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THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

PRELIMINARY ANNOUNCEMENT OF THE VIRGINIA MEETING

Edited by DR. F. R. MOULTON

PERMANENT SECRETARY

FROM December 27 to 31, 1938, the association and about 35 of its affiliated societies will hold meetings in Richmond, Virginia. This is the one hundred third meeting of the association.

Richmond, the capital of Virginia, is a city of approximately 200,000 inhabitants. Not only is it a city of proud traditions, culture and education, but it is a center of industry and finance, being the seat of the Federal Reserve Bank of the Fifth District. Near its center is the Medical College of Virginia, a vigorous and rapidly expanding institution which last spring celebrated the one hundredth anniversary of its founding. In a suburb are the colleges for men and for women of the University of Richmond, and the College of William and Mary has a Richmond division. In

addition, there are in this city a law school, a theological seminary and a university for colored students.

REGISTRATION

Registration will be in the Mosque, a magnificent recently constructed building within easy reach of all the hotels in Richmond and of each of the four groups of meeting rooms in which the scientific sessions will be held. The Mosque has splendidly appointed lounges, several rooms in which conferences and committees may meet and a restaurant which will be in operation during the meeting. The presidential address and the addresses delivered under the auspices of the Society of the Sigma Xi and the United Chapters of Phi Beta Kappa, as well as several other gen-

eral addresses, will be delivered in the fine auditorium of the Mosque, which seats 4,500 persons. Moreover, the annual science exhibition of the association will be in the Mosque.

HOTELS AND HEADQUARTERS

General Headquarters: Jefferson Hotel.

Headquarters of the sections of the association and of the affiliated societies meeting in Richmond are as follows:

Jefferson Hotel: Sections on Geology and Geography (E), Botanical Sciences (G), Psychology (I), Social and Economic Sciences (K), Historical and Philological Sciences (L), Medical Sciences (N) and Subsection on Pharmacy, Agriculture (O), Education (Q), 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 Agronomy, American Society for Horticultural Science, Potato Association of America, American Psychiatric Association, Society of the Sigma Xi, United Chapters of Phi Beta Kappa, Sigma Delta Epsilon Graduate Women's Fraternity and National Social Science Honor Society Pi Gamma Mu.

John Marshall Hotel: Sections on Astronomy (D) and Anthropology (H), Society for Research on Meteorites, American Meteorological Society, American Association of Economic Entomologists, Entomological Society of America, American Nature Study Society, American Science Teachers Association and Gamma Alpha Graduate Scientific Fraternity.

Murphy Hotel: Section on Engineering (M), Ecological Society of America, Genetics Society of America, Limnological Society of America and Metric Association.

Richmond Hotel: Sections on Chemistry (C) and Subsection on Dentistry of the Section on Medical Sciences (N), Zoological Sciences (F), American Society of Zoologists, American Society of Parasitologists and American Society of Naturalists.

William Byrd Hotel: Section on Mathematics (A), American Mathematical Society, Mathematical Association of America and National Association of Biology Teachers.

Note: A local committee on housing, of which Mr. Foley F. Smith, A.B.C. Laboratory, Richmond, Va., is chairman, will assist visitors to secure satisfactory accommodations. Mr. Smith's committee will have an information desk at the Mosque and at each of the principal hotels during the first three days of the meeting.

TRANSPORTATION

Richmond is on the through north and south route of both the Atlantic Coast Line and the Seaboard Air Line railways, which operate daily during the winter season such *de luxe* trains as the Orange Blossom Special, the Palmetto Limited, the Seaboard Florida Limited and the Havana Special. Richmond may be reached conveniently from western Virginia, North

Carolina and South Carolina, and from Tennessee, Alabama, Mississippi and Louisiana by the Southern Railway System. Scientists from the West may go to Richmond via the Baltimore and Ohio Railroad or the Pennsylvania Railroad through Washington, or directly over the Chesapeake and Ohio lines. There are thirteen daily passenger trains each way between Washington and Richmond, which are only about one hundred miles apart. Altogether more than fifty passenger trains arrive in and depart from Richmond each day and more than seventy buses, while there is daily air service from both the north and the south to its municipal airport.

The railroads have not reached a decision respecting whether reduced rates will be in effect during the period of the meeting. Information respecting special holiday rates may be obtained from local railway representatives. At the present rate schedules, round-trip first-class fares to Richmond, exclusive of Pullman fares, from representative cities are as follows: Boston, \$32.80; New York, \$18.90; Philadelphia, \$13.50; Baltimore, \$7.80; Washington, \$5.50; Atlanta, \$27.20; New Orleans, \$41.20; Cleveland, \$31.60; Ann Arbor, \$41.80; Columbus, \$33.20; Indianapolis, \$44.35; Chicago, \$50.90; St. Louis, \$56.95; San Francisco, \$132.35.

