A History of the Northwest Scientific Association

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Dedication

To the founding officers, Martin F. Angell, University of Idaho, President, Curtiss Merriman, Cheney Normal, and Orville C. Pratt, Spokane, Vice-Presidents, F. D. Heald, State College of Washington, Secretary, and Ellis B. Harris, Spokane, Treasurer, and the chairman of the founding committee L. K. Armstrong, Spokane, this volume is in fond memory dedicated. To most of them this dedication is a memorium, as they have long since passed from the scene, but their foresight and their dedication to science and learning in the Northwest will ever remain as an incentive and as a goal by those who presently carry forward the torch they so courageously kindled.

The author is also grateful to Mrs. Howard R. Flint and others who made contributions to the Howard Flint Fund, which has been called upon in part to finance the publication of this monograph.

A History of the Northwest Scientific Association

EARLY IN the decade of the 1920's a group of scientists and educators from the Inland Empire began to formulate plans for the establishment of a local scientific organization that would enable them to meet together annually for the promotion of scientific research and the diffusion of their scientific findings. Gradually the plans of these pioneers took form, in a region at that time remote from major centers of scientific endeavor.

The first meeting of those interested in the prospect of a Northwest scientific association took place in the Davenport Hotel in Spokane on the evening of February 9, 1923. The chairman was L. K. Armstrong, Spokane mining engineer. In response to a motion by Orville C. Pratt, Superintendent of Public Schools for the city of Spokane, a committee was appointed to draw up plans for an organization "of broad and general character designed to embrace all persons in the Inland Empire interested in the objectives of a regional scientific association."

This committee on organization consisted of Dr. M. F. Angell, Dean of the Graduate School, University of Idaho; Dr. Frederick D. Heald, Professor of Plant Pathology, State College of Washington; Miss Elizabeth L. Martin, Head of the Department of Geography, State Normal School, Cheney; Frederick Keffer, Mining Engineer, Spokane; Dr. George W. Hess, Professor of Mathematics, Whitworth College; Thomas A. Bonser, Spokane Museum and North Central High School, Spokane; Professor Ellis B. Harris, Spokane University; Alonzo Troth, Lewis and Clark High School, Spokane; and L. K. Armstrong, Secretary of the Columbia Section of the American Institute of Mining and Metallurgical Engineers.

At noon on February 24 the committee met in the Davenport Hotel. Invited to sit with the committee were James A. Burke, Principal of the Garfield School of Spokane and Secretary of the Inland Empire Teachers' Association, and Thomas Large of Lewis and Clark High School, who had been instrumental in calling the earlier meeting and who had acted as its secretary. After considerable round-table discussion centering on such topics as the form the organization should assume, the advisability of affiliation with the American Association for the Advancement of Science, and the matter of dues and finances, it was agreed that a simple constitution should be drafted and that an organizational meeting should be held on April 6 at the Lewis and Clark High School.

Pursuant to the call of the organization committee for a general meeting, a small but dedicated group of scientists assembled at the Lewis and Clark High School on April 6, 1923, and the Northwest Scientific Association was

officially launched. L. K. Armstrong continued as chairman, and Thomas Large acted as secretary pro tem. A brief constitution was adopted, and the following slate of charter officers was elected: Dr. M. F. Angell, University of Idaho, President; Dr. Curtiss Merriman, Cheney Normal, Vice-President; Dr. F. D. Heald, State College of Washington, Secretary; and Ellis B. Harris, Spokane University, Treasurer. Three Councilors were also selected: A. L. Melander, State College of Washington; M. T. Elrod, University of Montana; and H. S. Brode, Whitman College. It was agreed that the first regular meeting for the presentation of papers should be held in Spokane in 1924 during the week of the meetings of the Inland Empire Teachers' Association. Forty-five charter members of the Association were enrolled, and dues were set at $1.00 a year.

Later in the fall of 1923, November 9, to be exact, the Executive Committee met in the assembly hall of the Spokane Chamber of Commerce, following a public lecture by Dr. Kirk Bryan, U.S. Geological Survey, Washington, D.C., on "The Geology of the Spokane Region." Superintendent Orville C. Pratt was appointed to fill the position of Vice-President vacated upon Dr. Curtiss Merriman's move to Wisconsin. It was also agreed by the committee that it should be the policy of the Association to have the address of its retiring President as part of the program of the annual meeting.

The first program meeting was, accordingly, held on April 11 and 12, 1924, at the Lewis and Clark High School, Spokane, under the leadership of the officers indicated above. Papers were presented before six sections: Botany-Zoology, Chemistry-Physics, Education, Geology-Geography, Medicine-Bacteriology, and Plant Pathology. A total of 47 papers were listed on the program. In addition five general session lectures were presented including "Science and Invention in the Van," by G. F. Clukey, a Spokane chemist; "The Agricultural Experimentation System in the United States," by E. C. Johnson, State College of Washington; "An Interpretation of Mutation," by Ellis B. Harris, Spokane University; "The Flowers and Insects of Mt. Rainier" (Illustrated), by A. L. Melander, State College of Washington; and "The Native Peoples of the Belgian Congo" (Illustrated), by Dr. Frederick Starr, whose affiliation was not listed in the program.

Other names of prominence in the Pacific Northwest who appeared on the initial program included J. W. Hungate, Cheney Normal; Floyd W. Gail and C. W. Hungerford, University of Idaho; J. E. Kirkwood, University of Montana; Howard R. Flint, U.S. Forest Service, Missoula; Dr. Robert F. E. Stier, Spokane; C. C. Todd, C. M. Brewster, A. A. Cleveland, R. W. Gelbach, and Roderick Sprague, State College of Washington; J. L. Slonaker, North Central High School; and J. G. McMacken, Lewis and Clark High School.

At the annual business meeting on April 12 it was decided that the number of Councilors should be increased to five. During this first year the Secretary sent out notices regarding the formation of the Association to approximately 2,000 scientists and teachers throughout the Northwest. As a result he was able to report that the membership had reached approximately 200 with representatives scattered throughout four states and the adjacent provinces of Canada.

At a meeting of the Council held February 6, 1925, in the office of L. K. Armstrong in Spokane, the advisability of publishing the proceedings and abstracts of papers of the annual meetings was discussed, but specific action was deferred due to lack of funds. The Council did, however, authorize the solicitation of advertising for the program of the April meeting in an effort to help defray costs.

The second annual program meeting convened April 10 and 11, 1925, again meeting at Lewis and Clark High School. Officers in charge included Dr. M. A. Brannon, University of Montana at Helena, President; L. K. Armstrong, Spokane, Vice-President; Dr. F. D. Heald, State College of Washington, Secretary; and Dr. J. E. Wodsedalek, University of Idaho, Treasurer. The Councilors were Dr. M. F. Angell, University of Idaho; Dr. C. H. Clapp, President of the University of Montana at Missoula; Thomas Large, Lewis and Clark High School, Spokane; Dr. Frederick Epplen, Spokane; and Professor A. M. Shaffer, State Normal School, Cheney.

Sixty-one papers were presented distributed among seven sections, Bacteriology and Medicine having separated for program purposes. Five general session lectures included: "Hydro-electric Power Development: An Economic and Social Factor in the Inland Empire," by George Nixon, Spokane electrical engineer; "The Purnell Act for the More Complete Endowment of Agricultural Experiment Stations," by E. C. Johnson, State College of Washington; "Hydro-electric Power in Montana," by W. M. Weible, Helena; "National Parks as Places for Scientific Study" (Illustrated), by M. J. Elrod, University of Montana, Missoula; and at the annual dinner meeting the address of the retiring President, Dr. M. F. Angell, University of Idaho, was centered around the theme, "The Unity of Science." This meeting also featured the first breakfast session of local Sigma Xi members.

Other prominent names in Northwest Science, some appearing for the first time, included E. G. Schafer, E. F. Gaines, W. A. Rockie, C. W. Stone, S. C. Vandecaveye, Victor Burke, W. A. G. Bennett, Ray Thrasher, Roderick Sprague, R. W. Gelbach, and B. F. Dana of the State College of Washington; C. C. Crawford, J. A. Kostalek, F. W. Gail, C. W. Hungerford, and V. R. D. Kirkham of the University of Idaho; J. E. Kirkwood of the University of Mon-

tana, Missoula; Otis W. Freeman of Cheney Normal; E. M. Keyser, C. R. Stillinger, and J. G. McMacken of Spokane; and H. T. Gisbourne of Missoula. The Medical Section was open to the public and featured Spokane Drs. Frederick Epplen, O. M. Rott, Edward S. Jennings, and George A. Downs speaking on a "What the Public Should Know" series about cancer, diseases of the ear, nose and throat, goiter, and other recent advances in medical science.

Among items at the business meetings of importance to the historic record were the approval of a recommendation to combine the officers of Secretary and Treasurer, and the decision to elect Council members for a five-year term of office, with one to retire each year. The possibility of publication of a journal was again discussed. Such a venture would require an increase in dues or the sale of advertising, or both, and final decision was left up to the Council. The Secretary was able to report a registration of 90, an attendance of at least 100, and a membership of around 250.

The third annual meeting was scheduled for December 28 and 29, 1926, with headquarters at the Davenport Hotel in Spokane. The officers for this meeting were as follows: Dr. C. H. Clapp, University of Montana, Helena, President; L. K. Armstrong, Spokane, Vice-President; and Dr. F. P. Heald, State College of Washington, Secretary-Treasurer. The five Councilors were Dr. M. A. Brannon, University of Montana, Helena; Thomas Large, Lewis and Clark High School; Dr. M. F. Angell, University of Idaho; J. W. Hungate, State Normal School, Cheney; and Dr. George A. Downs of Spokane. Some 50 papers were offered in six sections: Botany-Zoology, Chemistry-Physics, Education, Forestry, Geology-Geography, and Plant Pathology. Bacteriology had withdrawn, and the Medical Section was again set up as a general session. Eight public session addresses were given, four of them under the auspices of the Medical Section. Dr. H. P. Marshall spoke on "Acid Milk Feeding," Dr. George H. Anderson addressed the session on "Heart Acts," and Dr. E. J. Barnett spoke on "Medical Progress." Other general addresses were as follows: "Amateur Telescope Construction," by Lester M. Livengood, Spokane, "Olympic Trails" (Illustrated), by Lynda Mueller, North Central High School, Spokane, and "Recent Drainage Changes in North Idaho and Eastern Washington," by F. B. Laney, University of Idaho. The address of the retiring President, Chancellor M. A. Brannon, University of Montana at Helena, was "Eugenics and the Cost of Government." Tickets for the annual banquet cost $1.50, which in the light of later high costs of living may be almost as nostalgic to present-day followers of Northwest Science as the names of the early founders.

Among those contributing to the section programs were F. W. Gail, William H. Cone, J. A. Kostalek, Alonzo W. Martin, V. R. D. Kirkham, C. W.

Hungerford, J. M. Raeder, E. E. Hubert, and D. D. DuSault of the University of Idaho; J. E. Kirkwood and M. J. Elrod, State University of Montana, Missoula; Nettie M. Cook and Thomas Large, Lewis and Clark High School; J. L. Sloanaker and T. A. Bonser, North Central High School; Ellis Harris, Spokane University; W. A. Rockie, T. H. Eby, and C. R. Stillinger of Spokane; Howard S. Brode, Whitman College; J. W. Hungate, Cheney Normal; and B. F. Dana, E. F. Gaines, C. W. Stone, Harold St. John, R. L. Webster, and S. C. Vandecaveye of the State College of Washington.

Information relative to the reason for the shift of meeting time from April to December lies in the report to the general business meeting by Secretary-Treasurer Heald. He and the other officers had been engaged in an effort all through the year to make the Association truly representative of the Northwest, as thus far the only west coast people present at any meetings had been representatives from the State Normal School at Bellingham. Correspondence had been exchanged by the Secretary with leading scientists at the University of Oregon, Oregon Agricultural College, the University of British Columbia, and the University of Washington. In order to bring in west-side support, it was recommended by the Council that future meetings be held with the Pacific Division of the A.A.A.S. when that organization met in the Northwest and, in any event, to meet alternately east and west of the Cascades, provided the membership in these two areas showed a reasonable equality of numbers. These plans were approved by a special committee of the Science Faculty of the University of Washington, and the program for 1926 was tentatively scheduled for the month of June on the Seattle campus. But plans for a Seattle meeting went awry when a general session of the Science Faculty at Seattle, called to consider the recommendation, voted adversely, and went on record as favoring the organization of their own Academy of Science.

Further action at the 1926 business meeting resulted in the appointment of a committee to arrange for the incorporation of the Association. The Treasurer's report for this year revealed total receipts of $683.20, due in part to the income from the sale of advertising in the program of the preceding year. Additional receipts during the meetings afforded a balance of $481.30. At last there were sufficient funds to allow for the publication of a much-needed journal. The Secretary had pointed out the difficulty of securing titles and ascribed this problem to the fact that the Association could offer no avenue of publication.

In an effort to implement and expedite plans for a publication a meeting of the Councilors and officers was held on February 5, 1927, in the Davenport Hotel. The offer of a Spokane attorney and Association member, J. L. Dirks, to draw up articles of incorporation without expense to the organization,

was accepted, and President-Elect L. K. Armstrong was authorized to request him to proceed. Of equal, if not greater, import was the appointment of a publication committee consisting of Dr. F. D. Heald, Chairman, assisted by Thomas Large and J. W. Hungate. The officers present empowered the committee to proceed with the publication of a quarterly journal, each number not to exceed 24 pages of printed matter, with a total annual expenditure not to exceed $375.

The following month—March of 1927—Volume I, Number 1 of *Northwest Science* made its appearance. The first issue was devoted to a brief statement concerning the organizational history of the Association and a summary record of the first three meetings. Chancellor Brannon's presidential address was published in full, and several pages were devoted to the constitution of the organization and to abstracts of papers presented at the first annual meeting. The second number appeared in June and was primarily a geology number. V. R. D. Kirkham's paper on "The General Geology of Eastern Washington and Northern Idaho" was featured, as were abstracts of important papers dealing with the Inland Empire and a bibliography of leading publications on the geology and geography of the area. Additional abstracts from the second and third annual meetings filled the remaining pages. Number 3, dated September, contained Lester M. Livengood's paper on "Amateur Telescope Construction," concluded the abstracts of the second and third annual meetings, and contained the membership list numbering 263, including several college and city libraries. Number 4, which came out in December, included seven complete papers as well as the program for the fourth annual meeting. Each member in good standing received copies of all four numbers, and an additional 200 copies were placed in repository for promotional use or later library or exchange use.

The fourth annual meeting was held December 28 and 29, 1927, with headquarters at the Davenport Hotel. The presiding officers were L. K. Armstrong, Spokane, President; E. C. Johnson, State College of Washington, Vice-President; and J. W. Hungate, State Normal School, Cheney, Secretary-Treasurer. The five Councilors included J. A. Kostalek, University of Idaho; M. A. Brannon, University of Montana at Helena; Thomas Large, Lewis and Clark High School, Spokane; M. F. Angell, University of Idaho; and J. E. Kirkwood, University of Montana at Missoula.

Sixty-nine papers were presented before nine sections, Engineering and Social Science having been added to the traditional ones. Five general sessions were held. At a joint luncheon with the Associated Engineers of Spokane, H. Y. J. Coleman, Acting President, University of British Columbia, spoke on "The Canadian University Tradition." As usual the Medical Section ap-

pealed to the general public as Drs. L. L. Purcell, Clarence Veasey, Charles M. Anderson, H. P. Marshall, and Joseph Aspray spoke on subjects ranging from sinuses, anomalies of ocular muscles, and heart pain, to abdominal disorders and cholecystography. Thornton T. Munger of Portland addressed one general session on "Some Forest Problems of the Northwest, Particularly as They Relate to Sciences other Than Forestry," and T. C. Elliott of Walla Walla addressed a joint luncheon meeting with the Eastern Washington Historical Society on "Sources for Scientific Study of Pacific Northwest History." The retiring President's address was given by Dr. C. H. Clapp, President of the University of Montana at Missoula. Dr. Clapp's title was "National Resources and International Problems."

