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AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

PRELIMINARY ANNOUNCEMENT OF THE SEATTLE MEETING

Edited by DR. F. R. MOULTON

PERMANENT SECRETARY

FROM June 17 to June 22, inclusive, the association will hold its summer meeting in Seattle, Washington, in cooperation with the Pacific Division. This will be the one hundred sixth meeting of the association and the twenty-fourth meeting of the Pacific Division. On two previous occasions the Pacific Division met in Seattle, the first in 1920 and the second in 1936. Twenty-seven affiliated and independent societies will participate in the Seattle meeting.

The fact that the association will not meet elsewhere than in Seattle this coming June adds nothing technically to the dignity of the meeting, for every meeting of the Pacific Division and of the Southwestern Divi-

sion is a meeting of the association, and might well be announced as such. The vast size of our country makes it advisable to have administrative machinery for organizing and holding meetings on the Pacific Coast and in the great Southwest. The officers of the Pacific Division and the members of the association resident in its territory will be primarily responsible for the meeting in Seattle. The association refrains from holding a meeting elsewhere simply to encourage its members from the East to go westward and become better acquainted with their western colleagues. Many scientists from the Pacific Coast attend scientific meetings in the East; return visits will also be advantageous.

In addition to the meeting of the association, there are many other attractions for visitors to the Pacific Coast. Even the journey across country, whether by plane, train or motor, is in every way enjoyable. By plane the cost of the round trip from Washington to Seattle, including meals en route, is \$224.80. A person leaving Washington, for example, at 5:30 P.M., or New York at 5:00 P.M., will arrive in Seattle at 9:40 the following morning, after simply an over-night trip. Those having a little more leisure may travel by luxurious air-conditioned trains, with the only change at Chicago. The round trip fare, including Pullman, is \$176.30. The time from Washington or from New York by train is about three and one-half days. Those having still more leisure may motor practically the whole distance over fine concrete roads at a cost in time and money which will vary with the individual.

There is, however, much more to a transcontinental journey than time and expense—it is refreshing and inspiring to pass across the fertile great plains and through the mountains. There is a choice of two routes by plane and of several routes either by train or by motor; a person may go by one route and return by another for the same railway fare. Each of the possible routes passes through or near unsurpassed natural scenery—the lovely Lake Louise region in Canada; Glacier Park in Montana, where titanic forces have made mountains of overturned strata of rocks; Yellowstone Park in Wyoming, world-famed for its geysers, its mammoth hot springs, its petrified forests standing one above another in many layers, and its bears; Rocky Mountain National Park in Colorado; the Grand Canyon in Arizona; Mount Rainier in Washington; Crater Lake in Oregon; Yosemite Valley and the giant Sequoias in California. Seattle is a fine city approaching half a million in population, delightfully situated on an arm of the sea more than a hundred miles from the Pacific Ocean. Excursions have been arranged from Seattle to the Grand Coulee, Mt. Rainier, Olympic Peninsula and other places. The Golden Gate Exposition in San Francisco will be open. But I must write about the meeting.

HEADQUARTERS AND HOTELS

The general headquarters of the meeting will be in the Benjamin Franklin Hotel, which has 340 rooms, each with a bath. The rates range for single rooms from \$2.50 to \$6.00 per day; for double rooms, from \$3.50 to \$12.00 per day. Rates for rooms with baths in other hotels are as follows:

Olympic: Single, \$3.50 to \$8; double, \$5 to \$12.
 Roosevelt: Single, \$2.50 to \$6; double, \$3.50 to \$8.
 New Washington: Single, \$3 to \$5; double, \$4 to \$7.
 Mayflower, Single, \$2.50 to \$4; double, \$3.50 to \$6.
 Edmond Meany: Single, \$2.50 to \$4; double, \$3.50 to \$7.

Camlin Apartment: Single, \$1.50 to \$2.50; double, \$2 to \$3.50.

Gowman: Single, \$2.50 to \$4; double, \$3.50 to \$7.

The Calhoun, Earl, Frye, Hungerford, Moore, Morrison, New Richmond and Seattle have rooms at lower rates. In addition, there are numerous automobile camps within 3.5 miles of the university campus at which modern cabins may be rented from \$1.50 to \$6.00 per day.

Registration headquarters will be located in Bagley Hall, University of Washington campus.

GENERAL SESSIONS

On Tuesday evening, June 18, Dr. Lewis M. Terman, of Stanford University, retiring president of the Pacific Division, will deliver an address on "Psychological Approaches to the Biography of Genius."