OFFICIAL MEETINGS

The Executive Committee, to which matters for the council are first submitted, will meet daily at 10:00 in the Salon of the Jefferson Hotel. The council of the association will meet at 2:00 o'clock on Tuesday, December 27, and thereafter daily at 9:00 A. M. in the Salon of the Jefferson Hotel. The council will elect a president and other officers of the association at its meeting on Friday morning, December 30.

The Academy Conference will be held on Tuesday at 4:00 in the Salon of the Jefferson Hotel. The conference will be followed by a complimentary dinner to official representatives of the affiliated academies and designated representatives of the association.

The Secretaries Conference will be held on Friday at 4:00 in the Salon of the Jefferson Hotel, followed by a complimentary dinner to the secretaries of the sections and of affiliated societies.

ANNUAL SCIENCE EXHIBITION

The annual science exhibition, which will be conveniently housed in the Mosque, will include exhibits both of research laboratories and of manufacturers of scientific apparatus and equipment. The outstanding books on science published during 1937 will be on display and available for examination. Tickets of admittance to the science exhibition will be given to all registrants for the meeting. The Lounge of the Mosque, adjacent to the exhibits, will be found a con-

venient and attractive place for informal gatherings of scientists.

A school science fair by the high schools of Virginia will be held in the lobby of the Hotel Jefferson from Tuesday to Friday, inclusive. Cash prizes will be awarded for excellence of material and presentation. The fair is directed by Dr. Ira A. Updike, of Randolph-Macon College.

GENERAL SESSIONS

All evening sessions will be held in the Auditorium of the Mosque.

Tuesday, December 27. Address of the retiring president, Dr. George D. Birkhoff, on the subject "Intuition, Reason and Faith in Science." The Mosque, 8:15.

The address will be followed by a reception under the auspices of the Local Committee at the Jefferson Hotel.

Wednesday, December 28. Annual address under the joint auspices of the association and the Society of the Sigma Xi will be delivered by Dr. W. F. Durand on the subject, "Modern Trends in Air Transport." Mosque, 8:15.

At 9:30 in the same room Dr. David Sarnoff will deliver an address under the auspices of the association on some subject related to the social significance of modern means of communication.

Thursday, December 29. The annual address under the auspices of the United Chapters of Phi Beta Kappa will be delivered by Dr. Frank Pierrepont Graves on the subject, "Is Education a Science?" Mosque, 8:15.

"Virginia Homes and Gardens," by Dr. Wm. T. Sanger, president of the Medical College of Virginia, illustrated by slides, in natural colors, by Mr. Max Freydeck. Richmond Women's Club Auditorium, 4:00.

Sir Richard Gregory, distinguished scientist and editor of *Nature*, will deliver an address on the general subject of the effects of science on civilization, 8:15.

Friday, December 30. The concluding session of the symposium on Mental Health will be an address by Dr. C. Macfie Campbell on "Man's Behavior, Beliefs and Values as a Field for Systematic Investigation." Mosque, 8:15.

Saturday, December 31. "National Geographic Society Motion Pictures of Wild Animal Capture," by Dr. Wm. M. Mann, director of the National Zoological Park, Washington. Mosque, 10:30.

BREAKFASTS, LUNCHEONS AND DINNERS

Tuesday, December 27

Dinners: American Meteorological Society, Ewatts Hotel. Section on Chemistry (C), Richmond Hotel. Section on Astronomy (D), Jefferson Hotel.

Wednesday, December 28

Breakfast: Pi Mu Epsilon, William Byrd Hotel.

Luncheons: Subsection on Dentistry, Rueger Hotel. Sigma Delta Epsilon, Ewatts Hotel.

Dinners: Entomologists, John Marshall Hotel. American Phytopathological Society, Jefferson Hotel. American

Society of Plant Physiologists, Ewatts Hotel. Section on Psychology and Section on Education, Jefferson Hotel. American Society of Taxonomists, Jefferson Hotel. National Association of Biology Teachers, William Byrd Hotel. Ecological Society of America, Murphy Hotel. Biologists' Smoker, John Marshall Hotel.

Thursday, December 29

Breakfast: Sigma Delta Epsilon, Ewatts Hotel.

Luncheons: American Society of Parasitologists, Richmond Hotel. Genetics Society of America, Cabannis Hall, Medical College of Virginia. American Science Teachers Association, John Marshall Hotel. American Nature Study Society, Ewatts Hotel. Gamma Alpha, (place to be announced). The University of Chicago Botanical Alumni, Commonwealth Club.

Dinners: American Society of Zoologists, Richmond Hotel. Botanical Society of America, Jefferson Hotel. American Society for Horticultural Science, Commonwealth Club.

Friday, December 30

Luncheon: Pi Gamma Mu, Jefferson Hotel.

Dinners: American Society of Naturalists, John Marshall Hotel. Section on Anthropology (place to be announced).