Additional prominent names associated with this program included F. D. Heald, E. F. Gaines, D. J. Leffingwell, R. L. Webster, J. L. Culbertson, B. L. Steele, C. M. Brewster, F. F. Nalder, H. E. Culver, and W. A. G. Bennett from the State College of Washington; Floyd W. Gail, Alonzo W. Martin, Ivan C. Crawford, E. E. Hubert, A. L. Anderson, V. R. D. Kirkham, C. W. Hungerford, and R. A. Diettert, University of Idaho; Raymond F. Hawk and Otis W. Freeman, Cheney Normal; Edwin T. Hodge, Oregon State College; H. S. Brode and C. C. Maxey, Whitman College; and S. G. Witter, Frank H. Arnold, O. C. Pratt, A. D. Butler, J. H. Eby, Ruth West, Thomas Teakle, and T. A. Bonser, Spokane. The Secretary was able to report a registration of 115 members and 32 visitors.

The following spring, April 5, 1928, a Council meeting was called by President-Elect E. A. Bryan to take final steps in the direction of incorporation of the Association, and, as a result, on May 7, the Northwest Scientific Association was incorporated as a nonprofit corporation under laws of the state of Washington. The papers of incorporation were signed by E. A. Bryan, J. W. Hungate, and L. K. Armstrong.

Coincident with legal technicalities associated with the process of incorporation, it was necessary to redraft the original constitution and formulate some additional bylaws. Accordingly, signers of the agreement of incorporation met on April 21. Their task was, in part, to provide for a Board of Trustees which would be legally responsible for funds, publication policies, and other official actions of the organization. The Trustees were to be three in number, each serving for three years with one member being retired each year. The first board was comprised of one member to serve one year, one for two years, and one for three, the terms of office to be determined for each at the beginning by lot. The original Board of Trustees, unanimously chosen, was composed of the signers of the articles of incorporation—E. A. Bryan, L. K. Armstrong, and J. W. Hungate.

Meanwhile throughout the year four numbers of Volume II of *Northwest Science* were published under a publication committee consisting of F. D. Heald, State College of Washington; J. W. Hungate, State Normal School, Cheney; F. R. Yoder, State College of Washington; E. E. Hubert, University of Idaho; and Thomas Teakle, Lewis and Clark High School, Spokane. The third number carried a memorial to Joseph Edward Kirkwood, Professor of Botany and Forestry and Head of the Department of Botany at the University of Montana, who died on August 16. Dr. Kirkwood was a Councilor of the Association, and an active contributor since the Association's founding.

The fifth annual program meeting was held December 27-28, 1928, at the Davenport Hotel, Spokane, under the administration of the following officers: Dr. E. A. Bryan, President Emeritus of the State College of Washington, President; Ivan C. Crawford, University of Idaho, Vice-President; and J. W. Hungate, State Normal School, Cheney, Secretary-Treasurer. The Councilors were G. D. Shallenberger, University of Montana at Missoula; J. A. Kostalek, University of Idaho; M. A. Brannon, University of Montana at Helena; Thomas Large, Lewis and Clark High School, Spokane; and M. F. Angell, University of Idaho. The program listed 78 papers in nine sections.

Five general sessions were held, with speakers covering a wide range of subjects. Major John D. Guthrie, Assistant Forest Supervisor, Portland, addressed the assembly on "The National Forests—Their Part in State Development"; Francis A. Thomson, President of the Montana State School of Mines, Butte, spoke on "The Gold Production of the Early Placers of the Northwest"; and Alfred Atkinson, President of Montana State College at Bozeman, addressed another general session on "The Effect of Changed Environment on a Pure Line of Plants." The Medical Section again held an open meeting, and Drs. George H. Anderson, Charles Doland, Mitchell Langworthy, Fred Sprowl, S. E. Lambert, and William Pennock discussed such subjects as electrocardiographs, overweight, mending the maimed, the common cold, and venereal diseases from a social standpoint. The retiring President's address was given by L. K. Armstrong and was entitled "The Northwest Scientific Association—a Vision of the Future." H. V. Carpenter, Dean of the School of Engineering, State College of Washington, also spoke on "The Rising Status of Industrial Research," after which a movie was shown on the construction of the Cascade bore on the line of the Great Northern Railway.

Names of prominence appearing on the program other than those already mentioned included Nettie M. Cook, Ellis B. Harris, S. G. Witter, O. C. Pratt, A. D. Butler, Harry F. Aumack, W. A. Rockie, J. G. McMacken, C. R. Stillinger, W. D. Vincent, and Louis S. Livingstone of Spokane; E. F. Gaines, Harold St. John, B. L. Steele, R. O. Hutchinson, C. W. Stone, and H. E. Cul-

ver, State College of Washington; Floyd W. Gail, R. A. Diettert, Alfred L. Anderson, F. B. Laney, J. M. Raeder, and T. S. Kerr, University of Idaho; J. W. Severy and Charles H. Clapp, University of Montana; W. L. Powers and R. E. Stephenson, Oregon State College; and Raymond F. Hawk and George W. Wallace, Cheney Normal. Appearing before the Social Science Section with a discussion on "The Kellogg Treaty" was Dr. E. O. Holland, President of the State College of Washington.

Among the actions taken during the annual business meeting was the naming of Dr. F. D. Heald of the State College of Washington as Editor of *Northwest Science.* A membership committee report was incorporated in the bylaws, providing for several classes of membership. Regular members continued to include anyone interested in the purposes of the Association who made the annual payment of one dollar dues. Provision was also made for a class known as Institutional, involving (a) colleges, universities, and other major higher educational institutions with annual dues of $25, and (b) normal schools, other small educational institutions, and professional organizations, with annual dues of $10. Life Membership was obtainable on a cash payment of $25 or by paying $6 per year for five years. Supporting Membership could be obtained upon a minimum payment of $100. The highest class consisted of Patrons, and was to be granted to persons contributing $1,000 or more to the work of the Association. As might be expected these last three classes failed to attract any takers.

The 1928 meeting was also interested in a project looking toward the future and known as the "Report of the Kirkwood Committee," so named from its original chairman, and continued by committee members C. C. Todd and L. K. Armstrong after Dr. Kirkwood's death. The idea back of this study was twofold. One phase involved an effort to form a joint working agreement with the Eastern Washington Historical Society to enable both societies to work more effectively in a program of local historical research and to place the work of the Eastern Washington Historical Museum on a more scientific basis. The second phase, now enabled as a result of incorporation, was to explore the possibilities of acquiring property for a permanent Spokane headquarters. The committee first sought information on the possibility of erecting suitable headquarters in Coeur d'Alene Park in Spokane. This hope ran afoul of city charter restrictions regarding public park usages. Not discouraged, the committee then discovered a property owned by a patron of science in the form of a large and modern home which would serve as headquarters, located next door to the Grace Campbell home, the permanent headquarters of the Eastern Washington Museum. The committee got in touch with the owner, then in Paris, who replied that while he was interested

in the enterprise, other plans had been made with respect to the future of the property, and hopes for a permanent quarters had to be set aside.

Throughout 1929 Volume III of *Northwest Science* was published. Dr. F. D. Heald declined to serve further as Editor, feeling that someone resident in Spokane could function to better advantage. L. K. Armstrong assumed the reponsibility, with Dr. Heald as Consulting Editor, assisted by E. E. Hubert of the University of Idaho and F. R. Yoder of the State College of Washington as Associate Editors, and J. W. Hungate, State Normal, Cheney, as Publisher, primarily because *Northwest Science* had been officially entered as second-class matter on April 5, 1927, at the post office at Cheney. Some 44 papers were published in full as well as numerous scientific notes and editorial comments.

The sixth annual meeting took place December 27-28, 1929, with headquarters at the Hotel Davenport. Officers included J. A. Kostalek, University of Idaho, President; Francis A. Thomson, State School of Mines, Butte, Montana, Vice-President; and J. W. Hungate, State Normal School, Cheney, Secretary-Treasurer. Councilors were C. C. Todd, State College of Washington; G. D. Shallenberger, University of Montana, Missoula; Ivan C. Crawford, University of Idaho; M. A. Brannon, University of Montana at Helena; and Thomas Large, Lewis and Clark High School, Spokane. Trustees were M. A. Brannon, J. W. Hungate, and L. K. Armstrong.

The program for 1929 also listed the first Institutional Members—University of Idaho, State College of Washington, State School of Mines at Butte, and the Washington State Normal Schools at Bellingham, Ellensburg, and Cheney. This was the largest meeting yet held, with 100 papers presented in the nine, by this time, somewhat traditional sections. The Medical Section's public addresses included papers by Spokane Drs. E. J. Barnett on vitamins, I. S. Collins on ductless glands, R. J. Sprowl on myopia, Donald A. Palmer on heart and blood vessel mortality, and F. C. Harvey on preservation of hearing.

A symposium on "The Encouragement of Research by Institutions of Higher Learning in the Northwest" was conducted by Dr. Charles H. Clapp, President of the University of Montana, Missoula; Dr. Ernest O. Holland, President of the State College of Washington; and Dr. M. F. Angell of the University of Idaho. Dr. Richard T. Hargreaves, President of the State Normal School, Cheney, addressed the assembly at a general session on "Science and Education," and the retiring presidential address was given by Dr. E. A. Bryan, President Emeritus of the State College of Washington. His title was "The Present Status of Scientific Education: How It Came To Pass."

Other names appearing on the 1929 program, well known in scientific

and educational circles of the Northwest, included: Floyd W. Gail, R. A. Diettert, G. W. Hammer, Thomas M. Dahm, and C. J. Brosnan, University of Idaho; H. V. Carpenter, H. L. Cole, R. W. Gelbach, J. L. St. John, Homer J. Dana, F. W. Candee, Claudius O. Johnson, and F. R. Yoder, State College of Washington; John W. Goddard, Raymond F. Hawk, Robert E. McConnell, and Otis W. Freeman, State Normal School, Cheney; H. R. Flint, H. T. Gisborne, and Thomas Lommasson, Forest Service, Missoula; Nettie M. Cook, the Reverend Charles Pease, O. C. Pratt, E. M. Keyser, and Dr. R. E. T. Stier, Spokane.

During 1930 four numbers of Volume IV of *Northwest Science* appeared with Ernest E. Hubert of Idaho as Editor-in-Chief, assisted by L. K. Armstrong, F. R. Yoder, and G. D. Shallenberger. Twenty-two papers were published in Volume IV, and the second number for June carried a notice of the death of Dr. Dana J. Leffingwell, Assistant Professor of Zoology at the State College of Washington and Curator of the Charles R. Conner Museum. Dr. Leffingwell's monograph on "The Ring-neck Pheasant" bears the distinction of being Occasional Paper No. 1 in the publications of the Conner Museum.

The seventh annual meeting was scheduled for December 29-30, 1930, at Spokane's Davenport Hotel, and under the responsibility of Francis A. Thomson, State School of Mines at Butte, President; C. C. Todd, State College of Washington, Vice-President; and J. W. Hungate, State Normal, Cheney, in his fourth term as Secretary-Treasurer. Councilors consisted of H. N. Putnam, U.S. Blister Rust Service, Spokane; E. F. Gaines, State College of Washington; G. D. Shallenberger, State University, Missoula; Ivan C. Crawford, University of Idaho; and M. A. Brannon, University of Montana at Helena. The Trustees remained as in the previous year. Lewis and Clark High School of Spokane was added as an Institutional Member.

A total of 81 papers were presented before eight regular sections, including the Medical Section's usual public addresses involving Drs. C. M. Anderson, A. O. Adams, A. N. Codd, and George Downs, speaking on constipation, rickets, bronchoscopy, and ventriculography in head injuries, respectively. A motion picture on acute appendicitis concluded the session's offering. Dr. E. A. Bryan addressed a noon luncheon on "The Advent of Railroads into the Pacific Northwest," and T. C. Spaulding, State University, Missoula, spoke at the business meeting on "Some Aspects of Present-Day Research in the Inland Empire." The retiring President's address on "Utilization and Conservation of Our Carbon Resources" was presented at the annual banquet by John A. Kostalek.

Appearing prominently on the program were the following: R. A. Diettert, W. H. Cone, A. W. Fahrenwald, E. C. Jahn, Gerhard Kempf, and F. B. Laney,

University of Idaho; L. I. Gilbertson, J. L. St. John, Kenneth Fitzsimmons, F. W. Candee, W. A. G. Bennett, Harold E. Culver, R. B. Heflebower, and Herman Deutsch, State College of Washington; Clark Fraisier, Raymond Hawk, and Otis W. Freeman, Cheney Normal; J. H. Ramskill and Charles H. Clapp, State University, Missoula; B. C. Neustel, Whitworth College; Ellis Harris, D. R. Stillinger, Thomas Large, Charles R. Randall, J. D. Meyer, John A. Shaw, A. D. Butler, and Judge R. M. Webster, from other affiliations in Spokane.

The Secretary-Treasurer reported at the annual business meeting that for the first time total receipts for the year had exceeded $1,000. At this meeting it was also voted that the Northwest Scientific Association would become an affiliate of the American Association for the Advancement of Science. And the Resolutions Committee faced the regrettable task of formulating a memorial to Martin Fuller Angell, Dean of the College of Science at the University of Idaho. "It is with the keenest regret," the resolution stated in part, "that the Northwest Scientific Association has to chronicle the death of one of its founder members and first President. . . ."

Volume V of *Northwest Science* was issued with the same editorial board as of the previous year. The June issue featured an article by Howard R. Flint of the United States Forest Service, Missoula, on "The Present and Future Role of the Airplane in Forestry," something of a pioneer venture for 1931.

The eighth annual program was held December 29-30, 1931, in Spokane, with headquarters as usual at the Davenport Hotel. The officers included Dr. Ernest O. Holland, President of the State College of Washington, President; Dr. Carl L. von Ende, University of Idaho, Vice-President; and J. W. Hungate, Cheney, in his fifth year as Secretary-Treasurer. The Councilors remained the same except that Charles H. Clapp, State University of Montana at Missoula, replaced M. A. Brannon of the University of Montana at Helena.

Seventy-six papers were read before eight sections. The geologists had a particularly interesting series including two symposia: "Climate in Relation to Science in the Inland Empire" to which the botanists were invited, and "Problems in Cenozoic Geology in the Inland Empire." This section also featured a prominent guest, Dr. J. Harlan Bretz of the University of Chicago, who spoke on his currently favorite subject "The History of Grand Coulee."

Key general session speakers included Francis A. Thomson, the retiring President, who addressed the annual banquet on "Research and College Teaching." Another distinguished guest scheduled was Dr. Homer L. Shantz, President of the University of Arizona, who was to address a joint luncheon with the Associated Engineers of Spokane on "A Naturalist in Africa." He

was also scheduled to address the general business meeting on "The Vegetation of the United States and Its Relation to Agriculture," but a special session of the Arizona State Legislature requiring his attendance prevented his coming. In his absence President Holland called upon Dr. E. F. Gaines of the State College of Washington to present a review of his experiences at the various scientific stations in the Soviet Union during his year's leave of absence in 1930-1931.