On Wednesday evening, June 19, Dr. Ernest O. Lawrence, of the University of California, who was awarded a Nobel Prize last autumn for his invention of the cyclotron and his work with it, will deliver the ninth Maiben Lecture. His address, which will be illustrated, will be on "Building Atoms."

On Thursday evening, June 20, F. A. Banks, construction engineer of the Grand Coulee Dam, will deliver an illustrated lecture on the dam.

On Wednesday afternoon, June 19, at 4:30, Dr. Donald Milton Erb, president of the University of Oregon, will deliver an address under the sponsorship of Pi Gamma Mu on "Perspective in the Social Sciences."

SYMPOSIA

Symposia are steadily becoming more and more important and characteristic features of meetings of the association. They present unexcelled opportunities for cooperation by scientists in different fields; they promote cross fertilization of ideas; they are likely to be systematically organized and comprehensive; they are participated in by high authorities; and some of them are published by the association. At the Seattle meeting the following symposia will be presented:

The American Physical Society. On Wednesday morning, June 19, the society will present a symposium on "Cosmic Rays" at which Hans A. Bethe, Arthur H. Compton and Robert A. Millikan will present papers.

On Thursday morning the society will present a symposium on "Nuclear Moments" to which the contributors will be N. F. Ramsey and J. R. Zacharias, followed in the afternoon by a discussion of "Theoretical Physics" led by J. R. Oppenheimer.

The Astronomical Society of the Pacific. The society will present two symposia, one on Wednesday morning, June 19, on "Sources of Stellar Energy" and a second on Thursday afternoon on "Applications of the Photo-

electric Cell to Astrophysical Research," the contributors to which will be Joel Stebbins, A. E. Whitford, John S. Hall, Gerald E. Kron and C. S. Beals.

The Section on Zoological Sciences (George A. Baitzell, reporting) will hold a joint symposium with the Western Society of Naturalists on "The Species Problem" on Tuesday and Wednesday mornings under the chairmanship of Robert C. Miller.

The American Society of Ichthyologists and Herpetologists. The society will present a symposium, W. M. Chapman, chairman, on "Salmon Problems on the Pacific Coast of North America," the contributors to which will be P. R. Needham, A. L. Pritchard, F. A. Davidson, D. W. H. Rieh, G. H. Clark, L. A. Royal and J. A. Craig.

The Botanical Society of America, Pacific Division, and the American Society of Plant Physiologists. On Wednesday morning, June 19, the societies in cooperation with the Section on Botany will present a symposium on "Aquatic Botany," George B. Rigg, presiding, at which papers will be read by Gilbert M. Smith, John Raper, G. J. Hollenberg, Lyman D. Phifer, J. van Overbeek and Dan Bonnell.

On Thursday morning and afternoon the societies and the section will present a joint symposium on "Recent Investigations of the Characteristics of the Photosynthetic Process," H. A. Spoehr, presiding, the contributors to which will be Hans Gaffron, Robert Emerson, Winston M. Manning and Herbert M. Dutton, S. Ruben, William Arnold and C. B. van Niel.

The American Phytopathological Society. On Friday morning, June 21, the society will present a symposium on "Virus Diseases of Fruit Trees," consisting of invited papers followed by discussions of methods of investigating virus diseases of various fruit trees.

The American Society of Plant Physiologists and the Western Society of Soil Science. On Tuesday, June 18, the societies will present a symposium, H. D. Chapman, chairman, on "Phosphate Nutrition and Phosphate Fertilization."

The Ecological Society of America and the Society of American Foresters. On Wednesday afternoon the societies will present a symposium on "Forest Influences and Land Use Problems," J. H. Hanley representing the former society and C. S. Cowan the latter. The speakers will be R. F. Daubenmire, Leo A. Isaac, L. C. Wheating and E. N. Torbert.

Section on Social and Economic Sciences. The section will present five symposia (dates not stated) on social and economic problems relating to the Pacific Northwest, the subjects of which are: (1) "Population Trends, with Special Reference to the Pacific Northwest"; (2) "Migration and Settlement: Patterns and Trends"; (3) "The Economy of the Pacific Northwest in its National Setting"; (4) "Standards of Living and Employment: Problems of Community Insecurity";

and (5) "Employer-Employee Problems and Relations."

SECTION AND SOCIETY PROGRAMS

American Mathematical Society (T. M. Putnam, reporting). On Thursday morning, June 20, the society will hold a joint session with the American Physical Society at which John von Neumann will present a paper "On Operator Rings and Dimensions." In the afternoon the society, under the chairmanship of its president, G. C. Evans, will hold a session for the presentation of papers by members of the society. In the evening the society will hold a joint dinner with the Section on Mathematics at 2211 Interlake Boulevard.