EXCURSIONS AND SHORT TRIPS

Historic Williamsburg. Excursions to Williamsburg have been arranged for Wednesday, Thursday and Friday. Buses will leave the John Marshall Hotel at 9 A.M. and will return by 5 P.M. The cost of transportation for the 100-mile trip, admissions to the exhibition buildings, official guides and luncheon will be \$4.50 per person. Tickets will be on sale at the Mosque and at the information desks in all the principal hotels in Richmond.

Williamsburg, recently restored as perhaps the most interesting historic shrine in America, was settled as Middle Plantation in 1633, at the time only a palisaded barrier against the Indians. It became the capital of Virginia in 1699, its name being changed in honor of King William III, and remained the capital until 1799. In it is the College of William and Mary, founded in 1693 and the second oldest college in the United States. Jamestown, where in 1607 the English established the first permanent settlement in America, is only six miles away, while Yorktown, where the struggle for American independence ended in victory, is at a distance of only fifteen miles.

Tickets for the following industrial plant tours may be obtained from the Plant Tour Committee at the John Marshall Hotel. The tickets, 25 cents each, include transportation from the John Marshall Hotel to the industry and return. Additional special tours will be arranged.

The American Tobacco Company. Wednesday and Thursday at 10:00, 10:45, 11:30, 1:15, 2:00 and 3:00.

The company will open the doors of one of its air-conditioned factories, in which every stage of manufacture from the leaf to the finished product will be exhibited. Cigarettes will be produced at the rate of 10,000,000 an hour, the federal tax on which is \$240,000 per day.

Southern Biscuit Company. Wednesday and Thursday at 10:00 and 2:00. The company operates a plant using the most modern methods in baking. Many of its products are from the famous recipes of Old Virginia, some of them dating back to 1847. The cakes and cookies under the trade symbol F.F.V. are known throughout America and a score of foreign countries. The exhibition will be olfactory as well as optical.

Home Brewing Company. Wednesday and Thursday at 10:00, 11:15, 1:15 and 2:15. The location of the plant has been the site of a brewery since 1865, having been chosen originally because of the famous Buchanan Spring on the property.

Virginia Electric Power Company. Thursday at 10:00 and 2:00. This modern plant will be of special interest because at the time of the meeting a topping turbine and related equipment will be taken down for its annual inspection.

SYMPOSIA AND JOINT SESSIONS

Section on Mathematics (A). On Wednesday morning the section will hold a joint session with the Section on Geology and Geography (E), the Mathematical Association of America and the American Mathematical Society at which the retiring chairman of the section, Professor W. D. Cairns, will deliver his vice-presidential address on "Seismology from the Mathematical Point of View."

Section on Chemistry (C). On Tuesday morning the section will present a symposium on "Reaction Rates in Organic Chemistry," on which papers will be delivered by Drs. Farrington Daniels, F. O. Rice, Gustav Egloff, Everett S. Wallis and Edward Mack, Jr. On Tuesday afternoon the section will present a symposium on "Natural Resins." The papers will be delivered by Drs. J. N. Borglin, Wm. Howlett Gardner and S. Palkin. On Wednesday morning the section will present a symposium on "Phenanthrene and Related Compounds." The papers will be by Drs. Harry Sobotka, Walter A. Jacobs, Lyndon F. Small, Erich Mosettig, Everett S. Wallis and R. E. Marker.

Section on Geology and Geography (E). On Tuesday morning the section will hold a joint session with the Geological Society of America and the Carolina Geological Society on "Geology of the Coastal Plain." On Tuesday afternoon the section will hold a joint session with the Section on Astronomy, the American Geophysical Union and the Geological Society of

America on the "Importance of Geophysics to the Study of Continental Borders." On Wednesday morning, following the joint session with the Section on Mathematics, referred to above, the address of the retiring vice-president, Professor Kirtley F. Mather, will be delivered on the subject "Earth Structure and Earth Origin." On Wednesday afternoon the section will hold a joint session with the Geological Society of America and Carolina Geological Society on "Current Geological Research in the Piedmont and Central Appalachians." On Thursday morning the section will meet in joint session with the Society for Research on Meteorites and the Geological Society of America on "The Origin of the Carolina Bays."

American Society of Zoologists. On Wednesday afternoon the society joins with Genetics Society of America in a symposium on "Chromosome Structure." On Thursday morning the society will present a symposium on "Color Changes in Animals, their Significance and Activation," Dr. G. H. Parker presiding. The speakers will be Drs. G. H. Parker, H. B. Goodrich, A. A. Abramowitz, F. B. Sumner, D. C. Smith and F. A. Brown, Jr. On Friday morning the society will present a symposium on "Mating Types and their Interactions in Ciliate Infusoria; Determination, Inheritance and Relation to Sexuality," Dr. H. S. Jennings presiding. The speakers will be Drs. H. S. Jennings, T. M. Sonneborn, A. A. Giese, Lauren Gilman and Richard Kimball. On Friday afternoon the American Society of Naturalists, the American Society of Zoologists, the Botanical Society of America, the Genetics Society of America and the Section on Anthropology (H) will hold a joint session on "Contributions of Higher Animals to an Understanding of Human Biology." The papers will be by G. K. Noble, C. C. Little and Carl G. Hartman.

