary to the citizens of Kansas City. An attempt was made to secure speakers who would present pieces of real science or aspects of scientific thought in terms as simple and non-technical as might be. In many cases these complimentary programs were attractive to professional workers in science, but they were not planned primarily as such. They were generally well attended and apparently successful. It is planned that this more popular aspect of the annual meeting will be maintained and still further improved.

Space limitations allow here but a bare outline of the general sessions and complimentary programs of the meeting now reported. Below is given such an outline.

General Sessions

(1) The opening session, Monday evening, December 28, was briefly addressed by Dr. A. Ross Hill, chairman of the local committee on arrangements, by Mayor Albert I. Beach, of Kansas City, and by President M. I. Pupin. The main address of the evening was that of the retiring president of the association, Dr. J. McKeen Cattell, whose subject was "Some Psychological Experiments." This address has appeared in SCIENCE for January 1 and 8, 1926.

(2) At a session held jointly between the American Physical Society and the American Association, on Tuesday afternoon, Dr. Dayton C. Miller, professor of physics in the Case School of Applied Science, delivered his address as president of the American Physical Society on "The Michelson-Morley Ether-Drift Experiment, its History and Significance." This was the prize-winning paper of the Kansas City meeting. It is noted earlier in this issue of SCIENCE and will be published in full in a later issue.

(3) The fourth annual Sigma Xi lecture was this year given Tuesday evening at a session held jointly by the American Association and the Society of Sigma Xi. The speaker was President F. D. Farrell, of the Kansas State Agricultural College. Under the title, "The Desert becomes a Garden," President Farrell dwelt interestingly and optimistically on the wholly unforeseen but stupendous agricultural development of the region between the Missouri River and the mountains, once accounted little better than a desert.

(4) The general session on Wednesday afternoon was held jointly by the American Mathematical Society and the American Association. On this occasion was delivered the Third Annual Josiah Willard Gibbs Lecture of the society, by Professor James Pierpont, of Yale University, whose subject was "The History of Man's Effort to solve the Problem of Space and the Effect of Relativity on our Views."

(5) The general session of Wednesday evening was devoted to the relations of engineering to the fundamental sciences. Three papers were presented by: Dr. M. I. Pupin, of Columbia University, president of the association; Dr. Frank B. Jewett, of the American Telephone and Telegraph Company and the Bell Telephone Laboratories; and Dr. W. F. Durand, of Leland Stanford University. It was emphasized that engineering progress depends in many ways on research in the fundamental sciences.

(6) Under the auspices of the committee of one hundred on scientific research was organized the program of the Thursday afternoon general session. Three invited papers were presented, followed by a report of the secretary of the committee, Dr. Rodney H. True, of the University of Pennsylvania. The invited papers were as follows: "The Intellectual Worker and His Work," by Dr. William MacDonald, of New York City; (2) "The Problems of the Scientific Worker," by Dean Byron Cummings, of the University of Arizona; (3) "Cooperation among College and University Workers," by Dr. Frank E. E. Germann, of the University of Colorado.

(7) The general session on Friday afternoon was the occasion for an address on "The Smithsonian Institution, its Function and its Future," by Mr. Austin H. Clark, of the U. S. National Museum. It should be noted that a resolution in support of the work and plans of the Smithsonian was adopted by the council at Kansas City. It is presented, with other Kansas City resolutions, elsewhere in this issue of SCIENCE.

Programs Complimentary to the Citizens of Kansas City

(1) On Tuesday afternoon at 4 o'clock was given an illustrated lecture on "An Earthquake Year in the United States," by Commander N. H. Heck, of the U. S. Coast and Geodetic Survey.

(2) Also on Tuesday afternoon, at the same time but in another high-school building, Dr. F. R. Moulton, of the University of Chicago, exhibited a series of visual-education motion pictures.

(3) On Tuesday evening Dr. Robert A. Millikan, director of the Norman Bridge Physical Laboratory, Pasadena, California, gave an illustrated, non-technical lecture on "The Stripped Atom."

(4) Especially for school teachers and those interested in the deeper problems of education, the complimentary program of Wednesday afternoon was planned under the auspices of the committee on the place of the sciences in education. The speakers and their topics were as follows: (1) "The Plans and Work of the Special Committee on the Place of the Sciences in Education," by Dr. Otis W. Caldwell, of the Lincoln School, Columbia University, chairman of the special committee; (2) "The Obligation to distribute Knowledge," by Dr. Burton E. Livingston, of the Johns Hopkins University; (3) "Action and Reaction in Science Education," by Dr. Edwin E. Slosson, of Science Service (Dr. Slosson was unable to come to Kansas City and his paper was read by Dr. Vernon L. Kellogg, of the National Research Council); (4) "Science and Service," by Dr. M. I. Pupin, of Columbia University, president of the association.

(5) On Thursday afternoon Mr. H. Clyde Snook, of the Bell Telephone Laboratories, gave an illustrated lecture with demonstrations, on "Electrically amplified Heart Sounds."

(6) Dr. F. R. Moulton, of the University of Chicago, gave an illustrated, non-technical lecture Thursday evening, on "The Origin and Evolution of Worlds."

(7) A motion-picture lecture on "The Beaver—a Study in Animal Intelligence," was given Friday afternoon by Dr. Elliot R. Downing, of the University of Chicago.

To the lecturers on the general and complimentary programs the association and all who attended are heartily grateful.

THE SECRETARIES' DINNER AND CONFERENCE

The annual dinner and conference of the secretaries and members of the executive committee of the American Association was this year held Sunday evening, December 27, in the tea room of the Muehlebach Hotel. To this complimentary dinner were invited, besides the members of the executive committee and the association secretaries, the secretaries of all the societies that met with the association at Kansas City. Altogether twenty-nine were present at the dinner and conference, which was very satisfactory and profitable. These conferences help those who attend to appreciate the various problems of the several sections and to profit by one another's experience. It is planned that they will be a regular part of each annual meeting.

THE OPENING RECEPTION

On Monday evening, following the opening session in the Junior College Auditorium, was held the annual American Association reception. This was in the Pompeiian room of the Hotel Baltimore. It was unusually well attended. Refreshments were served.

GENERAL OFFICERS FOR THE KANSAS CITY MEETING

PRESIDENT

M. I. Pupin, Columbia University, New York, N. Y.

RETIRING PRESIDENT

J. McKeen Cattell, Garrison-on-Hudson, N. Y.

VICE-PRESIDENTS,[1] RETIRING VICE-PRESIDENTS AND SECRETARIES OF THE SECTIONS

Section A (Mathematics):
- *Vice-President,* W. H. Roever, Washington University, St. Louis, Mo.
- *Retiring Vice-President,* J. C. Fields, University of Toronto, Toronto, Canada.
- *Secretary,* R. C. Archibald, Brown University, Providence, R. I.

Section B (Physics):
- *Vice-President,* H. M. Randall, University of Michigan, Ann Arbor, Mich.
- *Retiring Vice-President,* K. T. Compton, Princeton University, Princeton, N. J.
- *Secretary,* A. L. Hughes, Washington University, St. Louis, Mo.

Section C (Chemistry):
- *Vice-President,* H. B. Cady, University of Kansas, Lawrence, Kans.
- *Retiring Vice-President,* F. G. Cottrell, Fixed Nitrogen Research Laboratory, American University, Washington, D. C.
- *Secretary,* Gerhard Dietrichson, 48 Massachusetts Ave., Cambridge, Mass.

Section D (Astronomy):
- *Vice-President,* A. E. Douglass, University of Arizona, Tucson, Ariz.
- *Retiring Vice-President,* John A. Miller, Swarthmore College, Swarthmore, Pa.
- *Secretary,* Philip Fox, Northwestern University, Evanston, Ill.

Section E (Geology and Geography):
- *Vice-President,* R. A. Daly, Harvard University, Cambridge, Mass.
- *Retiring Vice-President,* W. C. Mendenhall, U. S. Geological Survey, Washington, D. C.
- *Secretary,* G. R. Mansfield, U. S. Geological Survey, Washington, D. C.

[1] Vice-presidents are elected for a term of one year, from the close of one annual meeting to the close of the next following one.

Section F (Zoological Sciences):
Vice-President, H. S. Jennings, Johns Hopkins University, Baltimore, Md.
Retiring Vice-President, Edwin Linton, 1104 Milledge Road, Augusta, Ga.
Secretary, Geo. T. Hargitt, Syracuse University, Syracuse, N. Y.

Section G (Botanical Sciences):
Vice-President, Robert B. Wylie, University of Iowa, Iowa City, Iowa.
Retiring Vice-President, G. R. Lyman, West Virginia University, Morgantown, W. Va.
Secretary, Sam F. Trelease, Columbia University, New York, N. Y.

Section H (Anthropology):
Vice-President, C. B. Davenport, Station for Experimental Evolution, Cold Spring Harbor, N. Y.
Retiring Vice-President, E. A. Hooton, Peabody Museum, Cambridge, Mass.
Secretary, R. J. Terry, Washington University School of Medicine, St. Louis, Mo.

Section I (Psychology):
Vice-President, C. E. Seashore, University of Iowa, Iowa City, Iowa.
Retiring Vice-President, R. S. Woodworth, Columbia University, New York, N. Y.
Secretary, Frank N. Freeman, University of Chicago, Chicago, Ill.

Section K (Social and Economic Sciences):
Vice-President, F. R. Fairchild, Yale University, New Haven, Conn.
Retiring Vice-President, Thomas S. Baker, Carnegie Institute of Technology, Pittsburgh, Pa.
Secretary, F. L. Hoffman, Babson Institute, Babson Park, Mass.

Section L (Historical and Philological Sciences):[2]
Vice-President, W. A. Oldfather, University of Illinois, Urbana, Ill.
Retiring Vice-President, Louis C. Karpinski, University of Michigan, Ann Arbor, Mich.
Secretary, Frederick E. Brasch, Library of Congress, Washington, D. C.

Section M (Engineering):
Vice-President, C. R. Richards, Lehigh University, Bethlehem, Pa.
Retiring Vice-President, A. E. Kennelly, Harvard University, Cambridge, Mass.
Secretary, N. H. Heck, U. S. Coast and Geodetic Survey, Washington, D. C.

Section N (Medical Sciences):
Vice-President, A. J. Carlson, University of Chicago, Chicago, Ill.
Retiring Vice-President, William G. MacCallum, Johns Hopkins University, Baltimore, Md.
Secretary, A. J. Goldforb, College of the City of New York, New York, N. Y.

[2] The only portion of Section L thus far organized is that dealing with the History of Science, and the Committee on History of Science functions as an interim committee for Section L. The chairman of the committee acts as vice-president and chairman for the section.

Section O (Agriculture):
Vice-President, C. V. Piper, U. S. Department of Agriculture, Washington, D. C.
Retiring Vice-President, L. R. Jones, University of Wisconsin, Madison, Wis.
Secretary, P. E. Brown, Iowa State College, Ames, Iowa.

Section Q (Education):
Vice-President, Otis W. Caldwell, Lincoln School, Columbia University, New York, N. Y.
Retiring Vice-President, L. A. Pechstein, University of Cincinnati, Cincinnati, Ohio.
Secretary, A. S. Barr, University of Wisconsin, Madison, Wis.

PERMANENT SECRETARY[3]
Burton E. Livingston, Johns Hopkins University, Baltimore, Md. (Association mail address: Smithsonian Institution Building, Washington, D. C.)

GENERAL SECRETARY[3]
W. J. Humphreys, U. S. Weather Bureau, Washington, D. C.

TREASURER[3]
John L. Wirt, Carnegie Institution of Washington, Washington, D. C.

ASSISTANT SECRETARY
Francis D. Murnaghan, Johns Hopkins University, Baltimore, Md.

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
R. B. Sosman, Geophysical Laboratory, Washington, D. C.

THE COUNCIL ROLL AT KANSAS CITY

The affairs of the association are wholly in the charge of the council, which consists of the president, the vice-presidents, the treasurer, the secretaries, the council representatives of the affiliated societies and academies and eight members elected by the council itself. The list of council members for the eighty-second meeting is shown below, arranged alphabetically. Each member's name is followed by an italic phrase, showing his status in the council. Past presidents and the presidents of divisions and local branches are officially invited to attend council sessions. Members of the executive committee who are not otherwise council members are *ex-officio* members. The record of attendance at the five Kansas City sessions is shown by numerals that precede the

[3] The permanent secretary, the general secretary and the treasurer are each elected for a term of four years; their terms of office expire at the end of the fifth New York meeting.

members' names, the five numerals corresponding to the five sessions, respectively, on Monday, Tuesday, Wednesday, Thursday and Friday, December 28 to January 1. Thus, the numerals 2 and 3 before a name indicate that the member whose name is so marked was present at the Tuesday and Wednesday sessions but was absent from the other sessions. Any errors in the record of attendance should be promptly called to the attention of the permanent secretary, so that the record may be corrected, wherever correction is necessary. Each member's record of attendance was submitted to him by mail before this list was prepared, with the request that corrections be made if required, but it is possible that a few errors may still need attention. A few substitutes were named for members who could not come to Kansas City, and these are named and indicated in the list.

The council holds sessions only at the annual meetings of the association and attendance at these should be as full as possible. The published records of attendance at council sessions furnish a means by which members of the association and those of the affiliated organizations may determine which council members are most careful to attend the sessions or to send representatives or substitutes. It should be noted that the first council session of the annual meeting is generally the most important, but weighty business is transacted at the later sessions as well.

MEMBERS AND INVITED GUESTS OF THE COUNCIL FOR THE KANSAS CITY MEETING, WITH NOTES AS TO THEIR STATUS AND RECORDS OF THEIR ATTENDANCE

	Aitken, Robert G., *President Pacific Div.*
1, 3	Alexander, William H., *Rep. Ohio Acad.*.
	Allee, W. C., *Rep. Ecol. Soc. Amer.* (Represented by V. E. Shelford at Kansas City.)
1, 2, 3	Archibald, R. C., *Secretary Section A.*
	Baker, O. E., *Rep. Assoc. Amer. Geographers.*
1, 3, 4	Bakke, A. L., *Rep. Honor Soc. Phi Kappa Phi.*
2, 3, 4	Ball, C. R., *Rep. Honor Soc. Phi Kappa Phi.*
4	Barr, A. S., *Secretary Section Q.*
1, 2, 3, 4	Bean, R. Bennett, *Rep. Virginia Acad.*
	Berkey, Charles P., *Rep. Geol. Soc. Amer.* (Represented by Chester A. Reeds at Kansas City.)
	Bingham, W. V., *Rep. Amer. Psychol. Assoc.*
	Boas, Franz, *Rep. Amer. Anthropol. Assoc.*
1, 2, 3	Boggs, G. H., *Rep. Georgia Acad.*
	Bowman, Isaiah, *Rep. Amer. Geographical Soc.*
1, 2, 3, 4	Brasch, Frederick E., *Secretary Section L.*
	Breed, Robert S., *Rep. Soc. Amer. Bacteriologists.* (Represented by Noble P. Sherwood at Kansas City.)
	Britton, W. E., *Rep. Entomol. Soc. Amer.*
	Brown, P. E., *Secretary Section O.*
	Buchner, E. F., *Rep. National Soc. Col. Teachers of Ed.*
1, 2, 3, 4	Cady, H. B., *Vice-President Section C.*
1, 2, 3	Cairns, W. D., *Rep. Math. Assoc. Amer.*
	Cajori, Florian, *Rep. History of Science Soc.*
1	Caldwell, Otis W., *Vice-President Section Q and Rep. National Education Assoc.*
	Calver, Homer N., *Rep. Amer. Public Health Assoc.*
	Campbell, W. W., *Past president (1915).*
	Carlson, A. J., *Vice-President Section N.*
	Case, E. C., *Rep. Michigan Acad.*
1, 2, 3, 4, 5	Cattell, J. McKeen, *Exec. Comm. Member and past president (1924).*
	Chamberlin, T. C., *Past president (1908).*
	Clinton, G. P., *Rep. Amer. Phytopathol. Soc.* (Represented by L. R. Jones at Kansas City.)
	Close, C. P., *Rep. Amer. Soc. Horticultural Sci.*
	Cockerell, T. D. A., *President Southwestern Div.*
	Colby, C. C., *Rep. Assoc. Amer. Geographers.*
	Cole, Leon J., *Rep. Amer. Genetic Assoc.* (Represented by G. Wagner at Kansas City.)
1, 4, 5	Compton, K. T., *Rep. Optical Soc. Amer.*
1	Cort, W. W., *Rep. Amer. Soc. Parasitologists.*
	Coulter, John Merle, *Rep. Amer. Assoc. Univ. Professors and past president (1918).*
1, 4, 5	Cowles, H. C., *Elected member.*
	Crittenden, E. C., *Rep. Illuminating Engineering Soc.*
	Crocker, William, *Rep. Bot. Soc. Amer.*
1, 2, 3, 4	Dains, F. B., *Rep. History of Science Soc.*
	Daly, R. A., *Vice-President Section E.*
1, 2, 3, 5	Davenport, C. B., *Vice-President Section H.*
1, 2	Dean, George A., *Rep. Amer. Assoc. Economic Entomol.*
	Dellinger, J. H., *Rep. Inst. Radio Engineers.* (Represented by J. C. Jensen at Kansas City.)
1, 2, 3, 4	Dietrichson, Gerhard, *Secretary Section C.*
1, 3, 4, 5	Douglass, A. E., *Vice-President Section D.*
1, 3, 4	Dresden, Arnold, *Rep. Amer. Math. Soc.*
	Dublin, L. I., *Rep. Amer. Public Health Assoc.*
	Duggar, B. M., *Rep. Amer. Soc. Nat. and Exec. Comm. member.*
	Eliot, Charles W., *Past president (1914).*
	Ellery, Edward, *Rep. Sigma Xi.*
1, 2, 3, 4	Enders, Howard E., *Rep. Indiana Acad.*
	Esterly, C. O., *Rep. Amer. Microscopical Soc.*
1, 3, 4	Fairchild, F. R., *Vice-President Section K.*
1, 2, 3, 4, 5	Fairchild, H. L., *Elected member and Exec. Comm. member.*
	Fisher, Irving, *Rep. Eugenics Res. Assoc.*
	Flexner, Simon, *Past president (1919).*
2, 3, 4, 5	Focke, T. M., *Rep. Math. Assoc. Amer.*
1, 2, 3, 4, 5	Forbes, R. D., *Rep. Soc. Amer. Foresters.*
1, 3, 4	Fox, Philip, *Secretary Section D.*
3, 4, 5	Freeman, Frank N., *Secretary Section I.*
	Gibson, Arthur, *Rep. Canadian Soc. Tech. Agriculturists.*
1, 4	Gilbert, E. N., *Rep. Wisconsin Acad.* (Representing Chancey Juday.)
1, 2, 3	Goldforb, A. J., *Secretary Section N.*
	Hancock, Harris, *Rep. Amer. Assoc. Univ. Professors.*
1, 2, 4	Hargitt, Geo. T., *Secretary Section F.*
	Harrington, John Lyle, *Rep. Amer. Soc. Mech. Engineers.*
	Hartwell, B. L., *Rep. Amer. Soc. Agron.*
1, 2, 3, 4	Heck, N. H., *Secretary Section M.*
	Hedrick, William A., *Rep. Amer. Fed. Teachers Math. and Nat. Sci.*
	Hegner, R. W., *Rep. Amer. Soc. Nat.*
	Hill, J. Ben, *President State College Branch.*
1, 4	Hoffman, F. L., *Secretary Section K.*
1, 2, 3, 4	Howard, L. O., *Elected member and Past president (1920).*
1, 2, 3	Hughes, A. L., *Secretary Section B.*
2, 3, 4, 5	Humphreys, W. J., *General Secretary of the Association and Rep. Amer. Meteorol. Soc.*

