# SCIENCE

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CONTENTS



**MSS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.**

## *THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE*
## *THE ATLANTA MEETING*

UNDER the presidency of Dr. Edmund B. Wilson, professor of zoology in Columbia University, the sixty-fifth meeting of the American Association for the Advancement of Science, and the twelfth of the "Convocation week" meetings, was held in Atlanta from December 29, 1913, to January 3, 1914.

It seems to be almost impossible to obtain an accurate record of the attendance, chiefly because the members of the affiliated societies do not register. The number actually registered at headquarters was 324 members of the association, 54 members of affiliated societies and 16 delegates. Perhaps the total attendance, based to be sure on estimation, was about 500, a very good number when one remembers that Atlanta is rather out of the beaten track of tourists, but even if the number in attendance was not as great as at some of the previous meetings, and notwithstanding the rainy weather, the admirable arrangements and the enthusiastic reception accorded were more than compensation. With that characteristic hospitality of the south the people of Atlanta extended to the visitors a welcome that will long be remembered.

The following affiliated societies met during the week:

Astronomical and Astrophysical Society of America.
Botanical Society of America.
American Association of Economic Entomologists.
Entomological Society of America.
American Microscopical Society.
American Physical Society.
American Phytopathological Association.
School Garden Association of America.
Southern Society for Philosophy and Psychology.

On Monday evening the association formally opened its convention by the general session in Taft Hall of the auditorium-armory building. The meeting was called to order by the retiring president, Dr. Edward C. Pickering, who introduced the president of the meeting, Dr. Edmund B. Wilson. If anything was needed to assure the association of its hearty welcome, surely the letter of greeting sent by Governor Slaton, and the address of Mayor Woodward amply sufficed. After President Wilson's reply, Dr. Pickering delivered the annual address on "The Study of the Stars." This meeting was preceded in a delightful way by an organ recital through the courtesy of the Atlanta Musical Festival Association, Mr. Chas. A. Sheldon, Jr., being the organist. After the meeting the members and visiting ladies were entertained by a reception at the University Club.

On Tuesday from five to seven o'clock the visitors were received by Governor and Mrs. John M. Slaton at the governor's mansion.

Two evening lectures of the popular kind complimentary to the citizens of Atlanta were delivered. On Tuesday Dr. Chas. Wardell Stiles, of the U. S. Public Health Service, discussed "The Health of the Mother in the South," and on the following evening the subject of the lecture by Professor Chas. E. Munroe, of the George Washington University, was "The Explosive Resources of the Confederacy during the War and Now: A Chapter in Chemical History."

Numerous smokers, luncheons, and dinners and several excursions to near-by institutions and places of historical and scientific interest helped to add to the social pleasure of the week.

The different sections of the association and the affiliated societies met morning and afternoon for the reading of papers throughout the week or until the lists of titles were finished.

The vice-presidential addresses given before the sections were as follows:

Section A: "The Influence of Fourier's Series upon the Development of Mathematics," by Edward B. Van Vleck.

Section B: "The Methods of Science: To What do they Apply?" by Arthur G. Webster.

Section D: "Safety and the Prevention of Waste in Mining and Metallurgical Operations," by J. A. Holmes.

Section E: "Pleistocene History of Missouri River," by J. E. Todd.

Section F: "The Story of Human Lineage," by William A. Locy.

Section G: "The Evolution of a Botanical Problem," by Duncan S. Johnson.

Section I: "The Development of our Foreign Trade," by John Hays Hammond.

Section K: "The Physiological Instruction of Medical Students," by J. J. R. Macleod. (Read by title.)

Section L: "Science, Education and Democracy," by J. McKeen Cattell.

Among the more important actions taken by the Council, the following may be mentioned:

280 members and 200 fellows were elected.

On motion, the following resolutions offered by the committee on policy were adopted:

*Resolved,* That the council looks with favor upon the organization of a Brazilian division of the association, and that a committee on organization be appointed for this work with Senator Eduardo Braga as chairman.

*Resolved,* That the Society of American Foresters be formally accepted as an affiliated society.

*Resolved,* That the council of the American Association for the Advancement of Science authorizes the establishment of local branches of the association in places where the members are prepared to conduct branches which will forward the objects of the association.

*Resolved,* That the standing committee on organization and membership be instructed to promote the establishment of such local branches.

The associate secretary for the south made an interesting report of the work which he had undertaken towards stimulating an interest in the association in the south. He reported correspondence with several hundred men in southern institutions and a visit to several of the educational institutions of the south.