Others prominent on the program included: E. G. Schafer, Paul A. Anderson, L. I. Gilbertson, H. J. Dana, Guy E. Thornton, Edward C. Johnson, W. A. Rockie, Ralph L. Lupher, Fred R. Yoder, and Herman J. Deutsch, State College of Washington; Floyd W. Gail, E. E. Hubert, J. A. Kostalek, Alfred L. Anderson, and C. J. Brosnan, University of Idaho; W. L. Powers and Edwin T. Hodge, Oregon State College; J. W. Severy and T. C. Spaulding, State University, Missoula; and Lela Lavin and Otis W. Freeman, Cheney Normal.

Among the resolutions passed at the annual business meeting were requests for a more serious attack on the soil erosion problem of the Northwest, and an appeal for tightening the offerings in mathematics in the high schools of the Northwest. Resolutions were also passed in memorium to Dr. Brenton L. Steele, Head of the Department of Physics at the State College of Washington, and to Dr. W. J. Spillman, formerly at the State College of Washington, but at the time of his death associated with genetic research for the United States Department of Agriculture in Washington, D.C.

Volume VI of *Northwest Science* came out quarterly under the continuing editorship of Ernest E. Hubert of the University of Idaho. A. L. Anderson, also of Idaho, was added to the editorial board as Assistant Editor. The June number was again devoted to geological papers and contained articles by Otis W. Freeman on the Scabland Mounds of Eastern Washington, by J. Harlan Bretz on the Grand Coulee, and by Thomas R. Ashlee of Idaho on Latah Flora, among a total of 13 studies of Northwest geological problems.

The ninth annual meeting was convened December 28 and 29, 1932, at the Davenport Hotel in Spokane under the presidency of Dr. Ivan C. Crawford of the University of Idaho, assisted by T. C. Spaulding, State University, Missoula, Montana, as Vice-President; and J. W. Hungate, Cheney Normal, in his sixth consecutive year as Secretary-Treasurer. E. E. Hubert of the University of Idaho, replacing Dr. Crawford, and H. N. Putnam, U.S. Blister Rust Office, Spokane, represented new additions to the list of Councilors. The Trustees now included Francis A. Thomson, State School of Mines at Butte and a former President, and Thomas Large of Spokane. Lewis and Clark High School no longer appeared as an Institutional Member. The

number of papers presented totalled 77, and the Geology-Geography Section held a symposium on "Batholiths of the Northwest." Also meeting with the Association was the Northern Rocky Mountain Section of the Society of American Foresters.

Four general session lectures were given including the retiring President's address, "Science and Its Contribution to Civilization" by Dr. Ernest O. Holland of the State College of Washington. At a joint luncheon meeting with the Associated Engineers of Spokane, W. A. Rockie, of the U.S. Bureau of Soils and Chemistry at Pullman, spoke on "Some Important Effects of the Summer Fallow System of Farming on Soil Erosion in the Pacific Northwest." Other general session addresses included "Tick Borne Diseases of the Rocky Mountain Region" by Dr. R. R. Parker, U.S. Public Health Service, Hamilton, Montana, and "A Deep Sea Fishery" by Dr. W. F. Thompson, University of Washington.

Eight regular sections had programs, and prominent names included: A. L. Hafenrichter, E. F. Gaines, R. W. Gelbach, J. L. Culbertson, C. C. Todd, J. L. St. John, K. E. Fitzsimmons, Harry L. Cole, E. C. Johnson, C. W. Stone, Stanley Smith, E. H. Steffin, Harold E. Culver, and Victor Roterus, State College of Washington; R. A. Diettert, Jesse E. Buchanan, E. C. Jahn, Alfred L. Anderson, Thomas H. Hite, and C. J. Brosnan, University of Idaho; J. H. Ramskill and Charles H. Clapp, State University, Missoula; C. M. Frasier, R. F. Hawk, Otis W. Freeman, and Ceylon S. Kingston, Cheney Normal; R. E. Hungate, Stanford University; Leslie Hedrik, Whitworth; and E. T. Hodge, Oregon State College. The theme for the Forestry Section was "Forest Research Needs of the Inland Empire."

At the annual business meeting the recommendation of the Council that the invitation for affiliation with the Pacific Division of the American Association for the Advancement of Science was adopted. The constitution was also amended to provide for enlarging the number of Trustees. The new amendment provided that the Board of Trustees shall consist of 11 members of three classes: six members to be elected from the active membership to serve for a term of three years; three to be elected for a term of one year to serve as the Executive Committee of the Board at such times as it is not in session; and two to be selected by the nine Trustees from the citizenship of the region served by the Association without regard to membership, to serve as Honorary Members, and to be chosen for interest in scientific research, and for recognized ability in public affairs.

Volume VII of *Northwest Science* appeared with its four numbers during 1933. The December issue carried an obituary notice of the death of Associ-

ation member Thomas Theodore Kerl, Soils Chemist, University of Idaho Extension Service, who had resided at Coeur d'Alene, Idaho.

The tenth annual meeting was held in Spokane at the Davenport Hotel on December 27-28, 1933, with Howard R. Flint, U.S. Forest Service, Missoula, serving as President, and with Thomas Large, Lewis and Clark High School, Spokane, as Vice-President, and Otis W. Freeman, State Normal School, Cheney, as Secretary-Treasurer. The Councilors consisted of E. E. Hubert, University of Idaho; Charles H. Clapp, State University, Missoula, Montana; Ivan C. Crawford, University of Idaho; E. F. Gaines, State College of Washington; and J. W. Hungate, State Normal, Cheney. The Trustees now numbered seven including F. G. Miller, University of Idaho; Alfred Atkinson, Montana State College, Bozeman; E. O. Holland, State College of Washington; Dr. S. E. Lambert, Spokane; A. A. Cleveland, State College of Washington; R. H. Weidman, U.S. Forest Service, Missoula; and C. L. von Ende, University of Idaho. Whitworth College in Spokane had been added to the list of Institutional Members.

Sixty-six papers were read before eight sections, and three general session lectures were given, including the retiring President's address, "Science and Government" by Ivan C. Crawford. Two presentations were made before the general business meeting, with L. K. Armstrong, as President of the Washington Natural Resources Association, speaking on "Natural Resources of the State of Washington," and H. A. Bendixen, State College of Washington, addressing the group on "Some Observations on Educational and Research Institutions in Europe."

Others prominent on the section programs included: Arthur Svihla, E. F. Gaines, A. L. Hafenrichter, H. F. Clements, R. W. Gelbach, C. W. Stone, Frank Candee, W. A. Rockie, Fred R. Yoder, and Harry Chambers, State College of Washington; A. C. Lemon and Thomas H. Hite, University of Idaho; R. F. Hawk and Otis Freeman, Cheney Normal; Major Evan W. Kelley and George M. Jemison, U.S.F.S., Missoula; George F. Beck, Ellensburg; T. S. Goodyear, Olympia; Charles W. Smith, Librarian, University of Washington; and Thomas Large, Dr. Margery Heitman, S. N. Wyckoff, J. H. Eby, the Reverend Charles E. McAllister, and G. F. Jewett, Spokane.

During the year 1934 Volume VIII of *Northwest Science* made its quarterly appearance, preserving the results of the investigations of the Northwest Scientific Association members. The second number recorded the death on March 8 of Francis Garner Miller, Dean of the School of Forestry at the University of Idaho, and for the past 15 months a member of the Board of Trustees of the Association. His extensive survey of the research problems and research needs of the Inland Empire was published in the same number.

The eleventh annual program was held December 28-29, 1934, in Spokane at the usual headquarters, the Hotel Davenport. The officers for the year had been Thomas Large, Lewis and Clark High School, Spokane, President; J. W. Hungate, Cheney, Vice-President; and O. W. Freeman, Cheney, Secretary-Treasurer. Ellis B. Harris, now of the Spokane Valley Junior College, appears as a new Council member. F. A. Thomas, School of Mines, Butte, and George F. Beck, State Normal, Ellensburg, were new Trustees; and the first Honorary Trustees, Stanley Easton of Kellogg, Idaho, and W. D. Vincent of Spokane, were listed. Eighty-two papers were presented before seven sections, the Medical group having withdrawn from active participation. In its place there was a joint evening meeting sponsored by the Spokane County Medical Society in the auditorium of the new Paulsen Medical and Dental Building, with two items on the program. Dr. D. Davis of Hamilton, Montana, spoke on "The Results of Ten Years' Use of the United States Public Health Service Vaccine for the Prevention of Rocky Mountain Fever," and Dr. Ronald MacLennon, State College of Washington, commented on the showing of motion pictures on "Activities of Living Cells," taken through microscopes showing cell activities, cancer cells, and the work of Phagocytes.

General lectures were given by W. A. Rockie, Pullman, on "Erosion, Run-off, Floods, and Water Supply—A Single Problem" before a joint luncheon meeting of the Associated Engineers; and Howard C. Flint gave the retiring presidential address on "Scientific Relationships in the Life of a Forest." A significant feature of this meeting was a day-long symposium on "Columbia River Migratory Fish and Their Conservation," with Willis R. Rich, Stanford; F. A. Davidson, J. A. Craig, H. B. Holmes, and Henry D. O'Malley, U.S. Bureau of Fisheries, Seattle; T. B. Murray of the state of Idaho; Lawrence Griffin, Reed; and Leslie P. Schultz, University of Washington, as key contributors.

Other prominent participants in the various section meetings included: Roderick Sprague, Ferman L. Pickett, Harry F. Clements, S. Town Stephenson, H. L. Cole, G. Brooks King, J. L. Culbertson, R. L. Lupher, H. E. Culver, H. V. Carpenter, Charles D. Campbell, and Victor Roterus, State College of Washington; L. C. Cady, G. W. Hammar, Alonzo W. Martin, Alfred L. Anderson, and Vernon E. Scheid, University of Idaho; R. E. Hungate, Stanford; Leslie R. Hedrick and F. T. Hardwick, Whitworth; I. N. Madsen and C. L. Harlan, Lewiston Normal; T. C. Spaulding and C. H. Clapp, University of Montana; Warren D. Smith, University of Oregon; E. T. Hodge and W. L. Powers, Oregon State College; and Walter E. Flowers and Charles R. Randall, Spokane.

Volume IX of *Northwest Science* was issued during 1935, under the

editorship of Thomas Large, Lewis and Clark High School, Spokane; assisted by A. L. Anderson, University of Idaho. Associate Editors were Rudolph Meyer and L. K. Armstrong, Spokane; A. L. Hafenrichter, Pullman; E. S. Perry, Butte; and C. W. Waters, Missoula. Dr. E. E. Hubert had tendered his resignation as Editor, after having steered volumes IV through VIII, to successful publication. The first number of Volume IX was devoted to papers on the Columbia River Fish Symposium.

The year 1935 saw the loss of several active and devoted members of the Association. The May issue carried obituary notices of the passing of Dr. Carl L. von Ende of the Chemistry Department, University of Idaho, Vice-President of the Association in 1931 and a member of the Board of Trustees; William David Vincent, prominent Spokane banker, and an Honorary Trustee of the Association; and Dr. Charles H. Clapp, University of Montana, a charter member, President in 1926, and a member of the Council at the time of his death. The September number carried a notice of the death of Thomas A. Bonser, who had long served as a science instructor at North Central High School and as curator of the Eastern Washington Museum. He, too, was a charter member, and at the time of his death, he was Vice-President of the Association and its only Honorary Life Member. The November issue announced the passing of Howard R. Flint, U.S. Forest Service, Missoula, Montana, President of the Association for 1933, and a member of the Board of Trustees at the time of his death. Mr. Flint was a pioneer in the use of aircraft in forest control problems and research. He became ill while representing the Forest Service on an exploration trip of the U.S. Geological Survey and the National Geographic Society down the Salmon River.

The twelfth annual program was held December 27-28, 1935, at the Davenport Hotel in Spokane, somewhat short of administering officers. William A. Rockie, Soil Conservation Service, Pullman, was President, but death had taken the Vice-President, Thomas A. Bonser. O. W. Freeman, Cheney Normal, was the elected Secretary-Treasurer, but was absent to attend the A.A.A.S. meetings in St. Louis, and J. Wright Baylor, Soil Conservation Service, Pullman, served as Secretary Pro Tem. Councilors, reduced by the death of Charles E. Clapp, consisted of Ivan C. Crawford, University of Idaho; Ellis B. Harris, Spokane Valley Junior College; J. W. Hungate, State Normal, Cheney; and E. E. Hubert, now with the U.S. Forest Service. The Trustees included Dr. S. E. Lambert, Spokane; A. A. Cleveland, State College of Washington; R. H. Weidman, U.S. Forest Service, Missoula; F. A. Thomson, School of Mines, Butte; George F. Beck, State Normal School, Ellensburg; B. C. Neustel, Whitworth College; John H. Kostalek, University of Idaho;

and E. M. Keyser, Weather Bureau, Spokane. Stanley Easton of Kellogg, Idaho, was listed as an Honorary Trustee.

The number of papers presented was 84, and eight sections held programs, a section on Bacteriology and Public Health having replaced the older Medical Section. Retiring President Thomas Large, at the annual banquet meeting, spoke on "The Challenge of Inland Waters." At a special luncheon meeting, James C. Marr, Associate Irrigation Engineer at Boise, discussed "Snow Surveying" and showed a film on snow surveying in the high Sierras. Dr. Harold W. Scott, School of Mines, Butte, addressed a joint luncheon meeting with the Associated Engineers of Spokane on "The Helena, Montana, Earthquake," and R. W. Dorsey, at the business session, presented a talk on "Soil Conservation as a Factor in Farm Finance." Under the chairmanship of President Rockie, a half-day symposium was held on conservation, and the Forestry Section had two symposia, on "Problems in Forest Pathology" and "Forest Land Conservation."

Others prominent on the section programs were A. L. Hafenrichter, Victor Burke, C. C. Prouty, E. F. Gaines, C. M. Brewster, K. E. Fitzsimmons, C. W. Stone, J. G. McGivern, E. H. Steffin, Sheldon L. Glover, H. E. Culver, Charles D. Campbell, and Edward Ullman, State College of Washington; G. W. Hammar, W. H. Steffins, and H. P. Klug, University of Idaho; Percy W. Christian, Walla Walla College; L. R. Hedrick, L. K. Bowersox, and O. K. Dizmang, Whitworth; W. W. Ristow and C. S. Kingston, Cheney Normal; Warren D. Smith, University of Oregon; and Jacqueline Bahrenburg, O. C. Pratt, S. N. Sycoff, and George W. Fuller, Spokane.

At the annual business meeting the Board was able to report that through an annual grant of $50 from the A.A.A.S., and certain other research funds, the Association was now in a position to award a total of $150 to further research projects. Accordingly, it recommended that $50 be granted to Dr. G. A. Matson, University of Montana, to continue his studies in blood-type variations among the Flathead Indians; $75 to Dr. H. P. Klug, University of Idaho, for further work on Molecular Rotation; and $25 to Dr. J. H. Ramskill, University of Montana, to further his studies on the adaptability of 22 scattered strains of *Pinus ponderosa,* for planting near Priest River, Idaho.

Volume X of *Northwest Science* for the year 1936 continued under the editorship of Thomas Large. The first number contained a notice to the effect that a few weeks prior to his death, Howard Flint gave a sum of money to the Association for the support of research. Inspired by this donation and the proposal of Mrs. Flint that she continue such support annually in honor of her husband's memory, a number of his friends suggested the desirability

of attempting to raise a fund, the income from which, as a permanent memorial, would be used for research grants. Major Evan Kelley, Regional Forester at Missoula, offered to act as head of such a research fund committee, and thus was born the Howard Flint Fund.

