

SCIENCE

VOL. 84

FRIDAY, NOVEMBER 27, 1936

No. 2187

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SCIENCE: A Weekly Journal devoted to the Advancement of Science, edited by J. McKEEN CATTELL and published every Friday by

THE SCIENCE PRESS

New York City: Grand Central Terminal

Lancaster, Pa. Garrison, N. Y.
Annual Subscription, \$6.00 Single Copies, 15 Cts.

SCIENCE is the official organ of the American Association for the Advancement of Science. Information regarding membership in the Association may be secured from the office of the permanent secretary, in the Smithsonian Institution Building, Washington, D. C.

THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

PRELIMINARY ANNOUNCEMENT OF THE SECOND ATLANTIC CITY MEETING

Edited by Dr. HENRY B. WARD

PERMANENT SECRETARY

INTRODUCTION

ATLANTIC CITY will welcome the American Association and its associated societies for the ninety-ninth meeting, which will cover the week from December 28, 1936, to January 2, 1937. Previously one meeting has been held in Atlantic City; and this in December, 1932, though a departure from the consistent habit of meeting in the halls of some educational or research institution was described in SCIENCE by Dr. B. E. Livingston as conspicuously successful. When under unexpected conditions the Executive Committee was called upon to change the location previously decided upon for this year's meeting, the choice fell upon Atlantic City and information already assembled for this preliminary announcement foreshadows a repetition of the success of the 1932 experiment.

The locality, already well known to residents of the

nearby states and to members of professional societies which have met there previously, is well qualified to attract a large organization and to give it a satisfactory environment for a successful meeting. The December climate is mild, the sea air and sunshine invigorating and the easy access to all meeting places along the ocean-side Boardwalk attractive. The Municipal Auditorium affords a large number of well-planned meeting rooms as well as good accommodations for the general sessions, registration facilities and scientific exhibits. Nearby hotels have first-class assembly halls and smaller meeting rooms for such societies and groups as prefer separate locations. Yet these are sufficiently near the general meeting places and other societies to be free from the inconveniences of sessions separated by distances usual in city meetings. The compactness and convenience of the arrangements

made for the Atlantic City meeting will afford members in attendance unusual opportunities for conferences and informal contacts that will be thoroughly enjoyed.

The meeting of the British Association last September in Blackpool affords an interesting parallel to the coming meeting in Atlantic City. Like the latter, Blackpool is also a seaside resort city, famous equally for its sandy beach, the promenade along the sea and its numerous resorts. As the representative of the association, President Conklin participated in the Blackpool meeting and on his return had much to say in praise of the locality as well as the meeting. Others who have attended other meetings of the British Association have commented on the high value of the social privileges provided for those in attendance and on the personal association and constant informal exchange of opinions between workers in different scientific fields. Their formal programs are much less extended and the time devoted to the reading of papers is more limited. May it not be that the pressure at our meetings so often deplored might well be lightened by some such plan without incurring the evident losses that would follow the oft-suggested plan of resorting to a multitude of separate gatherings? The Atlantic City meeting is opportune for the discussion of such proposals. It will furnish also a basis for testing the value of setting aside a period to be devoted to general association functions such as has been provided this year. It is hoped that Association Day, described later in this announcement, may receive good general support and serve to open the way for wider interest and fuller participation in all functions of the association.

HOTELS IN ATLANTIC CITY

The general headquarters will be at Haddon Hall. Other Boardwalk hotels are as follows: *Ambassador, Brighton, Chalfonte, Chelsea, *Claridge, Dennis, Knickerbocker, Marlborough-Blenheim, New Belmont, *President, *Ritz-Carlton, Seaside, *Shelburne and Traymore.

Minimum rates for single rooms in nearly all boardwalk hotels are \$3.00, the exceptions being the Dennis, President and Traymore at \$3.50 and the Claridge, Marlborough-Blenheim and Shelburne at \$4.00. The number of rooms at this rate is not large. A few single rooms at \$2.50 are available in the New Belmont.

Twin-bedded rooms are numerous in all hotels, and the rates vary from \$5 to \$10. Those who wish to arrange to occupy a room with some one else may have very desirable rooms at rates per person equal to the minimum rate.

Avenue hotels include the Arlington, Colton Manor, Flanders, Franklin Inn, Glaslyn-Chatham, *Jefferson,

Kentucky, Lafayette, *Madison, Monticello, Morton, Princess, Richfield, Senator, Sterling and Thurber. Minimum rates for single rooms in these hotels are from \$2 to \$5 and double rooms with twin beds from \$4 to \$8.

Headquarters for the various groups have been assigned as follows:

Haddon Hall: American Association of Economic Entomologists; Entomological Society of America; Section on Medical Sciences; American Society for Horticultural Science; Society of the Sigma Xi; Phi Beta Kappa; Gamma Alpha Graduate Scientific Fraternity; Pi Gamma Mu.

Chalfonte: American Physical Society; American Association of Physics Teachers; Sigma Pi Sigma.

Ambassador: American Society of Zoologists; American Society of Parasitologists; Botanical Society of America; American Phytopathological Society; American Society of Plant Physiologists; Mycological Society of America; American Fern Society; Sullivant Moss Society; American Society of Naturalists; Ecological Society of America; Genetics Society of America; American Microscopical Society; Limnological Society of America.

Chelsea: Section on Psychology; Section on Education.

Claridge: Section on Engineering; Section on Social and Economic Sciences.

Dennis: Section on Historical and Philological Sciences; American Nature Study Society.

Marlborough-Blenheim: Section on Chemistry; Section on Astronomy; Section on Geology and Geography.

Morton: Section on Mathematics.