American Physical Society (Paul Kirkpatrick, reporting). On Tuesday afternoon, June 18, the society will hold a joint session with the American Association of Physics Teachers for a discussion of "Training at the College Level."

On Wednesday morning the society will hold a session for the presentation of a symposium on "Cosmic Rays" at which the speakers will be Hans A. Bethe, Arthur H. Compton and Robert A. Millikan. On Wednesday noon members and guests of the society will join in a luncheon at Hotel Edmond Meany. On Wednesday afternoon the society will hold a joint meeting with the Astronomical Society of the Pacific, at which G. M. Volkoff, of the University of California, will be one of the speakers.

On Thursday morning, in addition to the joint session with the American Mathematical Society, previously mentioned, the society will present a symposium on "Nuclear Moments" (see Symposia). In the afternoon the society will hold a symposium on "Theoretical Physics."

On Friday morning and afternoon and on Saturday morning the society will hold a session for the presentation of short contributed papers, abstracts of which will appear in the printed program of the society.

American Association of Physics Teachers (A. A. Knowlton, reporting). In addition to the previously mentioned joint session with the American Physical Society on Tuesday afternoon, June 18, the society will meet on Tuesday morning and on Friday, both morning and afternoon, for the presentation of contributed papers. On Wednesday the society will hold no formal sessions.

The American Meteorological Society (Phil E. Church, reporting). The society will meet from Wednesday afternoon to Friday evening, June 19-21, inclusive. On Wednesday afternoon five papers (Phil E. Church, presiding) will be presented by representatives of Pacific Coast Weather Bureau Stations as follows: J. R. Fulks and R. A. Dightman, Rex Rhoten, H. N. Weirauck, W. C. Jacobs and Carlton Jencks.

On Thursday morning the discussion will be continued (J. Bjerknes, of Bergen, Norway, presiding) with papers by L. H. Daingerfield, Phil E. Church, and T. Edward Stephens. On Thursday afternoon the society will hold a joint session with the Hydrology Section of the American Geophysical Union and the Western Interstate Snow Survey Conference.

On Friday morning the society will hold a session (L. H. Daingerfield, presiding) for contributed papers. The speakers at this session will be Wendell Woodward, Archer B. Carpenter and Rex Rhoten, Philip Williams, Jr., Thomas E. Jermen, Richard A. Dightman and N. E. Bradbury and E. Fryer. After a luncheon at the Edmond Meany Hotel, the society will hold a final session with N. E. Bradbury presiding. Papers will be presented at this session by R. A. Halvorsen, I. Gringorten and J. Bjerknes, of Bergen, Norway.

The American Chemical Society, Western Intersectional Meeting (H. V. Tartar, reporting) will hold three sessions, two on Wednesday and one on Thursday morning, at which 32 papers will be presented. The society will hold a joint dinner with the Puget Sound Section in the Edmond Meany Hotel on Wednesday evening.

At the session on Wednesday morning, June 19, the speakers will be George S. Parks, Theo West and George E. Moore, O. Redlich and J. Bigeleisen, R. W. Gelbach and G. Brooks King, L. I. Gilbertson, Ralph L. Tiede and James A. Cox, G. Brooks King, C. H. Secoy and G. H. Cady, Philip W. Schutz and Aaron E. Markham and Kenneth A. Kobe. At the afternoon session papers will be presented by Anton B. Burg, E. C. Gilbert and Ned Baker, M. J. Marshall, H. O. McMahon and W. L. Godson, Robert D. Vold, Arthur F. Scott, Irving Jolley, and J. L. Culbertson, Lester Winter and Alfred Stockfleth.

On Thursday morning papers will be presented by James W. Ferguson, A. R. Olson and P. V. Youle, E. V. White, E. R. Norris and J. D. Hauschildt, Loring R. Williams and Arthur C. Twomey and Sarah J. Twomey, J. S. Butts, Paul B. Donavon and George F. Harsh, William Ure and F. T. Fitch and J. H. Kemper, W. F. Seyer, Andrew van Hook, Leo Friedman and Robert Lovin, J. P. Mehlig, Lloyd E. West, B. E. Christensen and Robert Wong and W. H. Kunz.

The Astronomical Society of the Pacific (T. S. Jacobsen, reporting) will hold sessions for the presentation of papers on Wednesday and Thursday, June 19-20, a dinner of the society on Thursday evening.