1, 2, 4 Jackson, Hartley H. T., *Rep. Amer. Soc. Mammalogists.*
Jacobs, M. H., *Rep. Amer. Soc. Zool.*
1, 4 Jennings, H. S., *Rep. Amer. Soc. Zool. and Vice-President Section F.*
1, 3, 4, 5 Jensen, J. C., *Rep. Inst. Radio Engineers.* (Representing J. H. Dellinger.)
Jones, Arthur J., *Rep. National Soc. Col. Teachers Ed.*
1, 2, 3 Jones, E. Lester, *Rep. Amer. Soc. Civil Engineers.*
2, 3, 4 Jones, L. R., *Rep. Amer. Phytopathol. Soc.* (Representing G. P. Clinton.)
Jordan, David S., *Past president (1909).*
Juday, Chancey, *Rep. Wisconsin Acad.* (Represented by E. N. Gilbert at Kansas City.)
Judd, Charles H., *Rep. National Soc. Study of Ed.*
2 Kellogg, Vernon L., *Exec. Comm. member.*
Kennelly, A. E., *Rep. Amer. Inst. Elec. Engineers.*
Knipp, Charles T., *Rep. Illinois Acad.* (Represented by W. Shumway at Kansas City.)
Kober, George M., *Rep. Amer. Medical Assoc.*
1, 2, 3, 4, 5 Lane, H. H., *Rep. Amer. Soc. Mammalogists.*
Laughlin, H. H., *Rep. Eugenics Res. Soc.*
Lidbury, F. A., *Rep. Amer. Electrochem. Soc.*
Lindgren, Waldemar, *Rep. Amer. Inst. Mining and Metallurgical Engineers.*
1, 2, 3, 4, 5 Livingston, Burton E., *Permanent Secretary of the Association and Rep. Maryland Acad.* (Representing F. C. Nicholas.)
2, 3, 5 MacDougal, D. T., *Elected member.*
McMurrich, J. Playfair, *Rep. Amer. Assoc. Anatomists and Past president (1922).*
1, 2 Macelwane, James B., *Rep. Seismol. Soc. Amer.*
1, 2, 4 Mansfield, G. R., *Secretary Section E.*
Merriam, John C., *Elected member.*
Metcalf, Z. P., *Rep. North Carolina Acad.*
Michelson, A. A., *Past president (1910).*
Miller, Dayton C., *Rep. Amer. Phys. Soc.*
Miller, G. A., *Elected member.*
Miller, M. F., *Rep. Amer. Soc. Agron.*
Miller, W. Lash, *Rep. Amer. Electrochem. Soc.*
Moore, E. H., *Past president (1921).*
1, 2, 3, 4 Morehouse, D. W., *Rep. Amer. Astronom. Soc. and Iowa Acad.*
Moseley, H. W., *Rep. New Orleans Acad.*
1, 2, 3, 4 Moss, Joseph A., *Rep. Nebraska Acad.*
1, 2, 3, 4 Moulton, F. R., *Exec. Comm. member.*
Nabours, R. K., *Rep. Kansas Acad.*
Nicholas, Francis C., *Rep. Maryland Acad.* (Represented by B. E. Livingston at Kansas City.)
Nichols, E. L., *Past president (1907).*
Norris, James F., *Rep. Amer. Chem. Soc.*
1, 2, 3 Noyes, W. A., *Exec. Comm. member.*
Oldfather, W. A., *Elected member and Vice-president Section L.*
2, 3, 4 Orton, W. A., *Rep. Amer. Phytopathol. Soc.*
1, 2, 3, 4, 5 Osborn, Herbert, *Rep. Amer. Assoc. Economic Entomol.*
Parker, J. H., *Rep. Amer. Genetic Assoc.*
Parsons, Charles L., *Rep. Amer. Chem. Soc.*
Perkins, Roger G., *Rep. Soc. Amer. Bacteriologists.*
Peter, A. M., *Rep. Kentucky Acad.* (Represented by M. N. States at Kansas City.)
Piersol, George M., *Rep. Amer. Medical Assoc.*
Piper, C. V., *Vice-President Section O.*
1, 2, 3, 4, 5 Pupin, M. I., *President of the Association.*
2, 3 Randall, H. M., *Vice-President Section B.*
Reeds, Chester A., *Rep. Geol. Soc. Amer.* (Representing Charles P. Berkey.)
Remsen, Ira, *Past president (1902).*
1, 2, 3, 4, 5 Richards, A., *Rep. Oklahoma Acad.*
2 Richards, C. R., *Vice-President Section M.*
Richards, Theodore W., *Past president (1917).*
1, 2 Richtmyer, F. K., *Rep. Optical Soc. Amer. and Sigma Xi.*
1, 3, 5 Riley, William A., *Rep. Entomol. Soc. Amer.*
2, 3, 4 Roever, W. H., *Vice-President Section A.*
Sapir, E., *Rep. Amer. Anthropol. Assoc.*
Sauveur, Albert, *Rep. Amer. Inst. Mining and Metallurgical Engineers.*
Schramm, J. R., *Rep. Bot. Soc. Amer.*
Scott, William B., *Rep. Geol. Soc. Amer.*
1, 2, 3, 4, 5 Seashore, C. E., *Vice-President Section I.*
Senior, H. D., *Rep. Amer. Assoc. Anatomists.*
Shaad, George C., *Rep. Amer. Soc. Mech. Engineers.*
Sharp, Clayton H., *Rep. Illuminating Engineers Soc.*
Shelford, V. E., *Rep. Ecol. Soc. Amer.* (Representing W. C. Allee.)
1, 3, 4 Sherwood, Noble P., *Rep. Soc. Amer. Bacteriologists.* (Representing Robert S. Breed.)
2, 3, 4, 5 Shull, Chas. A., *Rep. Amer. Soc. Plant Physiologists.*
3, 4 Shumway, W., *Rep. Illinois Acad. Sci.* (Representing Charles T. Knipp.)
1, 3 States, M. N., *Rep. Kentucky Acad.* (Representing A. M. Peter.)
1, 2, 3 Stewart, G. W., *Elected member.*
1, 3, 4 Stouffer, E. B., *Rep. Amer. Math. Soc.*
Studebaker, J. W., *Rep. National Education Assoc.*
Taylor, John B., *Rep. Amer. Inst. Elec. Engineers.* (Represented by W. L. Upson at Kansas City.)
3, 4, 5 Terry, R. J., *Secretary Section H.*
Tillotson, E. Ward, *Rep. Amer. Ceramic Soc.*
Townley, S. D., *Rep. Seismol. Soc. Amer.*
Transeau, E. N., *Rep. Ecol. Soc. Amer.*
1, 2, 3, 4, 5 Trelease, Sam F., *Secretary Section G.*
2, 3 Upson, W. L., *Rep. Amer. Inst. Elec. Engineers.* (Representing J. B. Taylor.)
1, 2, 3, 4 Van Cleave, H. J., *Rep. Amer. Microscopical Soc.*
Van Horn, Frank R., *Rep. Mineralogical Soc. Amer.*
1, 3, 4 Wagner, G. (Representing Leon J. Cole.)
Walcott, Charles D., *Past president (1923).*
1, 2, 3, 5 Ward, Henry B., *Exec. Comm. member.*
Warwick, C. L., *Rep. Amer. Soc. Testing Materials.*
2 Webb, Harold W., *Rep. Amer. Phys. Soc.*
Welch, Wm. H., *Past president (1916).*
Whipple, Guy M., *Rep. National Soc. Study of Ed.*
Wilson, Edmund B., *Past president (1913).*
Wilson, Edwin B., *Exec. Comm. member.*
Wirt, John L., *Treasurer of the Association.*
Wylie, Robert B., *Vice-President Section G.*
Yerkes, Robert M., *Rep. Amer. Psychol. Assoc.*
1, 2, 3, 4 Young, Jessica M., *Rep. Amer. Astronom. Soc.*

THE ROLL OF THE EXECUTIVE COMMITTEE AT KANSAS CITY

The numbers preceding each name indicate the sessions at which each member was present, as in the case of the council roll above. The number in parenthesis after each name denotes the calendar year at

the end of which the member's term of office was to expire.

1, 2, 3, 4, 5	J. McKeen Cattell (1926), *chairman;* Garrison-on-Hudson, N. Y.
	B. M. Duggar (1925); Missouri Botanical Garden, St. Louis, Mo.
1, 2, 3, 4, 5	H. L. Fairchild (1927); University of Rochester, Rochester, N. Y.
1, 2, 3, 4, 5	W. J. Humphreys (1928); U. S. Weather Bureau, Washington, D. C.
1, 2, 3, 4	Vernon L. Kellogg (1928); National Research Council, Washington, D. C.
1, 2, 3, 4, 5	Burton E. Livingston (1928); Smithsonian Institution Building, Washington, D. C.
1, 2, 3, 4	F. R. Moulton (1925); University of Chicago, Chicago, Ill.
1, 2	W. A. Noyes (1927); University of Illinois, Urbana, Ill.
1, 2, 3, 4, 5	M. I. Pupin (1925); Columbia University, New York City.
1, 2, 5	Henry B. Ward (1926); University of Illinois, Urbana, Ill.
	Edwin B. Wilson (1928); Harvard School of Public Health, Boston, Mass.

LEGISLATIVE AND EXECUTIVE PROCEEDINGS AT KANSAS CITY

The executive committee of the council met in room 1036 of the Muehlebach Hotel at ten on the morning of Monday, December 28, also following the council meetings Tuesday, Wednesday, Thursday and Friday mornings. The council met in the blue room of the Baltimore Hotel on the afternoon of Monday, December 28, and in the tea room of the Muehlebach Hotel at 9 on Tuesday, Wednesday, Thursday and Friday mornings. No business was transacted at any of the general sessions of the Kansas City meeting. The following paragraphs summarize the proceedings:

(1) Council and executive committee minutes were approved for earlier meetings, if not already approved, and to and including the minutes for the meetings of Thursday, January 1, 1926.

(2) The audited financial reports of the treasurer and the permanent secretary for the fiscal year 1924–25 were approved by the council and ordered printed in SCIENCE.

(3) The permanent secretary's budget for 1925–26 was approved by the council.

(4) The following three members were elected to emeritus life membership under the provisions of the Jane M. Smith Fund:

John Conover Smock (M74, F79), Hudson, N. Y.
Albert B. Wilbur (M74, F74), 48 Wickham Ave., Middletown, N. Y.
Carl Leo Mees (M75, F76), The Walden, Terre Haute, Ind.

(The number in parenthesis following the letter M denotes the year in which the member was enrolled in the association and the number following the letter F denotes the year of his election to fellowship.) The council appropriated $300 from the available income of the *Jane M. Smith Fund* for these three life memberships, payment to be made by the treasurer to the permanent secretary in the regular way.

(5) The council approved the personnel of the Committee on Award of the Kansas City Prize. The membership of this committee is shown in the section on the Third American Association Prize in this issue of SCIENCE.

(6) The council unanimously adopted the following additional by-law, to be properly numbered and inserted in the by-laws and rules of procedure of the association. "The executive committee shall have full power to act for the council when the council is not in session." (This new by-law becomes Section 1 of Article IV of the By-Laws and Rules of Procedure, the old Sections 1, 2 and 3 now becoming Sections 2, 3 and 4.)

(7) By unanimous vote the council made the following appropriations from the income of the permanent endowment in the hands of the treasurer:

$3,000, to be disbursed according to allotment by the committee on grants for research.

$1,227, paid to the permanent secretary's office for journal subscriptions for 409 living life members for 1926.

$ 500, to be paid to the Naples Zoological Station, for maintaining the "American Association Table" at that Station.

$ 200, to be paid to the International Tables of Physical and Chemical Constants, as a contribution of the American Association towards the support of the Tables.

$ 500, to be used by the special committee on photosynthesis, for apparatus and equipment in connection with a research project outlined by the special committee, on the influence of polarized light on organisms and on organic materials, and to be disbursed by the treasurer on authorization by the chairman of the special committee.

(8) A report of progress was presented by the secretary of the committee of one hundred on scientific research (Dr. Rodney H. True) and this was accepted by the council.

(9) An appropriation of $600, or such part of that sum as may be needed, was made for the expenses of the committee of one hundred, to be disbursed by the treasurer on authorization by the permanent secretary, who is to receive authorization for such disbursement from the secretary of the committee of one hundred.

(10) The council appropriated $1,000 from the Prize Fund, for the Kansas City Prize, to be disbursed by the treasurer to the winner of the prize, on authorization by the permanent secretary in accordance with the decision of the committee on award of the prize.

(11) On recommendation of the executive committee, the council approved a proposal from the Southwestern Division, that a fund be collected by the Southwestern Division to be held in trust by the association for the division.

(12) It was unanimously voted by the council that for

the next three years the entrance fees of all members of affiliated societies be remitted by the association.

(13) Sixty-eight members were elected to fellowship by the council, distributed among the sections as follows: Section A, 1; Section C, 8; Section D, 25; Section F, 1; Section G, 13; Section L, 5; Section M, 5; Section N, 2; Section Q, 8.

(14) The official affiliation of the Astronomical Society of the Pacific and of the American Pharmaceutical Association was unanimously approved by the council.

(15) The official affiliation of the New Hampshire Academy of Science, the Tennessee Academy of Science and of the West Virginia Academy of Science was unanimously approved by the council.

(16) It was voted by the council that the association looks with favor on the formation of a Rocky Mountain division of the association, if approved by the scientific men of the states concerned. The question of the possible reorganization or further organization of divisions of the association was referred to the executive committee, which entered this matter as a special order of business for the next meeting of the executive committee, to occur at Washington, D. C., April 25, 1926.

(17) The executive committee cordially reaffirmed an earlier communication to the social-science societies of the United States, inviting them to become affiliated with the American Association for the Advancement of Science, and expressed the hope that such affiliation may be accomplished in the near future. (Perhaps it should be repeated here that official affiliation with the American Association allows each affiliated organization to have representation in the association council and gives its members a certain privilege in joining the association, but places no restrictions whatever on the autonomy of the affiliated organization.)

(18) The executive committee reported to the council the completion of an important agreement between the owner of the journal SCIENCE and the American Association, by which the association is to become the sole owner of the journal, under certain specified conditions, upon the relinquishment of the control of the journal by the present owner. The council unanimously ratified this agreement by a rising vote and asked the president to name a committee of three, with himself as chairman, to draft a resolution expressing to Dr. Cattell the appreciative thanks of the association. The committee of three was subsequently named, composed of Drs. Pupin (chairman), Kellogg and Livingston, and it submitted the following resolution, which was unanimously adopted by the council:

> The Council of the American Association for the Advancement of Science appreciates the generous offer of Dr. Cattell for the transfer of the journal SCIENCE to the association, on the basis of which has been made the agreement between the association and the present owner of the journal.

The agreement will be published in a later issue of SCIENCE. The most essential provision is that the journal is to become the sole property of the American Association upon the death of its present owner or upon his relinquishment of its control, it being provided that the association shall thereafter pay annually to Mrs. Josephine Owen Cattell throughout the remainder of her life a sum equal to one half of the average annual profits of the journal for the five years preceding the acquirement of the journal by the association.

(19) A progress report was presented to the council by the committee on the place of the sciences in education, through Dr. Otis W. Caldwell, secretary of that committee. The report was accepted and the committee was continued. A summary of the progress report is presented elsewhere in this special issue of SCIENCE.

(20) The council accepted a progress report of the special committee on philological sciences in the association and heartily approved the efforts and plans of the special committee for a survey of the North American Indian languages and for the securing of records, phonographic and other, of those languages. A summary of the progress report appears elsewhere in this issue of SCIENCE.

(21) The council tentatively named three future meeting places, for the meetings specified, as follows: Des Moines, December, 1929; Cleveland, December, 1930; New Orleans, December, 1931.

(22) The executive committee devoted a considerable time at Kansas City to the discussion of the proposal that a non-technical journal be established under the control of the association. A special committee on this project (Dr. Humphreys, *chairman;* Dr. Howard and Dr. Ward) reported that there was widespread approval of this proposal and that the project seemed to be feasible. The executive committee requested further study of this question and made it a special order of business for the spring meeting of the executive committee, to occur at Washington, D. C., April 25, 1926.

(23) The Southwestern Division reported to the council, through the permanent secretary, that its next annual meeting will be held at Phoenix, February 15–18, 1926, and invited the attendance of scientists from outside the division. At the suggestion of President Pupin, the possibility was considered of presenting at the Phoenix meeting a lecture given at a distant point and transmitted to Phoenix by telephone. This possibility was referred to the executive committee, which in turn referred it to a special committee, with power to make arrangements for such a lecture and its transmission to the place of the meeting if that should be feasible. The special committee consists of: President Pupin, *chairman;* Dr. D. T. MacDougal and Dr. F. R. Moulton.

(24) The permanent secretary reported to the council that the British Association for the Advancement of Science was officially represented at the Kansas City meeting by Dr. William Arthur Parks, professor of geology in the University of Toronto and director of the Royal Ontario Museum of Paleontology, and Dr. John Charles Fields, research professor of mathematics in the University of Toronto and president of the Royal Canadian Institute. It was also reported that greetings from

the British Association had been received at Kansas City by cablegram. The council unanimously voted that a letter of thanks be addressed to the British Association by President Pupin.

(25) The council accepted with thanks an invitation from the British Association for the Advancement of Science, asking the American Association to name official representatives to attend the approaching Oxford meeting of the British Association. The naming of representatives to attend the Oxford meeting was left to the executive committee.

(26) The following association officers were elected by the council: president, fifteen vice-presidents, two elected members of the council, two members of the executive committee, one member of the finance committee and two members of the committee on grants for research. The newly elected officers are named elsewhere in this special issue of SCIENCE.

(27) The council instructed the committee of one hundred in scientific research to form a subcommittee on the copyright and patent laws of the United States as they affect scientific research and the dissemination of scientific knowledge.

(28) The council adopted a resolution on the copyright laws of the United States, which is presented elsewhere in this issue of SCIENCE.

(29) The council voted that the association approves any steps which will serve to give copyright protection to texts printed by mimeographic, photostatic and other non-type methods.

(30) The council adopted resolutions: (1) on the policy of the United States National parks, (2) on the safeguarding from pollution of the coastal and inland waters of the United States, (3) on the work and plans of the Smithsonian Institution, and (4) on the preservation and protection of the Tule Indians of Darien, in the Republic of Panama, all of which resolutions are presented elsewhere in this special issue of SCIENCE.

(31) The executive committee asked the secretary of the committee of one hundred on research to secure as soon as possible, for publication in SCIENCE, complete information on the details and requisites of federal income-tax reports as these affect men of science.

(32) The executive committee adopted a resolution pointing out that expenses incurred by men of science in attending meetings of this association and of other scientific organizations are in fact business, rather than personal expenses, and should therefore be deductible in the computation of federal income-tax reports. The resolution is printed elsewhere in this issue of SCIENCE.

(33) The executive committee named President M. I. Pupin, Dr. Vernon L. Kellogg and Dr. John C. Merriam to represent the association in a conference in a National Department of Public Works, to occur January 13–15, 1926, at Washington, D. C.

(34) The executive committee named Dr. Vernon L. Kellogg and Dr. Henry B. Ward to represent the association at the National Outdoor Recreation Conference, to occur January 20 and 21, 1926, at Washington, D. C.

(35) The executive committee accepted the invitation from the Pan-American Union asking the association to name delegates for the approaching Panama Congress of the Union (June 18–25, 1925), and appointed Drs. Kellogg and Livingston as a committee with power to appoint delegates.

(36) By unanimous vote of the council the following letter of appreciation was ordered sent to Dr. A. Ross Hill, chairman of the local committee on arrangements for the Kansas City meeting.

Kansas City, Mo.,
January 1, 1926.

Dr. A. Ross Hill,
Chairman of the Local Committee
for the Kansas City meeting,
800 W. 52nd St.,
Kansas City, Mo.

Dear Sir:

The Council of the American Association for the Advancement of Science expresses its sincere thanks for the support it has received from the Local Committee before and during the Kansas City Meeting of the Association, and wishes to convey its thanks and appreciation by this letter addressed to the chairman of the Local Committee. The Council begs the chairman of the Local Committee to transmit to the Kansas City Chamber of Commerce and the other local organizations that have contributed to the success of the meeting as well as to the people of Kansas City, its hearty appreciation of their hospitality and their interest in the work of the Association. The Council also requests the chairman to transmit to the press of Kansas City its great appreciation of the maintained interest and support given by the press to the work of the Association in connection with this meeting.

Yours very truly,
(Signed) M. I. PUPIN,
President of the Association.

(37) By a rising unanimous vote of the council the following resolution was adopted and a copy thereof was ordered transmitted to President Pupin:

The Council of the American Association for the Advancement of Science expresses to President Pupin its warmest thanks for the fine services he has rendered to the association throughout the period of his presidency and for the geniality, efficiency, and inspiration with which he has presided at the sessions of the Council and at other sessions of the association.

BURTON E. LIVINGSTON,
Permanent Secretary.

RESOLUTIONS ON THE GENERAL WELFARE, ADOPTED BY THE AMERICAN ASSOCIATION AT THE KANSAS CITY MEETING

A RESOLUTION ON THE COPYRIGHT LAWS OF THE UNITED STATES

Adopted by the council, January 1, 1926

Resolved, That the American Association for the Advancement of Science deplores any legislation or rulings that interfere with the diffusion of knowledge and urges upon Congress that the law with regard to copyrights be so stated as to allow the United States to be a member of the International Copyright Union.

A RESOLUTION ON THE NATIONAL PARKS POLICY OF THE UNITED STATES

Adopted by the council, January 1, 1926

Resolved, That the American Association for the Advancement of Science recognizes that the national parks are the means of preserving unique representations of the primitive and majestic in nature and wishes to record its protest against additions to the National Park System, or change in policy, which may tend to lessen, in fact or in public estimation, their present high value as natural museums, their complete conservation from industrial uses, or their effectiveness as a national educational institution.

A RESOLUTION ON THE SAFEGUARDING OF THE WATERS OF THE UNITED STATES FROM POLLUTION

Adopted by the council, January 1, 1926

Resolved, That the American Association for the Advancement of Science expresses its approval of the progress made in the elimination of water pollution by the adoption of a law covering our coastal waters, and urges the prompt enforcement of this measure in adequate fashion; and that the American Association for the Advancement of Science urges the formulation and adoption of similar measures covering inland streams and lakes, in order that the rapidly growing menace of water pollution may be reduced and the fullest use of public waters be made available to the people generally.

A RESOLUTION ON THE WORK AND PLANS OF THE SMITHSONIAN INSTITUTION

Adopted by the council, January 1, 1926

In recognition and appreciation of the important service which the Smithsonian Institution has in the past rendered to science in America, and with the confidence that this service will be continued in the future, be it

Resolved, That the American Association for the Advancement of Science endorses the effort of the Smithsonian Institution to secure increase in its endowment; and further that the Association requests its individual members to assist the Smithsonian Institution in its efforts toward this end.

A RESOLUTION FAVORING THE PROTECTION OF THE TULE INDIANS OF DARIEN

Adopted by the council, January 1, 1926

WHEREAS, The preservation and protection of the Tule People of Darien has an important scientific as well as humanitarian aspect; therefore, be it

Resolved, That the American Association for the Advancement of Science respectfully urges upon the United States Government, through its proper channels, that representations be made to the Government of the Republic of Panama advising of the interest of this Association in the preservation and protection of the Tule People, and expressing the hope that the Republic of Panama may see fit to set aside in Darien a sufficient and suitable reservation, embracing the present home territory of the Tule People, to be held inviolate to the Tule People from aggression and exploitation by white, negroid and other peoples.