The Entomological Society of America, the American Association of Economic Entomologists and the Ecological Society of America will present a joint symposium on Tuesday afternoon on "Insect Populations," Dr. V. E. Shelford presiding.

Ecological Society of America and the Society of American Foresters will hold a joint session on Wednesday afternoon.

Limnological Society of America will present a symposium on "Some Leading Problems of Limnology, with Special Reference to Lakes."

Section on Botanical Sciences (G). On Wednesday afternoon the section will hold a joint session with its affiliated societies.

Botanical Society of America, American Society of Plant Physiologists and American Society for Horticultural Science will hold a joint session on Thursday morning.

Ecological Society of America and the general sec-

tion of the Botanical Society of America will meet in joint session on Thursday afternoon.

Botanical Society of America and American Society of Naturalists and affiliated societies will meet in joint session on Friday afternoon.

Botanical Society of America, physiology section, and American Society of Plant Physiologists will hold a joint session on Friday morning on "The Physiology and Diseases of Cotton."

American Phytopathological Society and American Association of Economic Entomologists will hold a joint meeting on Thursday afternoon on "Problems of Regulatory Work."

American Phytopathological Society and Potato Association of America will meet in joint session on Friday morning on "Potato Disease Control." Among the speakers will be Drs. T. P. Dykstra, Donald Reddick, W. R. Mills, E. S. Schultz and J. G. Leach.

American Phytopathological Society and the floriculture section of the American Society for Horticultural Science will hold a joint session on Friday morning on "Disease Control of Ornamentals."

American Phytopathological Society and the Mycological Society of America will meet in joint session on Friday morning.

Section on Anthropology (H) will present a symposium on "The Archeology of the Atlantic Coast Area." On Friday afternoon the section will hold a joint session with the American Society of Naturalists, the general theme of discussion being the relation of the higher primates to human welfare.

Section on Psychology (I) and the *Section on Education (Q)* will hold a joint session on Wednesday afternoon.

Section on Historical and Philological Sciences (L) will present a symposium on Tuesday morning and afternoon on "The Centenary of the Cell Theory." The speakers will be Drs. E. G. Conklin, L. L. Woodruff, J. S. Karling, Franz Schrader and Paul Weiss.

Section on Medical Sciences (N) will present a symposium on "Mental Health" consisting of six sessions, mornings and afternoons, on Wednesday, Thursday and Friday, and a General Session on Friday evening. The chairmen of the six sessions will be Drs. Nolan D. C. Lewis, Abraham Myerson, Joseph Zubin, Harry Stack Sullivan, Clarence M. Hincks and Franklin G. Ebaugh. About fifty persons will present papers at the six sessions. The address at the General Session on Friday evening will be by Dr. C. Macfie Campbell on "Man's Behavior, Beliefs and Values as a Field of Systematic Investigation."

Subsection on Pharmacy of the *Section on Medical Sciences* will present a symposium on "Glycols." The speakers will be Drs. Frank C. Whitmore, H. O. Calvery, H. B. McClure, A. G. DuMez and H. B. Haag.

American Society for Horticultural Science and the Potato Association of America, affiliated with the *Section on Agriculture (O)*, will hold a joint session on Wednesday afternoon.

Section on Education (Q) will present a symposium on "Problems of Interpretation of Educational Research," under the chairmanship of Dr. W. H. Bristow.

SECTION AND SOCIETY PROGRAMS

Section on Mathematics (A). The section will hold a session on Wednesday morning jointly with the *Section on Geology and Geography (E)*, the American Mathematical Society and the Mathematical Association of America, at which Professor W. D. Cairns will deliver his address as retiring vice-president of the association and chairman of the section on "Seismology from the Mathematical Point of View."

Section on Physics (B). On Friday evening Dr. Harvey Fletcher will deliver a demonstration-lecture as retiring vice-president of the association and chairman of the section on "Auditory Patterns."

Section on Chemistry (C). The program will consist of four sessions on Tuesday and Wednesday, the first three of which will be for the presentation of symposia (see foregoing report on symposia and joint sessions). In the first session on Tuesday morning Dr. Farrington Daniels will deliver his address as retiring vice-president of the association and chairman of the section on "Reaction Rates." The fourth session on Wednesday afternoon will consist of a round-table conference, led by Dr. Lewis W. Butz, on "A Systematic Nomenclature for the Saturated Hydrocarbons, from which Steroids are Derived and its Derivatives, with Special Regard to Stereoisomers and Synthetic New Steroids," and of five additional papers on various subjects by Drs. C. G. King, Hans Neurath; Albert H. Cooper, Carl D. Delamar and Henry Smith; J. E. Copenhaver and James F. Goggins, Jr., and Sister M. Lawrence and William Schiller. At the four sessions 20 papers will be presented in addition to the round-table conference. On Tuesday evening the section and its friends will join in a dinner in honor of Dr. Farrington Daniels, retiring chairman of the section.