The thirteenth annual program was scheduled for December 29-30, 1936, at the Davenport Hotel in Spokane. The officers were J. W. Hungate, State Normal School, Cheney, President; C. W. Hungerford, University of Idaho, Vice-President; and O. W. Freeman, Cheney Normal, Secretary-Treasurer. Robert G. McConnell, President of the State Normal School, Ellensburg, and T. C. Spaulding, University of Montana, were new additions to the list of Councilors; and J. H. Judd, Washington Water Power Company, Spokane, E. H. Steffin, State College of Washington, and Dr. R. F. E. Stier, Spokane, were listed as new members of the Trustees. Honorary Trustees were Stanley Easton of Kellogg, Idaho, and R. L. Rutter of Spokane.

Fifty-four papers were presented before seven sections, the Engineers Section failing to provide a program this year. The retiring President's address, "Soil and Water Mean Food and Drink," was given by William A. Rockie. The only other public session speaker was Dr. George F. Simmons, President of Montana State University, who addressed the joint luncheon meeting with the Associated Engineers, on "A Windjammer Voyage to Treasure Island," and the annual business meeting on "The Mechanism of Reproductive Periodicity of Mammals." The Forestry Section featured a symposium on "The Requirements and Education of a Forester."

Progress reports were given by the recipients of research grants, Harold P. Klug, J. H. Ramskill, and G. Albin Matson, and the Trustees voted to continue the awards to these three to aid them in their respective investigations.

Names of others of prominence appearing on the program for 1936 included E. Neige Todhunter, Ernest C. McCulloch, R. L. Webster, S. T. Stephenson, Harold E. Culver, R. L. Lupher, A. A. Smick, F. W. Clower, and Clifford D. Jacobs, State College of Washington; F. W. Gail, Rexford F. Daubenmire, W. H. Cone, G. W. Hammar, Vernon E. Scheid, and Alfred L. Anderson, University of Idaho; David A. Barber, Otis W. Freeman, and C. S. Kingston, Cheney Normal; Albert J. Partoll, University of Montana; Willis B. Meriam, Graduate School, University of Washington; and Dr. Robert F. E. Stier, A. D. Butler, Walter E. Flowers, Thomas Large, and J. H. Eby of Spokane.

At the annual business meeting E. M. Keyser gave a report for the Trustees, indicating that through the efforts of Major Evan Kelley, the Howard Flint Fund now amounted to $1,031.31. Note was also made of the death of Irwin W. Cook, Professor of Forestry, Montana State University.

Volume XI of *Northwest Science* continued under the editorship of Thomas Large, assisted by L. K. Armstrong and Ellis B. Harris. The February issue was devoted largely to a symposium series on self-purification of the Spokane River, the three articles of which had been read before the Bacteriology-Public Health Section. The issue also carried an obituary to Dr. Albert B. Reagan, Professor of Anthropology at Brigham Young University, Provo, Utah. The August issue noted the passing of Dr. Samuel E. Lambert, a Spokane physician who early became a member of the Association and served as a member of the Board of Trustees. The November issue noted the sudden passing of Dr. John Anton Kostalek, Dean of the College of Letters and Science, University of Idaho. Dean Kostalek became a member of the Northwest Scientific Association at the time of its inception. He held the position of President in 1929 and had served on the Board of Trustees for a number of years.

The fourteenth annual meeting convened December 28-29, 1937, in Spokane at the usual headquarters in the Davenport Hotel. The officers consisted of C. C. Todd, State College of Washington, President; and J. H. Ramskill, Montana State University, Vice-President; O. W. Freeman, Eastern Washington College of Education had been re-elected Secretary-Treasurer, but a large part of the obligation was turned over to W. B. Merriam as Acting Secretary, when he joined the faculty of Eastern early in the spring of the year. F. W. Gail, University of Idaho, was named to the Council. E. M. Keyser, U.S. Weather Bureau, Spokane; C. F. Waters, Montana State University; and S. N. Wycoff, Forest and Range Experiment Station, Missoula, were the new Trustees. Stanley Easton, Kellogg, and R. L. Rutter, Spokane, remained as Honorary Trustees.

A total of 81 papers were read before nine sections, Engineering having returned to the fold, and a new section on Soil Conservation having been added. At the annual dinner Dr. H. K. Benson, University of Washington, was guest speaker, taking as his title "Application of Chemistry to Industry." J. W. Hungate, retiring President, broke precedent and declined to give a general address. Dr. Benson also spoke at the Associated Engineer's luncheon on "A Chemurgic Program for the Pacific Northwest." At the business meeting E. C. Johnson, Dean of the College of Agriculture, State College of Washington, spoke on "Collectives in Russia." Reports were given by the following recipients of research grants: G. Albin Matson, University of Utah, on "Blood Studies of Montana Indians" and Dr. Van A. Ogle, Spokane, on "Electrokinetic Potential of Red Blood Cells." Official registration was 148.

Others of prominence appearing on the section programs included Ernest C. McCulloch, R. L. Webster, R. W. Gelbach, S. E. Hazlet, S. G. Hacker, G.

Brooks King, K. E. Fitzsimmons, H. L. Cole, J. L. Culbertson, L. C. Wheeting, Charles D. Campbell, R. L. Lupher, Harold E. Culver, W. A. G. Bennett, and Glenn M. Horner, State College of Washington; R. F. Daubenmire, Edwin C. Jahn, L. C. Cady, Thomas H. Hite, Alfred A. Anderson, and Mark R. Culp, University of Idaho; Leon H. Ellis, Whitman; Helen L. Magill and Myron C. Clites, Whitworth; J. Stanley Brode, Santa Monica Junior College; Willis B. Merriam and Obed J. Williamson, Eastern Washington College of Education; Warren D. Smith, University of Oregon; and Thomas Large, W. L. Maloney, Reuben C. Newcomb, and Rabbi Adolph H. Fink, of Spokane. Two symposia were included on the program, "Columbia River Basalts and Related Sediments" before the Geology-Geography Section, and "The Relation of Agricultural Industries to Soil Conservation" before the new Soil Conservation group.

Volume XII of *Northwest Science* was published during 1938 under the editorship of Otis W. Freeman, Cheney, without the assistance of an editorial board. Thomas Large had resigned from that position at the time of the annual meeting, and Dr. Freeman had officially replaced him. Memorial notes appeared in the first issue indicating the passing of Dr. W. A. Buice, a member of the medical staff of Eastern Washington Hospital at Medical Lake, and of Dr. Charles M. Doland of Spokane, physician for the Northern Pacific and Union Pacific railways. The May issue noted the death of Dr. F. B. Laney, Head of the Department of Geology at the University of Idaho.

The fifteenth annual meeting was held December 28-29, 1938, at the Davenport Hotel in Spokane, under the presidency of J. H. Ramskill, Montana State University. E. F. Gaines, State College of Washington, was Vice-President, and W. B. Merriam, Eastern Washington College of Education, was Secretary-Treasurer. C. C. Todd, State College of Washington, and E. C. Jahn, University of Idaho, were new Council members; and W. H. Cone, University of Idaho, Thomas Large, Lewis and Clark High School, C. C. Johnson, State College of Washington, and Gerhard Kempf, U.S. Forest Service, Spokane, were additions to the Board of Trustees. Dr. R. F. E. Stier of Spokane served as Chairman of the Board. Stanley Easton and R. L. Rutter remained as Honorary Trustees.

Sixty-nine papers were presented before 10 sections, a special section on Hydrology and Snow Survey having been added. Official registration was 160. Four general sessions were held, with retiring President C. C. Todd speaking at the annual dinner meeting on "The First Northwest Scientists," referring particularly to the contributions of Lewis and Clark and David Thompson. W. A. Rockie gave an illustrated lecture on "Agriculture in Alaska" at the business meeting, and Philip H. Pope, Whitman College, pre-

sented an illustrated address on "Plant Life of the Tropical Rain Forest of Panama," before the Sigma Xi breakfast group. The joint luncheon with the Associated Engineers featured a motion picture on "Power Development in the Pacific Northwest" by Ted Crosby of the Washington Water Power Company.

Other prominent scientists appearing on the program included H. Loring Thompson, Thomas H. Hite, Vernon E. Scheid, Alfred L. Anderson, A. W. Martin, G. W. Hammar, C. A. Lemon, and Vernon A. Young, University of Idaho; F. W. Candee, G. E. Thornton, W. A. G. Bennett, R. L. Lupher, Charles D. Campbell, John P. Nagle, Dean Stebbins, R. W. Gelbach, N. W. Golding, Victor Burke, and C. C. Prouty, State College of Washington; Ray C. Treasher, Oregon Department of Geology and Mineral Industries; E. T. Hodge, Oregon State College; George F. Beck, Central Washington College of Education; Charles P. Schleischer and Willis B. Merriam, Eastern Washington College of Education; Herold R. Cox and William L. Jellison, Spotted Fever Laboratories, Hamilton, Montana; Evan W. Kelley, U.S.F.S., Missoula; and J. H. Eby, W. A. Rockie, R. B. Tootell, Thomas Large, and William J. Green, Spokane. A special feature of the Soil Conservation group was a paper on "Practical Erosion Control in the Palouse Country," and a sound film in technicolor on "The Story of Palouse Wheat from Planting to Shipment" by Gordon Klemgard, Pullman area farmer, and State Senator from the Ninth District.

At the business meeting a $50 grant was made to Dr. R. F. Daubenmire, University of Idaho, to assist him in a project involving an ecological survey of the Grand Coulee. Also at that meeting it was voted to extend an Honorary Life Membership to a founding member with a long record of activity in the Association—L. K. Armstrong.

Volume XIII of *Northwest Science* came out during 1939, edited by Otis W. Freeman. The February number contained Dean Todd's paper on "The First Northwest Scientists." The December issue was devoted in its entirety to a study on "Lakes of Oregon" by Warren D. Smith and Wilbur Greenup of the University of Oregon.

The sixteenth annual meeting convened December 27-28, 1939, at the Hotel Davenport in Spokane. Officers were E. F. Gaines, State College of Washington, President; F. W. Gail, University of Idaho, Vice-President; and W. B. Merriam, Eastern Washington College of Education, Secretary-Treasurer. J. H. Ramskill, Montana State University, and John Ehrlich, University of Idaho, were new members of the Council; and W. A. Rockie, Soil Conservation Service, Spokane, and H. T. Gisborne, Rocky Mountain Experiment Station, Missoula, were new to the Board of Trustees.

Sixty-one papers were presented before eight sections. The temporary Hydrology-Snow Survey group did not meet, and the Psychology-Education Section discontinued its activity. The retiring President's address, "Recollections of Burma," was given at the dinner meeting by J. H. Ramskill. At the Sigma Xi breakfast the speaker was Karl L. Kaufman, State College of Washington, who discussed "The Assay of Certain Alkaloidal Drugs and Their Preparations." The joint luncheon meeting with the Associated Engineers of Spokane featured Harold T. Abbott, Assistant Superintendent of Parks, Spokane, speaking on "Conservation and the Landscape Architect." At the business meeting Dr. Arthur G. Coons of the Claremont College, Claremont, California, presented an analysis of "Economic Order and Democracy." The Geology-Geography Section held a symposium on "Relief Features of the Columbia Plateau" with discussion by Dr. O. W. Freeman, Dr. Warren D. Smith, and Dr. Alfred L. Anderson.

Others on various section programs included Ernest McCulloch, Orlin Biddulph, Marion Ownbey, W. R. Hatch, S. E. Hazlet, R. W. Gelbach, C. L. Barker, Virgil B. Hawk, A. L. Hafenrichter, J. L. Schwendiman, Sheldon Glover, Charles D. Campbell, W. A. G. Bennett, C. O. Johnson, and L. C. Wheeting, State College of Washington; Albert E. Braun, R. F. Daubenmire, Andrew Van Hook, A. S. Janssen, John Ehrlich, Vernon E. Scheid, J. E. Upson, and J. D. Forrester, University of Idaho; R. K. Dahlstrom and W. B. Merriam, Eastern Washington College of Education; Ralph Schlictig, Whitworth; Herold R. Cox, Rocky Mountain Laboratory, Hamilton; and Dr. R. F. E. Stier, Walter E. Flowers, Thomas Large, Ardin W. Jacklin, and W. A. Rockie, Spokane.

At the Trustees' meeting the following grants were made: Dr. R. F. Daubenmire, $50 to continue work on the ecology of the Columbia Basin; the Department of Botany, State College of Washington, $100 for a botanical survey of the upper portion of the Columbia, soon to be inundated by waters of the lake above Coulee Dam; Dr. N. J. Gillette, University of Idaho, $50 for a study of the fossil flora of the Latah Formation; Dr. J. H. Ramskill, University of Montana, $35 to continue his work on Western Yellow Pine; and Dr. L. D. Hedrick, Whitworth, $25 for a survey pertaining to fish conservation in the Coulee Dam district.

A report from the Secretary indicated that the Association now had 420 active members on the rolls, coming from 17 states, Washington, D.C., Hawaii, and Argentina, and that 67 regular exchanges for *Northwest Science* had been established with institutions in 29 states and seven foreign countries.

Volume XIV of *Northwest Science,* with Dr. Otis O. Freeman as Editor, was issued quarterly during 1940.

The seventeenth annual meeting was held December 27-28, 1940, at the Davenport Hotel in Spokane. The President was F. W. Gail, University of Idaho, and the Vice-President was J. H. Christ, Soil Conservation Service, Spokane. W. B. Merriam remained as Secretary-Treasurer, but was now on the faculty of Oregon College of Education, Monmouth, Oregon. Unfortunately no copies of the program for this meeting are preserved in the records, hence many of the details are missing. From the Secretary's records it can be ascertained, however, that no additions were made to the list of Councilors, and that Dr. Stier remained as Chairman of the Board of Trustees, with J. Warren Severy, University of Montana; W. A. Rockie, Soil Conservation Service, Spokane; Thomas Large, Lewis and Clark High School, Spokane; Ernest McCulloch, State College of Washington; and H. T. Gisborne, U.S.F.S., Missoula, as the other members.

At the business meeting Dr. R. F. Daubenmire of Idaho was granted an additional $25 to continue his ecological work in the Columbia Basin; and Dr. W. R. Hatch, State College of Washington, was awarded an added $50 for the accumulation of botanical data in the upper Columbia Valley in the area to be inundated by the Grand Coulee reservoir.

The Resolutions Committee presented memoria regarding the deaths of Dr. F. L. Pickett of the State College of Washington, and George A. Sonneman of Spokane. The key speaker at the meeting was Dr. John B. Appleton of Portland on "The Role of Research in Regional Development."

The Secretary reported exchanges of *Northwest Science* with 72 libraries and scientific associations in 28 states and six foreign countries—Australia, Canada, Palestine, the Philippines, U.S.S.R., and England. Some 531 members were included on the mailing list. Reports were also given by grant recipients Drs. Ramskill, Daubenmire, and Hatch. At the close of the meetings the first luncheon meeting of new and old officers, Councilors, and Trustees was held to make preliminary plans for the following year.

Volume XV of *Northwest Science* was issued under the editorship of Otis W. Freeman during 1941. The February issue carried a memorial regarding the passing of E. M. Keyser, a member of the Board of Trustees. Mr. Keyser had served with the U.S. Weather Bureau in Spokane for nearly 40 years. The November issue noted the deaths of Dr. Enoch A. Bryan, President Emeritus of the State College of Washington, and Dr. Hubert V. Carpenter, Dean of the College of Mechanical Arts, State College of Washington. Both men had been closely associated in educational, scientific, and civic affairs in the Pacific Northwest for more than 40 years. Both were charter members of the Association. Dr. Bryan had served as President of the State College from 1893 to 1916. Upon his retirement he accepted the post of

Commissioner of Education for the state of Idaho, a position which he held until 1923. At that time he returned to Pullman as Research Professor in Economics and President Emeritus. He was the fifth President of the Northwest Scientific Association in 1928. Dean Carpenter was known as the father of KWSC, having designed, built, and assembled the original equipment for the campus radio station.