A RESOLUTION ON THE INCOME-TAX STATUS OF EXPENSES INCURRED BY PROFESSIONAL MEN OF SCIENCE IN ATTENDING MEETINGS OF SCIENTIFIC ORGANIZATIONS

Adopted by the executive committee, January 1, 1926

WHEREAS, The American Association for the Advancement of Science, an organization of over 14,000 scientific workers, including nearly all leaders in American science and those who are interested in the scientific accomplishment of our nation, is much concerned with the question of allowing professional scientific workers to deduct, in their income-tax computations, expenses incurred in attending meetings of this Association and of the other scientific societies; and,

WHEREAS, The expenses incurred by scientific workers in attending scientific meetings are in fact business rather than personal expenses; therefore, be it

Resolved, That the American Association for the Advancement of Science respectfully calls the attention of the Government of the United States, through the appropriate channels, to the great need for allowing professional scientific workers to deduct, in the computation of their federal income-taxes, expenses incurred in attending meetings of scientific organizations.

FINANCIAL REPORTS

The audited annual report of the treasurer of the association for the fiscal year 1924–25 is presented below. It was accepted by the council at Kansas City. The total endowment was $138,776.66 on September 30, 1925. Life-membership fees, which are always added to the permanent endowment, amounted to $4,100 for the last fiscal year. Disbursements for grants for research, from appropriable funds in the treasury, amounted to $3,920 in the last fiscal year. (The sum of $3,000 has been appropriated by the council for individual grants to be allotted by the committee on grants, for 1926.)

The audited financial report of the permanent secretary for the fiscal year ending September 30, 1925, accepted by the council at Kansas City, is also presented below. On October 1, 1925, the available funds in the permanent secretary's hands amounted to $8,393.93, of which $6,685.68 was set aside to meet the expenses of the publication of the Summarized Proceedings volume, leaving $1,708.25 available for general purposes. (The corresponding generally available balance had been $3,161.71 on October 1, 1924.) The total generally available receipts for the fiscal year recently closed amounted to $69,100.03. To the publishers was paid $40,990.69, for the journals sent to members, and other current expenditures

from the permanent secretary's funds (including $1,000 set aside for the Proceedings volume and added to the publication fund) amounted to $29,562.80 for the fiscal year recently closed.

Report of the Treasurer for the Fiscal Year ending September 30, 1925

In compliance with the provisions of Article 15 of the Constitution of the American Association for the Advancement of Science the treasurer has the honor to submit the following report on the financial condition of the association for the fiscal year ending September 30, 1925, along with sundry suggestions concerning financial matters of general or special interest.

Details of receipts and disbursements are shown in the following itemized statements:

Balance Sheet—September 30, 1925.

Receipts and Disbursements for the fiscal year.

The total of cash receipts during the year is $13,305.03. Included in the amount are items of $4,100 (41 life-membership fees at $100 each) and $2,970.71 (final liquidation of Buffalo City Gas Company Bonds). The appraised value of the Buffalo City Gas Company Bonds, received from the Colburn estate, was $1,540, which shows a profit to the Colburn Fund of $1,430.71 through the retirement of the bonds.

Disbursements made in accordance with direction of the council amount in the aggregate to $5,240. These include:

$1,000, paid for 1924 prize award,
3,920, paid to grantees,
300, 3 life-memberships from Jane M. Smith Fund,
20, rental of safe-deposit box.

$5,240

The total amount of funds of the association, consisting of cash, cost value of securities, appraised value of securities received from the Colburn estate, and mortgages, is $151,864.27.

The disparity between original cost of securities and the present market price is $884.27.

The Financial Committee, at its meeting of Septemper 22, 1925, designated the National City Company of New York and the American Security and Trust Company of Washington, D. C., financial advisors of the association on such business as may be brought before them by the committee. The financial committee submitted to the financial advisors for study and analysis the security holdings of the association, as listed in its schedule of investments. The analysis of the financial advisors shows that the securities of the association constitute investments of sound character, and the advisors therefore would not make any recommendation as to changing the same.

The treasurer takes this occasion to acknowledge receipt from the permanent secretary of Certificate No. 1578311, Adjusted Service Compensation, which was given to the association by Walter F. von Zelinski. The association, which is the beneficiary under the certificate, is to receive $886 on January 1, 1945, provided the association appears as the beneficiary at that date. No market valuation is obtainable upon the certificate and it was therefore not included in the balance sheet. The certificate has been placed in the safe-deposit box, along with the securities of the association, in the American Security and Trust Company.

Respectfully submitted,
(Signed) JOHN L. WIRT,
Treasurer

Dated: October 15, 1925.

BALANCE SHEET, SEPTEMBER 30, 1925

Assets

Investments:			
Securities		$106,274.77	
Mortgage, Washington real estate		20,000.00	
Cash awaiting investment		12,501.89	$138,776.66
Current Assets:			
Cash in bank			13,087.61
			$151,864.27

Liabilities

Endowment Funds:			
General:			
W. Hudson Stephens	$ 4,381.21		
Richard T. Colburn	85,586.45		
Friends of Association	3,559.00	93,526.66	
Sustaining membership fees		6,000.00	
Life membership fees		34,250.00	
Jane M. Smith Fund		5,000.00	138,776.66
Current Liabilities:			
Grants:			
Edward J. Wood	150.00		
L. T. Royster	100.00		
Josephine E. Tilden	80.00	330.00	
Newcomb Cleveland Research Fund		300.00	
Subscriptions to SCIENCE for 409 life members		1,227.00	
Jane M. Smith life memberships		300.00	
Prize Fund		4,000.00	6,157.00
Unappropriated Fund			6,930.61
			$151,864.27

CASH STATEMENT

(October 1, 1924, to September 30, 1925)

Receipts

1924			
Sept. 30	Balance from last report		$17,524.47
	Interest from securities	$ 4,601.75	
	Interest from mortgage	1,200.00	
	Interest from bank balance	432.57	
	41 Life membership fees	4,100.00	
	Sale of bonds	2,970.71	13,305.03
			$30,829.50

Disbursements

Grants, 1925:		
Robert S. Breed	375.00	
Roy L. Moodie	150.00	
S. O. Mast	250.00	
Amer. Journal of Physical Anthropology	250.00	
Asa A. Schaeffer	100.00	
A. L. Quaintance, Treas.	500.00	
Josephine E. Tilden	45.00	
E. K. Plyer	250.00	
A. O. Leuschner	300.00	
E. B. Babcock	300.00	
International Tables, Phys. and Chem. Consts.	200.00	
Paul S. Galtsoff	250.00	
Edward J. Wood	100.00	
R. B. Wylie	150.00	
Hugo Glück	300.00	
Henry W. Stager	250.00	
G. R. Wieland	150.00	3,920.00
Prize Award:		
L. R. Cleveland	500.00	
Edwin P. Hubble	500.00	1,000.00
3 Life Memberships, from Jane M. Smith Fund		300.00
Rental of safe-deposit box		20.00
Cash in Bank:		
Endowment funds awaiting investment	12,501.89	
Drawing account	13,086.61	25,589.50
		$30,829.50

AUDITOR'S REPORT

I certify that I have audited the accounts of the Treasurer of the American Association for the Advancement of Science for the period October 1, 1924, to September 30, 1925; that the securities representing the investments of the association have been exhibited and verified, with the exception of the Pittsburgh, Shawmut & Northern bonds which were represented by a certificate of deposit of the Columbia Trust Co.; and that the income therefrom has been duly accounted for.

The financial statements accompanying the report of the Treasurer are in accord with the books of the Association and correctly summarize the accounts thereof.

(Signed) ROBERT B. SOSMAN,
Auditor

Dated: 27 Oct., 1925.

Financial Report of the Permanent Secretary for the Fiscal Year 1924–25

(October 1, 1924, to September 30, 1925)

Dr.

To balance from last account:			
Checking account		$ 714.84	
Available reserves (savings account):			
Emergency fund	$2,446.87		
Publication fund	3,500.00	5,946.87	$ 6,661.71
To receipts from members:			
Annual dues previous to 1924		193.00	
Annual dues for 1924		750.00	
Annual dues for 1925		64,734.00	
Annual dues for 1926		361.88	
Associate fees		60.00	
Entrance fees		855.00	
Life-membership fees		4,100.00	71,053.88
To other receipts:			
Life-member journal subscriptions		1,140.00	
Interest on bank accounts		609.02	
Contributions from members		40.00	
Sale of publications (New Proceedings)		5,253.50	
Miscellaneous		357.13	7,399.65
			$85,115.24

Cr.

By publications:			
Publishers of SCIENCE			40,990.69
By divisions, local branch, and academy allowances:			
Divisions		$ 1,746.00	
State College (Pa.) Local Branch		31.50	
Affiliated academies		1,509.00	3,286.50
By expenses, General Secretary's Office			149.71
By expenses, Washington Office:			
Salaries		$10,801.32	
Office and addressograph supplies		424.30	
Printing and stationery		1,499.62	
Telegraph and telephone		210.21	
Postage, correspondence and billing		1,153.01	
Exchange		14.35	
Express, freight and drayage		73.40	
Notary fees		1.50	
Miscellaneous		326.50	
Stencil-cutting machine (Graphotype)		430.00	$14,934.21
By circularization			1,804.14
By expenditures on Proceedings Volume, 1925			3,067.82
By miscellaneous expenses:			
Life-membership fees to Treasurer		4,100.00	
Contribution to National Conference on Outdoor Recreation		100.00	
Annual meeting (Washington):			
General expenses	$7,671.24		
Preliminary announcement	1,976.04		
		$9,647.28	

Less Washington Fund	4,295.35	5,351.93	
Expenses of Portland and Boulder meetings		782.42	
Travel expenses		1,626.32	
Section expenses		444.87	
Committee of One Hundred on Research		76.20	
Bad check		6.50	12,488.24
			$76,721.31
By new balance:			
Checking account		425.71	
Available reserves:			
Emergency fund	1,282.54		
Publication fund	6,685.68	7,968.22	8,393.93
			$85,115.24
Place of Science in Education Fund:			
Original amount			$ 1,000.00
Interest on fund			44.25
			1,044.25
Deduct expenditures, 1925			96.65
Balance			$ 947.60

AUDITOR'S REPORT

Having been appointed Auditor for the Association for the year 1925, I have employed Mr. W. R. Gallaher, an accountant at the Interstate Commerce Commission, to go over the accounts of the Permanent Secretary for the year ending October 1, 1925. He makes the following report:

This is to certify that I have carefully examined the receipts and disbursements in currency, checks, etc., of the Permanent Secretary's office of the American Association for the Advancement of Science for the twelve months ending September 30, 1925, and have found the records correctly kept. Proper vouchers were shown for all disbursements.

(Signed) W. R. GALLAHER,
Examiner of Accounts

I have reason to believe that Mr. Gallaher is an experienced and reliable accountant and that the above statement is a dependable report on the state of the accounts which were audited.

Very truly yours,
(Signed) ROBERT B. SOSMAN,
Auditor

Dated: 17 December, 1925.

PROGRESS REPORT OF THE SPECIAL COMMITTEE ON PHILOLOGICAL SCIENCES

W. A. Oldfather, *chairman.*
Mark H. Liddell, *secretary.*

The following is a summary of the report of this committee presented to the council at the Kansas City meeting: Owing to the fact that many of those who are active in the philological portion of Section L were to read papers at meetings of the related philological organizations held at the time of the Kansas City meeting and at other places, no linguistic program was this year prepared for the annual meeting of the association. The consistent aim of this committee has been to avoid any action that might even appear to be in conflict with the existing organizations in this field (of which most of us are members) and to encourage as far as possible the full cooperation of all who are interested in these lines of scientific endeavor. The success of the last year's Washington sessions held under the auspices of this committee furnished convincing evidence of the feasibility of such cooperation.

The recommendations of this committee's Washington report, endorsed by the association council, have been helpful. The Du Cange project is now under way. A project for the determination of American standards of speech is now being carried on with aid from the U. S. Bureau of Standards.

In the present report the special committee on philological sciences recommends to the council the endorsement of a research project for a survey of North American Indian Languages, which are rapidly disappearing forever, this project having been outlined by Leonard Bloomfield, Trueman Michelson and Edward Sapir. Like a group of botanists confronted with a vast and interesting flora about to suffer total extinction, the students of American Indian language must gather their specimens before it is too late. The proposed project as recommended by the committee contemplates simply the making of thorough records of these languages as rapidly as possible, by means of properly prepared and published texts and also by analytical phonographic methods. When once prepared such records will be a very great value in linguistic studies.

As is recorded elsewhere in this issue of SCIENCE, the report above summarized was accepted and the suggested research project was approved by the council of the association. A fuller account of the project will be published later.

PROGRESS REPORT OF THE COMMITTEE ON THE PLACE OF THE SCIENCES IN EDUCATION

Otis W. Caldwell, *Chairman*

The following is a summary of the report presented to the council at the Kansas City meeting. This committee, authorized at the third Cincinnati meeting in December, 1923, now has a membership of twenty-seven. A request for the organization of such a committee was made by a history teacher, a leader of a group of social-studies workers. For preliminary expenses, the Commonwealth Fund, of New York City, provided a sum of one thousand dollars, which was placed in the hands of the permanent secretary of the association. Most of the fund still remains intact, for the greater part of the expense thus

far necessary has been borne by individual members of the committee.

It soon became clear that a choice was necessary between two alternatives: (1) the committee might prepare a report on the opinions of its members and others, regarding the topic of its assignment, or (2) it might undertake a prolonged study of facts and tendencies in science teaching. The second alternative was adopted and a plan of procedure was published in SCIENCE for December 12, 1924. The work has progressed satisfactorily. Under the auspices of the committee and with the most helpful assistance of the U. S. Commissioner of Education, Dr. John J. Tigert, a bibliography of science teaching in secondary schools has been published as Bulletin No. 13 of the Bureau of Education of the U. S. Department of the Interior. This is a book of 161 pages, compiled by Earl R. Glenn, assisted by Josephine Walker. It may be secured from the Superintendent of Documents, Government Printing Office, Washington, D. C., price 25 cents. Reports of previous studies on science education have been distributed to the committee members from time to time, for their information and to secure their suggestion. This work is to be continued.

The report concludes with the following sentences:

Possibly the largest immediate opportunity of the committee relates to the need for better public information about the real nature of science and scientific study, and their value to society. In a democracy, a thing may be right and still may be cast out if the great majority does not know that it is right. "The majority of one age is often the shame and wonder of the next age." There may be some heroic glory in being in the right with the minority, but science would gain more glory and be much more serviceable to human progress if the majority of the people might appreciate and believe in scientific truths and methods. How science may become much better known and appreciated by people who are not and who are not likely to become scientists, that is a question that science must answer if she expects the privileges and supports requisite for her future development. It is a question worthy of the most profound and long-continued study, for it can not be solved by hasty and superficial though well-meant side efforts of a few special-science research students. Its solution will require the full intelligence and energy of many able people. But it is a task that is essential not only for the sciences but more important for all men. If we believe what we say about the services of science to society we can not safely ignore the need of making these services really available and generally appreciated.

The committee on the place of the sciences in education arranged a program of four papers for Wednesday afternoon of the meeting, complimentary to the citizens of Kansas City. This program is reported elsewhere in this issue of SCIENCE.

OFFICERS ELECTED AT KANSAS CITY

PRESIDENT

L. H. Bailey, 103 Sage Place, Ithaca, N. Y.

VICE-PRESIDENTS

Section A (*Mathematics*), Edward V. Huntington, professor of mechanics, Harvard University, Cambridge, Mass.

Section B (*Physics*), William Duane, professor of biophysics, Harvard University, Cambridge, Mass.

Section C (*Chemistry*), Lauder W. Jones, professor of chemistry, Princeton University, Princeton, N. J.

Section D (*Astronomy*), Robert G. Aitken, astronomer and associate director, Lick Observatory, Mt. Hamilton, Calif.

Section E (*Geology and Geography*), Eugene A. Smith, professor emeritus of geology, University of Alabama, University, Ala.

Section F (*Zoological Sciences*), Winterton C. Curtis, professor of zoology, University of Missouri, Columbia, Mo.

Section G (*Botanical Sciences*), Benjamin M. Duggar, physiologist, Missouri Botanical Garden, St. Louis, Mo.

Section H (*Anthropology*), R. Bennett Bean, professor of anatomy, University of Virginia, University, Va.

Section I (*Psychology*), Margaret Floy Washburn, professor of psychology, Vassar College, Poughkeepsie, N. Y.

Section K (*Social and Economic Sciences*), Joseph H. Willits, professor of industry and industrial research, Wharton School of Finance, University of Pennsylvania, Philadelphia, Pa.

Section L (*Historical and Philological Sciences*), W. Carl Rufus, assistant professor of astronomy, University of Michigan, Ann Arbor, Mich.

Section M (*Engineering*), C. R. Richards, president of Lehigh University, Bethlehem, Pa.

Section N (*Medical Sciences*), Rufus I. Cole, director of the Rockefeller Hospital, New York City.

Section O (*Agriculture*), C. F. Marbut, chief of the Division of Soil Survey, Bureau of Soils, U. S. Department of Agriculture, Washington, D. C.

Section Q (*Education*), Melvin E. Haggerty, dean of the College of Education, University of Minnesota, Minneapolis, Minn.

ELECTED MEMBERS OF THE COUNCIL, FOR 4-YEAR TERM

John C. Merriam, Carnegie Institution of Washington, Washington, D. C.

Rodney H. True, University of Pennsylvania, Philadelphia, Pa.

MEMBERS OF THE EXECUTIVE COMMITTEE, FOR 4-YEAR TERM

F. R. Moulton, University of Chicago, Chicago, Ill.

M. I. Pupin, Columbia University, New York City.

MEMBERS OF THE COMMITTEE ON GRANTS FOR RESEARCH, FOR 4-YEAR TERM

L. G. Hoxton, University of Virginia, University, Va.

Vernon L. Kellogg, National Research Council, Washington, D. C.

ELECTED MEMBERS OF SECTION COMMITTEES[3]

Section A, H. H. Mitchell, University of Pennsylvania, Philadelphia, Pa.

Section B, P. W. Bridgman, Harvard University, Cambridge, Mass.

Section C, William C. Bray, University of California, Berkeley, Calif.

Section D, R. Meldrum Stewart, Dominion Observatory, Ottawa, Can. Samuel G. Barton (1927), Flower Observatory, University of Pennsylvania, Philadelphia, Pa.

Section E, Adolph Knopf, Yale University, New Haven, Conn.

Section F, Fernandus Payne, Indiana University, Bloomington, Ind.

Section G, Cornelius Lott Shear, U. S. Department of Agriculture, Washington, D. C.

Section H, E. A. Hooton, Peabody Museum, Cambridge, Mass. C. H. Danforth (1926), Stanford University, Calif.

Section I, W. B. Pillsbury, University of Michigan, Ann Arbor, Mich.

Section K, F. R. Fairchild, Yale University, New Haven, Conn.

Section L, F. B. Dains, University of Kansas, Lawrence, Kans. Florian Cajori (1928), University of California, Berkeley, Calif.

Section M, Frank B. Jewett, Bell Telephone Laboratories, New York, N. Y.

Section N, R. G. Hoskins, Ohio State University, Columbus, Ohio. E. E. Tyzzer (1927), Harvard Medical School, Boston, Mass.

Section O, C. R. Ball, U. S. Department of Agriculture, Washington, D. C.

Section Q, L. A. Pechstein, University of Cincinnati, Cincinnati, Ohio.

THE PRESIDENT-ELECT

A Biographical Note

Liberty Hyde Bailey, president-elect of the American Association for the Advancement of Science, was born March 15, 1858, at South Haven, Michigan. His father had the same name, his mother was Sarah Harrison Bailey, and they were leaders in their community. The boy grew up on a farm near the Lake Michigan shore, with the training and experience of the pioneer life of that time and region and with exceptional encouragement and guidance from his parents. From early years he showed unusual interest in natural history, specially at first in the wild animals of field and forest, stream and lake, as well as in wild plants and in the domesticated animals and plants of the farm. At the age of fifteen an article by him on birds was accepted and published by the Michigan Pomological Society. He was one of the first to make special study of the great sand-dune area of Lake Michigan, since become a favorite study-ground for many ecological students, and he pointed out the great southward extension there of many otherwise much more northern plants. His maturer interest developed largely in the field of systematic botany and with advancing years he has always taken great delight in knowing plants better and better, in a sort of personal way, being keenly alert to their distinctive structural characteristics, their habitat preferences and evolutionary relationships, as well as to their idiosyncrasies of behavior. He is remarkable in that, as a boy, his first reading of Darwin's "Origin of Species"—it chanced somehow that he came upon the book in that pioneer country—occurred before he had ever even heard that there were people who looked upon that great contribution as bad for children and even for adults. His natural botanical tendencies and his early agricultural training and interest combined to produce remarkable facility with cultivated plants. He became, and now is, one of the most eminent of American students of these most important, most generally interesting and most difficult of plant forms.

Dr. Bailey is primarily a product of the Michigan educational system, as this was early planned for the children of rural people. He attended the local schools and entered the Michigan Agricultural College at Lansing in 1877. From that college he was graduated, with the degree of bachelor of science, in June, 1882. Four years later he received the degree of master of science from the same college. At college he was a leader among the students, being for a time editor of their paper, *The College Speculum.*

His botanical leader at Lansing was the late William J. Beal, who influenced and encouraged so many to become students of nature. Beal was a student and enthusiastic follower of Agassiz, filled with the new gospel of observational science and exemplifying the motto, "Study nature, not books." Showing a visitor over his new botanical garden one day, Beal called over to him a young graduate student, saying to the visitor, "I want you to meet a real genius." The graduate student was Bailey, and his early teacher's judgment has stood the test of time. Other teachers that exerted particular influence on this student were Professor T. C. Abbott, then president of the college, who taught moral philosophy and literature; Professor R. C. Kedzie, in chemistry; and Professor A. J. Cook, in zoology. Those were days when students were few and when they had direct

[3] All these are elected by the sections, for a 4-year term, excepting those whose names are followed by numbers in parenthesis; each number in parenthesis denotes the year at the end of which the member's term of office is to expire.

personal contact with the best teachers then in the field.