On Wednesday afternoon the society will present a joint symposium with the sections on physics and astronomy on "Sources of Stellar Energy," and on Thursday afternoon the society will hold a symposium on "Applications of the Photoelectric Cell to Astrophysical Research" (see Symposia). In the evening

R. M. Petrie will deliver a lecture on "Solar Kinematography" illustrated by motion pictures.

Among those who will present papers at the sessions on Wednesday and Thursday mornings are N. U. Mayall and L. H. Aller, Betty Adams, W. H. Wright, Doris Roosen-Raad and F. J. Neubauer, A. H. Joy, D. N. Davis, Paul W. Merrill and Roscoe F. Sanford, E. Pettit, and R. S. Richardson.

Section on Geology and Geography and the Geological Society of America (Howard A. Meyerhoff, reporting) will hold four sessions for the presentation of papers and conduct three field excursions. The sessions of the section and society will be held on Monday afternoon, June 17, both morning and afternoon on Tuesday, and Wednesday morning, leaving members free on Thursday and Friday to attend the sessions of the Association of Pacific Coast Geographers on June 20-21 or to participate in the field trips of the section.

A field excursion on Thursday, June 20, under the leadership of G. E. Goodspeed, will be for the purpose of considering petrologic problems in the Cascade Mountains; a second field excursion, led by J. Hoover Mackin, will be for the purpose of examining glacial phenomena in the Puget Sound lowland and along the western slope of the Cascade range. The activities of the section will be concluded by a three-day field excursion in the Cascades and the Columbia Plateau, under the leadership of A. C. Waters and J. Hoover Mackin. The excursion will include the more important geological problems and cover the more interesting scenic areas in the state of Washington. Persons desiring to participate in this excursion should communicate by June 10 with J. Hoover Mackin, University of Washington, Seattle.

The Oceanographic Society of the Pacific (C. L. Utterback, reporting) will hold a conference on Wednesday afternoon, June 19, on "The Distribution and Cycle of Organic Matter in the Ocean," and its annual luncheon on Thursday noon.

Association of Pacific Coast Geographers (Peveril Meigs, president). This, the sixth annual meeting of the society, will consist of six sessions, three on Thursday, June 20, two on Friday and one on Saturday, a luncheon on Thursday noon at the Edmond Meany Hotel, the annual dinner on Friday evening at the same hotel, at which the president, Peveril Meigs, will deliver an address on "Exploring American Orchards," and a boat trip around Seattle Harbor on Saturday afternoon (tickets \$1 each).

At the first session on Thursday morning seven papers will be presented, the speakers being Norman Carls, Leda Hamilton, Gertrude McKean, Elizabeth Schreiber, Harold E. Tennant, Hallock F. Raup, and James F. Chamberlain. On Thursday afternoon the program will consist of seven papers by A. W. Kuchler, John E. Kesseli, Joseph T. Hazard, Walter Hacker,

Howard H. Martin, Willis B. Merriam and Warren D. Smith. On Thursday evening a program of four papers will be presented, the speakers being Forrest Shreve, Frances M. Earle, Richard G. Tyler and Maxim von Brevern.

The Friday morning session will consist of seven papers, the authors being Phil E. Church, Ernestine Hamburg, Tim K. Kelley, Howard E. Pepke, R. S. Shaw, Harold Rhodes, and Otis W. Freeman. At the afternoon session six papers will be presented, the speakers being William H. Pierson, W. Ross Pence, Albert L. Seeman, Margaret Thompson, Woodrow R. Clevinger and J. Wright Baylor.

On Saturday morning papers will be read by Carl H. Mapes, Elmer D. Fullenwider, Julia A. Shourek, Worth McClure and Erna Grassmuck Gilland, after which the annual business meeting of the society will be held.

The American Geophysical Union, North Pacific Regional District and North Continental Divide Area of the Section of Hydrology (George G. West, reporting) will hold sessions for the presentation of papers on Thursday afternoon, June 20, and on Friday morning and afternoon. On Saturday the society will conduct an excursion which will include an inspection of Lake Washington Bridge, the City Light Skagit Project, Diablo Power House and Dam and the Ross Dam Site. The cost of the trip, including transportation, lodging and three meals, will be \$4.05.

On Thursday afternoon the society will hold a joint session with the Western Interstate Snow Survey Conference (Phil E. Church, chairman) at which papers will be presented by J. E. Church, H. B. Atkinson and Clyde E. Bay, Walter J. Parsons and H. C. Dukes, and Walter J. Parsons.