Ritz-Carlton: Potato Association of America; American Society of Agronomy.

Traymore: American Meteorological Society.

RAILROAD RATES

Reduced railway rates for conventions on the certificate plan have been discontinued. The new rates which became effective June last on many railroads are expected to approximate the old convention rates. It is also likely that at some places special Christmas fares will be available that will extend over the meeting period. Definite information on these rates is not yet available, and it is advisable therefore to make individual inquiries of local ticket agents before deciding upon routes.

REGISTRATION

The main registration headquarters will be in the Municipal Auditorium, where registration facilities will be opened on Monday and maintained throughout the week. Plans are being made for a branch registration office at Haddon Hall. Any one interested in the advancement of science or education may register as a guest for the meeting upon payment of the regis-

* The hotels marked with an asterisk have only rooms with bath. In the other hotels rates for rooms without bath are \$1.50 to \$3 single, and \$2.50 to \$5 double.

tration fee of \$1.00. Each registrant receives a copy of the General Program, an identification card and a badge, and is also privileged to visit the exhibition and all meetings desired.

At the main registration headquarters reservations may be made for excursions and banquets. Mail and telegrams will also be handled there.

GENERAL SESSIONS

The general session on Monday evening will be devoted, in accordance with the custom of the association, to the address of the retiring president, Dr. Karl T. Compton, of the Massachusetts Institute of Technology, whose subject will be "The Electron: Its Intellectual and Social Significance." This address will be given in the Ball Room of the Municipal Auditorium. The program of the evening will be opened by an address of welcome to Atlantic City and response on the part of the association by its president, Dr. Edwin Grant Conklin.

Following the address of the retiring president, a reception will be tendered to the officers and members of the association and its affiliated societies, together with invited guests. This reception will be held in Haddon Hall.

On Tuesday evening the general session is devoted to the Sigma Xi lecture. This, which is the fifteenth annual lecture under the joint auspices of the association and Sigma Xi, will be given by Dr. Henry G. Knight, chief of the Bureau of Chemistry and Soils, U. S. Department of Agriculture. Dr. Knight will present important recent researches on the topic, "Selenium and Its Relation to Soil, Plants, Animals and Public Health." This address represents important recent work which is as yet unpublished and will prove of especial interest to the members of the association.

On Wednesday evening comes the second annual Phi Beta Kappa lecture, which will be delivered by President James R. Angell, of Yale University, on the topic "The Scholar and the Specialist." This lecture is sponsored by the United Chapters of Phi Beta Kappa for the purpose of introducing into the association's large winter meetings a note which will show the intimate relation of science and general culture. The lecture is one of the general evening sessions open to the public. All local Phi Beta Kappa members will receive special invitations.

An exhibit of *The American Scholar*, Phi Beta Kappa's quarterly for general circulation, will be included in the Science Exhibition. Like the annual lecture, the magazine is designed both to interest the laymen in the understanding of science and the scientist in maintaining the breadth of reading essential even to the most effective specialization.

Thursday evening this year is given to the American Society of Naturalists for their annual dinner, followed by the address of the president, Professor C. E. Allen, of the University of Wisconsin, on "Haploid and Diploid Generations."

Friday evening has been set aside for a special demonstration of scientific research in moving picture films, which is a part of the Friday program considered later in this article.

Three afternoon general sessions of outstanding importance have been provided for the Atlantic City program. The first of these is a presentation of the physical phenomena observed by the visitor to the shore of the ocean. The paper entitled "The Optics of the Surface of the Sea" is to be given on Monday afternoon by Dr. E. O. Hulburt, of the Naval Research Laboratory. It is illustrated by lantern slides.

The second afternoon general session presents the work of Dr. P. W. Zimmerman and Dr. A. H. Hitchcock, of the Boyce Thompson Institute at Yonkers, N. Y., for which the association prize of \$1,000 was awarded at the St. Louis meeting. While this work was carried on by the two authors jointly, results will be presented by Dr. Zimmerman in a paper entitled "Response of Plants to Hormone-like Growth Substances." The talk will be illustrated by lantern slides and motion pictures. It will be given on Wednesday afternoon at 4:30.

The afternoon general session on Thursday at 4:30 is to be devoted to an address by Dr. C. C. Little, of the Roscoe B. Jackson Memorial Laboratory at Bar Harbor, Maine. Dr. Little will speak on "The Social Significance of Cancer."

The Friday afternoon general session will be incorporated in the special program for that day. This is dealt with as a unit later in this announcement.

RETIRING VICE-PRESIDENTIAL ADDRESSES

The vice-presidential addresses to be given at Atlantic City by the chairmen of the various sections include the following for which titles have been received:

"Recent Developments in the Theory of Integration," by Professor T. H. Hildebrandt, of the University of Michigan, before the Section on Mathematics.

"Electron Impact Phenomena in Gases," by Professor John T. Tate, of the University of Minnesota, before the Section on Physics.

"Reducing Potentials of Free Radicals," by Professor Moses Gomberg, of the University of Michigan, before the Section on Chemistry.

"Some Problems in Fundamental Astronomy," by Dr. Herbert R. Morgan, of the U. S. Naval Observatory, before the Section on Astronomy.

"Morphology as a Dynamic Science," by Professor

E. W. Sinnott, of Columbia University, before the Section on Botanical Sciences.

"Prehistoric Archeology, Past, Present and Future," by Dr. N. C. Nelson, of the American Museum of Natural History, before the Section on Anthropology.

"The Psychology of Art: Naïve Geometry," by Professor R. M. Ogden, of Cornell University, before the Section on Psychology.