In 1882 and 1883 Bailey was assistant to Asa Gray, at Harvard College. He gave up the offer of a promising and paying position as newspaper reporter in Springfield, Illinois, to go to Cambridge on bare subsistence. He was thus near to becoming a newspaper man, but his work with Gray led him into the way along which he has since traveled so far. Gray had recently come into possession of a large collection of plants from many regions, made by an Englishman, and Bailey's first task was to separate this collection into sets for Harvard College and other American institutions that were maintaining herbaria at that time. His second task at Cambridge was to label the plants in the greenhouses, after which he named and labeled those of the garden. In this work he became acquainted with the plants of the world, guided by the great leader of American philosophical botany. As is well known, Gray had an unusually broad and sympathetic attitude toward all branches of knowledge and toward life in general. From him the young Bailey received encouragement and inspiration toward farther-flung interests and deeper human ideals than could be compassed in the realm of technical botanical science. It is interesting to remark that the present president of the association was a student and is in many respects a follower of a former president; Asa Gray was president of the American Association in 1871.

In 1885 Bailey became professor of horticulture and landscape gardening at his alma mater and he held that post very successfully for four years. He built up the horticultural department and gave it great influence, particularly in the study of fruit growing. Under his leadership a building was erected for the department. In 1888 he was called to Cornell University to be professor of horticulture in that institution. He became professor of rural economy and dean and director of the New York State College of Agriculture in 1903. While at the Michigan post Bailey began his analytical studies of the very difficult genus Carex—the sedges, if one prefers to avoid universal terminology. On this group of more or less grass-like plants he was for years a recognized authority; he wrote the section on Carex for the sixth edition of the familiar Gray's "Manual of the Botany of the Northern United States."

To Dean Bailey's industry and insight and foresight is largely due the exceptionally excellent and well-proved organization of the New York State College of Agriculture at Cornell University, one of the greatest and most successful of its kind. To him was largely due the establishment of the college at Cornell University. He devoted the prime of his life to the development of that college and it was only when he withdrew from institutional work in 1913 that he left the college, as a sort of living monument to his twenty-five years of labor. Many of the present faculty at Cornell, as well as many others of his former students, are proud to regard themselves as intellectual and spiritual children of the able and sympathetic and indefatigable professor and dean of those twenty-five years. Since 1921 he has been professor emeritus in the College of Agriculture of Cornell University.

Dr. Bailey is a man of science, an educator, a philosopher and interpreter of nature—whose philosophy is for the people, especially for the people who live near to the "holy earth"—and a very productive editor, an "architect of books." In each of these fields he stands high. He has habitually seen and recognized fundamentals; dry facts (of which scientific knowledge is so often supposed to consist solely) are but his well-formed tools, with which he has worked artistically and well toward the advancement of well-grounded knowledge and toward the deeper wisdom that tends ever to make life more livable, finer and more delicately appreciative, more enjoyable. He has given us a series of inspiring and truthfully poetic books that belong on the same shelf with those of Emerson, Thoreau and Burroughs. In many ways he has succeeded in the "artistic expression of life."

Bailey's work as a systematic botanist, his monographs of groups of cultivated plants—*cultigens,* as distinguished from *indigens,* the native forms; he coined these words (SCIENCE 47: 306. 1918)—are many and of great value; he has contributed much by his own hand toward our knowledge of these difficult plants, with which almost every one is somewhat acquainted, and especially toward diminishing the difficulty encountered by any one who desires to write or speak with precision about the innumerable cultivated plant forms that have been so generally neglected by workers in taxonomic botany. If you notice a plant in some garden and wish to learn about it, its name, its history, its relatives, its culture needs, the chances are great that your most available and useful guide is to be found in some book or monograph by L. H. Bailey, or in a book planned by him and issued under his editorship. With the botany of cultivated as well as wild plants Bailey has continued his active work since his withdrawal from the New York State Agricultural College, and more botanical monographs are now in preparation. He is specially engaged with the difficult and but little understood group of palms. He is now working every day in his private laboratory, among his

herbarium sheets and books, or in his garden where he grows many of the species that he studies. He knows his plants alive.

Aside from his great contributions as a teacher and as an organizer of agricultural education, and aside from his valuable output of botanical publications under his own name, Dr. Bailey's greatest gifts to our civilization have perhaps come from his editorial activities in the field of agriculture and rural life. No one else has placed so many excellent books on these subjects in our hands. He organized the field, wrote much himself and encouraged others to write still more. Beginning with the editing of a later edition of Gray's "Field, Forest and Garden Botany," he has edited more than a hundred volumes—texts, guides and reference books on agriculture, horticulture and country life.

An eminent American botanist recently remarked that Bailey's career has been specially noteworthy because he brought his scientific botanical training and results to the applied fields of horticulture and agriculture in general and then made his work in these fields broadly available by his studies of rural American life; it is as though he first laid hold of facts and truths of botanical science, then made them applicable in agricultural practice and finally gave special study to the people engaged in agriculture, so that they might be led to understand and use the applied science. His work is an excellent example of the important part botany must play in our community life.

To travel and botanical collecting Professor Bailey has devoted much time, both in this country and in other lands. He was in Munich in 1897, 1903 and 1910, in New Zealand in 1914 and in Japan and China in 1917. He has been many times in England and has repeatedly visited most parts of Canada and the United States. He has had the friendship of most of the eminent botanists of the last generation throughout the world. His major botanical interest is the study of palms, in connection with which he has made several collecting trips to South America and the West Indies.

Many institutions and organizations of learning, both here and abroad, have at the same time honored themselves and the one who is now president of the world's greatest organization of men of science. Dr. Bailey has received honorary doctor's degrees from the University of Wisconsin, Alfred University and the University of Vermont. He is a member of Sigma Xi, Phi Beta Kappa, Pi Alpha Xi, and Phi Delta Theta. He was awarded the Vietchian Medal of the Royal Horticultural Society of London in 1898. He was chairman of President Roosevelt's commission on country life in 1908. He was president of the American Pomological Society in 1917. He is a member of the United States National Academy of Science and the American Philosophical Society, and a fellow of the American Academy of Arts and Sciences. He is honorary member of the Royal Horticultural Society of London, the Horticultural Society of Norway, the Japanese Agricultural Society and the Horticultural Society of Japan, and corresponding member of the Royal Academy of Agriculture of Turin, Italy. The president of the American Association is this year also president of the Botanical Society of America.

Dr. Bailey has been for many years a member of the American Association for the Advancement of Science, which he first joined at the Ann Arbor meeting in August, 1885. He was elected to fellowship in 1887. Although he dropped out for about a decade, his interest in the work of the association has always been actively maintained and his membership record is continuous since 1913. The files show him specially interested in the work of Section G (Botanical Sciences) and Section O (Agriculture). There is no member whose personal aims and ideals are more in accord with those of the association.—B. E. L.

THE KANSAS CITY SESSIONS OF SECTIONS AND SOCIETIES

The following reports of the programs of the sections and societies at the Kansas City meeting have been compiled by the assistant secretary and the permanent secretary of the association from accounts sent in by section and society secretaries. The accounts were generally received more promptly this year than ever before and there has been less necessity for editing them in many cases. It has to be admitted that there was still verge for considerable improvement in many of the accounts. Secretaries of sections and societies are asked to study this problem and to be in readiness to serve the association and the general cause of science in this respect even better in the future than in the past. To all who have cooperated in this pressing work of preparing the reports of the sections and societies, the permanent secretary and the assistant secretary wish to express their personal thanks and the thanks of the association.

The reports are arranged below according to the association sections; a change in form of arrangement, from that followed in recent years, is due to an attempt to present more material in the limited space at our disposal.

SECTION A (MATHEMATICS)

Vice-president and chairman, W. H. Roever; *retiring vice-president,* J. C. Fields; *secretary,* R. C. Archibald, Brown University, Providence, R. I. With the section met the American Mathematical Society (*president,* G. D. Birkhoff; *secretary,* R. G. D. Richardson, Brown University, Providence, R. I.), and the Mathematical Association of America (*president,* J. L. Coolidge; *secretary,* W. D. Cairns, Oberlin, Ohio).

(*Report received from R. C. Archibald*)

Section A held two joint sessions, one on Wednesday morning with the American Mathematical Society and the Mathematical Association of America, and the other on Wednesday afternoon with Sections D and L. At the morning session Professor Roever presided and two addresses were read. The first, on "The Heine-Borel Theorem and Allied Problems," was delivered by Professor Hildebrandt, vice-president of the American Mathematical Society. The paper is to be published in full in the *Bulletin of the American Mathematical Society.* The speaker dealt with extensions and generalizations of the well-known theorem on the possibility of selecting from an infinite number of intervals such that any point of a given interval (ab) is interior to at least one of them, a finite number having the same property. The generalizations introduced were concerned with more general spaces and with more general covering sets. The second paper was the retiring vice-presidential address by Professor Fields, on "The Algebraic Numbers and Division." It is expected that this paper will be published in SCIENCE. At the afternoon session there were six papers, chiefly of interest to members of Section D. The session then concluded with a paper on "William Chauvenet and His Mathematical Contributions to Astronomy," by Professor Roever. It was largely through Chauvenet's instrumentality that the U. S. Naval Academy was established at Annapolis. From 1859 till his death in 1870 (when he was a vice-president of the American Association) he was professor and chancellor at Washington University. In *Washington University Studies,* for January, 1925, Professor Roever published a portrait of Chauvenet, a list of his publications and an extended account of his work in Missouri.

The American Mathematical Society held simultaneous sessions for the reading of forty-four papers on Tuesday morning and afternoon. The sessions were in analysis and algebra; and in point sets and geometry, mechanics and applied mathematics. The largest number of papers was presented at the analysis session. A full report of the meeting, including abstracts of the papers, will appear in the *Bulletin of the Mathematical Society.*

The third Josiah Willard Gibbs lecture of the American Mathematical Society was delivered by Professor James Pierpont, of Yale University, at the fourth general session of this meeting, as elsewhere noted in this issue of SCIENCE, on "Some Modern Views of Space." The meeting was presided over by Professor E. R. Hedrick and was attended by nearly one thousand persons. The lecture will appear in full in the *Bulletin of the American Mathematical Society.* After a brief historical survey of the development of non-euclidean geometries, the lecturer mentioned a number of recent advances in extending the generality of geometries, made by Wyl, Eisenhart, Veblen and Einstein.

The Mathematical Association of America held the main sessions of its tenth annual meeting on Thursday morning and afternoon. Professor J. L. Coolidge, of Harvard University, delivered his retiring presidential address on "Robert Adrain and the Beginning of American Mathematics." Professor of mathematics at Columbia, Rutgers and Pennsylvania in the first third of the nineteenth century, he was the first mathematician in America to exhibit powers of original investigation. Professor Coolidge dealt only with published mathematical work of Adrain; much unpublished material is to be discussed in a future book by Professor M. J. Babb, of the University of Pennsylvania. Five other papers were given.

Announcement was made that the first award by the M. A. A. of the Chauvenet Prize of one hundred dollars, for excellence in mathematical exposition, was to Professor G. A. Bliss, of the University of Chicago, for his paper on "Algebraic Functions and Their Divisors" in the *Annals of Mathematics,* for September and December, 1924. The next award of this prize will be made in 1930. The following officers of the M. A. A. (which now has 1,875 members) were elected or appointed: *President,* Dunham Jackson; *vice-presidents,* W. B. Ford and J. W. Young; *trustees for three years,* Florian Cajori, J. L. Coolidge, E. H. Moore, Oswald Veblen; *secretary-treasurer,* W. D. Cairns. The annual meeting of December, 1926, is to be in Philadelphia; that of December, 1927, is to be in Nashville. On Wednesday evening a very successful dinner for mathematicians was held at the City Club, with Professor F. R. Moulton as toastmaster.

SECTION B (PHYSICS)

Vice-president and chairman, H. M. Randall; *retiring vice-president,* K. T. Compton; *secretary,* A. L. Hughes, Washington University, St. Louis, Mo.

With the section met the American Physical Society (*president,* Dayton C. Miller; *secretary,* Harold W. Webb, Columbia University, New York City) and the American Meteorological Society (*president,* Willis I. Milham; *secretary,* Charles F. Brooks, Clark University, Worcester, Mass.).

(*Reports received from A. L. Hughes and W. R. Gregg*)

As has been the custom for a number of years, the program of Section B was mostly in charge of the American Physical Society and the American Meteorological Society. Section B was responsible for one session, on the morning of December 30, at which the retiring vice-president gave his address, followed by a symposium on relativity. Fifty-one papers were contributed to the program of the American Physical Society, which occupied five half days, and seventeen papers to that of the American Meteorological Society, which occupied three half days. The prize-winning address of this meeting, by Professor Dayton C. Miller, president of the American Physical Society, was given at the second general session of this meeting, as noted elsewhere. The address was heard by over three thousand people. The subject was "The Michelson-Morley Ether-Drift Experiment, its History and Significance." After describing the pioneer experiment, done forty years ago, and the subsequent repetition by Morley and Miller, the speaker discussed his own work since 1921 and particularly results that he has obtained in the last few months. This recent work is of the highest importance in that it furnishes much more abundant and accurate data than were hitherto available for the discussion of the fundamentally important subject of ether-drift. A brief abstract of Professor Miller's conclusions is given on an earlier page of this issue of SCIENCE. The third American Association prize of $1,000 for the Kansas City meeting was awarded to Professor Miller for his contribution to physics.

Professor K. T. Compton, of Princeton University, association vice-president for Section B, gave his retiring vice-presidential address on "Dielectric Constants and Molecular Structure." It was shown that the expression for the dielectric constant consists of two parts, one dependent on and the other independent of the temperature. It is possible to determine these two parts experimentally and so to secure data as to some properties of molecules. A symposium on relativity was held immediately after the address of Professor Compton, to which the contributors were Professor H. G. Gale, Dr. C. E. St. John and Professor A. C. Lunn. Professor Gale's address was on "The Effect of the Earth's Rotation on the Velocity of Light." The paper described the well-known experiments by Michelson and Gale, to test the predicted value of the phase difference between two pencils of light starting together, one going around a large rectangle in one direction and the other in the opposite direction. The observed displacement of the fringes was found to be in agreement with the computed value on the hypothesis of a fixed ether. Dr. St. John's paper was on the "Astronomical Evidence for the Gravitational Displacement of Spectral Lines." Former large and puzzling variations from the expected value of the displacement of solar spectral lines have now been satisfactorily accounted for as due to convection currents in the solar atmosphere. When this is allowed for, the measured shift of the spectral lines is in satisfactory agreement with the Einstein value. The abnormally large displacement in the spectral lines of the dark companion of Sirius is exactly what is to be expected from independent astronomical evidence that this star has a density of the order of 50,000 which would increase the Einstein shift thirty-four times. Professor Lunn spoke on "Experimental Science and World Geometry." He discussed some features of the theory of relativity, from the point of view of the use of the methods of geometry in representing both time and space relations, and of extending that method to cover in a unified way a larger range of scientific ideas than was formerly thought possible.

The American Meteorological Society held its sixth annual meeting on December 28 and 29, the first three sessions being occupied with the presentation of scientific papers and the last with the hearing of reports, election of officers, etc. The program included a wide range of subjects, many of the papers dealing with subjects of special interest locally, such as tornadoes, upper winds along the air mail route that runs through Kansas City, and the relations between climate and weather and certain crops that are grown extensively in the central states. Other subjects discussed were weather periodicities, relations between weather and radio reception, effects of planets on the weather, etc. At the annual business meeting the secretary's and treasurer's reports showed the affairs of the society to be in a very satisfactory condition. During the year the Meisinger Aerological Research Fund was considerably increased, and announcement was made that an award of $100 would be given from the fund at the annual meeting in December, 1926, for a meritorious contribution to aerology or aeronautical meteorology. A committee was appointed to examine papers that may be offered in competition for this

award. The annual election resulted as follows: *President,* Charles F. Marvin; *vice-president,* Dinsmore Alter; *secretary,* Charles F. Brooks, Clark University; *treasurer,* Willis Ray Gregg; councillors for three-year term: E. B. Calvert, H. J. Cox, General A. W. Greely, A. J. Henry, R. DeC. Ward.

SECTION C (CHEMISTRY)

Vice-president and chairman, H. P. Cady; *retiring vice-president,* F. G. Cottrell; *secretary,* Gerhard Dietrichson, 48 Massachusetts Ave., Cambridge, Mass.

(*Report received from Gerhard Dietrichson*)

Section C held sessions on Tuesday, Wednesday and Thursday, December 29 to 31, all well attended. The programs were arranged in cooperation with the Kansas City Section of the American Chemical Society. Much credit is due the secretary of the latter, Mr. A. S. Barada, and others for their help in this connection. Most of the Tuesday session was devoted to a symposium on the chemistry of milling and baking, and a number of well-known cereal chemists participated. Rowland J. Clark, of the American Association of Cereal Chemists, opened the discussion with a paper on "The Problems of Milling Chemistry." He called attention to the complex nature of the wheat kernel and the consequent importance of chemical knowledge in the purchasing, manufacturing and sales departments of the mill organization. This phase of the subject was also presented by H. E. Barnard, of the American Institute of Baking, and by C. J. Patterson, of Kansas City. In the estimation of Professor C. H. Bailey, of the University of Minnesota, a quantitative determination of the gluten proteins gives, under certain limitations, the best chemical indication of the baking strength of flour. M. J. Blish, of the University of Nebraska, described a new and more direct method for the separation of glutenin and gliadin. According to C. O. Swanson, of Kansas State Agricultural College, it is possible by means of mechanical action to so modify the properties of gluten in flour as to shorten the time required for making light bread without the use of an extra amount of yeast or lactic acid. A machine of special design has been constructed for this purpose. Earl B. Working, of Kansas State Agricultural College, called attention to viscosity as an indication of the baking quality of flour. Miss Alice Cline and Miss Davis, of the University of Missouri, reported successful experiments in the baking of light bread from Missouri soft-wheat flour, by the use of dried yeast and certain mineral constituents. At the conclusion of this symposium a joint session was held with Section L, at which Frank B. Dains, of the University of Kansas, gave an illustrated paper on the early development of chemical symbols.

The retiring vice-president for Section C, Dr. F. G. Cottrell, was unable to attend the meeting and deliver his retiring address. The U. S. Chemical Warfare Service was represented at the Wednesday forenoon session by Capt. M. E. Barker, of Edgewood Arsenal, who gave an account of work that is there being conducted. This was supplemented by an exhibit and a motion-picture film at the Science Exhibition. W. A. Noyes, of the University of Illinois, presented two papers, in the first of which he described an apparatus for the preparation of absolute alcohol. In his second paper he pointed out what seemed to him the somewhat artificial distinction between polar and non-polar valences.

The Thursday sessions were devoted to papers covering a wide range of subjects. One of these that aroused much interest was that by S. C. Lind, of the Fixed Nitrogen Laboratory of the U. S. Department of Agriculture, who discussed experiments conducted by D. C. Bardwell and himself in catalyzing different types of gaseous reactions by means of various kinds of inert ions. Another paper dealing with catalysis phenomena was that by H. L. Dunlap, of the Rolla School of Mines, who gave the results of an extensive series of experiments on the catalytic action of neutral alkali and alkaline earth chlorides in the ketonic splitting of ethyl acetoacetate with hydrochloric acid. The chemistry of petroleum was discussed by Roy Cross, of the Kansas City Testing Laboratory, and by F. W. Padgett, of the University of Oklahoma. Dr. Cross reviewed the present status of the commercial cracking of petroleum. Edward Bartow, of the University of Iowa, reported on a study of the products to be recovered from the Steffins waste in the manufacture of beet sugar. W. D. Turner and C. J. Monroe, of the Rolla School of Mines, described a new space-model periodic table, in which the elements are distributed in accordance with the position assumed to be taken by the electrons in going to elements of increasingly higher atomic numbers. J. Willard Hershey, of McPherson College, reported that animals in his experiments failed to live more than from twelve to thirty hours in an atmosphere of pure oxygen.

On Wednesday evening the chemists attending the Kansas City meeting were joined with Section M at a dinner in the University Club. After the dinner was held the fifth general session of the association, which is noted elsewhere.

SECTION D (ASTRONOMY)

Vice-president and chairman, A. E. Douglass; *retiring vice-president,* John A. Miller; *secretary,* Philip Fox, Dearborn Observatory, Evanston, Illinois.

(Report received from Philip Fox)

Section D held only one session for the presentation of papers, and in this session Sections A and L participated. The address of the retiring vice-president was not presented on account of the absence of Professor Miller, who was conducting an expedition to Sumatra for the observation of the solar eclipse of the 14th of January, 1926. Professor William H. Roever delivered an address on William Chauvenet, which is reported under Section A. This careful review of the work of Chauvenet recalls a remark made to the secretary by Professor Herman Struve, then director of the Königliche Sternwarte in Berlin, to the effect that "you have in America the best work in existence on practical astronomy, that of Chauvenet, which is complete." Mr. Robert H. Baker, of the University of Illinois, read a paper on "Photoelectric Studies of Cepheid Variables." It is of interest to note that he is continuing at Illinois the work with the photoelectric cell inaugurated there by Professor Stebbins. Dr. Dinsmore Alter, of the University of Kansas, commented on some apparatus for instruction in astronomy. Several interesting pieces of apparatus of his design were demonstrated in the Science Exhibition. Colonel John Millis, of Cleveland, presented some speculations on the history of the formation of the solar system. Professor A. E. Douglass, of the University of Arizona, gave a very interesting discussion of atmospheric currents and shadow bands, in which he described a special camera designed for photographing these bands. This camera was used successfully in getting a photograph of shadow bands at the total eclipse of January 24, 1925. The other sessions of Section D were held in conjunction with Section B and the American Physical Society.