The eighteenth annual meeting was held December 29-30, 1941, at the Davenport in Spokane. The officers were J. H. Christ, Soil Conservation Service, Spokane, President; J. Warren Severy, Montana State University, Vice-President; and W. B. Merriam, Oregon College of Education at Monmouth, Secretary-Treasurer. The Councilors were John Ehrlich, University of Idaho; J. H. Ramskill, Montana State University; C. C. Todd, State College of Washington; E. B. Harris, Spokane Junior College; and Stephen N. Wyckoff, Pacific Northwest Forest Experiment Station, Portland. Trustees were Dr. R. F. E. Stier, Spokane; E. H. Steffin, State College of Washington; W. H. Cone, University of Idaho; Thomas Large, Lewis and Clark High School; W. A. Rockie, Soil Conservation Service, Spokane; Ernest McCulloch, State College of Washington; J. G. McMacken, Lewis and Clark High School; and John B. Appleton, Northwest Regional Council, Portland. Honorary Trustees were still Stanley A. Easton of Kellogg and R. L. Rutter of Spokane. Gonzaga University had by this time become an Institutional Member.

Ninety-four papers were presented before eight sections, Bacteriology and Public Health, Botany-Zoology, Chemistry-Physics-Mathematics, Engineering, Forestry, Geology-Geography, Social Science, and Soil Conservation. The annual dinner meeting honored Dr. F. W. Gail, Association President for 1940, and one general session lecture was given by George Yantis, member of the National Resources Planning Board, who spoke on "Postwar Planning."

Other names appearing prominently on the programs for the various sections were: H. W. Lundy, Leonard Wing, W. R. Hatch, Otto Redlich, J. L. Culbertson, Homer Dana, Marshall T. Huntting, Harold E. Culver, Glenn M. Horner, L. C. Wheeting, S. C. Vandecaveye, R. L. Lupher, Lee J. Cronbach, and H. Ashley Weeks, State College of Washington; R. F. Daubenmire, A. W. Slipp, Andrew van Hook, Lowell V. Coulter, E. J. Iddings, Vernon E. Scheid, Boyd A. Martin, and J. D. Forrester, University of Idaho; Julian Barksdale, G. E. Goodspeed, Howard A. Coombs, and J. Hoover Mackin, University of Washington; Herold R. Cox, Rocky Mountain Laboratory, Hamilton, Montana; W. L. Powers, Oregon State College; Philip H. Pope, Whitman; James McGivern, Gonzaga; Hallock F. Raup and O. W. Freeman, Eastern Washington College of Education; Ernest O. Melby, University of

Montana; Merton D. Munn, Whitworth; and Dr. A. E. Lien, Thomas Large, and the Reverend Dayton P. Yoder of Spokane. The Engineering Section showed movies of the falling of the Tacoma Narrows bridge.

The Secretary's report indicated 480 members, and 74 libraries and exchanges in 29 states and eight foreign countries or Canadian provinces: New South Wales, Palestine, Philippines, U.S.S.R., England, Belgium, British Columbia, and Quebec. The Board of Trustees allocated research funds to the following: $50 to Paul V. Gustafson, Whitworth; $35 to L. V. Coulton, Idaho; $40 to L. F. Maranville, State College of Washington; $100 to A. W. Slipp, University of Idaho; and $50 to the Botany Department, State College of Washington.

At this meeting the following were elected as officers for 1942: J. Warren Severy, Montana State University, President; John B. Appleton, Northwest Planning Board, Portland, Vice-President; and Hallock F. Raup, Eastern Washington College of Education, Secretary-Treasurer.

By this time World War II was under way with all its disruptive transfer of personnel through military and other war services, and its general upheaval of normal ways of life. At a Council meeting held September 19, 1942, in Spokane at Dr. Stier's office it was agreed that the annual meetings of the Association should be postponed for the duration of the war, or until conditions would allow them to be resumed, as determined by vote of the Council. It was also agreed that all officers be continued in office for the duration, or until successors are elected. No further meetings were held until 1945. By that time Dr. Raup had left Eastern Washington, and J. W. Hungate again took over as acting Secretary-Treasurer.

Meantime *Northwest Science* met its publication schedule, and served as the sole agent for tying the Northwest Scientific Association together. Volume XVI (1942) continued under the editorship of Dr. Otis W. Freeman. The February issue contained further memorial observations on the loss of Drs. E. A. Bryan and H. V. Carpenter, and also recorded the passing of Dr. Franklin O. Smith, Chairman of the Department of Psychology and Philosophy at Montana State University. Number 2 for May carried a book review of the new text, *The Pacific Northwest,* edited by Otis W. Freeman, Eastern Washington, and Howard H. Martin, University of Washington. Other Association members who contributed to the volume included C. E. Deardorff, A. L. Hafenrichter, C. S. Kingston, H. F. Raup, H. H. Rhodes, W. A. Rockie, R. M. Shaw, J. B. Appleton, E. T. Hodge, W. B. Merriam, Warren D. Smith, S. N. Wyckoff, and J. D. Forrester. The review was done by R. F. Hawk of Eastern Washington. The August issue carried notices of the passing of two more Association pioneers, Lyndon K. Armstrong of Spo-

kane, a founding member, the Association's fourth President in 1927, Vice-President in 1925 and 1926, a member of the Board of Trustees for many years, and a Life Member of the organization. Mr. Armstrong was 82 years of age. The second loss to the Association was the passing of Jerome Hinds Ramskill of the School of Forestry at Montana State University. Professor Ramskill was an active member of the Association since its founding and was President during 1938.

Volume XVII came out during 1943, publishing a full series of holdover and solicited papers, and again was edited by Dr. Freeman. Its editorial content was, however, beginning to reflect war-time conditions, as the February issue was devoted largely to problems of venereal disease control near military areas. The May issue contained a memorial note regarding the passing of T. C. Elliott of Walla Walla, an authority on early Northwest history and a former member of the Association. The entire August issue was devoted to a compilation by Editor Freeman on "Strategic and Essential Minerals of the Pacific Northwest." By the time the fourth number was off the press Dr. Freeman had been granted leave from Eastern Washington to teach geography to army cadets at Indiana University, and *Northwest Science* was without an editor.

Volume XVIII (1944) of *Northwest Science* found itself orphaned twice during the year. Upon Dr. Freeman's leaving the Northwest, the February issue was turned over to Dr. John Ehrlich of the University of Idaho as Editor Pro Tem. This number recorded the passing of Jacob R. Bender of the Mathematics Department, University of Idaho. It also indicated that Dr. John B. Appleton, Director of the Northwest Regional Council, Portland, and Vice-President of the Association, had accepted a position as Assistant Chief of the Far Eastern Division, Office of Strategic Services, Washington, D.C. for the duration. The February issue also started publication of a series devoted to wartime activities and programs in Northwest educational institutions. The May issue revealed that no sooner had Dr. Ehrlich accepted the editorship than he was drawn to the University of Minnesota as research associate in the penicillin program, and Dr. A. W. Slipp finished the job of editing the February issue. The Councilors met in Spokane on April 15 and agreed to ask Dr. W. R. Hatch, Head of the Department of Botany, State College of Washington, to serve as Editor Pro Tem. Dr. Hatch accepted, and the last three numbers were published under his jurisdiction; much of the material again pertaining to wartime programs at the leading Northwest institutions of higher learning.

Volume XIX for 1945 was also edited by Dr. Hatch, and along with a few local research papers, its pages were largely devoted to additional studies

of military training programs in a number of northwestern colleges and universities.

In September of 1945, and with wartime conditions rapidly abating, a meeting of Councilors and Trustees was called by President J. W. Severy in Spokane, and plans were initiated to reactivate the Association and resume the annual meetings. As a result of this meeting and another special session in October, the nineteenth annual meeting was scheduled for December 27-28, 1945. Again Spokane and the Davenport Hotel were host city and headquarters. The officers in charge were J. W. Severy, Montana State University, President; John B. Appleton, Assistant Chief, Far Eastern Division, Office of Strategic Services, Washington, D.C., Vice-President; and J. W. Hungate, Eastern Washington College of Education, Acting Secretary-Treasurer. The Councilors consisted of John Ehrlich, Parker-Davis Company, Detroit; C. C. Todd, State College of Washington; E. H. Harris, Auburn, Washington; Stephen N. Wycoff, Southwest Forest Experiment Station, San Francisco; and J. H. Christ, Soil Conservation Service, Portland, Oregon. The Trustees consisted of Dr. R. F. E. Stier, Spokane; E. H. Steffin, State College of Washington; W. H. Cone, University of Idaho; H. T. Gisborne, Northern Rocky Mountain Forest and Range Experiment Station, Missoula; Thomas Large, Lewis and Clark High School; W. A. Rockie, Soil Conservation Service, Portland; Ernest McCulloch, State College of Washington; J. G. McMacken, Lewis and Clark High School; and John Forrester, University of Idaho.

Four general meetings were held. At an evening meeting the U.S. Forest Service presented two technicolor films, "Realm of the Wild" and "The Story of Rocky Mountain Spotted Fever." The business meeting session featured an address by Dr. Wilson Compton, President of the State College of Washington, entitled "The Northwest March of Science." At a joint luncheon meeting with the Timber Products Bureau, Spokane Chamber of Commerce, Dr. Ralph Marguis spoke on "Science and Forestry Goals." The annual dinner meeting featured retiring President (since 1941) J. H. Christ, speaking on "Soil Conservation Districts Achieve Effective Resource Management."

Seventy-one papers were read before eight regular sessions. Prominent participants included George I. Werner, Walter A. Flowers, and W. A. Maloney, Spokane; Mrs. Wilson Compton, Pullman; Luther Tarbell, N. S. Golding, Charles Drake, R. E. Hungate, R. W. Gelbach, S. E. Hazlet, G. Brooks King, Mark Adams, Charles D. Campbell, V. A. Leonard, L. E. Buchanan, W. B. Merriam, Albert W. Bork, Winston B. Thorson, Paul C. McGrew, S. C. Vandecaveye, and John L. Schwendiman, State College of Washington; W. A. G. Bennett and Sheldon L. Glover, Olympia; R. L. Lupher, Shell Oil Company, Elma, Washington; Troy Lindley and Verle G. Kaiser, Colfax,

Washington; F. A. Givan, Indian Service, Lapwai, Idaho; Philip H. Pope, Whitman; Francis T. Hardwick, Whitworth; G. W. Hammar; H. S. Kaltenborn, and G. O. Baker, University of Idaho; Albert P. Ludwig, Eastern Washington College of Education; the Reverend T. J. O'Leary, Gonzaga; C. R. Jeppson and Harold Tascher, Montana State University; and Richard E. Fuller, John C. Sherman, Phil E. Church, and G. E. Goodspeed, University of Washington.

The Northwest Scientific Association had survived the war years and was back on its feet. By means of dues collected, sales of *Northwest Science,* advertising sales, Institutional Memberships collected from September, 1943, to December 1, 1945, with an additional $100 transferred from savings, some $1,396 had been taken in during the inactive years. Printing and mailing *Northwest Science* during those years took $1,239, leaving a scant $156 for the Treasurer's balance as of December 1, 1945. The Howard Flint Fund had, however, been building up and now totaled $1,416. The Board of Trustees reported no requests for grant-in-aid funds. One bit of business involved a proposal to amend Article 3, Section 1 of the constitution to read "anyone interested in the purpose of the Society may become a member on the annual payment of $2.00." The recommendation was adopted to become effective January 1, 1947. At the luncheon meeting of old and new officers it was voted to make W. R. Hatch the official Editor of *Northwest Science.*

But the war years were not without some losses of personnel as far as the Association was concerned, particularly the death in 1944 of Edward F. Gaines, Washington State College, who had served the organization as Vice-President in 1938 and President in 1939.

Throughout 1946 Volume XX of *Northwest Science* was edited by Dr. Hatch, assisted by an editorial board consisting of one representative from each section. The February issue was devoted mainly to papers by Wilson Compton, Baker Brownell, and George Sundberg on forestry problems of the Northwest.

The twentieth annual meeting was held December 27-28, 1946, at the Davenport Hotel in Spokane. Officers for the year had been H. T. Gisborne, Northern Rocky Mountain Forest and Range Experiment Station, Missoula, President; J. G. McGivern, Gonzaga University, Vice-President; and G. Orien Baker, University of Idaho, Secretary-Treasurer. The Councilors were J. D. Barksdale, University of Washington; G. W. Hammar, Eastman Kodak Company, Rochester, New York; P. B. Proctor, Oregon State College; J. W. Severy, Montana State University; and H. E. Swanson, Blister Rust Control, Spokane. New members of the Board of Trustees were E. E. Hubert and G. F.

Jewett, both of Spokane, and P. H. Pope, Whitman College. Honorary Trustees were Wilson M. Compton, Pullman, and R. L. Rutter, Spokane.

General sessions featured five speakers: J. C. Evenden, Bureau of Entomology and Plant Quarantine, Coeur d'Alene, who spoke on "The Douglas Fir Tussock Moth"; Dr. O. N. Biddulph, State College of Washington, reporting on "Radioactive Isotopes in Biological Research"; and Dr. J. A. Hall, Pacific Northwest Forest and Range Experiment Station, Portland, who discussed "Possibilities in New Forest Products Industries in the Northwest." At a noon luncheon G. F. Jewett, President, Potlatch Forests, Spokane, addressed the group on "I Pledge Allegiance"; and the retiring President of the Association, Dr. J. W. Severy, at the evening banquet meeting spoke on "Where is the Land Going?"

Fifty-three papers were presented before eight sections, but the list was incomplete as both Forestry and Social Science failed to submit their programs in time to be included in the program. A supplementary mimeographed program of the Social Science group indicated an additional seven papers centered mainly around the principles of regional planning. One of the leaders in this program was R. F. Bessey, Executive Director of the Pacific Northwest Coordination Committee of the U.S. Department of the Interior, Portland.

Others prominent in section programs included E. C. McCulloch, P. H. Dirstine, Helen Smith, William Bridge Cooke, R. F. Daubenmire, R. L. Webster, S. E. Hazlet, H. F. Dana, F. W. Candee, R. A. Wallace, W. B. Merriam, and G. M. Horner, State College of Washington; W. H. Cone and V. E. Scheid, University of Idaho; H. P. Hansen and J. Granville Jensen, Oregon State College; the Reverend H. L. McNeil, S.J., and R. E. Tobin, Gonzaga; J. H. Mackin, J. P. Barksdale, and G. E. Goodspeed, University of Washington; and O. W. Freeman, Eastern Washington College of Education.

At the business meeting several items of importance were discussed, and enabling action was taken. One item involved a proposal to rotate the annual meetings, holding alternate meetings outside of Spokane. This idea was approved in principle, but no specific action was taken. It had also been suggested at an earlier meeting of officers in September that the section programs should be coordinated through a general program chairman, and Dr. Rexford Daubenmire, State College of Washington, had been appointed Program Chairman for the 1946 meetings. A further change in Institutional Memberships was proposed by which all institutions of 2,000 or less in student enrollment would contribute $10 a year and institutions of more than 2,000 would contribute $25 a year toward the support of the Association. Institutional or Sustaining Memberships for noneducational organizations were set

at a $25 per year minimum. It was also agreed that the Vice-President should be responsible for membership additions in all classes.

The matter of transferring the files of *Northwest Science* from Cheney to Pullman was discussed, and because of the Editor's location being in Pullman, as well as the better service offered by the State College Library, it was decided to make the transfer. The Secretary reported a registration of 175 for the 1946 meeting, including 78 new members. The total paid-up membership for 1946 was 239. Among the resolutions was one committing the Association to the aid and encouragement of the work of amateur scientists, and one urging the United States Weather Bureau to establish a weather radar station in the Inland Empire, partially for the detection of lightning storms over forest areas. As supporting evidence it was revealed that 80 per cent of the forest fires in the area were lightning-caused.