At the session on Friday morning (J. C. Stevens, presiding) papers will be presented by Fred Merryfield, George F. Hopkins and H. P. Gillette, following which the society will hold a joint luncheon with the Western Interstate Snow Survey Conference at the Edmond Meany Hotel. A motion picture film, "From the Snow Field to the House," will be shown by the Washington Water Power Company. On Friday afternoon the society will hold a session at which papers will be presented by James C. Marr, D. B. Freeman, O. N. Rugen, and a review of an article of George W. Mindling by Clarence Pedersen.

The Oceanographic Society of the Pacific (C. L. Utterback, reporting) will hold a session on Wednesday afternoon, June 19, for a conference on "The Distribution and Cycle of Organic Matter in the Ocean" and will hold a luncheon on Thursday noon.

The Western Interstate Snow Conference (Phil E. Church, reporting) will hold sessions on Wednesday morning and afternoon, a third session on Thursday morning, a joint session on Thursday afternoon with

the American Geophysical Union, North Pacific Regional District and North Continental Divide Area of the Section on Hydrology, a luncheon on Wednesday noon at the Edmond Meany Hotel, and a dinner Thursday evening at the same place.

At the session on Wednesday morning the speakers will be Paul A. Bean and Paul Webster Bean and Frederick A. Bendtsen, John V. Salo, George D. Clyde, Carl Elges, H. P. Boardman and J. S. Moore. In the afternoon papers will be presented by J. Cecil Alter, R. A. Work, John T. Ryan, Philip S. Cowgill, Carl Elges, J. C. Stevens, and Paul A. Bean and Paul Webster Bean and Frederick A. Bendtsen.

The papers on the Thursday morning program will be by W. W. McLaughlin, Frank Kittredge and W. G. Waterhouse, Charles A. Connaughton, J. Carlisle Crouch, and Phil E. Church. At the dinner on Thursday evening color motion pictures on Snow Surveying in the Central Sierra will be shown by Walter Herz.

The Section on Zoological Sciences (George A. Baitzell, reporting) will hold a joint symposium with the Western Society of Naturalists on "The Species Problem" on Tuesday and Wednesday mornings under the chairmanship of Robert C. Miller.

The American Association of Economic Entomologists, the Pacific Slope Branch (Roy E. Campbell, reporting) will hold its twenty-fifth annual meeting on Thursday and Friday, June 20-22, partly with the Northwest Association of Horticulturists, Entomologists and Plant Pathologists. The annual dinner of the society will be held on Friday evening, at which the principal speaker will be E. O. Essig. An excursion to Victoria for Saturday is under consideration.

The American Society of Ichthyologists and Herpetologists (Margaret Storey, reporting) will meet on Wednesday and Thursday, and on Friday it will conduct an excursion to the fish establishments along the Seattle waterfront. The feature of the program of the society will be a symposium on "Salmon Problems on the Pacific Coast of North America" (see Symposium).

The Pacific Northwest Bird and Mammal Society (Arthur Svihla, reporting) will hold sessions on Tuesday morning and afternoon before which a total of 11 papers will be presented.

The contributors to the morning program will be R. L. Webster, I. McT. Cowen, W. Dalquest, Miss E. L. Curtis, Hugh Hotson and J. E. Guberlet. The papers in the afternoon will be presented by Arthur Svihla, G. E. Hudson, V. B. Scheffer, Earl Larrison, Staley G. Jewett and Roy E. Rosenberg.

The Botanical Society of America, Pacific Division (Ira L. Wiggins, reporting) will hold sessions from Tuesday to Saturday, June 18-22, inclusive, at which 26 papers will be presented, including 6 in a symposium on "Aquatic Botany" and 7 in a symposium on

"Recent Investigations of the Characteristics of Photosynthesis."

At the sessions on Tuesday papers will be presented by Ira L. Wiggins, A. S. Crafts, Katherine Esau, Robert H. Williams and Geo. B. Rigg, Norman Boke, and Geo. B. Rigg and Lyman D. Phifer.

The business meeting of the society will be held on Wednesday morning, following which the society will hold a joint session with the Section on Botanical Sciences (C. Leo Hitchcock, presiding), at which papers will be presented by Ruth Svihla, T. C. Frye and Lois Clark, Carl Epling and Harlan Lewis, Alan A. Beetle, Mildred E. Mathias and Lincoln Constance, Herbert L. Mason, and C. Leo Hitchcock. On Wednesday afternoon the society, in joint session with the Section on Botany and the American Society of Plant Physiologists (George B. Rigg, presiding), will present a symposium on "Aquatic Botany" (see Symposia).

On both Thursday morning and afternoon the society will hold joint sessions with the Section on Botany and the American Society of Plant Physiologists (H. A. Spoehr, presiding), at which a symposium on "Recent Investigations of the Characteristics of the Photosynthetic Process" will be presented (see Symposia).