SECTION E (GEOLOGY AND GEOGRAPHY)

Vice-president and chairman, R. A. Daly; *retiring vice-president,* W. C. Mendenhall; *secretary,* G. R. Mansfield, U. S. Geological Survey, Washington, D. C.

(Report received from G. R. Mansfield)

Headquarters and meeting place for Section E were provided by the New Kansas City Athletic Club, which generously made available its ample facilities to members and guests of the section. Sessions were held beginning Monday afternoon and lasting through Wednesday forenoon. The attendance ranged from forty to one hundred and included many representatives of state geological surveys and universities of the Middle West, besides others whose interests were less professional. The program, consisting of forty papers, was excellent and varied. There was in the main ample opportunity for discussion. On Wednesday afternoon an excursion was led by Professor R. C. Moore to the Museum and Geological Department of the University of Kansas at Lawrence.

The address of the retiring vice-president for the section, Mr. W. C. Mendenhall, was delivered on Tuesday afternoon. It will appear in SCIENCE. Mr. Mendenhall's subject was "Some Recent Trends in American Geology." Few spectacular advances have been made in recent years, but there has been steady and substantial progress in many directions. Recent trends are toward greater refinement in methods, greater exactness in results and clearer coordination with other branches of science. The fact that practical applications of scientific principles are not possible until these principles have been established by fundamental research has long been recognized by men of science and it seems now to be gaining wider recognition outside of scientific ranks. Some tendencies toward the more liberal support of pure research were noted.

A series of papers on the Pleistocene were chiefly stratigraphic and dealt with the loess, the Iowan drift and the McPherson (Equus) beds of central Kansas, with considerable discussion of the last two topics. Mr. Leverett presented the results of a summer expedition with others to disputed areas in northeastern and northwestern Iowa. The presence of the Iowan drift in both localities was established, but the correlation of it is still in doubt. The probabilities now are that it will prove to correspond either with the late Illinoisan or the early Wisconsin phases of glaciation and that the number of glacial epochs in North America will be found to be four, as in Europe. The Equus beds described by Professor Moore include much granitic débris and present interesting problems as to origin and distribution. Seven earthquake papers were presented at the Tuesday morning session. Much discussion was aroused by Professor Macelwane's discussion of the question, "Are Important Earthquakes ever caused by Impact?" The author's conclusion, that they are not so caused, was in general sustained. Commander Heck pointed out the relation of earthquakes to great ocean troughs and the necessity of fitting to these troughs the theories of earthquake causes and of mountain building. He illustrated by slides an example of a considerable change in the configuration of the ocean bottom, occurring in a comparatively short period in the Philippine Islands, one of the few cases where, because of reliable measurements before and after the event, the evidence is complete. Dr. Reeds discussed New York City as a field for earthquake study and concluded

that, since the New York City district is apparently an aseismic area, it affords an excellent field for the instrumental study of distant and nearby earthquakes. Dr. L. H. Adams discussed briefly the conditions obtaining in the earth's interior and pointed out that the outer portion of the earth's crust is now believed to be in a general state of compression such as to account very nearly for the observed tectonic features of the earth's surface. Dr. E. H. Hodgson presented a discussion of the St. Lawrence earthquake, together with the hypothesis that the Gaspé Peninsula has been slowly rising and imposing a strain on the strata between Riviere du Loup and Lévis; this yielded on a fault near Riviere Quelle; the east side rose suddenly and the west side slid horizontally eastward. Several applications of this theory were cited and a number of "trigger causes" of the earthquake were suggested.

A symposium on the Carboniferous comprised fifteen papers, mostly of a stratigraphic nature, but included one paper that was dominantly structural, one on sedimentary analysis and one on vertebrate paleontology. The contributors were members of university departments or state surveys that had long been working on problems of the Carboniferous. The greater part of the papers dealt with problems of the Mississippian, but the other Carboniferous series received considerable attention and there were several general papers summarizing the entire period for certain states or regions. It is expected that many of these contributions will be published.

Besides several papers on oil, there were ten miscellaneous papers, three paleontologic, two dynamic, and one each, physiographic, cartographic, economic, structural and petrographic. Of these the papers by G. L. Knight, on stream transportation in solution, and by A. F. Rogers, on the geology of Cormorant Island, in the Salton Sea, California, were outstanding.

SECTION F (ZOOLOGICAL SCIENCES)

Vice-president and chairman, H. S. Jennings; *retiring vice-president,* Edwin Linton; *secretary,* Geo. T. Hargitt, Lyman Hall, Syracuse University, Syracuse, N. Y. With the section met the Entomological Society of America (*president,* George A. Dean; *secretary,* C. L. Metcalf, University of Illinois, Urbana, Ill.), The American Association of Economic Entomologists (*president,* H. A. Gossard, deceased December 18; *first vice-president,* R. N. Chapman; *secretary,* C. W. Collins, Melrose Highlands, Mass.), the American Society of Parasitologists (*president,* Henry B. Ward; *secretary,* W. W. Cort, Johns Hopkins University, Baltimore) and the Wilson Ornithological Club (*president,* Albert F. Ganier; *secretary,* Gordon Wilson, 1434 Chestnut St., Bowling Green, Ky.).

(*Reports received from Geo. T. Hargitt, C. L. Metcalf, C. W. Collins, W. B. Wood, G. M. Bentley and W. W. Cort*)

The meeting of Section F in Kansas City was an unqualified success, certainly one of the most successful in many years. Every session was so crowded that many had to be satisfied with standing room. The attendance at the daily sessions averaged from 125 to 150. The papers were of high quality, the presentation generally stimulating and the research problems reported upon important. The interest was maintained throughout and oftentimes vigorous discussion enlivened the program and increased the interest and value of the papers. Those who appeared upon the program represented widely different geographical regions, extending from California, Washington and Texas to Georgia, Minnesota, New York and Rhode Island. The larger number of papers came from Kansas, Missouri, Illinois and Nebraska, but at least three papers were presented from each of the following states: California, New York, Minnesota, Michigan. Those in attendance but not reading papers also came from widely scattered localities; again the neighboring states were most numerously represented, but generous representations were made from the Atlantic, Southern, East Central, Western Mountain and Western Coast states.

Dr. Edwin Linton had as the title of his retiring vice-presidential address, "The Scientific Method and Authority." He outlined the fundamentals of the scientific method, whether applied to science, history, theology or other fields, and explained the manner in which this method should be employed and its significance. The term authority was defined and the different uses made of the term by various groups were mentioned, but it was pointed out that it is used by the scientist only in connection with the scientific method and involves the proper use of evidence and judgment. The chief portion of the address was devoted to an examination of the anti-evolution and fundamentalist tendencies of recent time. From a study of many writings of this character the speaker was led to the conclusion that the search for evidence and the common-sense use of this evidence were but little considered or regarded by these anti-evolutionary and fundamentalist writers. The leaders and advocates of these movements either entirely ignored the scientific method or misapplied the evidence which they had or could easily obtain; they depended largely upon emotionalism and biased presentation for their effect. A keen and brilliant review of much of the recent anti-evolutionary literature was given. The complete address will soon be published in SCIENCE. Following the address of Dr. Linton, Professor C. E.

McClung gave a short paper entitled, "A Plain Tale from the Hills." In this was given a brief history of a quarter century of cytological work by the zoologists of the University of Kansas and their students. A sympathetic account was given of the important work done and its relation to other cytological advances, together with a well-deserved acknowledgment of those who had contributed to this development of recent cytology. These addresses were given on Tuesday afternoon and heard by an appreciative audience of over five hundred.

Many of the numerous, important and valuable reports given before the section may be read in abstract in the December issue of the *Anatomical Record*. A joint session was held on Thursday morning with the American Society of Parasitologists, and another on Thursday afternoon with the Ecological Society of America.

One hundred and thirty zoologists attended the annual zoologists' dinner Wednesday evening in the Kansas City Athletic Club. Following the dinner, the vice-president of the section, Dr. H. S. Jennings, gave a short talk and then introduced in succession Dr. Alphonse M. Schwitalla, Professor Robert H. Wolcott and Professor W. C. Curtis. The applause which followed the sometimes serious statements and ofttimes sparkling wit of the speakers testified to the success of this portion of the evening program.

The twentieth annual meeting of the Entomological Society of America, held December 29 and 30, was one of the most successful meetings of recent years. Although the attendance from the Atlantic states was not large, this was offset by increased attendance from the middle and far west and from the south. The attendance at the several sessions ranged from about forty at the business session on Wednesday morning to over four hundred and fifty at the annual public address on Wednesday evening. At the latter session, Dr. Vernon L. Kellogg gave an inspiring address on the subject "Cooperation or Isolation in Science?" Following this, Dr. L. O. Howard entertained the audience with intimate, chatty accounts, illustrated with lantern slides, of the many European entomologists whom he met last summer at the entomological congress in Zurich, which he attended as a delegate of the society.

The two sessions for the presentation of papers on Tuesday had an average attendance of over one hundred and dealt with a variety of research problems related to insects, as indicated by the following topics: regeneration, secondary sexual characters and their use in classification, the effect of cathartics on insects, climate and coloration, symbionts and parasites, the teaching of entomology and the life-history, bionomics, distribution and nomenclature of insects. On Wednesday afternoon the society met in joint session with the American Association of Economic Entomologists, for a symposium on parasitism. At this session, which was attended by about four hundred, the results of the gigantic experiments being carried on by American entomologists to control various imported insects by the introduction of their natural enemies from abroad, were presented by the specialists in this field. Summary papers dealing with the theory of control by parasitism, the effects of weather upon the abundance of parasites and the effects of parasitism on the host and on the parasite were also presented. A number of interesting exhibits were shown by members. It was regretted that a room for the society's exhibits had not been provided adjacent to the session room. Another source of regret was the use of a small daylight screen with the lantern, instead of having the room darkened and employing a large screen. The secretary of the society regards the small daylight screens as totally inadequate. It is hoped that he will successfully impress these special needs on the local representative for the section for the next annual meeting.

The following officers were elected for 1926: Dr. W. A. Riley, *president;* Dr. C. L. Metcalf, *first vice-president;* Dr. Annette F. Braun, *second vice-president;* Professor J. J. Davis, Purdue University, Lafayette, Indiana, *secretary-treasurer.*

The thirty-eighth annual meeting of the American Association of Economic Entomologists opened Tuesday morning and continued through Friday. There was a joint session with the Entomological Society of America on Wednesday afternoon, at which time a well-attended symposium of seven papers was held on insect parasitism. The entomologists' dinner Friday night was very successful; the entomologists of the Kansas State Agricultural College and the University of Kansas had provided a unique entertainment.

The extension entomologists held a meeting Tuesday evening and various conferences were held, on Hessian fly, European corn borer and other topics. The first session of the general association opened Thursday morning and sessions were continued through Friday. The Cotton States Entomologists were admitted as a branch of the association. Dr. W. E. Hinds, of Baton Rouge, La., was elected chairman of the new branch and Professor G. M. Bentley, of Knoxville, Tenn., was elected secretary. The attendance throughout the meeting was good, more than two hundred members being present. Dr. Arthur Gibson, of Ottawa, Canada, is president for 1926 and C. W. Collins, of Melrose Highlands, Mass., continues

as secretary. The program contained many papers on insecticides and on fruit, insects affecting stored products, forest and shade trees, cereal and forage and field crops, truck crops, greenhouse crops, and man and animals. Perhaps the three most striking papers were: "The Efficacy of Lead Arsenate in protecting Apples against Codling Moth Injury," R. H. Smith, Leland Stanford University; "The Influence of Temperature upon the Amount of Food consumed and the Number of Eggs laid by Grasshoppers," J. R. Parker, Bozeman, Mont.; "An Insect 'Olfactometer'," N. E. McIndoo, Washington, D. C. An address prepared by President H. A. Gossard before his very recent death, entitled "Organization and Program Procedure," was delivered by Acting President R. N. Chapman. Methods for handling the increasing and sometimes overcrowded programs of the association have received much constructive attention. The formation of new branches and sections was recommended.

The section of plant quarantine and inspection (*chairman,* C. H. Hadley; *secretary,* W. B. Wood, Washington, D. C.), held a session throughout Tuesday, December 29. Dr. C. L. Marlatt spoke on the recent work of the Federal Horticultural Board and discussed a number of recent developments in connection with quarantine enforcement. A symposium on "Certain Plant Diseases as related to Inspection and Quarantine" was held, at which were discussed: crown gall, blister rust, virus diseases of raspberry, stem rusts of wheat and other cereals and alfalfa weevil. Other interesting papers on the "Legal Aspect of Regulatory Work," "The Missouri Plant Act of 1925," and "The Tourist Problem in connection with Quarantines" were also presented and aroused much interest. The chairman for 1926 is Lee A. Strong, Sacramento, Calif., and W. B. Wood continues as secretary.

The section of apiculture (*chairman,* R. L. Webster; *secretary,* G. M. Bentley, Knoxville, Tenn.), held an interesting meeting on Wednesday forenoon, there being more than one hundred members present. Professor R. L. Webster gave the opening address, which was followed by other papers and discussion. About ten papers were presented and there was a symposium on "Spraying and dusting of Fruit Trees and their Effects upon the Honey Bee." J. I. Hambleton, U. S. Bureau of Entomology, Washington, D. C., was elected chairman for 1926 and Professor G. M. Bentley, Knoxville, Tenn., continues as secretary.

The first annual meeting of the American Society of Parasitologists was held on December 30 and 31, 1925. Over sixty members of the society were present out of a total membership of 321. All the meetings for the presentation of papers were well attended and there was an unusual amount of interesting discussion. An important feature of the program was a joint meeting with Section N (Medical Sciences), at which papers were presented on different phases of the medical aspects of parasitology. A comprehensive survey of recent developments in medical entomology was presented by Dr. W. A. Riley, who gave a very clear picture of recent activities in this important field. A paper by Dr. M. C. Hall outlined the remarkable recent development in anthelminthic medication, showing that by means of the experimental attack this field is emerging from the empirical phase. In his paper on the "Changing Viewpoint in Hookworm Control," W. W. Cort outlined the effect on the program of hookworm control of recent work on the soil stages of this parasite and of the advances that had been made in measuring the infestations and in methods of epidemiologic studies. Dr. W. H. Taliaferro gave an account of his work on the resistance of hosts to trypanosome infestations, demonstrating the production by the host of a substance that retards reproduction in the parasites.

In his retiring presidential address Professor Henry B. Ward outlined some of the recent important advances in parasitology, and, by a series of examples of disputed questions, showed how much work remains to be done in this field.

Thirty-eight papers were listed on the program of the society; of these thirty were presented by the authors and eight were read by title. Two papers were on general parasitology, eleven on protozoology, twenty-two on helminthology and three on medical entomology. Less than half of the papers were of a descriptive or systematic-morphological type. Eighteen were purely zoological in character and twenty had some economic significance. Of the zoological papers, eight were systematic-morphological and ten experimental, including seven on immunology. Of the twenty papers of economic significance, sixteen related to human medicine, two to veterinary medicine and two to fish culture. This analysis indicates the complexity of the field of parasitology, both in subject and method. A few of the results may be mentioned. Dr. G. R. LaRue pointed out in his paper on "The Relationships of the Trematode Family Strigeidae" that the recent discoveries regarding the life history of the holostomes would make necessary fundamental changes in the classification of the Trematoda. In his paper on "Protozoal Infections in Routine Practice," Dr. F. D. Barker reported a number of cases of human protozoa from Nebraska and commented on the failure of practicing

physicians to diagnose parasitic infections. Motion pictures of intestinal protozoa of man, prepared by Dr. T. B. Magath and Earl Irish, showed the methods of locomotion of these forms. The series of three papers by Dr. J. E. Ackert and his students, on the resistance of the host to the chicken nematode (*Ascaridia perspicillum*) gave a method of measuring the resistance of the older hosts to this parasite and showed how this resistance is reduced by repeated bleedings and by diets deficient in vitamin B. Dr. M. W. Lyon, Jr., discussed the introduction of an important human tapeworm (*Diphyllobotrium latum*) into the United States by immigrants from Northern Europe. The report of Dr. R. G. Mills, on the parasites found in the fecal examinations of seven thousand Koreans, showed a very large amount of parasitism and laid the foundations for the analysis of the methods of spread of different species. Dr. M. C. Hall reported that Kamala is the first really satisfactory anthelminthic to be used for tapeworms in poultry, a discovery which is of great economic significance to this industry. A paper by Mr. Ernest Hartman, on "Parasite Mortality in the Asexual Cycle of Bird Malaria," illustrated the importance of the use of quantitative statistical methods in the study of the host-parasite relation. Dr. R. R. Parker reported the hereditary transmission of *Bacterium tularense* in the wood tick (*Dermacentor andersoni*), which is of great interest because it is the first demonstration of the transmission of a known bacterium through the egg stage by any insect or arachnid. The luncheon and business meeting of the society was attended by over sixty members and guests. Resolutions were passed in honor of Dr. Samuel T. Darling and Dr. Brayton H. Ransom, both members and officers of the society, who had died during the year. A permanent constitution was adopted and the following officers were elected for 1926: *President,* C. W. Stiles; *vice-president,* C. A. Kofoid; *secretary-treasurer,* W. W. Cort; new members of the council, H. B. Ward, M. C. Hall and W. G. Smillie.

SECTION G (BOTANICAL SCIENCES)

Vice-president and chairman, R. B. Wylie; *retiring vice-president,* G. R. Lyman; *secretary,* Sam F. Trelease, Columbia University, New York City. With the section met the Botanical Society of America (*president,* J. R. Schramm; *secretary,* I. F. Lewis, University of Virginia, University, Va.), the American Phytopathological Society (*president,* C. W. Edgerton; *secretary,* R. J. Haskell, U. S. Department of Agriculture, Washington, D. C.), and the American society of Plant Physiologists (*president,* R. P. Hibbard; *secretary,* Wright A. Gardner, Alabama Experiment Station, Auburn, Ala.).

(Reports received from Sam F. Trelease, I. F. Lewis, Paul B. Sears, S. C. Brooks, Frank C. Gates, W. A. McCubbin and E. L. Nixon, and H. S. Wolfe)

Section G held a joint session on Tuesday afternoon with the Botanical Society of America, the American Phytopathological Society and the American Society of Plant Physiologists. The program had been arranged under the direction of the section committee and was designed to present recent progress and changes in points of view in several phases of the botanical sciences.

Dr. W. A. Orton, speaking on "Botanical Problems of American Tropical Agriculture," pointed out that the products of tropical agriculture constitute the principal imports of the United States—this country being peculiarly dependent on tropical sugar, rubber, coffee, tea, cacao, fibers, spices, cabinet woods and fruits. The producers of these crops face many problems of plant disease, crop improvement, soil fertility and technology of culture and handling, for which the services of plant scientists are needed, and Dr. Orton predicted the organization of special experiment stations by associations of producers. He thought that this should be preceded by special crop surveys to prepare inventories of crop resources, to define problems and to outline research programs. It is probable that tropical forests must soon furnish an important part of the world's lumber, especially hardwoods, and there is great need for research in this connection, including forest taxonomy and ecology, wood study and testing and the utilization of forest by-products. Dr. Orton emphasized the need for a vegetation map of tropical America, including soil and climate studies.

Dr. Burton E. Livingston spoke on "The Present Crisis in Plant Physiological Science." He dwelt on the points that the problems of plant physiology have now been developed about as far as can be accomplished by individual research workers operating independently and that passable experimentation in many fields can now be carried out only through the cooperation of a number of workers. Plant physiology involves so many fields of fundamental science and so many points of view, and experimentation in this field must take account of so many different kinds of variables that it is well-nigh impossible for a single person to carry out an experiment that will give promise of being really worth while. Cooperation here will not only be helpful, as the trite saying goes, but it is rapidly becoming absolutely essential.

The speaker emphasized the prime need for new or improved methods and devices designed to secure useful numerical data as measurements of the rates of the numerous plant processes and as measurements of the environmental process rates and conditional intensities that take part in determining plant activities.

Dr. John H. Schaffner read an address on "The Nature and Cause of Persistency of Secondary Sexual States with Special Reference to Typha." Dr. Schaffner believes that sexual states usually exhibit great stability. Such states can be completely reversed in diecious species with or without allosomes, as in hemp, hop and chicken. The same kind of persistency and reversal appear in monecious species—as in Typha, where abnormal sex determinations, persistency and reversals frequently produce chimera-like structures and mosaics. Persistency of functional states is characteristic of differentiation as well as heredity, as in the development of the root and the shoot. Since persistency of sexuality has been experimentally shown not to be due to absence of any of the opposite sex potentialities, the conclusion follows that fixity of the two sexual states is caused by differentiation processes of the same nature as ordinary morphological and physiological differentiations and not to differential sex heredities.

Dr. F. E. Denny gave an illustrated address on "Increasing the Life Activities of Plants by Chemical Treatments." The paper dealt with the effects of so-called stimulative chemicals, which are not regarded as being utilized directly as food and which produce results seemingly out of proportion to their energy content. A series of lantern slides were shown to illustrate the effect of low concentrations of ethylene in doubling or even trebling the respiration of lemons. Other slides were used to show the influence of several chemicals in shortening the rest period of potato tubers, in causing multiple-bud formation at individual eyes of the "seed-piece," and in partially overcoming the dominance of apical buds. The paper emphasized the possibility of obtaining chemical control of the course of development and rate of life processes in plants.

All in attendance keenly regretted that Dr. G. R. Lyman, retiring vice-president for Section G, was unable to be present at the Kansas City meeting. Dr. Lyman's retiring vice-presidential address was to have been the principal address at this session.