Section on Geology and Geography (E) and Affiliated Societies. Of the six sessions of the section, which will be held on Tuesday, Wednesday and Thursday, the first five are joint meetings (see foregoing report on symposia and joint meetings) and the last on Thursday afternoon is devoted to "The Geography of Virginia and the Carolinas." On Wednesday morning Professor Kirtley F. Mather will deliver his address as retiring vice-president of the association and chairman of the section on "Earth Structure and Earth Origin," and addresses in honor of the memory of

William Barton Rogers will be delivered by Drs. Arthur C. Bevan and Joseph H. Roberts and probably others. With geologists, geographers, physicists, astronomers and seismologists participating in its sessions, the section presents a program which integrates to an exceptional degree related fields of science. At least 40 papers will be presented at the six sessions of the section and its cooperating section and societies.

The American Meteorological Society will meet Tuesday and Wednesday. Papers on meteorological service fifty years hence will be presented by President Robert E. Horton and W. C. Devereaux as a tribute to the late President Willis R. Gregg, who died in September. The first award of the Meisinger Aerological Research Fund prize will be made. Papers on hydrometeorology, air-mass analysis, aerology and the recent hurricane will feature the program.

Section on Zoological Sciences (F) and Affiliated Societies. No section has stronger or more active affiliated societies than has section F. Consequently, in order to serve most effectively the interests of zoology, the American Society of Zoologists, the Entomological Society of America, the American Association of Economic Entomologists, the American Society of Parasitologists and the Ecological Society of America organize the programs in the field of zoology.

The American Society of Zoologists will hold sessions on Wednesday, Thursday and Friday. The program on Wednesday morning will be presented in four sections: A. Experimental Embryology (10 papers). B. Endocrinology (12 papers). C. General Physiology (16 papers). D. Protozoology and Parasitology (11 papers). On Wednesday afternoon the society joins with Genetics Society of America in presenting a symposium on "Chromosome Structure." On Wednesday evening the society joins in the Biologists' Smoker. The program on Thursday morning will be presented in four sections: A. Symposium on "Color Changes in Animals, Their Significance and Activation" (6 papers). B. Endocrinology (continued; 14 papers). C. Cellular Physiology (12 papers). D. Experimental Embryology (10 papers). The annual business meeting of the society will be held on Thursday at 12:10. Thursday afternoon will consist of demonstrations as follows: Two 15-minute motion picture films, six demonstrations in cytology, four in embryology, three in physiology and endocrinology, and nine in general morphology and miscellaneous subjects. The Zoologists' Dinner will be held on Thursday evening. On Friday morning the program will be presented in four sections: A. Mating Types and their Interactions in Ciliate Infusoria; Determination, Inheritance and Relation to Sexuality (6 papers). B. Cytology and Histology (12 papers). C. General Physiology (13 papers). D. General Morphology and

Miscellaneous (9 papers). On Friday noon there will be a Biologists' Luncheon. On Friday afternoon the society will meet in joint session with the American Society of Naturalists, Botanical Society of America, Genetics Society of America and the Section on Anthropology (H) for a program on "Contributions of Higher Animals to an Understanding of Human Biology." In addition to the 161 papers in the foregoing listed programs, there will be 98 papers read by title, 18 on Embryology, 19 on General Physiology, 11 on Cellular Physiology, 16 on Endocrinology, 11 on Cytology and Histology, 5 on Protozoology, 8 on Ecology and Parasitology and 10 on General Morphology.

The Entomological Society of America holds its thirty-third annual meeting on Tuesday, Wednesday and Thursday. On Tuesday afternoon it joins with other societies in a symposium on "Insect Populations" (see foregoing report on symposia and joint sessions). Dr. A. L. Melander will preside at the sessions of the society for the presentation of general papers. The society will join related societies in the annual Entomologists' Dinner, at which the annual address of the society will be delivered by Dr. C. T. Brues on "Food, Drink and Evolution."

The American Association of Economic Entomologists, in addition to participating in the symposium on "Insect Populations," will hold sessions on Monday, Tuesday, Wednesday, Thursday and Friday. On Monday the society will convene for two special conferences, the tobacco insect council and the pea aphid conference. On Tuesday there will be section meetings on apiculture, a continuation of the pea aphid conference and the teaching of entomology. The section on plant quarantine will meet all day on Wednesday and Thursday and the extension section will meet on Wednesday night.

The American Society of Parasitologists will hold sessions on Wednesday, Thursday and Friday. The principal feature on Thursday afternoon will be a demonstration program and a tea. On Thursday morning Dr. F. C. Bishopp will deliver an address on "Some Problems in Medical and Veterinary Entomology." A parasitologists' luncheon will be held on Thursday noon. The program, consisting of 67 papers and demonstrations, will be the largest in the history of the society.