"Remarks Concerning the History of Twentieth Century Science," by Dr. George Sarton, of Harvard University, before the Section on Historical and Philological Sciences.

"Agricultural Research in China," by Dr. H. K. Hayes, of the University of Minnesota, before the Section on Agriculture.

"Data Related to Classroom Learning," by Professor F. B. Knight, of the State University of Iowa, before the Section on Education.

Reference is made to these and others in the part of this preliminary report devoted to the separate sections and their affiliated societies.

PRESS SERVICE

A professor in one of our universities not long ago called attention to an important scientific discovery by reading to his class the press story written by one of the members of the National Association of Science Writers and based upon a paper delivered at one of our meetings.

More and more dependence is being placed on press accounts of scientific advance by all classes of the population. The daily press is the most important medium for the instruction of the people as a whole. It is to our interest to do all we can to provide the press with abundant scientific material so that the accounts of scientific advance may be both full and accurate.

So let every one who is to present a paper at the coming meeting do his part by sending in two copies of his paper to the Press Service as long in advance of the meeting as possible.

SCIENCE EXHIBITION

The annual science exhibition this year will be well housed in the Municipal Auditorium. Here it will be immediately accessible to the many sections and affiliated societies meeting in the building and only slightly removed from those holding sessions in neighboring hotels. The exhibits will be available to members of the association and guests without the inconvenience to association members, as on some previous occasions, of a large influx of city visitors. These conditions will make its use by members more effective and enjoyable. As previously the 1936 science books will be found in the science library, as an effective demonstration of the recorded progress of science during

this period. A list of these books will be printed in the issue of the *Scientific Monthly* for January, 1937, copies of which will be available at the Science Library.

OFFICIAL MEETINGS

The Council of the Association will hold its first meeting at 2:00 on Monday afternoon in Haddon Hall. Further sessions will convene promptly at nine each morning during the week. According to usage general matters brought before the Council are referred first to the Executive Committee for consideration and recommendation. Consequently business will be facilitated if matters are sent directly to the Executive Committee through the Permanent Secretary, whose office will be opened at the association headquarters in Haddon Hall on Sunday, December 27. Representatives on the Council from sections and societies are urged to attend all meetings so far as can be made possible.

The Academy Conference, which is composed of an official delegate from each affiliated academy, together with designated representatives from the association, will convene at 4:00 on Monday afternoon for its annual discussion of problems involving academy work and the relations of the academies to the association. The Academy dinner will follow at 6:15 and adjourn at 8:00 in order that members may attend the opening general session of the association.

The Secretaries' Conference, which includes in membership secretaries of all sections and all affiliated societies, will hold its session on Friday morning. A special announcement regarding further details will be sent individually at a later date to the members of this conference. The problems before the association call for the best assistance which can be rendered by the conference. It is hoped that all secretaries will plan to remain for this meeting in view of the importance to all interests concerned of the problems which demand careful discussion from different points of view if effective results are to be secured.

SOCIAL AFFAIRS

The annual reception tendered by the Atlantic City authorities to the officers and members of the association and affiliated societies will be held on Monday evening in Haddon Hall, immediately after the address of the retiring president. Those who remember the affair given on the occasion of the first Atlantic City meeting will recall with pleasure the attractive environment and exceptional opportunity for social contacts afforded on that occasion.

The Union of Biological Societies has arranged the joint smoker for all biologists to be held this year as usual on Tuesday evening after the general session.

Arrangements have been made to insure the prompt closing of earlier events so that appropriate time will be available for the smoker.

The arrangements for a joint smoker to include mathematical, chemical and physical sciences, as well as engineering, have not yet been completed. A later announcement may be expected.

Dinners of special societies and individual groups have been arranged for Tuesday and Wednesday evening. Special luncheons for other societies are announced for noon hours. Precise details regarding these items will be given in the special announcements sent out by individual societies or found in the records concerning sectional and society programs which follow in this article.

The number of meetings, conferences, dinners, luncheons and other gatherings listed is so great that it emphasizes again, as has been noted on other previous occasions, that the pressure of events is unfortunately large. Much would be gained for all participants if the meetings were spread out over the week rather than condensed by main force into three or four days. Unconsciously, no doubt, societies have contributed to this pressure by the very precise instructions given secretaries in regard to the dates for holding sessions. If these officers were allowed some liberty in adjusting the precise time for the meetings of a given society it would not be difficult by conference to improve conditions materially and thus add to the comfort as well as to the effectiveness of the meetings.

A NEW FEATURE

In recent years members have often expressed the desire that some definite effort be made to bring together for general programs those attending association meetings. The evening general sessions are necessarily somewhat formal, and the increase in conflicting events has further reduced their influence and association-wide participation. The multiplication of separate meetings and technical programs, essential and wise as it unquestionably is, may meet all the needs and desires of many members. Yet others feel clearly the importance of developing opportunities for general contacts and united consideration of some scientific problems. The week set aside for meetings at Atlantic City has furnished the opportunity for offering to the members in attendance two unique privileges which will bring members together in a manner not heretofore provided.

Friday, January 1, has been selected by the Executive Committee as Association Day, and provisions made for a series of exceptionally attractive events on the day's program. Some societies have already planned to extend their meetings over at least the morning of Friday. In addition thereto various con-

ferences are to be held; the largest of which thus far announced is the Secretaries' Conference, referred to elsewhere in this account. Boards of scientific institutions and projects are planning to use this time for official meetings. This will avoid conflicts with important scientific programs in the earlier days of the week and give freedom from pressure in considering the business entrusted to these organizations.