The Botanical Society of America held meetings from December 29 to 31. The central and unified location of headquarters and meeting rooms made the local arrangements unusually satisfactory. At the botanists' dinner the retiring president of the society delivered the annual address on "The Botany of Decorative Plants." Others who spoke were H. H. Bartlett, on *Botanical Abstracts;* C. E. McClung, on *Biological Abstracts,* and B. M. Duggar, on the approaching International Congress of Plant Sciences. Officers were elected as follows: *President,* L. H. Bailey; *vice-president,* A. H. Reginald Buller; representative for National Research Council, J. R. Schramm; members of the editorial board, *American Journal of Botany,* William Crocker and B. M. Duggar. Corresponding members elected were Adolph Engler, Karl Correns, C. Sauvageau, Richard Willstaetter and S. Nawaschin. The program was arranged in sections, as usual.

The general section of the Botanical Society held well-attended sessions. Abstracts of the papers offered had been previously sent to section members. The papers were evenly distributed among the Algae, Hepaticae, Pteridophyta, anatomy, ecology, economics, cytology, morphology and physiological morphology. Officers for 1926 are: *Chairman,* John T. Buchholz; *vice-chairman,* George P. Burns; *secretary-treasurer,* Paul B. Sears.

The mycological section of the Botanical Society (*chairman,* E. M. Gilbert; *secretary,* Leva B. Walker, University of Nebraska, Lincoln, Neb.), held sessions at which papers were presented covering a wide range of cytological, morphological, distributional, economic and physiological research on fungi. Much work was reported on the rusts, especially on their sexuality, by W. E. Maneval, Ruth T. Walker, E. M. Gilbert, A. W. Blizzard, J. C. Arthur, F. D. Kern, H. S. Jackson and E. B. Mains. Important contributions on Phycomycetes were presented by A. F. Blakeslee, Sophia Satina and J. N. Couch. A paper of particular interest was read by A. H. R. Buller on "Violent Spore Discharge in Tilletia," which threw new light on the homologies of the spore forms in this genus.

The physiological section of the Botanical Society (*chairman,* F. E. Denny, *secretary-treasurer,* S. C. Brooks, Hygienic Laboratory, Washington, D. C.), held three sessions, at which thirty-three papers were read. Six other papers were read at a joint session with the American Society of Plant Physiologists. On Tuesday morning, Emery P. Ranker reported on methods of determining total nitrogen in plants; in the absence of special precautions nearly three fourths of the total nitrogen present may fail to be found. T. W. Turner showed that the relative growth of tops and roots of flax and of grains is correlated with their ability to assimilate nitrate, flax being able to utilize only a limited amount of nitrate and showing no relative increase of top growth in the presence of

a large nitrate supply. The relative ability of different plants to utilize increased light, up to eighteen hours a day, and increased carbon-dioxide (3 per cent.) was shown by John M. Arthur, John D. Guthrie and James E. Webster. In general extra light and carbon-dioxide lead to increased carbohydrate and decreased nitrogen content. C. G. Bates showed that under usual forest practice the number of seedlings growing in a given area is far below the number that might be grown. The amount of carbohydrate produced by a good stand of conifers is equal to that produced by a good forage crop under similar conditions of soil and climate.

On Wednesday afternoon, O. L. Inman described a luminescent bacterium pathogenic to marine amphipods and showed some of the conditions on which luminescence depends. X-ray diffraction patterns from plant fibers were analyzed by O. L. Sponsler. who deduced the size of the $C_6H_{10}O_5$ unit of cellulose as equal to about 170 cubic Ångström units. The cellulose units are arranged in two sets with different orientations and seem to be bound together in chains, but with a very open structure. Studies by M. M. Brooks on the penetration of oxidation-reduction indicators into the sap of a large single-celled plant, Valonia, showed that one dye penetrated only when reduced, while another dye penetrated freely although it was ionized and not reduced. The reducing intensity of the cell of Valonia was calculated. Light increased the permeability of Valonia to one dye, and the effect is a direct function of the frequency of the light. Irl T. Scott studied the mycelium of a species of Fusarium with regard to the amphoelectric point. At this point the pH value was found to be 5.4 for living mycelium and 5.8 for killed mycelium. It is suggested that toxicity may be due to a combination of the toxic ion with a protein ampholyte whose isoelectric point is 5.4 for this Fusarium.

P. W. Zimmerman reported on the relation between the rooting of cuttings and aeration of the bedding medium, age of tissue, point of making the cut, etc. A. J. Winkler reported that oxidizing reagents promote and hasten the rooting of grape cuttings, while F. E. Denny discussed the effects of ethylene chlorhydrin, thiocyanates, carbon bisulphide, etc., in breaking the dormancy of potato tubers. Proper stratification of rose seeds at about 5° C. was found by Wm. Crocker to be most effective for inducing prompt and high-percentage germination. At a joint session of this section with the American Society of Plant Physiologists, F. E. Lloyd showed by motion pictures conjugation in Spirogyra, and the behavior of the protozoon, Vampyrella, when attacking Spirogyra. (See also report of the Society of Plant Physiologists below.) The correlation of oxidizing power with sex in vascular plants and fungi was discussed by A. F. Blakeslee and Sophia Satina. By the use of various light intensities, H. W. Popp was able to show that the supposedly "autocatalytic" form of the plant growth curve is in reality very complex. The officers of the Physiological Section for 1926 are: *Chairman,* F. E. Denny; *secretary-treasurer,* S. C. Brooks.

The systematic section of the Botanical Society (*secretary,* Frank C. Gates, Kansas State Agricultural College, Manhattan, Kansas), held two sessions. Edgar Anderson showed how it might be possible to separate some species by mathematical groupings, illustrating with measurements of certain parts of the flowers of several species of Iris. A. S. Hitchcock reported on the generic names of several grasses that would follow the application of the type-basis code. I. F. Lewis brought out the possibility of evolution of species of Oedocladium in the United States at the present time. Desire was expressed for the preparation of a list of accepted scientific names for the most important cultivated plants, possibly some two hundred in number, but not including ornamentals. After the routine business, the second session was given over to a discussion of the preliminary report of the committee on the status of teaching of systematic botany in the schools (Karl M. Wiegand, *chairman*). Ideas freely exchanged brought it out that when systematists discuss philosophical aspects of their subject they succeed in interesting botanists in general, which is not the case when systematists discuss the "daily grind" of their work. It was clearly brought out that it is possible for only a very few persons to earn a living by taxonomy, but it is becoming increasingly desirable and necessary to have a larger number of persons, particularly teachers, with taxonomy as an avocation. The desire was frequently expressed for an elementary text-book in systematic botany, suitable for beginning students from a cultural and non-vocational standpoint. The following officers were elected: *chairman,* P. A. Rydberg; *secretary,* F. W. Pennell.

The American Phytopathological Society had a program of sixty-three papers at Kansas City. Of these, nineteen were on diseases of cereals, ten on fruits, eleven on vegetables, six on virus diseases, nine on disease resistance and eight on miscellaneous subjects. While the attendance did not reach the previous year's record, it was perhaps more representative of all sections of the country. The concentration of living quarters and meetings in the same building allowed for much more visiting among the members than is often the case. Joint sessions were held with Sections G and O and with the Potato Association of America. Several pathological papers were given in a symposium with the American Association

of Economic Entomologists, and special sessions were devoted to the problems of teaching plant pathology and to extension work. Among the general activities of the society the following deserve mention: The voting of $300 as a grant to the International Congress of Plant Sciences; approval of a plan to provide reprints of a series of classical publications in plant pathology; commendation of the work of the pure-culture laboratory; and approval of a movement to provide the public with better and more complete information about the aims, methods and accomplishments of plant pathology. Below are mentioned some of the papers presented at the meeting.

James Johnson noted that to the three already known virus diseases of tobacco there must be added at least six others, which affect this plant and nearby related species. Helen Sorokin described the degeneration taking place in the chloroplasts of tomato leaf tissue affected by mosaic. The life stages of an intracellular mycetozoan found in tobacco with mosaic symptoms have been worked out by Philip M. Jones, but the parasite may not have a causal relation to the mosaic disease. According to L. O. Kunkel the virus of aster yellows must undergo an incubation period in the body of the insect carrier. That the juice of a healthy tobacco plant has an inhibiting effect when mixed with mosaic plant juice is the conclusion of O. H. Elmer, who found further that this inhibitory power is lessened on standing. The report of R. W. Goss indicated that the spindle-tuber disease of potato could be transmitted by the cutting knife or by rubbing a healthy cut surface with the cut surface of a diseased tuber. H. R. Rosen showed that the sweet-potato mosaic has an incubation period as long as two growing seasons. James L. Weimer produced evidence indicating a high degree of non-transmissibility of sweet-potato mosaic. E. L. Nixon cleared up important points in the life history of the pear-blight bacillus, showing its penetration in the form of zoogloeal masses and its later development into an encysted condition within the cells. A. J. Riker and G. W. Keitt noted that crown-gall-like overgrowths on fruit trees commonly result from imperfect graft unions. J. H. Muncie discussed the hairy root of apple seedlings, noting that there are three types, only one of which is of true crown-gall origin. The same author described methods for measuring sap flow interference in gall-infested trees, and reported gall production on tomato plants 102 days after soil infection. Studies of raspberry mosaic by R. B. Wilcox indicate that the disease is masked by high temperature. The symptoms of several types of avocado fruit rot were described by W. T. Horne. Results of one year's tests with organic mercury compounds for the control of wheat and barley smut and barley stripe were presented by I. L. Connors. Evidence presented by W. P. Fraser, P. M. Simmonds and R. C. Russell indicate that the "take-all" diseases of wheat are probably indigenous in Saskatchewan. A list of the hosts of *Puccinia coronata* was supplied by S. M. Dietz. V. H. Young recorded the occurrence of over-wintering of the rice stem rot fungus (*Sclerotium oryzae*) on a "weed" variety of red rice. Many other cereal diseases were reported on.

At the conference of all plant pathologists on extension work (F. C. Maier, *chairman*) the diversity of the problems in different regions was shown; no single method is applicable to all regions. At the conference on the teaching of plant pathology (N. J. Giddings, *chairman*), it was brought out that pathology is a required subject in about half of the institutions represented, being optional for all students in the others. E. S. Schultz cleared up several points on the symptoms of several of the degenerative diseases of potatoes, respecting the effect of climate and the response of varieties. American names and symptoms were compared with European ones. G. N. Hoffer showed resistance of corn to root rot in certain pure lines, this being correlated with the ability of the host plants to exclude or take in certain chemicals. The following officers of the Phytopathological Society were elected: *president,* I. E. Melhus; *vice-president,* H. B. Humphrey; *secretary,* R. J. Haskell.

The American Society of Plant Physiologists held its second annual meeting, which was most successful from every standpoint. The most important action taken was the completion of arrangements for the publication of a journal devoted to plant physiology. Besides four regular program sessions, the society joined with the other botanical groups in a session under the auspices of Section G and held a joint session with the Physiological Section of the Botanical Society of America. The regular program sessions were marked by the excellence of the papers presented, and by the same freedom of discussion which has characterized previous meetings. A few of the noteworthy contributions may be mentioned.

A. E. Murneek presented striking correlations between reproductive and vegetative activity in the tomato plant. Vegetative growth promptly ceases with setting of fruit but is renewed if the fruit is removed. With deficiency of usable combined nitrogen a single fruit suffices to stop vegetative growth, but a number of fruits are necessary for this in case of plants in rich soil. W. F. Gericke reported in four papers his work on growth of wheat in media devoid of one or more of the essential mineral elements. After four weeks in a complete nutrient solution, any or all of these elements, except nitrate and calcium, may be

omitted from the medium without apparent detriment to the plant and often to its advantage. Only these two elements were found to affect the percentage of protein in wheat or of sugar in beets. It was pointed out by E. T. Fulmer, for yeasts, etc., that determination of the temperature optima, etc., are of significance only for specific sets of other conditions. W. E. Tottingham discussed certain aspects of photosynthesis in corn as compared to beet and showed that nitrate nitrogen is more readily assimilated in direct sunlight than under glass. The most striking feature of the meeting was a motion-picture demonstration of conjugation in Spirogyra and of the attack of the protozoon Vampyrella upon a Spirogyra cell, given by F. E. Lloyd before the joint session of the Physiological Section of the Botanical Society and the Society of Plant Physiologists. The pictures showed that reduction in volume of the gametes during conjugation and of Vampyrella after devouring an algal cell is mainly effected through discharge of water by contractile vacuoles. A large number attended the dinner for plant physiologists on Thursday evening.

ORGANIZATIONS RELATED TO BOTH SECTION F AND SECTION G

(Reports received from A. O. Weese, H. J. Van Cleave, E. Laurence Palmer, D. F. Jones, B. M. Duggar and C. I. Reed)

The Ecological Society of America (*president,* A. S. Pearse; *secretary,* A. O. Weese, University of Oklahoma, Norman, Okla.) met on three days beginning Tuesday, December 29. In addition to the opening session, at which President Pearse delivered an address on "The Ecology of Parasitism," there were a general session, a joint session with the Botanical Society, a joint session with Section F, and a symposium on prairie ecology. The topics and speakers at the symposium were as follows: "Origin, Climate and Vegetation of the Prairie," L. H. Pammel; "Agriculture on the Prairie," J. E. Weaver; "Prairie Insects," William P. Hayes; "Prairie Vertebrates," F. L. Hisaw; "Aquatic Biology of the Prairie," M. E. Jewell.

The "Naturalists' Guide" committee reported the completion of their work, culminating in the issuance of the volume. As this work pays special attention only to plants, mammals and birds, the society determined to proceed with the preparation of a supplementary volume dealing with the invertebrates of the regions covered by the guide. Dr. A. O. Weese was appointed chairman of the committee to compile and edit the new material. Dr. W. S. Cooper, chairman of the Glacier Bay Committee, reported the success of the campaign to set aside the Glacier Bay region as a National Monument, and Dr. W. G. Waterman, chairman of the committee on the preservation of natural conditions, presented to the society a report of progress and obtained the endorsement of the society for several projects of national importance. A complete account of the business transacted will appear in a forthcoming number of *Ecology.* Those interested may obtain from the secretary copies of the program with abstracts of papers presented. The following officers were elected for 1926: *president,* John W. Harshberger; *vice-president,* Raymond C. Osburn; *secretary-treasurer,* A. O. Weese, University of Oklahoma, Norman, Okla.

The American Microscopical Society (*president,* C. O. Esterly; *secretary,* H. J. Van Cleave, University of Illinois, Urbana, Ill.) held its forty-fourth annual business meeting on December 30. The report of the retiring treasurer, Dr. W. F. Henderson, indicates that the society is in the most prosperous condition of any time in its history. The society passed resolutions memorializing the work of its custodian, the late Magnus Pflaum, under whose guidance the Spencer-Tolles Research Fund has increased from an insignificant nucleus to a sum now exceeding $11,000. Following a discussion of the aims of the society, the members asked that the executive committee investigate and study the exact fields of scientific activities that may be best served by the society through its Transactions. The following officers were elected: *president,* G. R. La Rue; *first vice-president,* R. T. Hance; *second vice-president,* Z. P. Metcalf; *treasurer,* A. M. Chickering; *custodian,* Henry B. Ward; *elective members of executive committee,* L. E. Noland and J. E. Ackert.

The American Nature Study Society (*president,* M. R. Van Cleve; *secretary-treasurer,* E. Laurence Palmer, Cornell University, Ithaca, N. Y.) held a joint meeting with the American Nature Association. The following is an outline of the topics presented: (1) "Nature Study in Retrospect," by Anna Botsford Comstock and M. A. Bigelow. Though they emphasized the development of nature study during the last twenty-five years, they pointed out incidents dating back to 1862, which were directly responsible for many of the practices now common in nature-study work. (2) "The Nature Study Situation," as it is, was presented from many viewpoints. Miss Jennie Hall told of the success of nature study in schools that do not list the work as a separate subject but have the benefit of supervision and direction. The experience of supervisors in school systems providing for definite time allotments in nature study were presented by Miss Clelia Paroni, Miss Jennie Stebbins and Mrs. E. K. Peeples. Each acknowledged her

debt to local universities and each pointed out the value of gardening as a phase of nature study. Their remarks were confined to results in schools not platoonized. Dr. Otis W. Caldwell expressed the desire that nature study be considered as a viewpoint from which students might approach science in the elementary schools, secondary schools and colleges. He acknowledged the debt of the success of nature study to Dr. L. H. Bailey, the new president of the American Association. Miss Lenore Conover told of the success of nature study in schools operating under the platoon system. Her description of the manner in which nature education had kept pace with the rapid increase in school enrolment in Detroit and her discussion of methods and equipment used was most profitable. John A. Hollinger added experiences with successful nature clubs and outlined some of the teacher-training facilities available to Pittsburgh teachers. L. D. Wooster presented the results of an investigation into the status of nature study in rural schools in Kansas. Miss Alice Jean Patterson pointed out a definite increase in the use of nature study in schools of small towns and cities in nine states of the middle west. The principal obstacle to the introduction of the work in communities of the type considered seemed to be an antipathy of school superintendents. A. E. Shirling presented the results of a number of projects carried on by a number of school children in nature clubs in Kansas City. (3) "Nature Work Outside of Organized Schools" was presented by Dr. Bertha Chapman Cady, national naturalist of the Girl Scouts, who outlined the nature program of her organization. (4) "The Prospect of Nature Education" was presented by E. Laurence Palmer, who outlined a survey being conducted by the American Nature Association, touched upon the proposed training school for nature leaders, to be established in 1927, and mentioned the extension service which the American Nature Association hopes to offer in 1926–27. (5) The president's address was given by R. Van Cleve, of Toledo, Ohio. He analyzed the possible service rendered by nature study to education in general and emphasized its particular value in contributing to a proper use of leisure time. George Green, of Pennsylvania State College, was elected president and Mrs. Anna Botsford Comstock, president emeritus. E. Laurence Palmer, of Cornell University, was chosen as secretary-treasurer.

The Joint Genetics Sections of the American Society of Zoologists and the Botanical Society of America (*chairman,* H. H. Bartlett; *secretary,* D. F. Jones, Connecticut Agricultural Experiment Station, New Haven, Conn.) held two sessions on Tuesday forenoon and afternoon. Ten papers were read at each session. Sudden changes in color and form of single-spore cultures of Fusarium were demonstrated by L. H. Leonian. L. J. Stadler described a method of critically testing the occurrence and rate of gene mutation in maize. No difference in spore size was found in Helminthosporium after selection for large and small spores through many generations by C. D. LaRue. No inheritance of a temperature effect on the bar eye of Drosophila was obtained by Charles Zeleny. Rats exposed to alcohol fumes so strong they were physically injured had offspring unaffected in size or other physical characters, even after ten generations of continuous treatment, in an experiment carried out by F. B. Hanson. The sex-ratio in this same series of rats was noted by Florence Heys to be unchanged. Abstracts of all papers are published in the *Anatomical Record,* copies of which may be secured from the Wistar Institute. S. G. Wright was elected chairman for 1926 and L. C. Dunn, secretary and treasurer.

The Council of the Union of American Biological Societies (*president,* C. E. McClung; *secretary,* B. M. Duggar, Missouri Botanical Garden, St. Louis, Mo.) held a business meeting at which the main item of business was the report of the editor-in-chief of *Biological Abstracts.* For this report see SCIENCE 62: 533–536, 1925.

The Phi Sigma Biological Research Society (*president,* Ira E. Cutler; *secretary,* C. I. Reed, Baylor University Medical School, Dallas, Tex.) held its second convention on December 28. Delegates from all but two of the sixteen chapters were present. Steps were taken to clarify the membership requirements and to investigate the possibilities of giving material assistance to active members who now find it difficult to obtain facilities for carrying on their work. The scientific program consisted of papers reported by active members, none of which were reported elsewhere. These papers represented research undertaken during the past year, covering a wide range of biological interests. The success of this first effort was sufficient to warrant an elaboration of such a program for the next meeting in Philadelphia. The general usefulness of this organization is becoming more apparent. It covers a distinct field, not now occupied, and supplies opportunity for junior research.

SECTION H (ANTHROPOLOGY)

Vice-president and *chairman,* C. B. Davenport; *retiring vice-president,* E. A. Hooton; *secretary,* R. J. Terry, Washington University School of Medicine, St. Louis, Mo.

(*Report received from R. J. Terry*)

Meetings of the section, held Thursday and Friday,

drew together an assembly of members and visitors, in numbers averaging sixty. The papers were chiefly in the fields of physical anthropology and archeology and the most significant contribution was Professor Renaud's paper, which discovered negroid characteristics in a series of skulls (undeformed) of an ancient race of Americans in the Southwest. A paper on human metamorphosis by Dr. Davenport drew out an animated discussion in which criticism was levelled at prevailing pedagogical arrangements whereby the heaviest burdens of school and college preparation fall upon children and youth just at the period of their most active growth and change. Dr. H. A. Harris, a guest of the section from University College, London (who voiced this protest), brought forward new data in evidence of the presence of normal dolichocephaly in certain primates, data secured from X-ray endocranial measurements of the gorilla skulls of Lord Rothschild's collection. Dr. Hooton gave the retiring vice-president's address, on "Methods of Racial Analysis." A transition from physical to cultural anthropological topics was provided by a lecture on the Tule Indians of Darien, by Mr. R. O. Marsh, who discussed the more recent findings, physical, linguistic and social, of the White Indian and pleaded for the protection of the little group from invasion by negroes of the vicinity. The deplorable fate of the Indian mounds of St. Louis, recounted by Dr. H. M. Whelpley, served to quicken consciences and raise resolutions to save the prehistoric American relics that yet remain. The results of Professor Cummings's work on the Cuicuilco works, illustrated by a rich collection of lantern slides, were heard and discussed with interest. Certain papers in the program entered the borderland of anthropology and psychology. Of these some well-considered experiments of Dr. T. R. Galt showed a marked contrast in mental ability in certain lines, between nomadic and sedentary Indians, and suggested important themes for future research. The anthropology exhibit, though not extensive, included such valuable archeological specimens as a series of notched flint hoes (Whelpley), figurines and pottery from Cuicuilco (Cummings) and charts and photographs illustrating papers read in the meeting. On New Year's Eve the anthropologists met at dinner in the Baltimore Hotel, Dr. Davenport presiding. Resolutions were adopted: (a) in support of efforts now being made for safeguarding the Tule Indians of Darien against threatened extermination by mongrelization; (b) to commend the publication by the U. S. National Museum of the catalogue of the principal measurements on its collection of human crania; (c) in support of the objects of the American Association of Medical Progress; (d) to cooperate with the program of the Committee of One Hundred of the American Association.