Dr. McDougal reported news concerning the Pacific Coast Division with reference to the Pacific Coast Meeting. A committee of thirty from this division has been given power to organize for the specific purpose of making preparations for this meeting. He also stated that the Pacific Coast Association of Scientific Societies, composed of three or four hundred members, had also taken this matter up. Members should come prepared to spend at least ten days in California, as meetings would probably be held in three or four different places in the state. The time of holding this meeting was discussed but no definite action taken.

Dr. Pickering and Dr. Holmes on behalf of the committee on expert testimony reported progress, but postponed its final report.

The permanent secretary read a letter from Dr. J. S. Diller, asking that a grant be made for the publication of the twenty-four papers read before Section E, on the Mineral Resources of the Southern States. On motion, a grant of $200 was appropriated for this purpose.

On motion, the permanent secretary and the editor of science were instructed to prepare a directory of the funds available for research work for the information of those desiring to make application for the same.

The president announced the members he had appointed on the committee of one hundred on research authorized at the spring meeting of the council.

On motion, a list of the members of the association, the constitution and the official proceedings were ordered printed during the year, and every three years thereafter, provided funds are available.

At the meeting of the general committee, the following officers were elected:

*President:* Chas. W. Eliot, president emeritus of Harvard University.

*Vice-presidents:*

Section A: Henry S. White, Vassar College.
Section B: Anthony Zeleny, University of Minnesota.
Section D: Albert Noble, New York.
Section E: U. S. Grant, Northwestern University.
Section F: Frank R. Lillie, University of Chicago.
Section G: G. P. Clinton, Connecticut Agricultural Experiment Station.
Section H: Clark Wissler, American Museum of Natural History.
Section K: R. M. Pearce, University of Pennsylvania.
Section L: Paul H. Hanus, Harvard University.
Section M: L. H. Bailey, Cornell University.

*General Secretary:* W. A. Worsham, Jr., Athens State College of Agriculture.

*Secretary of Council:* Henry Skinner, Academy of Sciences, Philadelphia.

*Associate Secretary of the South:* R. M. Ogden, University of Tennessee.

At this meeting it was decided to hold the next meeting of the association at Philadelphia, during convocation week, 1914–1915.

On motion it was recommended to future general committees that the meeting of 1915–16 be held at Toronto and the meeting

of 1916–17 in New York. It was further recommended that the New York meeting be a special meeting in which all affiliated societies should be invited to take part and that such general convocation-week meetings should be held at intervals of four years, the second to be in Chicago in 1920–1921.

At its last meeting the council passed a resolution extending its warmest appreciation and thanks to the local committee, to the citizens of Atlanta and all those who contributed so ably and willingly to the comfort and entertainment of the members.

Atlanta has been called the metropolis of the "New South" and those visitors who found time to visit some of its many interesting places and institutions went away with new impressions that were not the least assets of a most enjoyable and successful meeting.

H. W. Springsteen,
*General Secretary.*

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## *THE METHODS OF THE PHYSICAL SCIENCES. TO WHAT ARE THEY APPLICABLE?*[1]

It is generally expected that a retiring vice-president shall deal in his retiring address with one of two things, either some aspects of his own work or some of the important questions which are agitating his own branch of science. My excuse for doing neither of these is that I do not feel that my own researches are of sufficient general interest for mention at this time, and that the masterly address of Professor Millikan last year on the theory of quanta had made it impossible for me to add anything to perhaps the most important of the recent new developments in physical theory. In deciding to content myself with some general observations I find that I have exposed myself to two risks, one that of repeating ideas that I have before expressed, the other that of seeming to have borrowed from the very interesting and fruitful address of Sir Oliver Lodge at the recent meeting of the British Association.

We physicists may certainly look with satisfaction at the present condition of our science, for although it finds itself in a period of violent flux involving the possibility of the discarding or modifying of some of our most cherished notions, it still remains as the model for the other sciences, many of which it logically includes in itself. When we speak of the methods of physical science, we of course mean the experimental method, as that is what distinguishes modern science from that of antiquity, but we include not only the methods and instruments of observation but also our methods of thought and reasoning. If we are to class sciences by the instruments used, we shall find most of them to belong under physics. Thus astronomy, so long confined to the study of the positions of the stars in two coordinates on the heavenly sphere, made use almost exclusively of the telescope and the clock, as important in the physical laboratory as in the observatory, while the modern part of astronomy annexes to the telescope the spectroscope and the photometer, the bolometer with its attendant galvanometer and the most recent developments of the physical laboratory in measuring radiation, including the recently discovered liberation of electrons from metals by light. For over a century chemistry has depended upon the physical balance as its chief instrument of measurement, while to-day the chemist uses the thermometer and calorimeter, the manometer for gas and osmotic pressures, and all the instruments for the measurement of electrical current and difference of potential that the physical labo-

[1] Address of the vice-president and chairman of Section B—Physics—American Association for the Advancement of Science, Atlanta, December, 1913.