On Friday at noon an association luncheon will be served in Haddon Hall. All members of the association are invited to participate. It is expected that a distinguished foreign scientist will speak on this occasion. Further details will be given in a later announcement. On Friday afternoon the Section on Medical Sciences will present a general lecture of interest to all scientists. The speaker will be Dr. Walter Schiller, of Vienna, who will speak on the changes in the conception of cancer. The progress made in technical study of cancer along numerous lines which have been developed through intensive recent work will have been presented before the Section on Medical Sciences in earlier programs during the week. Thus this address of Dr. Schiller, which will present a broad survey of the situation, is planned to orient scientists with reference to the progress already achieved and the hopes of the future.

For Friday evening a unique program of scientific films is being prepared, and details of this feature will be announced shortly.

The American Philosophical Society, one of the oldest, most widely known and most influential of American scientific organizations, has invited the association to adjourn its sessions to Philadelphia for Saturday. Members will be met at the train from Atlantic City on Saturday morning and taken to the rooms of the Philosophical Society. Scientific programs will be given there and probably also at the Franklin Institute and the Academy of Natural Sciences in Philadelphia. One such session on viruses and virus diseases is already assured. Following the symposia there will be a complimentary luncheon for the members of the association, and this will be followed by visits to various scientific institutions in Philadelphia, which will keep open house on this occasion.

SECTIONAL AND SOCIETY PROGRAMS

The Section on Mathematics (A) will hold meetings on Monday and Tuesday afternoons. The retiring vice-president, Professor T. H. Hildebrandt, will deliver his address on the topic, "Recent Developments in the Theory of Integration," at 2:00 on Tuesday afternoon. Professor G. C. Evans, chairman of the section, will preside. The American Mathematical Society and the Mathematical Association of America will meet during this week at Duke University to recog-

nize the founding by that institution of a new mathematical publication and to make arrangements for its management. Some members will be able to attend both meetings. The societies are to be congratulated on planning to give due prominence to the important action taken by Duke University.

The Section on Physics (B) will hold its meeting jointly with the American Physical Society and the American Association of Physics Teachers. The joint session will probably be held on Tuesday morning, at which time Dr. John T. Tate will present his address as retiring vice-president of the section and Dr. F. K. Richtmyer will give the presidential address of the American Physical Society. It is expected that the dinner will also be a joint one with the Physical Society and the Association of Physics Teachers. It is proposed to hold it on Tuesday evening. Other meetings of the American Physical Society will be held on Monday, Tuesday and Wednesday. One of the sessions will be a symposium on radiology in which a number of papers will be presented on the subject of radiant energy in the treatment of disease and other applications.

The American Association of Physics Teachers will cooperate with the American Physical Society and the Section on Physics in a joint meeting on Wednesday. The program of this joint meeting will be sent out by the secretary of the American Physical Society. The organization will in addition thereto hold a program of contributed papers on Thursday, which will consist of reports of standing committees and the election of officers for another year.

The American Meteorological Society will meet on Monday, Tuesday and Wednesday. Weather variations and long-range forecasting will be the subject of a joint session with the Section on Astronomy on Wednesday afternoon. J. B. Kincer's presidential address on Tuesday will be on "The National Loss from Hail, Windstorms, Drought and Other Weather Vagaries." In the science exhibition there will be a special collection of modern meteorological apparatus, including prototypes, leading up to the radio-meteorograph, of which there may be one or more demonstration ascents by unmanned balloons in the course of the meeting.

Sigma Pi Sigma, Physics Honor Society, will have its luncheon, held annually with the mid-winter meeting of the association, on Wednesday.

The Section on Chemistry (C) will hold sessions on Tuesday and Wednesday. On Tuesday afternoon there will be a joint session of this section with the Section on Education and with the cooperation of the Division of Chemical Education of the American Chemical Society for the third of a series of three symposia on the relationships of chemistry to education. The subject

of this symposium will be "The Preparation of the Teacher of Chemistry." Both chemists and educators will present their respective points of view and then these will be discussed. On Wednesday afternoon Professor M. Gomberg will deliver his retiring vice-presidential address on the topic, "Reducing Potentials of Free Radicals." Sessions for contributed papers will be held on Tuesday and Wednesday mornings. In these the Delaware, Philadelphia, Princeton and South Jersey Sections of the American Chemical Society are cooperating. On Wednesday at noon the honorary chemical fraternity, Phi Lambda Upsilon, will hold a luncheon.

The Section on Astronomy (D) will hold meetings on Wednesday and Thursday. The session on Wednesday afternoon will be a joint session with the American Meteorological Society at which questions relative to climatic variations and weather predictions will be discussed. The vice-presidential address by Dr. W. R. Morgan, chairman of the section, is scheduled for the section meeting on Thursday.

Another astronomical exhibit is being arranged in connection with the general program of educational exhibits. The cooperation of all observatories and other institutions having astronomical material that could be effectively displayed is solicited in this connection. Correspondence relative to material to be exhibited should be addressed to the secretary of the section.

The Section on Geology and Geography (E) will meet for the reading of papers during the forenoon and afternoon of Thursday and Friday. This schedule makes it possible for members of the Geological Society of America to attend the gathering of geologists in Cincinnati prior to the sessions at Atlantic City. The sessions on Thursday will be devoted largely to the presentation of papers dealing with the geomorphology, paleontology, stratigraphy and economic geology of the Atlantic Coastal Plain. Other papers of interest to geologists and geographers will for the most part be scheduled for the Friday sessions.

The Section on Zoological Sciences (F) will hold joint sessions with the American Society of Zoologists on Tuesday, Wednesday and Thursday. The session of Tuesday morning will be devoted to the reading of papers. In the afternoon there will be a symposium on experimental populations. Special discussion sessions will be devoted to problems of cellular physiology, biological effects of radiation and on genetics and embryology. One session will be given over to demonstrations. All demonstrations, exhibits and meetings will be held in the Municipal Auditorium unless otherwise announced.