SECTION I (PSYCHOLOGY)

Vice-president and chairman, C. E. Seashore; *retiring vice-president,* R. S. Woodworth; *secretary,* Frank N. Freeman, University of Chicago, Chicago, Ill. The Phi Delta Kappa Education Fraternity (*president,* Lewis W. Williams; *secretary,* Clayton R. Wise, 10403 St. Clair Ave., Cleveland, Ohio) met with Section I and Section Q at Kansas City.

(*Reports received from Frank N. Freeman*)

On alternate years, when the American Psychological Association meets apart, Section I attempts to frame a program which will supplement rather than compete with the chief psychological meeting. This year the dates of the two meetings allowed attendance at both. The Kansas City meeting naturally drew chiefly from the neighboring states, though some came from a greater distance. The program repaid those who came. As in recent years, the affiliation with Section Q (Education) was continued and emphasis was upon applications of psychology, particularly to education. The custom of holding a joint dinner with Section Q and the Phi Delta Kappa Fraternity bids fair to become permanent. It was planned to have both vice-presidential addresses at this dinner. Dr. Pechstein's address was given, but Dr. Woodworth's had to be deferred until the joint session on the next afternoon. Dr. Woodworth, as retiring vice-president for Section I, gave an illuminating analysis of the psychology of motivation and of the results of experimentation on this subject. Thursday evening was devoted to an illustrated lecture by Dr. Seashore on some of the recent results of his well-known experiments in vocational guidance in music. The most prominent topic of the meeting, including the joint sessions with Section Q, was mental tests. The discussions of this topic gave evidence of a growing disposition to devise methods of analyzing mental capacities. The chief emphasis in the recent past has been given to general intelligence tests, but efforts are now being turned toward the designing of tests of special capacities, and toward a critical study of the principles and assumptions of mental testing.

The joint dinner between Phi Delta Kappa and Sections I and Q continued the practice begun last year. Much interest was shown in the dinner, which should become a permanent institution. It was planned to have both vice-presidential addresses after the dinner, but Dr. Woodworth was detained at the

meeting of the Psychological Association at Ithaca, and his address had to be deferred until Thursday. Dr. Pechstein gave his address on the academic relations between the sciences of education and psychology. Dr. O. W. Caldwell, chairman of Section Q, presided and Frank N. Freeman, representing Phi Delta Kappa, spoke briefly on the necessity of fostering fundamental research.

SECTION K (SOCIAL AND ECONOMIC SCIENCES)

Vice-president and chairman, Fred R. Fairchild; *retiring vice-president,* Thomas S. Baker; *secretary,* Frederick L. Hoffman, Babson Institute, Babson Park, Mass. The Metric Association met with Section K.

(*Reports received from Frederick L. Hoffman and Howard Richards*)

The program of Section K was carried through successfully, the topic this year being "Research Methods and Results." Of the twenty-three papers, all but four were read by the authors. The program was introduced by an admirable paper on "Research —the Prime Mover of Industry," by Mr. Maurice Holland, of the National Research Council, amplified by a paper on "The Frontiers of Industry," by Mr. E. P. Stevenson, of Arthur D. Little, Inc. Professor Fred R. Fairchild, of Yale University, read a paper on "Research in Forestry Taxation," which was followed by a paper on "Economic Research in Forestry as a Basis for Regional Planning," by Mr. W. N. Sparhawk, of the U. S. Forest Service. The problems of diet and food supply were covered by papers on "Science, Charlatanry and Nutrition," "Research in the Meat Industry" and "The Future of Agricultural Research." Among the more scientific papers were those on "Cooperation between Industry and the University," "Research in Phenol Resins," "Science in Lime Manufacture" and "Scientific Research as Applied to Concrete Construction." An extremely interesting address was on "The Administration of Industrial Research," by Dr. E. R. Weidlein, director of the Mellon Institute, followed by a highly suggestive paper on "Air Transportation," by Lieutenant J. Parker Van Zandt. Papers of more general interest had to do with "Research and the Incandescent Lamp Industry," "The Survey of Race Relations," "The Economic Basis of Medical Charges," "The Antioch Program," and "Research in Criminology." The sessions concluded with papers on "Research in Work of the Underwriters' Laboratories," "Some Contributions of Life Insurance Research to the Estate Problem," "Application of Research to the Rubber Industry" and a general paper on "Evaluating Research Ideas," by a representative of the General Motors Research Corporation. The interest in the discussion was of an exceptionally high order. It is hoped that the papers will all be published in due course of time.

The Metric Association (*president,* George F. Kunz; *secretary,* Howard Richards, 156 Fifth Ave., New York City) held two sessions at Kansas City on December 28, Dean Hugh Miller, of George Washington University, presiding. Emphasis was placed on the correct use of metric weights and measures. Dr. Frederick L. Hoffman outlined his extensive use of metric measures. International cut paper sizes and preferred numbers were among the subjects presented. An authentic report of the recent meeting of the International Astronomical Union, in Cambridge, England, under the presidency of Dr. W. W. Campbell, was received. It confirmed the practice of astronomers in using the metric system. Greetings were received from the All-America Standards Council, the Decimal Association of London, and other organizations. The following officers for 1926 were elected: *president,* George F. Kunz; *vice-presidents,* Walter Wood, T. H. Miller, and Wm. Jay Schieffelin; *secretary,* Howard Richards; *treasurer,* Frederic L. Roberts.

SECTION L (HISTORICAL AND PHILOLOGICAL SCIENCES)

(*Report received from Frederick E. Brasch*)

Section L is only partly organized as yet. Two special committees are generally active in its field, one representing the history of science and the other the linguistic sciences. For the present the former acts as the section committee, with the cooperation of the latter, and the officers of the former act as section officers. The Committee on Linguistic Sciences arranged no sessions at this meeting of the association. It presented a report to the council, which is published elsewhere in this issue of SCIENCE.

The Committee on the History of Science (*chairman,* W. A. Oldfather, acting as chairman of the Section; *retiring chairman,* L. C. Karpinski; *secretary,* Frederick E. Brasch, Library of Congress, Washington, D. C.) arranged for several papers to be presented in sessions of other sections, but presented no program of its own at Kansas City. At the Tuesday afternoon session of Section C was presented a paper by Dr. Frank B. Dains, of the University of Kansas, on "Some Phases of the Early Development of Chemical Symbols." These important tools of science were traced from the early Egyptians, through the Greeks and Alexandrians, with special emphasis on the alchemists of the sixteenth and seventeenth centuries, to the beginnings

of modern chemistry with Bergman, Scheele and Dalton. Another history-of-science paper was given on Wednesday afternoon at a joint session of Sections A, D and L, by Dr. William H. Roever, of Washington University. His subject was "William Chauvenet and his Mathematical Contribution to Astronomy." The paper is noted in the reports of Section D. The name of Chauvenet is one of the most prominent in the annals of practical astronomy in America. Largely through his efforts the U. S. Naval Academy was established at Annapolis in 1845, and also this period was the beginning of Chauvenet's great contribution as a text-book author. In 1855 he was called to the newly established Washington University and he subsequently (1862) became chancellor of the university, in which position he continued till 1869.

SECTION M (ENGINEERING)

Vice-president and chairman, G. R. Richards; *retiring vice-president,* A. E. Kennelly; *secretary,* N. H. Heck, U. S. Coast and Geodetic Survey, Washington, D. C.

(*Report received from N. H. Heck*)

Section M held three sessions, all of which were well attended, on December 30. At the morning session the retiring vice-presidential address by Dr. A. E. Kennelly, of Harvard University, was read in his absence by the secretary. This address appeared in SCIENCE for January 1, 1926. Colonel E. Lester Jones gave a paper on "The Contribution of Mapping to Modern Civilization." He stressed the continuously greater need for accuracy and precise control in mapping and stated that we should map for the future and not only for the immediate present, a custom too much followed in the past. The benefit to result from completion of topographic mapping in the United States was pointed out, and advantages of mapping earthquake areas were described. Dr. James B. Macelwane, St. Louis University, spoke on "Contribution of Seismology to Engineering." He described the cooperation in California of a large number of organizations, including the National Government, Carnegie Institution of Washington, California universities and business organizations and individuals, in a grand effort to solve at least some of the earthquake problems and enable the engineers to pass on the benefit to the people. A similar project is being contemplated for the Ozark Mountain region, where one of the great earthquakes of history occurred in 1812. Dean Hugh Miller, of George Washington University, gave a paper on "Human Engineering." He brought out the relation of engineering to the social and psychological sciences and the need for closer association of engineering with these sciences.

At the afternoon session a round table discussion was held on the "Relation of the Professional Engineering Societies to the American Association for the Advancement of Science." Professor W. L. Upson suggested that at each session there should be a joint meeting with the affiliated societies as represented by their local sections. Mr. J. L. Harrington mentioned the need for papers of a purely scientific nature. Dr. Richards described the type of symposium he had in mind to meet the conditions. Dean Walker presented a motion, duly seconded and passed, directing the section committee to study the relation of the affiliated societies to the American Association for the Advancement of Science so as to work out a solution of the problem.

Mr. John Lyle Harrington then took the chair on invitation from Chairman Richards, and presided during a program arranged by the Kansas City Engineers' Club. Mr. Lee B. Roberts presented a paper on the mapping methods used by the Third Asiatic Expedition to the Gobi Desert. He described a method of surveying adapted to rapid work in a desolate rock desert so that geologists and paleontologists could locate their finds both vertically and horizontally. He used automobiles for transportation, for measuring distance, and determining elevations by the vertical angle method. Major Cleveland H. Gee described improved methods of airplane mapping used in the surveys of the Missouri River, which, on account of changes in the river, must be repeated every three years. He described the method used for eliminating foreshortening due to perspective and described the method used in orienting successive pictures. Dr. Roy Cross described a method of thermal decomposition, which results in a vastly greater amount of gasoline than from ordinary processes. This is being accomplished by laboratory research.

An attractive dinner was arranged by the Kansas City Engineers Club in which Section C (Chemistry) joined. On conclusion of the dinner the general session of the evening was held in the same room. Dr. Michael I. Pupin, president of the association, presided and introduced the speakers. In doing so he brought out his own strong views on the need for closer relation between engineering and the fundamental sciences. Dr. W. F. Durand, retiring president of the American Society of Mechanical Engineers, compared amount spent on industrial research with that on fundamental research. The genesis of our nation favors practical results, but without basic knowledge the stream will run dry. The engineer

accepts fundamental facts with too little knowledge about them. The greatest advance will come when both engineers and those working in the fundamental sciences grasp these facts. Dr. F. B. Jewett used a number of illustrations to indicate the absolute need for fundamental research in industry. Pupin, working from Lagrange's study of vibrations of weighted strings, made purely for scientific reasons, conceived the idea of the loading coil which bears his name, which greatly reduces the amount of copper required in telephone transmission lines. Another instance is increased production of aluminum with decreased cost, as a result of pure research. The engineer must search out new materials and methods to meet the needs of civilized man. Dr. S. C. Lind spoke on the needs of the modern chemist. He cited the protraction of the war by Germany made possible only through chemical research. He made a plea for development of research workers in the colleges. The chemist and every one must come more and more to depend on fundamental research.

SECTION N (MEDICAL SCIENCES)

Vice-president and chairman, A. J. Carlson; *retiring vice-president,* W. G. MacCallum; *secretary,* A. J. Goldforb, College of the City of New York, New York, N. Y.

(*Report received from A. J. Goldforb*)

Section N held two sessions on December 30. In conformity with a policy of bringing together workers in related fields, the first session was held jointly with the American Society of Parasitologists, and there was a symposium on "Medical Aspects of Parasitology." The second session aimed to bring together the pathologists, bacteriologists, immunologists, anthropologists and medical workers, for the purpose of discussing borderline and interrelated problems. Dr. William A. Riley, of the University of Minnesota, gave a critique of what is known of human, animal and plant diseases caused by or transmitted by insects. Dr. Maurice C. Hall, of the Bureau of Animal Industry of the U. S. Department of Agriculture, gave an illuminating history of anthelmintic medication, emphasizing the long period of folk lore and empiric knowledge in this field and the very recent advance to the biochemical and truly scientific attack on the problem of parasitic worms. Dr. W. W. Cort, of Johns Hopkins University, reviewed the recent history of hookworm control throughout the world. While former campaigns were based on the incidence of hookworm and the proportion of the population infested, the present aim is to determine the degree of infestation and to reduce this to sub-clinical numbers; *i.e.*, less than twenty-five worms per individual. Dr. W. H. Taliaferro, of the University of Chicago, discussed immunological bases for different types of protozoan infections. These depend upon the determination of the rate of increase of parasitic organisms in the body, by employing their coefficient of size variability. Dr. Taliaferro has been able to determine at what point in the geometric increase of these organisms immunity is established and to what extent the antibodies destroy or retard the rate of multiplication or merely prevent multiplication without destroying the adult parasitic organisms. He was able also to determine with unusual exactitude at what time and to what degree immunity is again lost, and regained, and to measure the specificity of successive antigens.

In the afternoon program Dr. W. G. MacCallum gave a review of our present knowledge of filterable viruses with respect to human beings, animals and plants. He presented a most suggestive outline of problems. Dr. C. H. Danforth brought to the conference a critical analysis, in the domain of anthropology and genetics, of what constitute types, races and groups, with destructive criticism of current views of these fundamental concepts and a constructive plan for better studies of individuals, with regard to genes, factors and the mosaic constitution of the individual. The curve for any character in a race or type overlaps the curve for the same character in other races or types. Dr. R. G. Mills discussed the fate of parasitic bacteria in a segregated vein *in situ,* as compared with the fate of the same dosage of bacteria when the vein was not occluded. The rôle of phagocytes, endothelial tissues and immunity bodies of the blood, were discussed. Dr. W. W. Duke, with human demonstrations, discussed hypersensitivity of human beings to specific pollens, to diets and to specific short exposures to heat, cold and touch. A large proportion of the population are thus hypersensitive, with varied reactions and confusing symptoms.

SECTION O (AGRICULTURE)

Vice-president and chairman, C. V. Piper; *retiring vice-president,* L. R. Jones; *secretary,* P. E. Brown, Iowa State College, Ames, Iowa. The following named organizations met with the section at Kansas City: The American Society of Agronomy (*president,* C. G. Williams; *secretary,* P. E. Brown, Iowa State College, Ames, Iowa), the American Society for Horticultural Science (*president,* H. C. Thompson; *secretary,* C. P. Close, College Park, Md.), the Potato Association of America (*president,* H. O. Werner; *secretary,* William Stuart, U. S. Department of Agriculture, Washington, D. C.), the Association of Official Seel Analysts (*president,* Miss Anna M. Lute;

secretary, A. L. Stone, Madison, Wis.), and the Geneticists Interested in Agriculture (*secretary,* E. D. Ball, State Plant Board of Florida, Sanford, Fla.).

(Reports received from P. E. Brown, C. P. Close, Wm. Stuart, A. L. Stone and E. D. Ball)

Section O had a joint meeting with the American Phytopathological Society on Thursday afternoon, with a symposium on "Breeding for Disease Resistance." The first speaker on the program was the retiring vice-president for the section, Dr. L. R. Jones, of the University of Wisconsin, who spoke on the subject, "Securing Disease Resistant Plants. How Important is it? Whose Job is it?" The section itself arranged no separate program for the meeting.

The American Society of Agronomy presented no separate program at this meeting.

The American Society for Horticultural Science met on Tuesday, Wednesday and Thursday. Since there were eighty-three papers on the program it was necessary to divide into fruit and vegetable sections on Wednesday. Plant chemistry and plant physiology were popular topics. Among many points brought out: potash was reported to increase the percentage of sugar and starch as well as the yield in sweet potatoes; mono-, di- and polysaccharides are more plentiful in healthy than in tip-burned lettuce; there is more phosphorus in the non-seed part of a tomato fruit than in the seed part; green-mature tomatoes treated with ethylene gas became fully colored in about half the time required in air, at 70° F., and contained considerably more sugar, mostly dextrose; micro-chemical tests indicated progressive changes in the pectic compounds of the middle lamella in stored celery, also translocation of sugars and combined nitrogen from leaves to stalks and from outer to inner stalks; carbohydrate accumulation in shoots appears to retard growth and induce the rest period; apple scions grafted on piece roots formed scion roots or not according to the variety and the form of graft; twenty-year apple trees responded more vigorously in the first season when treated with nitrate of soda than when treated with sulphate of ammonia; in apple, number of leaves was reported to be remarkably correlated with size of fruit, the optimum number of leaves per fruit being forty for Grimes, fifty for Ben Davis and seventy-five for Delicious; irregular chromosome behavior during pollen development in flowers of Stayman Winesap apple was regarded as a cause of the high degree of pollen sterility in this variety, but Arkansas and Delicious or Jonathan blossoms are freely cross-compatible; soft scald on Jonathan and breakdown in Grimes apples were prevalent when the fruit was stored at 30°–32° F., but were absent from fruit stored at 34°–40° F.; fertilizers applied to Dunlap strawberry growing in sand affected both flower-bud differentiation and number of flower stalks produced; raspberry varieties may now be identified by leaflet, petiole, spine and cane characters, and leaf and tree characters have been worked out for identifying plum varieties; tomato plants in steamed soil were reported to have a larger proportion of their roots of the second, third and fourth orders than plants in unsteamed soil, for tomato the wilting coefficient of steamed soil is lower than that of unsteamed and plants in steamed soil absorbed and transpired more water and made greater growth than those in unsteamed soil. Many other topics were discussed.

The Potato Association of America (*president,* H. O. Werner; *secretary,* William Stuart, U. S. Department of Agriculture, Washington, D. C.) held its twelfth annual meeting on Tuesday, Wednesday and Thursday, December 29 to 31, which was generally admitted by those present to be the best meeting ever held by this association. The reports of the standing committees indicated that a serious attempt had been made to present a comprehensive survey of the season's activities in their respective fields. A series of nine papers dealing with seed potato disinfection methods served as a review of the experimental work thus far performed in this field and of the relative merits of the various disinfectants now in use. A discussion of seed-improvement methods brought out many interesting points on disease demonstration plots for the training of inspectors; the value of seed-certification test plots in certification work; the administration of seed-potato certification; seed-potato plot improvement work; the desirability of uniform certification standards and the advisability of protecting certified seed-potatoes from fraud. Disease transmission agencies, the recognition of certain types of virus diseases, such as spindle tuber, and the various forms of mosaic, were more or less well covered by a series of nine papers.

Problems of local seed-potato supply in the cornbelt region; the comparative merits of northern-grown *vs.* southern-grown seed; environmental influence on the productiveness of seed potatoes; date of planting and size of seed pieces; relation of time of irrigation to production; midwest potato markets in midsummer; hollow heart in potatoes and genetic studies, furnished those in attendance with ample food for thought in connection with the broader aspects of the potato industry as a whole. The following officers were elected: *President,* Daniel Dean; *secretary,* Wm. Stuart, U. S. Department of Agriculture, Washington, D. C.

The meeting of the Official Seed Analysts extended from Tuesday to Thursday, December 29 to 31, and included six well-attended sessions, one of which was executive. Much emphasis was placed this year on round-table discussions on equipment and methods for making germination tests. Types of germinating chambers; substrata for germination tests; comparisons of chamber, greenhouse and field tests; variations in germination results; the hard seed problem; were all sources of very helpful conferences. The report of the committee on research and methods presented the results of analyses made on the same samples by a majority of the official seed analysts in Europe and North America and by many commercial analysts of the United States and Canada. The address of the retiring president, Miss Anna M. Lute, was a brilliant review of the past accomplishments, present standing and ideals of this association. The report of the committee on rules and methods for seed testing was considered in detail, but no action was taken. The difference in the attitude toward seed analysis, of both the lay and scientific groups in the United States and in Europe was again emphasized. In European countries much attention is given to seed testing and large buildings and extensive equipment are employed, and adequate staffs are provided. It seems to be well recognized in Europe that tested seeds are fundamental for a prosperous agriculture. In America, on the other hand, many seed laboratories are but poorly equipped and supported. The attendance was good, the interest high, and enthusiasm for the new year intense. Officers were elected as follows: *President,* W. H. Wright; *secretary,* A. L. Stone, Madison, Wis.

The Geneticists Interested in Agriculture held their sixth annual meeting jointly with Section O on Monday, December 28, with about forty in attendance. A symposium on "What Genetics has contributed to Practical Plant and Animal Breeding" occupied the entire session. Dr. H. L. Ibsen, of the Kansas Agricultural College, discussed the application of genetics to the breeding of show-type animals and pointed out that, in guinea pigs and rabbits, an analysis of the genetic factors in prize-winning animals and their use in subsequent combinations had enabled him to breed prize winners with much greater frequency than where only the ordinary type of selection was pursued. Dr. Fred Griffee cited many examples of improved crop plants that had been produced through recombination of genetic factors from previous varieties. He pointed out the value of a knowledge of the linkage relationships in obtaining the right combination of characters. The varieties of wheat can all be divided into three groups containing 7, 14 or 21 chromosomes, and the greater number of valuable varieties were found with the highest chromosome number. The barleys could be divided in the same way, but in this case the most valuable strains were in the 7-chromosome group. Dr. R. K. Nabours pointed out the close relationship between pure and applied science and noted that the two greatest contributions to the knowledge of inheritance had come from the study of Drosophila, a species of no economic importance, on the one hand, and corn, a major agricultural crop, on the other. Professor R. J. Gerber, Experiment Station, Morgantown, West Virginia, was elected chairman for the coming year.