On Friday there will be a field excursion to the Olympic Peninsula, and on Saturday there will be a joint excursion with the American Society of Plant Physiologists to Friday Harbor.

The American Phytopathological Society (L. D. Leach, reporting) will hold sessions from Wednesday to Saturday, June 19-22, inclusive, in connection with the Pacific Division of the society. The first session will open with a business meeting and the election of officers. The remainder of the day will be devoted to the presentation of papers on research projects.

On Thursday morning the society will meet with the Society for Horticultural Science, the American Association for Economic Entomologists, and the Northwest Association of Horticulturists, Entomologists and Plant Pathologists, at which K. Esau, representing the society, will present a paper. The afternoon session will be devoted to the presentation of submitted papers.

On Friday morning the society will hold a symposium on "Virus Diseases of Fruit Trees" followed by discussions of methods of investigating virus diseases on various fruit trees. On Saturday the society will join the all-day field trip to the Western Washington Experiment Station at Puyallup.

The American Society of Plant Physiologists, Western Section (J. van Overbeek, reporting) will meet June 18-22, inclusive. The program will consist of three symposia and four sessions for the presentation of submitted papers. The first symposium will be held jointly with the Western Society of Soil Science on

June 18, H. D. Chapman, chairman, on "Phosphate Nutrition and Phosphate Fertilization." On June 19 the society will hold a joint symposium with the Botanical Society of America on "Aquatic Botany," under the chairmanship of George B. Rigg. The third symposium will also be held jointly with the Botanical Society of America on "Recent Investigations of the Characteristics of the Photosynthetic Process." One of the sessions for the presentation of submitted papers will be held jointly with the Society for Horticultural Science. On Saturday, June 22, the society will conduct an excursion to the Oceanographic Laboratories of the University of Washington, at Friday Harbor.

The Ecological Society of America (H. de Forest, reporting) will hold sessions on Wednesday and Thursday and field excursions to a sphagnum bog, a forest, a lake, a beach at low tide (Saturday about noon), a gravelly prairie, a salt marsh, and a swamp. At the session on Wednesday morning Joseph Kittredge, Jr., will preside. The afternoon program on Wednesday will be a joint session with the Society of American Foresters for the presentation of a symposium on "Forest Influences and Land Use Problems." C. S. Cowan, representing the Society of American Foresters, and J. H. Hanley, representing the Ecological Society of America, will preside at the symposium. On Wednesday evening the Biologists' Dinner will be held. At 1:30 on Thursday afternoon a motion picture on the transplanting of Columbia River salmon and trout will be exhibited, followed by a session for the presentation of papers under the chairmanship of H. de Forest.

The Section on Anthropology (Erna Gunther, reporting) will present a program (date not stated) which will include papers by Alexander Goldenweiser, Thomas Horace Evans, Donald Collier, Viola Garfield, Melville Jacobs, Verne Ray and others.

The Society for Research in Child Development (Stevenson Smith, reporting) will hold sessions on Thursday, June 20. The morning program will consist of papers by Sara W. Prentiss, Hubert S. Coffey, Edith A. Davis, Norman W. Clein and Miriam Forster. The afternoon program will consist of a panel discussion by Virginia Lee Block, Catherine Landreth, Vera Brandon and Max Houtchens.

Section on Social and Economic Sciences (Holbrook Working, reporting) will hold five sessions at which five symposia will be presented on social and economic problems of the Pacific Northwest. The subjects of the five symposia are: "Population Trends, with Special Reference to the Pacific Northwest"; "Migration and Settlement: Patterns and Trends"; "The Economy of the Pacific Northwest in its National Setting"; "Standards of Living and Employment; Problems of Community Insecurity"; and "Employer-Employee Problems and Relations."

The Institute of the Aeronautical Sciences (C. E. Sinclair, reporting) will hold sessions on Friday, June 21. Papers will be presented on various aspects of "Transoceanic and High Altitude Flight."

The Society for Experimental Biology and Medicine, Pacific Coast Branch and Southern California Branch (Charles Weiss, reporting) will hold sessions on Wednesday, June 19, at which 21 research papers in the field of experimental biology and medicine will be reported. Abstracts of the papers are all in the hands of both the secretary of the society and the permanent secretary of the association. The contributors to this program are William F. Allen, Kurt Aumann and W. B. Youmans, Hance F. Haney and Arne Lindgren, Max Kleiber and Harold H. Cole, O. Larsell and S. von Berthelsdorff, John S. Lingenfelter, Ira A. Monville and T. W. Spencer, Edwin E. Osgood with technical assistance of Evelyn Packham, Nilkanth M. Phatak, F. B. Zener and N. A. David, Walter van Winkle, Homer Wheelon, W. B. Youmans, A. Marshak, Dan H. Campbell and Paul A. Nicoll, Bradley T. Scheer, Albert Tyler, Charles B. Metz and Albert Tyler, Edward B. West, W. R. Todd, A. J. Lesser and Francis Marsh Baldwin and Milton Metefessel.