The business meeting of the section will be held on

Wednesday immediately preceding the business meeting of the zoologists.

The zoologists' dinner will be held on Wednesday evening, following which Professor Ross G. Harrison, vice-president of the Section on Zoological Sciences, will deliver the vice-presidential address.

The Section on the Zoological Sciences will meet jointly with the American Society of Zoologists on Tuesday, Wednesday and Thursday. On Tuesday morning there will be section meetings for reading of papers. In the afternoon there will be a joint symposium with the Ecological Society of America on experimental populations under direction of Dr. W. C. Allee and at which papers will be given by Dr. W. H. Johnson, Dr. Thomas Park, Dr. A. M. Banta and Dr. Raymond Pearl. The biologists' smoker will be held that evening. On Wednesday morning the regular program will be continued and there will also be a joint session with the Genetics Society of America and a program of invited speakers on genetics and embryology. The annual business meeting will be held that noon. The afternoon will be devoted to demonstrations.

The regular sessions will be concluded on Thursday morning. In addition to the special features mentioned above there will be two special sections with invited speakers, one arranged by Dr. Robert Chambers and Dr. M. H. Jacobs on "Properties of Protoplasmic Surfaces," and the other arranged by Dr. W. C. Curtis on "Biological Effects of Radiation."

The Entomological Society of America will meet on Monday and Tuesday. A joint symposium on the subject, "Insects in Relation to Man," will be held by the Entomological Society of America and the American Association of Economic Entomologists on Monday afternoon. The annual business meeting of the Entomological Society of America will be held on Tuesday afternoon. On Tuesday evening the two entomological societies will attend the Entomologists' Banquet sponsored by the American Association of Economic Entomologists. This will be followed by the annual address of the Entomological Society of America to be given by Dr. Edith M. Patch, entomologist of the Maine Experiment Station.

The American Association of Economic Entomologists will meet on Monday morning opening with the Section of Apiculture. The first general session will meet at noon with the president's address. After lunch there will be a joint session with the Entomological Society of America. This will be a symposium on "Insects Affecting Man." The Extension Section and the Executive Committee will each meet on Monday evening. Tuesday will be devoted to a business session in the morning and a paper reading session in the afternoon. The Entomologists' dinner and the public

address by Dr. Edith M. Patch, of the Entomological Society of America, will come that evening. This dinner is a joint affair of the two entomological societies. On Wednesday will be held the first session of the Plant Quarantine Section and a continuation of the paper reading session of the general association. The final business session will be held on Thursday afternoon.

The American Society of Parasitologists will hold its meetings on Tuesday, Wednesday and Thursday. The Wednesday morning session will include the presidential address of Professor Robert W. Hegner. The demonstration session on Wednesday morning will be followed by the annual luncheon and business meeting at midday. The Tuesday and Thursday program will be devoted to contributed papers by members of the society.

The Section on Botanical Sciences (G) will meet in joint session with the Botanical Society of America, the American Phytopathological Society, the American Society of Plant Physiologists and the Mycological Society of America on Tuesday afternoon. The retiring vice-presidential address by Dr. E. W. Sinnott, of Columbia University, on "Morphology as a Dynamic Science," will be followed by a symposium on "Recent Developments in Plant Sciences." Dr. W. M. Stanley, of the Rockefeller Institute, will discuss chemical studies on the virus of tobacco mosaic; Dr. E. J. Lund, of the University of Texas, will speak on electric polarity in plants, and Dr. Annie M. Hurd Karrer, of the U. S. Department of Agriculture, will give an address on selenium in plants.

The Botanical Society of America plans joint sessions as follows: (1) with the Section on Botanical Sciences and affiliated societies on Tuesday afternoon; (2) with the Ecological Society of America on Wednesday afternoon, and (3) with the American Society of Naturalists and affiliated societies on Thursday afternoon. The Physiological Section of the society will hold a joint session with the American Society of Plant Physiologists and the American Society for Horticultural Science on Wednesday forenoon. Meetings of the sections of the society will occupy the forenoons. The annual dinner of the society will be held on Wednesday evening, following which the presidential address will be given by Professor Aven Nelson, of the University of Wyoming.

The American Phytopathological Society will meet from Monday morning through Thursday afternoon under the presidency of Dr. G. H. Coons, Bureau of Plant Industry, U. S. Department of Agriculture, who will deliver an address on "Progress in Plant Pathology." In addition to the usual program of research papers, round-table conferences are to be held on the following: Plant Quarantines and Control Campaigns

against Introduced Plant Diseases, with an address by Lee A. Strong, chief of the U. S. Bureau of Entomology and Plant Quarantine; Coordination of Research and Extension Work with special reference to Orchard Spray and Dust Injuries, Plant Disease Survey work. Joint meetings will be held with Section on Botanical Sciences on Tuesday afternoon, with the Mycological Society of America and the Genetics Society of America on Thursday morning, and with the Potato Association of America on Thursday afternoon. The annual Phytopathologists' Dinner will be held on Tuesday evening.

The American Society of Plant Physiologists plans joint sessions as follows: (1) with the section on Botanical Sciences and affiliated societies on Tuesday afternoon; (2) with the American Society for Horticultural Science and the Physiological Section of the Botanical Society on Wednesday forenoon, and with the Ecological Society of America on Thursday afternoon. A symposium on photosynthesis, with special reference to carbon assimilation and plant growth, will be held on Thursday forenoon. Dr. H. A. Spoehr, of the Carnegie Institution, will preside as chairman at this session. The society will hold its annual banquet on Tuesday evening, at which Dr. A. E. Murneek will give the retiring president's address. At this time also the Charles Reid Barnes life membership and Stephen Hales prize awards will be announced.