During 1947 Volume XXI of *Northwest Science* was published under the editorship of W. R. Hatch, State College of Washington, assisted by an editorial board consisting of P. E. Church, University of Washington; T. J. O'Leary, S.J., Gonzaga; and A. W. Slipp, University of Idaho. Institutional Members now numbered 11, including Central Washington College of Education, Eastern Washington College of Education, Gonzaga University, Montana State College, Pacific Lutheran College, State College of Washington, University of Idaho, University of Washington, Western Washington College of Education, Whitman College, and Whitworth College.

The twenty-first annual meeting was held December 29-30, 1947, at the Davenport Hotel in Spokane, with J. G. McGivern, Gonzaga University, serving as President, assisted by O. W. Freeman, Eastern Washington College, as Vice-President, and G. O. Baker, University of Idaho, Secretary-Treasurer. New Councilors were O. N. Biddulph, State College of Washington, and A. W. Slipp, University of Idaho, and new Trustees included L. C. Cady, University of Idaho, P. E. Church, University of Washington, J. E. Lodewick, Weyerhaeuser Lumber Company, Longview, Washington, and the Reverend T. J. O'Leary, S.J., Gonzaga.

General session speakers were Julius E. Nordby, Director of the U.S. Sheep Experiment Station, Dubois, Idaho, on "Genetics in Range Sheep Improvement" and F. Ellis Johnson, Educational Director of the Hanford Atomic Energy Project, on "The Educational Program for the Hanford Project." At the noon luncheon Dean Charles E. McAllister of Spokane, and a member of the Board of Regents of the State College of Washington, spoke on observations made on his recent trip visiting institutions of higher learning throughout the nation.

Eight sections had programs, and 77 papers were presented, under the

coordination of Dr. H. W. Steffins, University of Idaho, Program Chairman. In conjunction with the Bacteriology and Public Health Section, a special session was held for the Northwest Section of the Society of American Bacteriologists, with Dr. Charles H. Drake, State College of Washington, as Chairman.

Other program participants included Roderick Sprague, Adolph Hecht, Maurice T. James, Leonard Wing, Charles G. Shaw, William Bridge Cooke, Roy E. Nichols, N. S. Golding, John R. Gorham, C. C. Prouty, Donald F. Adams, Rexford Daubenmire, Kenneth P. McLoughlin, C. E. B. Conybear, Robert E. Wallace, Charles D. Campbell, Sherwood D. Tuttle, Murray W. Bundy, T. H. Kennedy, J. H. Nunemaker, Harley D. Jacquot, G. M. Horner, J. L. Schwendiman, and M. E. Ensminger, State College of Washington; E. L. Foubert, Gonzaga; Howard Eves, Oregon State College; Weldon W. Rau, College of Puget Sound; Lowell A. Jobe, E. W. Tisdale, T. S. Buchanan, and Vernon E. Scheid, University of Idaho; Francis J. Schadegg, O. W. Freeman, and Albert P. Ludwig, Eastern Washington College; and J. H. Eby, Anita Pettibone, and Charles R. Stark, Spokane.

At the business meeting Editor W. R. Hatch was authorized to draw up a contract—or a "memorandum of understanding"—between the Northwest Scientific Association and the State College of Washington Press relative to the publication of *Northwest Science.*

Three grants-in-aid of $100 each were awarded to the Reverend Arthur S. McNeil, Gonzaga, for a study on the protein content of pollen; to C. E. Poulton, University of Idaho, for studies in selenium toxicity; and to Francis J. Schadegg, Eastern Washington, to finance field studies, for a project in land occupancy in the Colville Valley.

The Secretary reported 215 paid-up members for 1947 and a total mailing list of 423 for *Northwest Science.* Resolutions were passed favoring the formation of a National Science Foundation, encouraging multiple-use as a practice in Northwest river development, and admonishing state and federal legislators to resist any changes in ownership status of public forest and range land that might jeopardize the public interest.

Volume XXII of *Northwest Science* was published during 1948 with a new format under the imprimature of the State College of Washington Press. The last three issues carried the name of Betty Wilson Higinbotham as Associate Editor. During the year College of Puget Sound became an Institutional Member, increasing the list to 12.

The transfer of the publication job from private hands to the State College of Washington Press was hardly taken in good grace by the publishers of the *Daily Idahonian* at Moscow, who for a number of years had printed

the magazine. When news was released from Olympia that the Attorney-General and the College Regents had approved the publication plans, the *Daily Idahonian* on June 25, 1948, carried an eight-inch double-column editorial charging that the State College wanted to "take over" the quarterly and "take the implied credit" for the scientific investigations of the membership, "which ownership of the quarterly and its editorial presumptions would assume." The editorial actually charged the State College with "falsehood, to put over a deal," and suggested that the general membership and the other Institutional Members should be quite unhappy over the change.

As far as the Association was concerned it had been pointed out that printing costs for *Northwest Science* had soared to such a degree that it was questionable whether the organization could continue with the publication. Printing costs for 1938, for example, had been $358, and for 1947, $1,340. One bid from a Spokane firm had been $2,000 for the 1948 issues. As C. C. Todd put it at the business meeting session, there were but three possibilities: (1) enter into an agreement with the State College Press, (2) suspend publication of the journal, or (3) go bankrupt.

The twenty-second annual meeting, marking the twenty-fifth anniversary of the Association, was held December 27-28, 1948, at the Davenport Hotel in Spokane. O. W. Freeman, Eastern Washington College of Education, was President; R. F. E. Stier, Hollister-Stier Laboratories, Spokane, was Vice-President; and the Secretary-Treasurer was L. C. Cady, University of Idaho. Honorary Trustees were J. E. Buchanan, President, University of Idaho; F. Ellis Johnson, Educational Director, Hanford Works, General Electric Company, Hanford, Washington; and the Very Reverend Charles E. McAllister, Spokane. No new members were added to the Board of Trustees, but H. T. Gisborne, Rocky Mountain Forest and Range Experiment Station, Missoula, H. P. Hansen, Oregon State College, and E. E. Hubert, Monsanto Chemical Company, Spokane, were selected to form an executive committee of the Board. H. W. Steffins, University of Idaho, was named to the list of Councilors.

Four general session speakers were heard during the meetings. Dr. Phil E. Church, University of Washington, addressed the assembly on "Meteorological Aspects of the Columbia River Basin Flood of 1948," and Reed W. Bailey, Director, Intermountain Forest and Range Experiment Station, Ogden, Utah, spoke on "Forest and Range Management in Flood and Sediment Control." At the luncheon meeting, W. G. Bannister, Special Agent, Butte Division, Federal Bureau of Investigation, presented information on "The Scientific Detection of Crime"; and at the dinner meeting Dr. Otis W. Freeman, retiring President, addressed the members present on "Silver Anniversary Goals of the Northwest Scientific Association."

The Program Chairman for the section meetings was H. W. Steffins of Idaho. Eight sections organized programs, and a total of 99 papers were read. As was usual the State College of Washington dominated the section programs with C. E. Skinner, C. C. Prouty, C. H. Drake, R. E. Hungate, William Bridge Cooke, Jack P. Meiners, Roderick Sprague, Charles G. Shaw, Morris Rockstein, Winslow R. Hatch, Helmut K. Buechner, Wendell Slabaugh, Mark F. Adams, Carl Stevens, W. H. Abbitt, Donald F. Adams, Homer J. Dana, Charles D. Campbell, James W. Crosby III, Harold E. Culver, C. E. B. Conybear, Wallace T. Buckley, and Joseph E. Bachelder taking prominent parts. Other participants of note included Mitchell P. Mondala and E. L. Ruppert, Washington State Department of Health; Henry P. Hansen, Oregon State College; Ernest M. Baldwin, University of Oregon; Wells Moulton, Warren Philbrick, Richard E. Fuller, and Peter Misch, University of Washington; Charles K. Wasserman, T. S. Buchanan, Harry C. Harmsworth, and G. Orien Baker, University of Idaho; William G. Wilson and G. H. Schlauch, Whitworth; Welden W. Rau, College of Puget Sound; J. W. Severy, Montana State University; and Thomas Large, J. G. McMackin, and Arden Jacklin, Spokane.

A few paragraphs back it was stated that Volume XXII of *Northwest Science* was published during the year. Actually this was not quite true. Numerous details had to be worked out incidental to the new arrangements with the State College of Washington Press, many of them legal in character, and requiring legal opinion from the Washington State Attorney-General's office. As a result the 1948 issues were held up to such an extent that they did not come out until 1949. For example, the Attorney-General had ruled that the State College could publish *Northwest Science* only if it held "title" to the magazine. The meaning of "title" was not made clear, however. The consensus of the officers meeting in December was that "title" meant chiefly the control of the editorial policy. Dr. Hatch stated that it was his understanding that the State College had no intention of dictating editorial policy under the term. Nevertheless a clause was written providing specifically for the transfer of all rights in *Northwest Science* back to the Association in the event of termination of contract with the State College of Washington. With this safeguard it was moved that "title" be granted to the State College Press and that the officers of the Association conclude a contract with the State College of Washington for the publication of *Northwest Science.* Thus the way was at last opened for the publication of both volumes XXII and XXIII during the year 1949.

The Secretary, at this meeting, reported receipts of $2,324 for 1948, the largest total yet collected. The report of the Board of Trustees revealed

about $1,500 in the Howard Flint Fund, with only the interest being used in connection with research grants. The general fund currently had some $250 in it. Since 1937 the general research fund had been drawn upon for a total of 25 grants-in-aid ranging from $25 to four of $100 each.

The Necrology Committee presented a memorium commemorating the life and scientific contributions of Dr. Ernest C. McCulloch, who had passed away early in December of 1948. Dr. McCulloch was Professor of Veterinary Bacteriology at the State College of Washington, and for several years a member of the Board of Trustees of the Northwest Scientific Association.

The twenty-third annual meeting was held December 28-29, 1949, at the Davenport Hotel in Spokane, with the following officers in charge: Dr. R. F. E. Stier, Stier-Hollister Laboratories, Spokane, President; E. E. Hubert, University of Idaho, Vice-President; and L. C. Cady, University of Idaho, Secretary-Treasurer. Honorary Trustees were R. B. Allen, President of the University of Washington; H. M. Parker, Hanford Works, Richland, Washington; and E. Ralph Edgerton, Great-West Assurance Company, Spokane. New members of the Board of Trustees were R. A. Diettert, Montana State University; J. I. Jolley, University of Idaho; R. W. Moulton, University of Washington; and C. A. Wellner, U.S. Forest Service, Spokane. Only one new Councilor was listed—J. L. Culbertson, State College of Washington.

Three general session speakers were heard: Herbert M. Peet, Portland Field Representative of the U.S. Department of Agriculture, and a member of the Columbia Basin Inter-Agency Committee, on "The Cooperative Approach to Columbia Basin Development"; and Alfred N. Popma, M.D., of Boise, and Secretary of the Idaho State Medical Association, who spoke on the subject "Cancer—Every Man's Problem." At the noon luncheon Edward L. Turner, M.D., Dean of the School of Medicine, University of Washington, took for his title "We Like to be Fooled."

Ninety-four papers were read before the usual eight sections, and H. W. Steffins, Idaho, remained as general Program Chairman. Many prominent names appeared on the section programs including Hoyo Migaki, W. B. Dockstader, Adolph Hecht, W. R. Hatch, Howard E. Brewer, Helmut K. Buechner, Robert H. Whittacker, Ray Moree, Maurice T. James, C. Gardner Shaw, Roderick Sprague, I. L. Kosin, R. W. Gelbach, W. H. Slabaugh, H. W. Dodgen, E. C. Stone, M. F. Adams, Brondan P. Byrne, Homer J. Dana, A. R. Hard, Milton Mosher, C. R. Schroeder, William H. Wake, John C. Mickelson, A. H. Culverwell, L. E. Buchanan, W. B. Merriam, Howard Payne, and Glenn M. Horner, State College of Washington; J. W. Severy, LeRoy H. Harvey, and Meyer Chessin, Montana State University; H. P. Hansen and W. L. Powers, Oregon State College; A. H. Kunz, University of Oregon; Earl J. Larrison,

W. H. Cone, J. Lawrence Botsford, J. Irving Jolley, David B. Camp, Henry F. Gauss, T. S. Buchanan, E. E. Hubert, William K. Ferrell, and Harry C. Harmsworth, University of Idaho; Melville Hatch and Joseph McCarthy, University of Washington; Raymond F. Bell, Otis W. Freeman, and Paul Woolf, Eastern Washington College; Francis Haines, North Idaho College of Education; Homer Swartz, Pacific University; J. G. McGivern, Gonzaga; J. H. Eby, Spokane; and W. A. Rockie, Portland.

At the business meeting it was moved that $100 be given as an award to the best graduate student paper presented at the 1949 meetings, the Trustees to choose the winning paper from a number to be screened first by the section chairmen. The Assistant Editor of *Northwest Science* brought up the matter of printing abstracts of papers in *Northwest Science.* The assembly decided negatively unless such abstracts could be mimeographed or inserted as extra sheets. It was also announced that *Northwest Science* would be up to date on its publication schedule with the February 1950 issue.

The Necrology Committee reported the passing of three members: Henry J. Rust of Coeur d'Alene, Idaho, a member of the Forestry Section; Harry T. Gisborne, a charter member, President of the Association in 1946, and a member of the Board of Trustees; and Joseph G. McMacken, Head of the Department of Physics, Lewis and Clark High School, Spokane. Mr. Gisborne died suddenly on November 9 while in the field studying the behavior of a forest fire in Montana which had just taken 13 lives.

A list of 25-year members of the Association was also read, commemorating the silver anniversary of the organization which had been observed the previous year. On the list were George H. Anderson, Benjamin H. Brown, J. H. Eby, R. N. Hamblen, Gerhard Kempff, J. G. McMacken (now deceased), and R. F. E. Stier, Spokane; Kirk Bryan, Cambridge, Massachusetts; Charles R. Stillinger, Moscow; Ira D. Cardiff, Yakima; Harold E. Culver, Carl I. Erickson, Edward C. Johnson, and C. C. Todd, Pullman; Frank L. Griffin and William A. Rockie, Portland; Herman Clark, Salem, Oregon; Otis W. Freeman, Ellis B. Harris, and Joseph W. Hungate, Cheney; H. T. Gisborne, Missoula (now deceased); and H. Elwood Morris, Bozeman.

Volume XXIV of *Northwest Science* was published on schedule during 1950 by the State College of Washington Press, with the May number carrying the names of a new editorial board, comprising two or more representatives from 14 sections or subsections, thus widely distributing the work of selecting and editing papers.

Meanwhile during 1950 the number of Institutional Members doubled, and the November issue listed them as follows: Cascade College, Central Washington College of Education, College of Idaho, College of Puget Sound,

Eastern Washington College of Education, Everett Junior College, Gonzaga University, Idaho State College, Montana State College, Montana State University, Multnomah College, North Idaho College of Education, Oregon College of Education, Oregon State College, Pacific Lutheran College, Pacific University, Reed College, Seattle University, State College of Washington, University of Idaho, University of Washington, Wenatchee Junior College, Western Washington College of Education, and Whitworth College.

Throughout the year there had been considerable discussion and correspondence exchange regarding the advisability of alternately meeting on the west side, preferably at Portland or Seattle. There was also continued discussion about the mechanics of handling advertising for *Northwest Science* and about the policy of publishing abstracts. Consensus seemed to favor the publication of abstracts only if the authors agreed to bear the cost.