The Society of American Bacteriologists, Southern California Branch and Northern California-Hawaiian Branch (B. S. Henry, reporting) will hold sessions on Thursday morning and afternoon, June 20. At the morning session papers will be presented by F. P. Griffiths, C. E. ZoBell, E. C. McCulloch, E. J. Ordal, W. V. Halversen, B. S. Henry and J. S. Kiser, and R. S. Weiser and W. Leif. On the afternoon program the speakers will be M. R. Greene, H. J. Sears, Anson Hoyt, M. D. Eaton, R. E. Hoffstadt, E. W. Schultz and B. Howitt.

The American Society for Horticultural Science, Western Section (W. W. Aldrich, reporting) will hold both morning and afternoon sessions for the presentation of papers on Wednesday, Thursday and Friday, June 19-21, the Thursday afternoon session being with the Northwest Association of Horticulturists, Entomologists and Plant Pathologists, the American Association of Economic Entomologists, Pacific Branch, and the American Phytopathological Society, Pacific Division.

At the session on Wednesday morning, W. M. Atwood, presiding, papers will be presented by J. B. Biale, W. O. Williams, S. H. Cameron, Harold E. Clark, Leif Verner, C. P. Harley and G. Howell Harris. E. L. Overholser will preside at the afternoon session at which papers will be presented by E. L. Overholser and F. L. Overly, Ormund Lilleland, F. M. Harrington and V. E. Iverson, G. G. Brown, W. W. Aldrich and J. R. Furr, C. L. Vincent, and O. M. Morris.

At the joint session on Thursday morning, Don C.

Mote, presiding, papers will be read by Henry Hartman, Joseph C. Chamberlin, H. E. Morrison, and K. Esau. On Thursday afternoon, Leif Verner, presiding, papers will be read by Wilcox, C. E. Schuster, Elmer Hansen and Henry Hartman, R. W. Hodgson, C. W. Van Horn and A. H. Finch, F. L. Overly, G. H. Harris, Elmer Hansen and Henry Hartman.

A morning session will be held on Friday, John H. MacGillivray, presiding, at which papers will be presented by W. O. Williams, Henry Hartman, D. V. Fisher, J. H. MacGillivray, V. E. Iverson and F. M. Harrington, F. N. Harmon and Elmer Snyder, F. F. Halma, Thomas W. Whitaker, and F. M. Harrington.

The Society of American Foresters (C. D. Marckworth, reporting) will hold sessions for the presentation of papers on Tuesday and Wednesday, June 18 and 19, and on Thursday will sponsor a field trip to the Cedar River Watershed, Seattle's Municipal Forest.

At the session Tuesday morning, after introductory remarks by William H. Price, chairman, papers will be presented by Hugo Winkenwerder, Robert W. Cowlin, and Clyde S. Martin. At the afternoon session, under the chairmanship of Lyle F. Watts, papers will be presented by E. J. Hanzlik, Norman Jacobsen, and Alfred T. Hildman. At the dinner of the society on Tuesday evening Henry Schmitz will deliver an address.

On Wednesday morning the general subject will be "Utilization Problems of the Northwest," the speakers being R. B. Wolf, E. T. Clark, Gus Arneson, and Bror L. Grondal. On Wednesday afternoon the society will hold a joint session with the Ecological Society of America for the presentation of the symposium on "Forest Influences and Land Use Problems" (see Symposia).

The Western Society of Soil Science (L. T. Kardos, reporting) will hold sessions Monday, Tuesday and Wednesday, June 17-19. The sessions on Monday morning and afternoon will be for the reading of submitted papers. In the evening the society will hold a banquet and business meeting.

The morning session on Tuesday will be for submitted papers. On Tuesday afternoon the society will hold a joint symposium with the American Society of Plant Physiologists on "Phosphate Nutrition and Phosphate Fertilization," under the chairmanship of H. D. Chapman. On Tuesday evening the society will hold a round table discussion of "Fertilizer Placement Problems," S. C. Vandecaveye, chairman.

The session Wednesday morning will be devoted to submitted papers. In the afternoon there will be a round table discussion on "Coordination of Research Programs in Western Phosphate Utilization," under the chairmanship of R. H. Walker.