The Mycological Society of America will meet from Tuesday to Thursday, inclusive. At the close of the business session on Tuesday morning the retiring president, Professor H. M. Fitzpatrick, will speak on the historical background of the Mycological Society. A joint session with the Section on Botanical Sciences will be held on Tuesday afternoon and another with the American Phytopathological Society on Thursday morning. The balance of the sessions will be given over to the reading of papers dealing with the cytology, biology and taxonomy of fungi; also the relation of fungi to diseases in man. The society will join with the American Phytopathological Society and the Botanical Society of America in the dinners held by these affiliated organizations.

The American Fern Society will meet on Friday morning. There will be a symposium on the ferns of New Jersey, illustrated by specimens exhibited in the meeting room. If weather permits, a trip may be taken in the afternoon to see several ferns in their native habitat.

The Sullivant Moss Society will meet jointly with the Section on Botanical Sciences on Tuesday and will hold a session for individual reports on Thursday morning.

The American Society of Naturalists will sponsor the Biologists' Smoker on Tuesday evening. On Wednesday morning the society will join with the American

Society of Zoologists and the Genetics Society of America in a discussion session on "Genetics and Development." The Naturalists' Symposium will be held on Thursday afternoon under the joint sponsorship of the American Society of Naturalists, the American Society of Zoologists, the Botanical Society of America, the Genetics Society of America and other biological societies. Its subject will be "Superspecific Variation from the Viewpoints of Biology and Paleontology," with a zoologist, a botanist and a paleontologist as principal speakers. The dinner of the society will be on Thursday evening followed by the address of its president, Professor C. E. Allen, professor of botany at the University of Wisconsin, on "Haploid and Diploid Generations."

The Ecological Society of America has arranged a program to occupy four days, beginning on Tuesday with a general session in the morning. For Tuesday afternoon the society is holding a joint symposium with the American Society of Zoologists on the subject of "Experimental Populations," with Dr. W. C. Allee as chairman and the following speakers taking part in the program: Dr. Willis H. Johnson, on "Experimental Populations of Microscopic Organisms"; Dr. Thomas Park, on "Experimental Studies of Insect Populations"; Dr. A. M. Banta, on "Population Density as Related to Sex and to Evolution in Cladocera," and Dr. Raymond Pearl, on "Biological Principles Affecting Populations: Human and Otherwise." The annual dinner will be held on Tuesday evening, following which an address will be given by the president of the Ecological Society, Dr. W. S. Cooper. Tentative arrangements have been made with Dr. John A. Small, the local representative of the society for the Atlantic City meeting, to show a colored film of New Jersey pine barrens vegetation, following the presidential address. On Wednesday afternoon the society has planned a joint session with the Botanical Society of America. Arrangements are being made to hold a joint symposium with the American Society of Plant Physiologists, the Society of American Foresters and the Wildlife Society. Details of these meetings, as well as further general sessions and business meetings, will occupy Wednesday morning and Thursday morning and afternoon. A field trip is scheduled for Friday to the Cape May Peninsula, the oyster experiment station and the Witmer-Stone Wildlife Sanctuary.

The Genetics Society of America is arranging again the type of program instituted last year in which short formal papers are omitted and their place is taken by informal demonstration papers. Demonstration sessions will be held on Tuesday morning and afternoon, and together with the American Society of Zoologists on Wednesday afternoon. On Wednesday morning there is scheduled a joint discussion session with the

American Society of Zoologists and the American Society of Naturalists dealing with "Genetics and Development." On Thursday forenoon there will be held jointly with the American Phytopathological Society a round-table conference on "Development of Resistant Strains in Animals and Plants." The annual luncheon is scheduled for Wednesday and will be followed by a business meeting.

The Limnological Society of America will hold its second annual meeting in conjunction with the association. It is planned to have at least two general sessions for the reading of papers, an annual business meeting and possibly a joint program with the Ecological Society of America.

The American Nature Study Society will meet on Tuesday, Wednesday and Thursday. On Tuesday the program will be devoted to the discussion of camps, trails, museums, gardens, visual education, woodcraft, ranger naturalist and the worth of nature study. On Wednesday the subject of education and science will be presented, with an educator and scientist alternating on the program. In the afternoon of Wednesday, there will be a short business meeting. The banquet will be held on Wednesday evening. On the following day there will be a joint meeting with the Science Teachers Association. An exhibit is being arranged in connection with the general science exhibit of the association.

The American Microscopical Society will hold its annual business meeting on Wednesday at 4:00 P.M.

The Section on Psychology (I) will meet from Monday to Wednesday. In addition to the usual programs of submitted papers, there will be a symposium under the chairmanship of Dr. Leonard Carmichael, University of Rochester, on "The Cortex and Behavior." Papers are to be read by Dr. Philip Bard, the Johns Hopkins Medical School; Dr. J. G. Dusser de Barenne, Yale University Medical School; Dr. K. S. Lashley, Harvard University; and Dr. R. Lorente de No, Central Institute for the Deaf. Each paper will be discussed by other active investigators in the fields of physiology and psychology. On Tuesday evening there will be a joint dinner of the Section on Psychology and the Section on Education, at which addresses will be given by Professor R. M. Ogden, of Cornell University, retiring vice-president of the Section on Psychology, on "The Psychology of Art: Naïve Geometry," and by Professor F. B. Knight, of the State University of Iowa, retiring vice-president of the Section on Education, on "Data Related to Classroom Learning." In addition to the foregoing, an unusually full program of submitted papers is being planned.