SECTION Q (EDUCATION)

Vice-president and chairman, Otis W. Caldwell; *retiring vice-president,* L. A. Pechstein; *secretary,* A. S. Barr, University of Wisconsin, Madison, Wis. With Section I and Section Q met the Phi Delta Kappa Fraternity, reported with Section I, above.

(Report received from A. S. Barr)

There were five regular sessions of Section Q on curriculum research, two on summaries of current research, three joint sessions with Section I (Psychology), one on measurements and one on growth curves, character education and motivation, motivation being the subject of the retiring vice-presidential address of Dr. R. S. Woodworth, of Section I. In addition to these regular sessions of the section there was a general session of special interest to Section Q, this being held under the auspices of the special committee of the American Association for the Advancement of Science upon the Place of the Sciences in Education. It is outlined under general sessions, above. At the Phi Delta Kappa dinner, Dr. Frank N. Freeman spoke of the needs of specially trained workers for educational research and Dr. L. A. Pechstein spoke of the relation of psychology to education, stressing the historical background and the close relation of the two sciences. Some of the most interesting papers were those relative to higher education. W. E. Peik, of the University of Minnesota, outlined procedure followed at that institution in analysis and evaluation of required professional courses; Earl Hudelson, of the University of Minnesota, discussed the relation of class size to efficiency of instruction at the university level, concluding that preliminary findings indicate that within certain definite range of classes, class size does not affect efficiency of instruction; F. Dean McClusky, of Purdue University, reported upon "Student Mortality and Survival at Purdue," pointing out departmental differences; and Wm.

A. Cook, of the University of South Dakota, reported upon "The Quality of Work done by Graduates of State Normal Schools who enter the University." The discussion indicated great interest in the application of quantitative methods to the study of higher education.

The Tuesday morning session dealt with curriculum construction, with discussions of recent researches in the field, and presented new problems and methods of research. The Tuesday afternoon and Wednesday morning sessions dealt with summaries of current research. F. L. Clapp reported upon "Recent Investigations in Arithmetic carried on by the Department of Education of the University of Wisconsin"; Harvey C. Lehman reported on an investigation of individual differences in play activities; Joseph J. Weber presented results of an investigation of the effect of stereographic perspective on attention, the differences discovered being not at all marked; Earl Hudelson reported upon "The Effect of Objective Measuring Devices upon Standards in English"; Harold F. Clark presented a new formula for determining the relation between population and school support; Willis Uhl reported upon "Occupational Representation in Wisconsin High Schools"; Dan H. Eikenberry reported upon the "High School Program of Studies in Missouri"; and representatives of the Kansas City schools told of research under way in that city.

At the joint session of Sections I and Q Max F. Meyer explained his machine for differential testing; S. A. Courtis summarized several years of investigation relative to testing, and F. N. Freeman and J. E. W. Wallin gave discussions of allied topics. Two very carefully prepared papers, one by S. A. Courtis, "Prediction Formula for Growth Curves," and another by M. E. Haggerty, "Is Character Education Amenable to the Scientific Method?" will be printed in *School and Society*.

ORGANIZATIONS NOT SPECIALLY RELATED TO ANY PARTICULAR SECTION OF THE ASSOCIATION

In addition to those named under the several sections, the following organizations met with the association at Kansas City: The Society of Sigma Xi (*president,* F. K. Richtmyer; *secretary,* Edward Ellery, Union College, Schenectady, N. Y.); the Gamma Alpha Graduate Scientific Fraternity (*president,* A. H. Wright; *secretary,* J. E. Ackert, Kansas State Agricultural College, Manhattan, Kansas); the Honor Society of Phi Kappa Phi (*president,* L. H. Pammel; *secretary,* C. H. Gordon, University of Tennessee, Knoxville, Tenn.); the Pi Mu Epsilon Mathematical Fraternity (*director,* E. D. Roe, Jr.; *secretary,* W. G. Bullard), and the Sigma Delta Epsilon Graduate Women's Scientific Fraternity (*president,* Eloise Gerry; *secretary,* Edna M. Feltges, Orlando, Fla.).

(Reports received from C. E. Davies, James E. Ackert, C. H. Gordon, H. S. Everett and Eloise Gerry)

The Society of Sigma Xi held its twenty-sixth convention on Tuesday, December 29. There was a business session in the afternoon and a dinner, followed by the general session of the American Association and Sigma Xi in the evening. Delegates were present from twenty-one chapters and nine Sigma Xi clubs. President Richtmyer announced the appointment of C. E. Davies as acting secretary during Dr. Ellery's absence in Europe. It was voted to take steps to incorporate Sigma Xi in the District of Columbia. The convention authorized the appointment of an official jeweler for the society and ratified the arrangement by which all keys and emblems are to be obtained only on official order of the national secretary. President Richtmyer reviewed the condition of the society and pointed out its opportunities in the development of greater alumni activity in the support of research. The convention voted to establish chapters at New York University and the University of Cincinnati. The treasurer's report, presented by Dean George B. Pegram, of Columbia University, showed that the Fellowship Fund contains approximately four thousand dollars.

The following officers were elected: *President,* F. R. Moulton; *secretary,* Edward Ellery; *treasurer,* George B. Pegram; *member of the executive committee,* Willis R. Whitney; *member of the alumni committee,* F. B. Utley. The Sigma Xi dinner was held at the City Club and at its close short talks were given by Dr. Henry B. Ward, Professor H. W. Stunkard, Dr. Nevin M. Fenneman, Dr. F. D. Farrell and President-elect F. R. Moulton. The fourth Sigma Xi Lecture was given Tuesday evening by President F. D. Farrell, of the Kansas State Agricultural College, his topic being "The Desert becomes a Garden."

The Gamma Alpha Graduate Scientific Fraternity held a council meeting at the Kansas City Athletic Club, Tuesday afternoon, December 29, with Vice-President and Secretary J. E. Ackert presiding and R. G. Mills as secretary *pro tem.* Reports by councillors from Cornell, Johns Hopkins, Chicago, Illinois, Wisconsin, Michigan, Missouri, Minnesota, Iowa, Ohio, Harvard and California showed that in these centers there is: (1) active exchange both professionally and socially of ideas among investigators in the various fields of science, which tends to obliterate barriers between the fields and promotes joint attack in research; (2) continuous development of broad-

minded, virile young investigators, and (3) in several places the dissemination of scientific knowledge to lay audiences. Fifty representatives from all parts of the United States were in attendance at the convention and at the banquet held the same evening. Officers for next year are as follows: *President,* F. H. Krecker; *vice-president, secretary and editor,* A. H. Wright; *treasurer,* W. B. Burnett; *recorder,* F. G. Tucker, Cornell University, Ithaca, N. Y. It was voted to hold the 1926 meeting in Philadelphia, contemporaneously with the meetings of the American Association.

The Honor Society of Phi Kappa Phi held its ninth biennial convention at Kansas City on Thursday, December 31. The meeting was the largest and most successful in the history of the society. Of its forty-one chapters thirty-two were represented by forty-one delegates. At the morning session there was a symposium on "How can Phi Kappa Phi more effectively reach the Student Body?" Many promising suggestions were presented and discussion was lively. Reports from the national officers and standing committees were received. The afternoon session was given over to discussion of recommendations made in the various reports and to the passage of resolutions affecting the work of the society. Dr. Pammel and Dr. Gordon were reelected.

The Pi Mu Epsilon Mathematical Fraternity met on Monday afternoon, December 28. Papers on methods of encouraging scholarship amongst undergraduate and graduate students were read and discussed. The annual dinner was well attended. An interesting collection of mathematical graphs and models was exhibited by the Missouri Chapter in the Science Exhibition of the American Association.

The Sigma Delta Epsilon Graduate Women's Scientific Fraternity held its fourth annual convention at the Hotel Baltimore, following a breakfast on Tuesday morning, December 29. Sixteen members were present, representing six chapters. Three new chapters were announced: Epsilon, at Iowa State College; Zeta, at Brown University; Eta, at the University of Chicago. The national officers elected for 1926 are: *president,* Regina S. Riker; *first vice-president,* Kathryn Wyant; *second vice-president,* Mary G. Haseman; *secretary,* Julia T. Colpitts, Iowa State College, Ames, Iowa; *treasurer,* Grace H. Griswold. In response to an invitation to all women attending the Kansas City meeting, fifty women from thirty states and about forty institutions gathered for the breakfast Wednesday morning and enjoyed the hospitality of the Women's City Club. A roll call of the sciences showed that the following were represented: astronomy, botany (including mycology, plant pathology, forestry, seed analysis and nature study), zoology and related subjects (such as entomology, medicine, hygiene and dental surgery), chemistry and physics. The president extended the cordial greeting of the women of Sigma Delta Epsilon, *"United in friendship through science,"* to all. She spoke of the activities of the Association to Aid Scientific Research by Women, to which Sigma Delta Epsilon is a contributor, stating that, this year, the same number of researches were submitted for the Ellen Richards Research Prize by American and English women. Although the prize was not awarded, a grant of $1,000 was made to an American investigator for the continuation of her work. Attention was also called to the Agamede gold and bronze medals to be awarded to women who shall have performed signal service in aiding the health and happiness of other American women. Miss Anna M. Lute, president of the Association of Official Seed Analysts, then spoke on the important work of safeguarding seed supplies by the adoption and maintenance of standards.

THE ORGANIZATION AND WORK OF THE AMERICAN ASSOCIATION

The American Association for the Advancement of Science aims to advance science in the New World in every feasible way. The majority of its members and the societies now associated with it are of the United States and Canada, but its field is not limited to those two countries and it has members residing in all parts of the world. All who are interested in the progress of knowledge and education are eligible to membership. A fuller statement on this topic may be found in SCIENCE for February 6, 1925. Booklets of information about the association may be secured from the permanent secretary's Washington effice at any time. A rather full account of the organization and its activities is given in the new volume of Summarized Proceedings, recently issued. This volume also contains the complete directory of members and has 980 pages. It is supplied by the permanent secretary's office. The price is $2.50 to members, $3.25 to others.

All who are interested in any way in the advancement of knowledge are invited to become members. Membership application cards may be secured from the permanent secretary's office, also sample copies of the journals.

OFFICERS OF THE ASSOCIATION FOR 1926

PRESIDENT

L. H. Bailey, 103 Sage Place, Ithaca, N. Y.

RETIRING PRESIDENT

M. I. Pupin, Columbia University, New York City.

VICE-PRESIDENTS, RETIRING VICE-PRESIDENTS AND SECRETARIES OF THE SECTIONS

Section A (Mathematics):
Vice-President, Edward V. Huntington, Harvard University, Cambridge, Mass.
Retiring Vice-President, W. H. Roever, Washington University, St. Louis, Mo.
Secretary, R. C. Archibald, Brown University, Providence, R. I.

Section B (Physics):
Vice-President, William Duane, Harvard University, Cambridge, Mass.
Retiring Vice-President, H. M. Randall, University of Michigan, Ann Arbor, Mich.
Secretary, A. L. Hughes, Washington University, St. Louis, Mo.

Section C (Chemistry):
Vice-President, Lauder W. Jones, Princeton University, Princeton, N. J.
Retiring Vice-President, H. B. Cady, University of Kansas, Lawrence, Kans.
Secretary, Gerhard Dietrichson, 48 Massachusetts Ave., Cambridge, Mass.

Section D (Astronomy):
Vice-President, Robert G. Aitken, Lick Observatory, Mt. Hamilton, Calif.
Retiring Vice-President, A. E. Douglass, University of Arizona, Tucson, Ariz.
Secretary, Philip Fox, Northwestern University, Evanston, Ill.

Section E (Geology and Geography):
Vice-President, Eugene A. Smith, University of Alabama, University, Ala.
Retiring Vice-President, R. A. Daly, Harvard University, Cambridge, Mass.
Secretary, G. R. Mansfield, U. S. Geological Survey, Washington, D. C.

Section F (Zoological Sciences):
Vice-President, Winterton C. Curtis, University of Missouri, Columbia, Mo.
Retiring Vice-President, H. S. Jennings, Johns Hopkins University, Baltimore, Md.
Secretary, Geo. T. Hargitt, Syracuse University, Syracuse, N. Y.

Section G (Botanical Sciences):
Vice-President, Benjamin M. Duggar, Missouri Botanical Garden, St. Louis, Mo.
Retiring Vice-President, Robert B. Wylie, University of Iowa, Iowa City, Iowa.
Secretary, Sam F. Trelease, Columbia University, New York City.

Section H (Anthropology):
Vice-President, R. Bennett Bean, University of Virginia, University, Va.
Retiring Vice-President, C. B. Davenport, Station for Experimental Evolution, Cold Spring Harbor, N. Y.
Secretary, R. J. Terry, Washington University School of Medicine, St. Louis, Mo.

Section I (Psychology):
Vive-President, Margaret Floy Washburn, Vassar College, Poughkeepsie, N. Y.
Retiring Vice-President, C. E. Seashore, University of Iowa, Iowa City, Iowa.
Secretary, Frank N. Freeman, University of Chicago, Chicago, Ill.

Section K (Social and Economic Sciences):
Vice-President, Joseph H. Willits, University of Pennsylvania, Philadelphia, Pa.
Retiring Vice-president, F. R. Fairchild, Yale University, New Haven Conn.
Secretary, F. L. Hoffman, Babson Institute, Babson Park, Mass.

Section L (Historical and Philological Sciences):
Vice-President, W. Carl Rufus, University of Michigan, Ann Arbor, Mich.
Retiring Vice-President, W. A. Oldfather, University of Illinois, Urbana, Ill.
Secretary, Frederick E. Brasch, Library of Congress, Washington D. C.

Section M (Engineering):
Vice-President, C. R. Richards, Lehigh University, Bethlehem, Pa.
Retiring Vice-President, C. R. Richards, Lehigh University, Bethelem, Pa.
Secretary, N. H. Heck, U. S. Coast and Geodetic Survey, Washington D. C.

Section N (Medical Sciences):
Vice-President, Rufus I. Cole, Rockefeller Hospital, New York City.
Retiring Vice-President, A. J. Carlson, University of Chicago, Chicago, Ill.
Secretary, A. J. Goldforb, College of the City of New York, New York City.

Section O (Agriculture):
Vice-President, C. F. Marbut, U. S. Bureau of Soils, Washington, D. C.
Retiring Vice-President, C. V. Piper, U. S. Bureau of Plant Industry, Washington, D. C.
Secretary, P. E. Brown, Iowa State College, Ames, Iowa.

Section Q (Education):
Vice-President, Melvin E. Haggerty, University of Minnesota, Minneapolis, Minn.
Retiring Vice-President, Otis W. Caldwell, Lincoln School, Columbia University, New York City.
Secretary, A. S. Barr, University of Wisconsin, Madison, Wis.

PERMANENT SECRETARY

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

GENERAL SECRETARY

W. J. Humphreys, U. S. Weather Bureau, Washington, D. C.

TREASURER

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

ASSISTANT SECRETARY

Francis D. Murnaghan, Johns Hopkins University, Baltimore, Md.

SECRETARY OF THE COUNCIL AND PROGRAM EDITOR

Sam F. Trelease, Columbia University, New York City.

EXECUTIVE ASSISTANT

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

AUDITOR

R. B. Sosman, Geophysical Laboratory, Carnegie Institution of Washington, Washington, D. C.

MEMBERS OF THE EXECUTIVE COMMITTEE OF THE COUNCIL[4]

J. McKeen Cattell (1926), *chairman*, Garrison-on-Hudson, N. Y.

L. H. Bailey, president of the association (1926), 103 Sage Place, Ithaca, N. Y.

Burton E. Livingston, permanent secretary (1928), Smithsonian Institution Building, Washington, D. C.

W. J. Humphreys, general secretary (1928), U. S. Weather Bureau, Washington, D. C.

Herman L. Fairchild (1927), University of Rochester, Rochester, N. Y.

Vernon L. Kellogg (1928), National Research Council, Washington, D. C.

F. R. Moulton (1929), University of Chicago, Chicago, Ill.

W. A. Noyes (1927), University of Illinois, Urbana, Ill.

M. I. Pupin (1929), Columbia University, New York City.

Henry B. Ward (1926), University of Illinois, Urbana, Ill.

Edwin B. Wilson (1928), Harvard School of Public Health, Boston, Mass.

MEMBERS OF THE COMMITEE ON GRANTS FOR RESEARCH[4]

Aleš Hrdlička (1927) (for Psychology, Anthropology, Education, Economics), *chairman*, U. S. National Museum, Washington, D. C.

B. M. Davis (1927) (for Botany), University of Michigan, Ann Arbor, Mich.

Joseph Erlanger (1928) (for Physiology), Washington University School of Medicine, St. Louis, Mo.

Nevin M. Fenneman (1928) (for Geology), University of Cincinnati, Cincinnati, Ohio.

W. D. Harkins (1926) (for Chemistry), University of Chicago, Chicago, Ill.

L. G. Hoxton (1929) (for Physics), University of Virginia, University, Va.

Vernon L. Kellogg (1929) (for Zoology), National Research Council, Washington, D. C.

Frank Schlesinger (1926) (for Mathematics and Astronomy), Yale Observatory, New Haven, Conn.

(The permanent secretary acts as secretary of the Committee on Grants.)

GENERAL OFFICERS OF THE COMMITTEE OF ONE HUNDRED ON SCIENTIFIC RESEARCH

Chairman, L. H. Bailey, president of the association, Ithaca, N. Y.

Secretary, Rodney H. True, University of Pennsylvania, Philadelphia, Pa.

OTHER OFFICERS

Lists of the members of the section committees and of other committees may be secured from the permanent secretary's office at any time, as well as other information regarding the organization of the association.

FUTURE ANNUAL MEETINGS

The association holds its annual meeting each year in convocation week, at the time of the Christmas vacation in schools and colleges. The dates for the annual meetings are determined according to a rule adopted by the council. When New Year's day falls on Thursday, Friday or Saturday the meeting period is to be the week (Monday to Saturday, inclusive) in which New Year's day occurs. When New Year's day falls on Sunday the period is to be the preceding week. And when New Year's day falls on Monday, Tuesday or Wednesday the period is to begin on December 27 and continue until January 2. It is thus possible to forecast the days and dates of any annual meeting, and plans of individuals and societies may be made accordingly. It requires twenty-eight years to complete the cycle of dates and days. The dates and meeting places for future annual meetings are shown below:

1926–27 (Philadelphia): Monday, December 27, 1926, to Saturday, January 1, 1927.

1927–28 (Nashville): Monday, December 26, to Saturday, December 31, 1927.

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

1928–29 (New York): Thursday, December 27, 1928, to Wednesday, January 2, 1929.

1929–30 (probably Des Moines, Iowa): Friday, December 27, 1929, to Thursday, January 2, 1930.

1930–31 (probably Cleveland, Ohio): Monday, December 29, 1930, to Saturday, January 3, 1931.

1931–32 (probably New Orleans): Monday, December 28, 1931, to Saturday, January 2, 1932.

1932–33 (Chicago): Monday, December 26, to Saturday, December 31, 1932.

Societies and other organizations dealing with science and education are invited to meet with the American Association at its annual meetings, and the association will do its best to arrange reduced railway rates and to furnish session rooms and other needed facilities for all organizations that meet with it. It is not necessary, however, that the societies that are officially associated with the association should meet with it. They are to follow their own wishes in this. It would be advantageous for American science if the special scientific organizations that do not meet with the association would, as far as possible, not hold meetings in convocation week, thus leaving that period free for the great general convention of science workers. Many of the affiliated societies that do not meet with the association are already following this plan. The annual association meetings furnish the best means for contacts between the various branches of science work and they present to the public in a very satisfactory way the yearly advance of science in general. Each section of the association always expects and welcomes the aid and cooperation of the American scientific organizations that are related to it, whether or not these meet with the association at the annual convention. The permanent secretary's office aims at all times to cooperate in every feasible way with other American scientific organizations.

SPECIAL NOTES TO MEMBERS, PROSPECTIVE MEMBERS AND DONORS

(1) This issue of SCIENCE is sent to all members whose dues have been paid for 1925, whether they have regularly received this journal or the *Scientific Monthly*. For those who have not yet paid their annual dues for 1926, this is the last issue to be sent until after payment shall have been made. Annual dues for the current year were due last October 1. The journal has been continued through January to those few who are still in arrears, with the hope that they would find it convenient to pay before the end of the month. It was also thought that those who are still in arrears would appreciate receiving this special issue with its account of the recent Kansas City meeting.

(2) The next meeting of the American Association will be the fifth Philadelphia meeting, from Monday, December 27, 1926, to Saturday, January 1, 1927. Announcements of that meeting, which promises to be exceptionally comprehensive, will reach members about December 1.

(3) By a new ruling of the council, any member of an affiliated organization may at any time within the next three years join the American Association without paying the usual five dollar entrance fee.

(4) For guides to information about the association see the section on the organization and work of the association, in this issue of SCIENCE.

(5) Special attention is called to the newly issued volume of Summarized Proceedings, including the directory of members, copies of which may be secured from the permanent secretary's office in the Smithsonian Institution Building, Washington, D. C. The price is $2.50 to members, $3.25 to others.

(6) All members of the association are requested and urged to make special efforts to secure new members, thus benefiting the new members and at the same time increasing the strength of the association and making it possible for its work to be correspondingly widened.

(7) It is specially desirable that all members become life members as soon as possible; the distinction is worth while.

(8) The association needs larger endowment for the support of its work. Besides life membership at $100, it offers sustaining membership at $1,000, the fees paid by these members being invested and only the income from them being used. Gifts and bequests for aiding in the advancement of science and learning are at all times welcome and will be administered in a very efficient way.

BURTON E. LIVINGSTON,
Permanent Secretary