Section on Botanical Sciences and Affiliated Societies. The sessions of the section and of its affiliated societies will be held on Tuesday, Wednesday, Thursday and Friday. On Wednesday afternoon, the section and its affiliated societies will hold a joint session (see foregoing report on symposia and joint sessions).

The Botanical Society of America will hold sessions on Wednesday, Thursday and Friday. On Thursday morning its physiological section will meet with the

American Society of Plant Physiologists and with the American Society for Horticultural Science; on Thursday afternoon the general section of the society will meet with the Ecological Society of America; and on Friday afternoon the society will meet with the American Society of Naturalists and affiliated societies. At the annual dinner for all botanists on Thursday evening, Dr. Edmund Ware Sinnott will deliver an address as retiring president of the society.

The American Phytopathological Society will hold its thirtieth meeting on Tuesday, Wednesday, Thursday and Friday. At a general session on Tuesday afternoon, Dr. C. W. Bennett will deliver an invitation paper on "Nomenclature of Plant Viruses" to be followed by a conference on the same subject and a conference on "Plant Disease Survey" in the evening. On Wednesday afternoon, the extension plant pathologists will hold a conference on "Methods of Seed Treatment," and the section will hold a joint session with the Section on Botanical Sciences and its affiliated societies. On Thursday afternoon the society will hold a joint session with the American Association of Economic Entomologists, and on Friday morning the society will hold a joint session with the Potato Association of America. On Friday the society will hold joint sessions with the Floriculture Section of the American Society for Horticultural Science and with the Mycological Society of America. A joint session is being planned with the Physiology Section of the Botanical Society of America and the American Society of Plant Physiologists on the "Physiology and Diseases of Cotton." In addition to the foregoing joint sessions, the society will hold a general session on Tuesday afternoon; three different sectional meetings on Wednesday morning on "Diseases of Fruits," "Diseases of Cereal Crops" and "Diseases of Vegetables"; and on Thursday morning three sectional meetings on "Forest Trees," "Tobacco" and "Miscellaneous Crops." A total of approximately one hundred papers will be presented on different phases of plant pathology.

The dinner of phytopathologists will be held on Wednesday evening.

The Mycological Society of America will meet on Wednesday, Thursday and Friday. On Wednesday morning the retiring president, Dr. L. O. Overholts, will deliver an address, after which short papers will be presented. On Wednesday afternoon the society will meet with other societies in the field of botany in a joint session, and with the American Phytopathological Society on Friday morning. The other sessions of the society will be dealing with such subjects as "The Taxonomy of Fungi," "The Effect of Growth-promoting Substances" and "The Parasitism of Man and Fish by Fungi." The society will join with related societies in their annual dinner.

The American Fern Society will hold a symposium on Saturday morning on "The Ferns of Virginia and Adjoining States."

Societies affiliated with Sections on Zoological Sciences and on Botanical Sciences. The Ecological Society of America, in addition to joining with other societies in a symposium on "Insect Populations" and holding a joint session with the Botanical Society of America and the Society of American Foresters (see foregoing report on symposia and joint sessions), has planned a field trip for Friday, and will hold its annual banquet on Wednesday evening, at which the presidential address will be delivered by Dr. H. C. Hanson.

The Genetics Society of America will hold sessions on Wednesday, Thursday and Friday. On Wednesday morning the program will consist of twenty demonstration papers and in the afternoon of a joint symposium with zoologists on "Chromosome Structure." The program on Thursday morning will consist of eighteen demonstration papers, a luncheon and business meeting at noon and an afternoon session, consisting of six invitation papers by Drs. M. L. Suche, D. R. Parker, M. Bishop, A. B. Griffen; A. Hollaender and C. W. Emmons; C. W. Metz and H. V. Crouse; W. P. Spencer; G. Fankhauser; and E. R. Sears. The program on Friday morning will consist of ten short papers and on Friday afternoon the society will meet in joint session with the American Society of Naturalists, the subject of discussion being "Contributions of Higher Animals to an Understanding of Human Biology." The contributors to the discussion will be Drs. G. K. Noble, C. C. Little and Carl G. Hartman.

The Limnological Society of America will hold its fourth annual meeting in conjunction with the association on Wednesday, Thursday and possibly Friday forenoon. In addition to two or three general sessions for the presentation of research papers, there will be a symposium on some leading problems of limnology with special reference to lakes. There will be nine or ten participants in the symposium and the research papers will be on such topics as limnological methods and apparatus, lake sedimentation, bacteria in natural waters, lakes of Argentina, and an invitation paper on sedimentation in reservoir lakes.

The Section on Anthropology (H) will hold sessions on Thursday and Friday. At the annual section dinner on Friday evening, Dr. John R. Swanton will deliver an address as retiring vice-president of the association and chairman of the section, on "Some Thoughts on the Problems of Progress and Decline." The section will present a symposium on "The Archeology of the Atlantic Coast region," and on Friday will hold a joint session with the American Society of Naturalists, the American Society of Zoologists, the Botanical Society of America and the Genetics So-

ciety of America. The general subject to be discussed in the joint session will be "The Relation of the Higher Primates to Human Welfare."