A special report from the Secretary's office containing a breakdown of the geographic distribution of membership showed 102 members from Pullman, 75 from Spokane, 48 from Moscow, 30 from Missoula, 18 from Portland, 15 from Cheney, 12 from Seattle, 12 from Hamilton, Montana, 9 from Coeur d'Alene, and 7 from Walla Walla. Some 66 remainders were scattered throughout other parts of Washington, Idaho, Oregon, and Montana, with a few from as far away as Colorado, California, Utah, and Wyoming, and with six from eastern states and three from overseas.

Despite agitation for leaving Spokane on an alternate-year basis, the twenty-fourth annual meeting for 1950 was held at the usual place, the Davenport Hotel, Spokane. Officers were Dr. E. E. Hubert, University of Idaho, President; Dr. J. L. Culbertson, State College of Washington, Vice-President; and Dr. L. C. Cady, University of Idaho, Secretary-Treasurer. Honorary Trustees were the Reverend F. E. Corkery, S.J., President of Gonzaga University, Norman Krey, Mead Reduction Works, Kaiser Aluminum and Chemical Corporation, Spokane, and H. M. Peet, Field Representative, U.S. Department of Agriculture, Portland. Two new Trustees were C. D. Campbell, State College of Washington, and B. C. Neustel, Whitworth College. New Councilors were H. W. Steffins, University of Idaho, and H. J. Dana, State College of Washington.

The general session speaker was Philip H. Pope, Whitman College, who spoke on "The Natural History of Hawaii." The luncheon speaker was Orlin Biddulph, State College of Washington, who described the "Uses of Radioactive Isotopes in Biological Research."

Adolph Hecht, State College of Washington, served as Program Chairman, and 117 papers were presented before eight sections, a record to this date for participation. Two symposia were organized, the Botany-Zoology

group discussing "The Ecology of Serpentine Soils" and the Forestry Section holding a discussion on the "Spokane Ponderosa Pine Blight." The Engineers held a special dinner meeting, with E. W. Schilling, Montana State College, speaking on the "Accrediting of Engineering Physics."

The State College of Washington, as usual, dominated the section programs, and contributed such participants as N. S. Golding, William Bridge Cooke, C. G. Shaw, Adolph Hecht, Noe Higinbotham, Harry H. Irwin, M. Bayard Milne, Aldert Molenaar, Bernard Fried, Norman H. Shoup, George W. Fischer, M. F. Adams, Robert E. Wallace, M. B. Merriam, T. H. Kennedy, and Vernon Davies. William H. Baker, Earl J. Larrison, Vernon E. Scheid, Clifford Dobler, and Harry H. Caldwell represented the University at Idaho. Other participants included Forbes S. Robertson and Alvin M. Hanson, Montana School of Mines; Philip H. Pope, Whitman; Francis Haines, Northern Idaho College of Education; Richard B. Walker, A. R. Kruckeberg, and W. W. Philbrick, University of Washington; Richard W. Martin, W. T. Lund, Leo E. Jones, and J. Granville Jensen, Oregon State College; Homer E. Alder, Whitworth; Paul N. Woolf, Raymond F. Bell, Samuel C. Dashiell, Francis J. Schadegg, and O. W. Freeman, Eastern Washington College of Education; Edmund L. Lind, George F. Beck, and Stanley P. Wronski, Central Washington College of Education; Don R. Ryan, Gonzaga; William Baumgartner, Seattle University; Nicholas Helburn and Charles C. Bradley, Montana State College; and Howard T. Abbott and Warren Hobbs, Spokane.

At the business meeting it was pointed out by the Editor that the State College of Washington was losing about $1,200 a year in the publication of *Northwest Science* and indicated that the College Press had requested some changes in its contract with the Association: (1) The advertising revenue was to go to the State College, (2) the State College Library would handle exchanges and pay the Press for the copies of *Northwest Science* used for exchange purposes, and (3) income from the sale of complete sets of *Northwest Science* should go to the State College. It was reported that several such sets were available, valued at $77 each. It was stipulated, however, that five sets should be held in reserve for the Association. It was also agreed that abstracts would be eliminated from future issues.

Three deaths were reported by the Necrology Committee: Dr. Ernest O. Holland, President Emeritus, State College of Washington, and President of that institution from 1916 to 1945, for many years an honored member of the Association and its President in 1931; Dr. Kirk Bryan, Associate Professor of Geology, Harvard University, Geologist and Federal Investigator for the Columbia Basin Project; and Dr. Warren Du Pre Smith, Head of the De-

partment of Geology and Geography, University of Oregon, and a frequent contributor to Association programs.

The Trustees reported that the Howard Flint Fund was slowly increasing and now amounted to over $1,544. Since its establishment in 1936, the Trustees stated, no principal had been taken from it, although there are no restrictions or limitations on its use, except that of "helping the Northwest Scientific Association to aid research in the region." An award of $100 was granted to Phillip B. Freer to assist him in compiling a "Flora of Mason County, Washington." The sum of $100 was also awarded to William A. Long for the best paper presented by a student at the 1949 meeting. The title of his paper was "The Glacial Geology of the Wenatchee Area." The Secretary reported 250 registrations, which also constituted a record.

Volume XXV of *Northwest Science* was issued during 1951. The May issue reported that an additional $100 had been granted by the Trustees to William A. Long, Valley, Washington, to enable him to continue with his work on the Pleistocene glacial history of Washington. The same number revealed the best student paper awards for the 1950 meeting. Richard S. Caldecott received $50 for first place with a paper on "Effects of X-radiation on Genic Material." Second and third prizes of $25 went to Kenneth O. Bennington for a paper on "Notes on the Paragenesis of the Chewelah District Metalliferous Deposits," and to Frank P. Brancato for "Gas Requirements of Molds." All three were from the State College of Washington.

The year 1951 saw the enactment of a number of important decisions affecting the Northwest Scientific Association. An agreement, dated February 20, set a new value for complete sets of *Northwest Science.* Volumes 1 to 24 were priced at $95, with later volumes at $2 a volume extra, the proceeds to go to the State College of Washington Office of Publications to assist in financing the printing of the journal. The Council meeting of May 26 agreed to prepare an amendment to the Constitution raising dues to $3.00, and a meeting on September 29 moved to eliminate the categories of paid Life Memberships, Supporting Members, and Patrons from the constitution, leaving only Honorary Life Memberships from the older list and creating a Sustaining Membership class.

The twenty-fifth annual meeting was held December 27-28, 1951, at the Hotel Davenport in Spokane, with Adolph Hecht, State College of Washington, as Program Chairman. Officers were J. L. Culbertson, State College of Washington, President; R. A. Diettert, Montana State University, Vice-President; and L. C. Cady, University of Idaho, Secretary-Treasurer. Honorary Trustees were R. F. Bessey, United States Department of Interior, Portland; J. A. McCluskey, Managing Director, Davenport Hotel, Spokane; and Frank

F. Warren, Whitworth College, Spokane. Three new Trustees were listed: R. L. Albrook, State College of Washington, G. R. Anderson, University of Idaho, and W. A. Rockie, Soil Conservation Service, Portland. New Councilors were H. P. Hansen, Oregon State College, and F. L. Schadegg, Eastern Washington College of Education.

The general session speaker was Lauren R. Donaldson, Director, Applied Fisheries Laboratory, University of Washington, with a discussion on "The Distribution and Absorption of Radio-active Materials Following an Atomic Bomb Burst." The luncheon speaker was Carl L. Larson, Director, Microbiological Institute, Rocky Mountain Laboratory, Hamilton, Montana, who gave an address on "Some Aspects of Microbiological Research as Exemplified by Tularemia."

Eight standard sections had programs; 120 papers were presented, and the official attendance was 275, both figures setting new records. The Forestry Section held a symposium on "Forest Pests of the Northern Rocky Mountain Region," and the Geology-Geography Section staged a group discussion on "Orthomagmatic Granite vs. Recrystallization-Replacement Granite Rocks as Ore Bearers." The Soil Conservation Section held two symposia, one on "Legume Rotations in the Palouse Area" and the other on "Use of Nitrogen in Dry-land Wheat Production."

Program participation revealed a greater interest from the University of Washington than in any previous meeting, with C. Leo Hitchcock, M. T. Dyar, Ralph F. Palumbo, Francis G. Dean, R. B. Walker, J. N. Bigford, Piotr Zenezak, R. W. Moulton, Joseph L. McCarthy, Stanley P. Gessel, Howard A. Coombs, Peter Misch, G. E. Goodspeed, and J. Hoover Mackin coming over from Seattle. From the State College of Washington, prominent names included R. E. Hungate, W. H. Abbitt, Leif Ringen, N. S. Golding, C. C. Prouty, Ray Moree, Adolph Hecht, Roderick Sprague, Dale Riggins, Alfred B. Butler, R. W. Gelbach, Grant G. Smith, M. F. Adams, Homer J. Dana, R. L. Albrook, John Roberson, Norman H. Shoup, John P. Spielman, B. P. Byrne, James S. Englund, Rexford Daubenmire, Claudius O. Johnson, Joel B. Montague, Glenn Horner, and H. M. Reisenauer. University of Idaho names included Owen B. Weeks, Earl J. Larrison, William H. Baker, Donald C. Lowrie, Stuart E. Knapp, C. E. Michelson, E. A. Quade, C. C. Warnick, C. O. Reiser, William K. Ferrell, Harry H. Caldwell, Sverre I. Scheldrup, Clifford I. Dobler, and G. Orien Baker. Other participants included Charles A. Wellner, U.S. Forest Service, Spokane; Robert E. Wallace and S. Warren Hobbs, U.S. Geological Survey, Spokane; W. A. Rockie, Soil Conservation Service, Portland; Quentin D. Clarkson and Frank Nicol, Oregon State College; John M. Foskett, University of Oregon; Alvin R. Allen, Northwest

Nazarene College; Raymond F. Bell, Eastern Washington; Reed R. Hansen, Central Washington; Kenneth P. McLaughlin, Jerome Stone, and John W. Swackhamer, Montana State University; Homer Alder, Whitworth; Walter R. Carmody, Seattle University; and Forbes Robertson, Montana School of Mines.

At the 1951 business meeting there was preliminary discussion about forming a section on Wildlife. But of even greater importance, the assembly definitely committed the Association to a policy of rotating meetings between eastern and western parts of the Northwest, to balance and extend membership and regional participation. Specifically, it was voted to make plans for holding the 1952 meeting in Portland, and to invite the Oregon Academy of Science to meet jointly with the Northwest Scientific Association.

Constitutional changes were approved raising the regular membership dues from $2.00 to $3.00 a year, providing for elimination of special classes of membership, except Honorary Life Members, Institutional Members, and Sustaining Members, and adding the retiring President to the Council. The Treasurer also asked for a sinking fund to be set up to replace the one which had been depleted during World War II. And the Necrology Committee reported the death of Thomas Large, formerly Head of the Department of Zoology at Lewis and Clark High School, Spokane, a charter member, President of the Association in 1934, and a member who had served the Association long and faithfully in numerous other capacities. As a concluding act at this business session Andrew V. Corry, geologist, now stationed at the American Embassy, New Delhi, India, was made an Honorary Life Member.

Volume XXVI of *Northwest Science* appeared throughout 1952, the first number carrying the information that the publication was now abstracted or indexed in the Agricultural Index, Bibliography of Agriculture, Biological Abstracts, and Chemical Abstracts. It was also pointed out that institutions and individuals in 34 foreign countries were regularly receiving *Northwest Science.* The June issue carried an announcement of the student prize awards from the 1951 meetings. Donald S. Williams, University of Idaho, was granted first prize of $50 for a paper on "Some Observations on the Residual Influence of Preceding Crops Upon the Yield of Wheat in the Palouse Area." Second prize of $25 went to William B. Hardie, State College of Washington, for a study on "Vitamin B_{12} by Streptococcus Bovis," and third prize went to Frank D. Nicol, Oregon State College, for "A Study of White Pocket Rot in Port Orford Cedar." Starting with the second number, the name of Helmut K. Buechner, State College of Washington, appeared as Associate Editor.

The twenty-sixth annual meeting, a joint meeting with the Oregon Acad-

emy of Science, was held December 29-30, 1952, on the campus of Reed College, Portland, Oregon, the first time in its history that the Association had broken away from Spokane for its meeting headquarters. The Program Chairman was William A. Rockie, Soil Conservation Service, Portland. The officers were R. A. Diettert, Montana State University, President; H. P. Hansen, Oregon State College, Vice-President; and L. C. Cady, University of Idaho, in his fifth year as Secretary-Treasurer. Honorary Trustees were J. C. Evenden, U.S. Forest Service, Coeur d'Alene, Idaho; R. E. McConnell, President, Central Washington College of Education, Ellensburg; and E. B. MacNaughton, Publisher, *Portland Oregonian,* Portland. New Trustees were C. L. Larson, Director, Microbiological Institute, Rocky Mountain Laboratory, Hamilton, Montana; Lloyd Berg, Montana State College, Bozeman; and H. C. Harmsworth, University of Idaho. New Council members were J. L. Culbertson, State College of Washington, R. W. Moulton, University of Washington, and C. A. Wellner, U.S. Forest Service, Spokane.

Nine sections had programs, with Chemistry holding a separate meeting from Mathematics and Physics to conform to the pattern of the Oregon Academy of Science. It was an extensive meeting, program-wise, and 166 papers were presented.

One general address was given by Irving P. Krick, President, American Institute of Aerological Research, who spoke on "Increasing Water Resources through Weather Modification." At the business meeting Dr. Otis W. Freeman was made a Life Member, and Professor Paul Luger of Seattle University was granted the sum of $100 for research in a problem in physics.

Many names prominent in Northwest scientific circles appeared on the program including F. D. Aldrich, Q. D. Clarkson, W. T. Lund, C. M. Leach, R. A. Young, H. H. Hillemann, K. L. Gordon, R. M. Storm, A. B. Scott, G. W. Gleeson, and C. O. Heath, Oregon State College; R. F. Daubenmire, Adolph Hecht, C. Gardner Shaw, D. F. Adams, Marion Ownbey, D. S. Farner, C. L. Barker, H. J. Dana, G. G. Marra, J. S. Englund, M. F. Adams, Bernard Fried, W. B. Merriam, Wallace Beasley, and Vernon Davies, State College of Washington; L. E. Detling, P. L. Risley, R. R. Huestis, C. W. Clancy, A. L. Soderwall, LeRoy H. Klemm, Pierre Van Rysselberghe, and Ewart M. Baldwin, University of Oregon; A. R. Kruckeberg, R. B. Walker, J. L. McCarthy, H. P. Mittet, R. J. Gould, and E. C. Steinbrunner, University of Washington; L. H. Harvey, Meyer Chessin, John H. Chapman, and John W. Swackhamer, Montana State University; E. J. Larrison, W. H. Baker, Earl F. Cook, and H. M. Howard, University of Idaho; Lee O. Hunt and Clem L. Pope, Bureau of Land Management, Portland; Robert Y. Fluno, Whitman; R. W. Macy, Reed; Forbes Robertson and O. D. Blake, Montana School of Mines; Harold S. Tut-

tle and Walter J. Mead, Lewis and Clark College; Erwin F. Lange, C. R. Johnson, and Warren W. Wilcox, Portland State College; R. W. Kiser, Centralia Junior College; and Lyle M. Stanford, College of Idaho.

Total registration for this joint meeting was 282, with 219 Northwest Scientific Association members on hand. The first number of Volume XXVII of *Northwest Science* for 1953 carried a tabulated breakdown of participants showing 34 from Oregon State College, 28 from the State College of Washington, 18 from the University of Oregon, 14 from the Soil Conservation Service, and 14 from the University of Washington, among the leading institutions. The effort to secure participation from west side institutions had been highly successful. In all, 31 colleges and universities, government agencies, and private institutions had been represented.