The Northwest Association of Horticulturists, Ento-

mologists and Plant Pathologists (Don C. Mote, reporting) will hold sessions on Thursday to Saturday, June 20-22. The society will hold joint sessions with the American Association of Economic Entomologists, Pacific Slope Branch; the American Society for Horticultural Science, Western Section; and the American Phytopathological Society, Pacific Division. Among the speakers on these programs will be Henry Hartman, Joseph C. Chamberlin, H. E. Morrison, and K. Esau. On Saturday the society will hold a business meeting and a demonstration program of spraying and dusting and exhibits at the Western Washington Experiment Station, Puyallup, Washington.

The Section on Education and the Section on Psychology (John E. Corbally, reporting) will meet on Friday, June 21. The morning program will consist of papers by Leonard Carmichael, E. R. Guthrie, H. H. Remmers, C. T. Williams, Doncaster G. Humm, C. W. Stone and O. W. Freeman. The afternoon session, under the chairmanship of Edward G. Olsen, will consist of a panel discussion on "The Utilization of Community Resources for Educational Purposes," the participants in the discussion being Helen Strong, Theodore Siedle, C. W. Stone, O. W. Freeman, E. M. Draper, George E. Griffith, Hugo Winkenwerder, George Yantis, and Worth McClure.

OBITUARY

DR. GLENN E. CULLEN

It is with a feeling of deep sadness, mingled with pleasant memories that we pause to review the career of Glenn E. Cullen. His death occurred in Cincinnati on April 11, following a short illness, the cause of death being a coronary occlusion. Born on the Isle Saint George, Ohio, he attended high school at Sandusky, and later entered the University of Michigan, receiving the degree of A.B. in 1912 and of B. Chem. Eng. the next year. Between 1913 and 1922 he was research chemist at the Rockefeller Institute for Medical Research. Here, while working with Donald D. Van Slyke and O. T. Avery, his interest for biochemistry and medical science was aroused. During this period he was actively engaged in many problems. With Van Slyke and O. T. Avery, his interest in biochemistry of the blood plasma under constant carbon dioxide tension and also the details of the method for the determination of urea in urine and blood using the enzyme urease were developed. With a number of colleagues he worked on the technique for the collection and analysis of blood and for its saturation with gas mixtures of known composition. He received the degree of Ph.D. from Columbia in 1917. His method for the colorimetric determination of the hydrogen ion concentration in blood plasma and his modification of the Clark hydrogen electrode vessel are well known to all workers in this field of investigation. During the World War, he was a captain in the Sanitary Corps, War Demonstration Hospital, New York City.

Dr. Cullen became associate professor of research medicine at the University of Pennsylvania in 1922. While there he investigated the changes in acid-base condition of the blood during and following ether anesthesia, in diabetic coma and in gastro-enteritis. With Dr. J. Harold Austin, he published the monograph on "Hydrogen-ion Concentration of the Blood in Health and Disease."

In 1924, Dr. Cullen was appointed professor of bio-

chemistry at the School of Medicine of Vanderbilt University. Before proceeding to Nashville he spent a year at the Riggs Hospital, Copenhagen, as a traveling fellow of the Rockefeller Foundation. During this visit, researches were begun on the quinhydrone electrode which were later continued in Nashville.

Dr. Cullen was greatly interested in medical education and also in the graduate schools of America. As a member of the executive faculty of the Medical School at Vanderbilt he gave much of his time and energy to problems outside of the department he guided. He was instrumental in the reorganization of the Graduate School of Vanderbilt.

From this post he came to Cincinnati to be associated with Dr. A. Graeme Mitchell in the Children's Hospital Research Foundation and in the department of pediatrics, College of Medicine, University of Cincinnati, where he was professor of research pediatrics and director of laboratories. He was also professor of biochemistry and a fellow of the Graduate School. His energies overflowed into all things pediatric and also into those activities of the medical school campus in which he was always concerned. It is a significant fact that Dr. Cullen was the first member of the Pediatric Society who did not hold a Doctor of Medicine degree. In spite of being a doctor of philosophy, those of his colleagues with whom he made rounds would hardly be aware of the fact that he had not been trained for many years as a pediatricist. His thinking through of the problems of the laboratory as they relate to the clinic made a tremendous contribution to his own department and pediatrics in general.

Dr. Cullen was very active in the American Society of Biological Chemists. He was treasurer 1926-30, vice-president 1935-36, president 1937-38. In the absence of the president and vice-president he took the full responsibility of administration of the society at its meeting this year in New Orleans. He was chairman of the executive committee of the Federation of