The Section on Social and Economic Sciences (K) will hold sessions on Wednesday, Thursday and pos-

sibly Friday. The Econometrists will not meet with the first-named section at Atlantic City; they are planning an extensive program for the meeting at Denver in June, 1937. One session at Atlantic City will be devoted especially to papers on social research. The address of the vice-president and chairman of the section, Dr. Shelby Harrison, director of the Russell Sage Foundation, will discuss significant problems of the present day in that field. The Section on Social and Economic Sciences plans joint sessions with the Section on Historical and Philological Sciences.

The Section on Historical and Philological Sciences (L) will hold meetings on Wednesday and Thursday. Joint sessions are being arranged with the Sections on Anthropology and on Social and Economic Sciences. The program will center upon the history of science and medicine and practical effects with respect to modern times. On the program will be Dr. George Sarton, of Harvard University; Watson Davis, director of Science Service; Dr. A. Pogo, specialist in Egyptian and Mayan astronomy; Dr. Joseph Mayer, consultant at the Library of Congress; and a number of other speakers who will represent various phases of the general topic. Dr. George Sarton, the retiring vice-president, will give an address which should be of interest to many of the scientists present at the Atlantic City meeting, on "The Study of the History of Twentieth Century Science." The joint program with the Section on Social and Economic Sciences will probably have as its principal address a paper on "The Influence of Science upon Modern Business," by Dr. Joseph Mayer.

The program of the Section on Engineering (M) is not fully determined. A later announcement will appear in *SCIENCE*. The sub-section on aeronautics, represented by the Institute of the Aeronautical Sciences, will hold a session on Tuesday morning, at which the subject of the speed possibilities of aircraft will be considered by aeronautical specialists. Mr. T. P. Wright, director of engineering of the Curtiss-Wright Corporation, will deliver a paper on "Speed and the Airplane." The limiting factors of the speed of airplanes when they approach speeds of five and six hundred miles an hour in terminal dives are coming to be a practical question for designers. These, with the possibility of achieving such speeds in regular flight in the stratosphere, will be discussed.

The Section on Medical Sciences (N) is planning to hold sessions on Monday afternoon and on Tuesday, Wednesday, Thursday and Friday at Atlantic City, also on Saturday morning in Philadelphia. This section has arranged a comprehensive symposium on cancer consisting of seven sessions. The first session on Tuesday morning will be devoted to questions concerning radiation and the afternoon session to various

aspects of the relationship of heredity and constitutional factors to the occurrence of tumorous growth. The two sessions on Wednesday will be concerned with the induction, stimulation and inhibition of tumors. This will involve a consideration of the carcinogenic substances, the relationship of the sex hormones and the significance of viruses and of inhibitory substances to the etiology and development of tumors. On Thursday morning tissue culture work in connection with cancer will be discussed and the metabolism of cancerous tissue will be considered. In addition two general lectures on Thursday afternoon and on Friday will take up certain more general aspects of the cancer problem. The section has brought together the leaders in the various fields in order to call attention to the fundamental work going on in this country in the investigation of this serious problem and to afford an authoritative survey of the actual status of this field.

The two general papers will be given by Dr. C. C. Little, of the Roscoe B. Jackson Memorial Laboratory, and Dr. Walter Schiller, of the University of Vienna. Dr. Little will present a general lecture for the entire association at 4:30 on Thursday on the social significance of cancer. Dr. Schiller will lecture at 4:30 on Friday afternoon on changes and modifications in the conception of carcinoma.

The Section on Medical Sciences will hold a joint session with the pharmacy sub-section on Monday afternoon and a session for the presentation of general papers on Friday morning.

As the association is to hold meetings on Saturday at Philadelphia, the Section on Medical Sciences has invited Dr. Wendell M. Stanley, of the Rockefeller Institute at Princeton, to lecture on the tobacco mosaic virus which he has succeeded in crystallizing.

The Sub-section on Dentistry has arranged a program under the auspices of the American Division of the International Association for Dental Research, with the cooperation of the American Dental Association, the American Association of Dental Schools and the American College of Dentists. There will be a morning and an afternoon session on Monday. The program will be representative of a wide field of dental and oral problems.

The Sub-section on Pharmacy will hold one session at the Atlantic City meeting on Monday morning. At this session there will be papers submitted by Dr. Marvin R. Thompson, of the University of Maryland, on studies on digitalis, Dr. Arthur Osol, of the Philadelphia College of Pharmacy and Science, and Dr. Heber Youngken, of the Massachusetts College of Pharmacy. In addition there has been arranged a joint session with Medical Sciences in the afternoon of Monday, at which time the Sub-section on Pharmacy will have presented papers by Drs. Feldman and Krantz, of the University of Maryland, on "The Etiol-

ogy of Gall Stones," and also papers by Drs. Grollman and Carr on "Cortin and Its Effects on the Metabolism of the White Rat."

The Section on Agriculture (O) will hold two sessions devoted to a comprehensive symposium on pasture and forage crops in the Northeastern United States. This program has been arranged by the Northeastern Section of the American Society of Agronomy. The improvement of forage crops is now receiving major attention by all the experiment stations in the northeastern states, and, in a number of projects, assistance is being given by the Federal Government. A special pasture research station is now being developed by the Federal Government in Pennsylvania. Developments within the last decade or two have shown that significant improvements in forage crops are possible and that they would vitally affect northeastern agriculture. A major portion of the investigations have been concerned with quantitative production. Oftentimes incidental to the quantitative studies interesting differences in composition have been revealed. It is the purpose of the symposium to bring together the fragmentary information relating to chemical composition of forage crops, the causes of these differences and their economic significance. The discussions will be led by men who have made notable contributions in reference to forage crop investigations.