The Section on Psychology (I) will hold six separate program sessions on Tuesday, Wednesday and Thursday. The topics of experimental psychology, social psychology, animal psychology and abnormal psychology will be emphasized. The morning session on Tuesday, under the chairmanship of Dr. J. F. Dashiell, will consist of papers by Drs. William E. Galt, Jack Buel, W. J. Brogden, W. Horsley Gantt and Norman R. F. Maier. The Tuesday afternoon session, under the chairmanship of Dr. Calvin P. Stone, will consist of papers by Drs. G. H. S. Razran, Albert Ford and George F. Derr, John A. McGeoch, H. B. English and A. L. Edwards, Arnold Gesell and Wayne Dennis. The morning session on Wednesday will be devoted to a symposium under the chairmanship of E. A. Culler on the "Next Steps in Research in Audition." The speakers will be Drs. J. C. Steinberg, Don Lewis, Fred A. Mettler, E. H. Kemp, Heinrich Kobrak, Simon Dwarkin and Walter Hughson.

The afternoon session on Wednesday will be held in two sections, one under the chairmanship of Dr. Norman L. Munn, at which the speakers will be Drs. Frank A. Geldard, J. G. Beebe-Center, Richard S. Schultz, J. H. and C. P. Heinlein, Louis D. Goodfellow and David I. and Moses B. Macht. The other section will be a joint session with the Section on Education (see report of section), under the chairmanship of Dr. Frank A. Geldard. On Thursday morning one section will be under the chairmanship of Dr. John A. McGeoch, at which papers will be presented by Drs. George Lawton, Harriet Babcock, W. J. E. Crissy, A. S. Edwards, S. H. Epstein, Charles M. Diserens, Milton M. Parker, H. Rogosin and Ernst Harms. The other section of the Thursday morning session will be held under the chairmanship of Dr. J. G. Beebe-Center, and the speakers will be Drs. J. E. Greene, Stewart H. Britt, Elaine F. Kinder, Gladys McDermid, Margaret B. Erb, Bernard F. Riess, H. Meltzer, J. E. Janney and John P. Shea. At the joint dinner of the section with the Section on Education, on Thursday evening, Dr. Calvin P. Stone will deliver his address as retiring vice-president of the association and chairman of the section on "The Significance of Individual Differences in Animal Psychology."

The Section on the Historical and Philological Sciences (L) will hold sessions on Tuesday and Wednesday morning. On Tuesday morning and afternoon the section will present a symposium on "The Centenary of the Cell Theory," at which the speakers will be Drs. E. G. Conklin, L. L. Woodruff, J. S. Karling, Franz Schrader and Paul Weiss. On Wednesday morning the section will hold a joint session with the

Section on Mathematics, at which Dr. R. C. Archibald will deliver his address as retiring vice-president of the association and chairman of the section on "Mathematicians and Poetry and Drama."

Section on Medical Sciences (N). The program of the section consists of six sessions beginning on Wednesday morning and closing on Friday afternoon, all of which will be devoted to its symposium on "Mental Health" (see foregoing report on symposia and joint sessions). In connection with one of these sessions, Dr. Charles F. Code, winner of the Theobald Smith Award at the Ottawa meeting of the association, will present a paper on "The Blood Histamine in Normal and Certain Abnormal Conditions." At another session there will be a memorial address on the late Dr. Earl B. McKinley, to whom the section, as well as the entire association, is deeply indebted. On Friday evening the section will hold a general session, at which Dr. C. Macfie Campbell will deliver an address on "Man's Behavior, Beliefs and Values as a Field for Systematic Investigation."

The Subsection on Pharmacy of the section will present a symposium on "Glycols" on Tuesday morning, at which four invited papers will be presented by Drs. Frank C. Whitmore, H. O. Calvery, H. B. McClure and A. G. Du Mez, after which the discussion will be held by Dr. H. B. Haag.

The American Society for Horticultural Science will hold its thirty-fifth meeting on Wednesday, Thursday and Friday. In addition to various sectional meetings on plant breeding, general cultural problems of horticultural crops, tree fruits, small fruits, vegetable crops and floriculture and ornamental horticulture, there will be three joint sessions. The Vegetable Crops section will meet on Wednesday afternoon in joint session with the Potato Association of America. On Thursday morning there will be a joint session with the American Society of Plant Physiologists and the Physiology Section of the Botanical Society of America on "Low Temperature Injury to Plants." The section on Floriculture and Ornamental Horticulture will meet on Friday morning with the American Phytopathological Society. The annual banquet will be held on Thursday evening, December 29, at which time the retiring president, Dr. J. K. Shaw, will deliver the principal address.