Dr. H. B. Sprague, of the New Jersey Agricultural Experiment Station, will review the possibilities for genetic improvement and improvement through introduction and selection of crops for pasture uses. Professor D. B. Johnstone-Wallace, of Cornell University, has introduced many ideas about the management of pastures and will discuss these factors in relation to the chemical composition of pasture plants. The pasture discussions will be continued with a paper on the relation between the chemical composition of plants and fertilizer treatments by Dr. W. H. Pierre, head of the agronomy department of the University of West Virginia. The relation between soils and the chemical composition of pasture crops will be taken up by Dr. A. R. Midgley, of the University of Vermont. Perhaps the difficulty of satisfactory measurement has been the greatest obstacle to satisfactory pasture experimentation. Therefore, a discussion of pasture problems includes a review of the technique of research. This discussion will be presented by B. A. Brown, of the Storrs Agricultural Experiment Station. The most satisfactory stage for cutting silage corn has been the object of many experiments over a period of many years. Dr. R. G. Wiggans, of Cornell University, has thrown new light on these in some recent experiments on the relation between stage of growth and maturity. Dr. Wiggans will describe his investigations.

It is now recognized that laboratory estimations of feeding value of forage crops may be inadequate. A discussion of the interpretation of variations in plant composition in relation to feeding value by Dr. L. A. Maynard, of the Animal Husbandry Department of Cornell, is, therefore, the fitting climax for the discussions.

The American Society of Agronomy will meet jointly with the Section on Agriculture and participate in the symposium just described.

The American Society for Horticultural Science will hold sessions on Tuesday, Wednesday and Thursday. This society will hold a joint meeting with the Potato Association of America on Tuesday afternoon, and a joint meeting with the American Society of Plant Physiologists and the physiology section of the Botanical Society of America on Wednesday forenoon for a symposium on the general theme of minor elements, under the chairmanship of Dr. E. J. Kraus, of the University of Chicago. Papers will be presented at this meeting by Dr. W. H. Chandler, of the University of California; Dr. O. F. Curtis, of Cornell University; Dr. G. T. Nightingale, of Honolulu, Hawaii, and Dr. J. E. McMurtrey, of Washington, D. C.

The banquet will be held on Wednesday evening, at which Professor Alex Laurie, of Ohio State University, will give the address of the president of the society, and at which a special moving picture film of interest to the scientific group will be shown.

The Potato Association of America plans joint sessions with other organizations as follows: (1) with the American Society for Horticultural Science on Tuesday afternoon; (2) with the American Phytopathological Society on Thursday afternoon. The committees on Nomenclature, Certification, Breeding, Standardization of Field Plot Technic, Standardization of Cooking Tests, Culture and Storage, Fertilizer Investigations, Virus Diseases and Insects will present reports. Among those who will take part in the program are E. V. Hardenburg, C. F. Clark, Ora Smith, G. F. MacLeod, Julian C. Miller, J. R. Livermore, F. A. Krantz, F. J. Stevenson, B. E. Brown, H. A. Jones, Donald Reddick, L. M. Ware, C. L. Fitch, E. O. Mader.

The Section on Education (Q) plans three sectional meetings, a joint program and the annual dinner with the Section on Psychology. The central theme of the program on Monday morning will be "Individual Differences and Provisions for Them," and of the afternoon program "Current Curriculum Problems." In the case of each program, two major papers will be presented, followed by briefer reports of studies by fellows and members. The Tuesday morning program will be devoted entirely to reports of experimental studies by fellows and members. On Tuesday afternoon, a joint meeting will be held with the Section on Chemistry and the Division of Chemical Education of the American Chemical Society on the topic, "The Preparation of Teachers of Chemistry." Papers will be presented by J. H. Simons, secretary of the Section on Chemistry, and William S. Gray, secretary of the Section on Education, reflecting the points of view of both chemists and professional educators. The discussion of these papers will be introduced by Professor Ralph Powers, of Teachers College, Columbia University, and Professor Ross A. Baker, of the College of the City of New York. The annual dinner of the Section on Psychology and the Section on Education will be held on Tuesday evening, at which time the retiring vice-presidents of the two sections will present papers: "Data Related to Classroom Learning," by F. B. Knight, and "The Psychology of Art: Naïve Geometry," by Robert M. Ogden.

GENERAL ANNOUNCEMENTS

The Society of the Sigma Xi will hold its thirty-seventh annual convention on Tuesday. The executive committee will meet at two o'clock. The business session will convene at four o'clock and the fifteenth annual lecture, given under the joint auspices of the association and the society, will be the address of the Tuesday evening general session. Dr. Henry G. Knight is the speaker.

The American Association of Science Teachers will meet on Thursday morning and afternoon.

Announcements regarding places and hours of various events will be given in the printed program of the meeting. This pamphlet will be distributed on registration at Atlantic City.

OBITUARY

HOWARD McCLENAHAN

AMONG those to whose lot it falls to form and guide the policies of men, few have that opportunity, which is afforded the dean of a great college, to combine the abstract expression of their ideals with the influence of personal contact. It is the happy lot of such men to see their cherished ideals born and reborn of their teaching in an ever-widening field of influence, extending even beyond the generation in which they live.

Many there were to whom the death of Howard McClenahan on December 17, 1935, came as a loss which was not merely that of a teacher from whom they had learned much in their earlier days; for in his death they saw the passing of that fountain of influence whose loss was more for the generations to come than for themselves, in whom the fruits of his example had already spread their foliage as a lasting memorial.