Section on Education (Q). The section will hold sessions on Wednesday and Thursday. In addition to a program of general papers there will be special programs on "Problems in Reading," with Dr. Emmett A. Betts as chairman; on "New Developments in Education," with Dr. George D. Stoddard as chairman; and on "Economic Effects of Education," with Dr. W. G. Carr as chairman. There will be a session devoted to "Reports of National and State Surveys in Educa-

tion." Dr. F. W. Reeves will report on the work of the President's Advisory Committee on Education, Dr. H. F. Alves on "State and Local Units in Ten States," and Walter C. Eells on "The Cooperative Study of Secondary School Standards." There will also be a report on the American Youth Commission. A symposium is being organized on "Problems of Interpretation of Educational Research," under the chairmanship of Dr. W. H. Bristow. There will be a round-table discussion on "Mental Hygiene in Education," led by Dr. Garry C. Myers. On Wednesday afternoon the section will hold a joint session with the Section on Psychology under the chairmanship of Dr. Frank A. Geldard, at which papers will be presented by Drs. Joseph Zubin, F. H. Lewis, F. P. Robinson, Henry F. Dickinson, Richard H. Henneman, Arnold Gesell and J. E. Greene and R. T. Osborne. At the joint dinner with the Section on Psychology on Wednesday evening, Dr. Ralph W. Tyler will deliver his address as retiring vice-president of the association and chairman of the section on "Basic Considerations in the Improvement of Educational Tests."

OTHER PROGRAMS

American Science Teachers' Association. On Wednesday evening the society will hold a dinner and conference, and on Thursday morning it will present a program of three papers, with Dr. W. L. Eikenberry presiding, the papers being by Dr. Philip R. White on plant physiology, Dr. Charles S. Piggot on the bottom of the ocean, and Dr. Harlan T. Stetson on solar activities. On Thursday the society will hold a luncheon, with Dr. Otis W. Caldwell presiding and Dr. Wesley C. Mitchell, president of the association, as its speaker. On Thursday afternoon the society will hold a session, Harry A. Carpenter presiding, in which Jerome Isenbarger, Hanor A. Webb and Karl F. Oerlein will speak.

The Sigma Delta Epsilon fraternity will hold a luncheon for members and guests on Wednesday noon.

The American Nature Study Society will hold meetings on Wednesday and Thursday. On Wednesday morning there will be a nature study program of miscellaneous topics, on which the speakers will be Drs. P. L. Ricker, Frank Thone and William A. Matheny. On Wednesday afternoon the subject will be "The Conservation of Wild Life." Dr. David E. Russell will deliver an address introductory to a panel discussion under the chairmanship of Dr. E. Laurence Palmer. The participants in the discussion will be Drs. Harry Cunningham, James W. McArthur, F. L. Ricker, Malvina Trussell, Charles Quaintance, C. W. Pomerat and Paul B. Sears. On Thursday morning the society will celebrate the thirtieth anniversary of its organization, the speakers being former presidents of the society. Dr. Edith Patch, presiding, will discuss "Looking Forward." Dr. Otis W. Caldwell will follow on "What Seems to be Ahead"; Dr. William G. Vinal, on "The New Nature Guide School of Massachusetts State College"; Dr. Morrison R. Van Cleve, on "In Defence of the Nature Study Idea"; Dr. George Rex Green, on "Teacher Training for Nature Study and Science"; Dr. Bertha Chapman Cady, on "A Northerner Looks at Nature in Tropical Florida"; Dr. Alfred Satterthwait, on "The Society and the Amateur"; and Dr. E. Laurence Palmer on "Cycles and Sequences in the Philosophy of Nature Study." On Thursday at one o'clock there will be a luncheon, at which Drs. Carroll Lane Fenton and F. R. Moulton will speak.

The seventeenth Annual Lecture presented under the joint auspices of the Society of the Sigma Xi and the association will be delivered on Wednesday evening by Dr. W. F. Durand on "Modern Trends in Air Transport."

The United Chapters of Phi Beta Kappa on Thursday evening will present the fourth of its series of annual lectures at a meeting of the association. The speaker will be Dr. Frank P. Graves on the subject, "Is Education a Science?"

SCIENTIFIC EVENTS

BIBLIOFILM SERVICE IN THE GEOLOGICAL SURVEY

To give research workers throughout the country access to further materials for their work, a Bibliofilm Service has been opened in the Library of the Geological Survey, Washington, D. C. Through the courtesy of Guy E. Mitchell, librarian, it is now possible for a scholar anywhere to have copied any properly copyable extracts from the quarter million books, journals and rare materials in the library, as well as many of its fifty thousand maps.

Bibliofilm Service is operated on a non-profit basis by the American Documentation Institute under a co-operative agreement with the Library of the U. S. Department of Agriculture, and also maintains copying installations in that library and in the Army Medical Library. It acts as a national clearing house for copying orders for research materials, filling them through its own and other services, for materials in substantially all Washington and Baltimore libraries, bureaus and institutions and in other cities here and abroad.