The list of Institutional Members as of 1953 showed the readmission of Montana School of Mines, and the admission of Van Port Extension Center of the Oregon State System. Cascade College, College of Puget Sound, and North Idaho College of Education had withdrawn or had been eliminated as functioning schools.

The twenty-seventh annual meeting was held December 29-30, 1953, at the Davenport Hotel, Spokane, with William H. Baker, University of Idaho, as Program Chairman. Officers were H. P. Hansen, Oregon State College, President; L. C. Cady, University of Idaho, Vice-President; and F. J. Schadegg, Eastern Washington College of Education, Secretary-Treasurer. Honorary Trustees were Eric Johnston, Spokane and Washington, D.C.; A. L. Strand, President of Oregon State College; and W. E. Mitchell, Anaconda, Montana. New Trustees included P. E. Church, University of Washington, F. A. Gilfillan, Oregon State College, and S. W. Hobbs, U.S. Geological Survey, Spokane. New Council members were R. A. Diettert, Montana State University, G. E. Goodspeed, University of Washington, Noe Higinbotham, State College of Washington, and Paul C. McGrew, Soil Conservation Service, Portland.

Including the new Wildlife and Fisheries Section, eight sections had programs, and 97 papers were presented. Guest speaker at the general session was Ian Mc T. Cowan of the University of British Columbia, who addressed the assembly on "Conservation of Western Wildlife."

Other prominent names on the section programs included Harry A. Imshaug, Johnson Parker, Earl J. Larrison, William H. Baker, E. W. Tisdale, William K. Ferrell, E. E. Hubert, Charles F. Sutherland, Agatin T. Abbott, Earl F. Cook, and Maurice A. Unger, University of Idaho; C. Gardner Shaw, W. R. Hatch, H. K. Buechner, Adolph Hecht, Ray Moree, Noe Higinbotham, D. F. Adams, J. W. Hendrix, Mark F. Adams, W. H. Abbitt, Ralph W. Gelbach, John P. Nagle, Willis B. Merriam, C. D. Campbell, and Milton Max-

well, State College of Washington; S. M. Dietz, George Barnes, and Frank L. Parks, Oregon State College; A. R. Kruckeberg, G. A. Kennar, J. H. Fisher, D. D. Hansen, and Julian Barksdale, University of Washington; Duncan M. Thomson, Whitworth; Royal B. Brunson and John W. Swackhamer, Montana State University; Nicholas Helburn, Montana State College; John P. Stanford, Seattle University; Raymond F. Bell and James E. Brooks, Eastern Washington College; George F. Beck, Central Washington College; John Ker, J. H. G. Smith, and Lawson G. Sugden, University of British Columbia; James E. Codd, Everett Junior College; and Walter J. Mead, Lewis and Clark College.

At the business meeting it was announced that the 1954 meeting would be held at Missoula, with the University of Montana as the host institution. Total registration for the 1953 meeting had been checked at 227. Two grants-in-aid were awarded, the sum of $100 going to Quentin D. Clarkson of Oregon State College, and $50 to J. H. Brousard of Everett Junior College. The luncheon speaker was Fred W. Johnson, U.S. Forest Service, Missoula. The Treasurer's report revealed total receipts for the year at $2,241 and total expenditures of $1,432. The Necrology Committee reported the passing of Dr. David E. Little, Department of Industrial Research, State College of Washington, and Charles D. Magee, Spokane geologist.

The February issue of *Northwest Science* (Volume 28) for 1954 reported the breakdown for the 1953 meeting as follows: 22 papers from the State College of Washington, 19 from the University of Idaho, eight from the U.S. Forest Service, and seven from the University of Washington. A total of 22 institutions and agencies were represented on the program.

The twenty-eighth annual meeting was held December 28-29, 1954, at Montana State University, Missoula. William H. Baker, University of Idaho, again served as Program Chairman. The officers consisted of L. C. Cady, University of Idaho, President; T. J. O'Leary, S.J., Gonzaga University, Vice-President; and F. J. Schadegg, Eastern Washington, Secretary-Treasurer. Honorary Trustees were W. A. Pearl, Bonneville Power Administration, Portland; Stanley A. Easton, Bunker Hill-Sullivan, Kellogg; and Carl McFarland, President of Montana State University. New Trustees were Forbes Robertson, University of Washington; Charles Gardner Shaw, State College of Washington; and John Swackhamer, Montana State University. New Councilors were John M. Foskett, University of Oregon, and H. P. Hansen, Oregon State College. Speaker at the general session was R. A. Dightman of the U.S. Weather Bureau, Helena, on "New Concepts in Climatology." A luncheon meeting of the Engineering Section heard Fred Williams, Jr., State College of Washington, on the subject "The Development of the Five-year Engineering

Curricula at the University of the Philippines." Eight sections met—the Wildlife-Fisheries Section meeting jointly with the Northwest Section of the Wildlife Society—and a total of 84 papers were read.

Other prominent participants included Earl J. Larrison, William H. Baker, Robert L. Gilbertson, Lloyd B. Craine, Eugene M. Lerner, and Kenneth P. Hungerford, University of Idaho; Charles Gardner Shaw, Noe Higinbotham, R. F. Daubenmire, M. F. Adams, J. H. Dismant, G. G. Marra, D. F. Adams, A. R. Hard, J. S. Englund, H. J. Dana, J. W. Hendrix, Richard W. Dingle, Irven O. Buss, and H. K. Buechner, State College of Washington; N. J. Marshall and Forbes Robertson, University of Washington; Gordon Browder, John W. Swackhamer, J. W. Severy, Louis W. Powell, Meyer Chessin, Charles W. Waters, and Melvin S. Morris, Montana State University; R. G. Waterman, Dale G. Shekels, Jack E. Conklin, Mrs. Frances McDonald, Nicholas Helburn, and Kyle Pierce, Montana State College; and D. W. McGlashan, K. N. McLeod, and R. I. Smith, Montana School of Mines. Other scattered representatives included J. P. Nealen, Gonzaga; Sister Providencia, College of Great Falls; Frank Nicol, Eastern Washington; George F. Beck, Central Washington; and George H. Barnes, Oregon State College.

Financially the Association was in the best position ever. The Treasurer reported total receipts for the year at $2,452, total expenditures $1,100 and a cash balance of $1,352. To this total should be added a sinking fund balance of $1,079 and the Howard Flint Fund of $1,501, a total of more than $4,000 in all accounts. The Secretary-Treasurer also reported a total attendance of 225.

At the annual business meeting a motion was passed to amend the constitution to provide for graduate and undergraduate student memberships upon payment of $1.50 annual dues; this proposed change to be acted upon at the 1955 meeting.

The Necrology Committee reported four deaths from the membership: Dr. Ernest Everett Hubert, Research Pathologist, University of Idaho, President of the Association in 1950, one-time Editor of *Northwest Science,* and active in other offices for many years; Dr. C. C. Todd, Dean Emeritus of the College of Sciences and Arts, State College of Washington, President of the Association in 1937, and long active as a member of the Board of Trustees; Gerhard Kempff, a charter member and a research engineer for the Columbia Electric Company, Spokane; and Fred M. Handy, a prominent member of the Geology Section.

Volume 29 of *Northwest Science* was issued during 1955. The February issue carried a summary of the Missoula meetings. The State College of Washington had furnished 21 papers, Montana State University 13, Montana

State College 8, the United States Forest Service 8, and the University of Idaho 6. In all, 22 institutions and government agencies had participated.

The November issue announced the resignation of Dr. Winslow R. Hatch as Associate Dean of the College of Sciences and Arts at the State College of Washington, and his move to Boston University to become Dean of the College of General Education. With this move came a change in the editorial staff of *Northwest Science.* Helmut K. Buechner, Department of Zoology, State College of Washington, was elevated to the post of Editor, and Joseph W. Mills, Department of Geology, was named Associate Editor. Dr. Hatch had served as Editor since early in 1944.

The twenty-ninth annual meeting for 1955 was again held in Spokane and at the Davenport Hotel, on December 28-29, with W. H. Baker remaining as Program Chairman. Officers for the year were T. J. O'Leary, S.J., Gonzaga University, President; P. E. Church, University of Washington, Vice-President; and F. J. Schadegg, Eastern Washington College of Education, Secretary-Treasurer. Honorary Trustees were Frank McLaughlin, President, Puget Sound Power and Light Company, Seattle, Thornton T. Munger, U.S. Forest Service, Portland, retired, and R. R. Renne, President, Montana State College. New Trustees were Nicholas Helburn, Montana State College, Edwin W. Tisdale, University of Idaho, and H. P. Hansen, Oregon State College. New Councilors were L. C. Cady, University of Idaho, F. B. Farquharson, University of Washington, and Kenneth Boe, Intermountain Forest and Range Experiment Station, Missoula. Luncheon speaker was Dr. G. Lee Sandritter, Superintendent, Eastern Washington State Hospital, Medical Lake. Eight sections had programs, and a total of 114 papers were presented.

That the practice of alternating meeting places was paying off in a wider range of interested participants was shown in the section programs. Among those appearing were A. R. Kruckeberg, Richard B. Walker, Douglas G. Chapman, Joseph L. McCarthy, S. P. Gessel, Robert Campbell, J. M. Thrappe, Grant Sharpe, Louis W. Powell, and Cornelius W. Gillam, University of Washington; Robert L. Gilbertson, Malcolm T. Jollie, Earl J. Larrison, Henry A. Imshaug, William H. Baker, Kenneth Hungerford, Everett Ellis, Earl F. Cook, Sverre I. Scheldrup, and Harry C. Harmsworth, University of Idaho; I. L. Kosin, Homer J. Dana, Mark F. Adams, J. W. Cramblit, J. S. Englund, C. G. Shaw, Richard W. Dingle, Charles D. Campbell, and Willis B. Merriam, State College of Washington; Melvin S. Morris, R. A. Diettert, Robert S. Hoffman, and William O. Thweatt, Montana State University; Nicholas Helburn and Milford Franks, Montana State College; Quentin D. Clarkson, Portland State College; Claude T. Burtenshaw, Ricks College; James E. Brooks and H. K. Hossam, Eastern Washington; H. P. Hansen and George

H. Barnes, Oregon State College; Alvin R. Aller, Northwest Nazarene College; and Paul Luger, Seattle University. An impressive number of men from governmental and private industrial agencies also appeared, such as Edward T. Rappel, Darrell M. Pinkney, Arthur B. Campbell, Robert Wallace, Fred W. Cater, Dwight F. Crowder, and A. E. Weissenborn, U.S. Geological Survey, Spokane; Garth C. Moon, H. R. Dodge, David G. Fellin, Charles E. Hardy, and George H. Fahnestock, U.S. Forest Service, Missoula; M. J. Pryor, Robert M. Cox, and W. S. Peterson, Kaiser Aluminum, Spokane; James Dick and Ralph L. Carmichael, Weyerhaeuser Timber, Centralia; John W. Duffield, Tree Nursery, Nisqually, and Ramon L. Kent, Soil Conservation Service, Spokane.

The added pressure of work for the Secretary and the Editor was such, as the organization has grown, that a modest budget was voted to both of those officers for secretarial assistance. Grants-in-aid of $50 each were awarded to James E. Brooks and H. Kenneth Hossam of Eastern Washington for a study of the Stevens County PUD-Washington Water Power Company vote regarding power distribution in Stevens County. Two constitutional changes were approved: one created a new category of student members, and the other combined the Trustees and the Council, in the interest of simplified operation. A registration of 198 was reported by the Secretary.

There was general discussion at the business meeting regarding the formation of a section on Science Education for high school teachers, and also on the matter of sponsoring a junior academy of science. No decision was reached on either matter, but it was agreed that the Association's officers would assist with Science Fair judging if called upon to do so. In general the meeting favored the practice of rotating meetings out of Spokane on alternate years. The Treasurer reported that total receipts had exceeded $2,500 for the year and that total assets were in the neighborhood of $4,100.

The Necrology Committee noted the passing of two prominent members: Dr. John Swackhamer, Chairman of the Department of Economics at Montana State University, and Chairman of the Board of Trustees of the Association at the time of his death; and T. C. Spaulding, Division of Forestry, Montana State University, and Association Vice-President in 1932.

It was also proposed that Dr. W. R. Hatch be granted Life Membership, an act to be confirmed at the 1956 meeting.

Volume 30 of *Northwest Science* for 1956 was issued quarterly during the year. The February issue carried, as usual for the past several years, a breakdown of the December meeting. The State College of Washington and the University of Idaho each contributed 15 papers, private industry 13, the U.S. Forest Service 11, the University of Washington 10, and Montana State

University and the U.S. Geological Survey 8 each. In all, 25 collegiate institutions, government agencies, and private institutions were represented on the program. New Institutional Members were Lewis and Clark College, Portland; Ricks College, Rexburg, Idaho; and Walla Walla College, College Place, Washington.

At the May 19 meeting of officers and Trustees a grant-in-aid of $150 was awarded to Father Paul Luger, S.J., of Seattle University, to purchase a piece of equipment to be used in electronics research. Three awards were also made for student papers at the 1955 meeting. Richard A. Solberg of the State College of Washington was first-prize winner with a paper on "Histological Responses of Various Plant Leaves to Some Air Pollutants"; Robert Campbell, University of Washington, was second-place winner with "A Study of Genetic Variability in Douglas Fir"; and the third-place winner was Keith T. Henson, Oregon State College, with a study on "A Forest Tree Seed Broadcaster." Secretary-Treasurer Francis J. Schadegg announced that he would be absent for the ensuing year on an exchange teaching assignment in England, and Dr. Willis B. Merriam, State College of Washington, was appointed as a replacement for the office.

The thirtieth annual meeting was held December 27-28, 1956, on the University of Washington campus, Seattle, headquartering in the Student Union Building. R. B. Walker, University of Washington, was the Program Chairman. Officers were F. B. Farquharson, University of Washington, President; S. Warren Hobbs, U.S. Geological Survey, Spokane, Vice-President; and W. B. Merriam, State College of Washington, Secretary-Treasurer. Honorary Trustees were William M. Allen, Boeing Company, Seattle; Allan C. Johnson, Idaho Operations Office, U.S. Atomic Energy Commission, Idaho Falls; and Dr. Don C. Patterson, President of Eastern Washington College of Education, Cheney. New Trustees were Roger W. Swanson, U.S. Geological Survey, Spokane; Mark F. Adams, State College of Washington; John Craighead, University of Montana; Dana E. Harter, Eastern Washington; Harley Jacquot, MacGregor Land and Livestock Company, Hooper, Washington; Paul E. Lemmon, U.S. Soil Conservation Service, Portland; and J. L. McCarthy and Forbes Robertson, University of Washington.

Several cooperating societies held meetings in conjunction with the Northwest Scientific Association, including the Northwest Section of the Wildlife Society, the Pacific International Chapter of the Western Bird-Banding Association, the Pacific Northwest Bird and Mammal Society, and the Association of Geology Teachers.

Two general session speakers were heard. George Martin, Chief Engineer Boeing Airplane Company, Seattle, spoke before the luncheon meeting

on "The Jet Age," and a public evening meeting featured Dr. Roger R. Revelle, Director, the Scripps Institution of Oceanography, LaJolla, California, discussing "Some Activities of the International Geophysical Year."

Ten sections, including the cooperating societies, held program meetings, and prominent names included R. F. Daubenmire, Trilochan S. Bakshi, G. P. J. Law, C. G. Shaw, John Mooring, Ray Moree, Mark Adams, William Dingle, Milton M. Mosher, C. D. Campbell, W. B. Merriam, Milton A. Maxwell, C. W. McNeil, and George E. Hudson, State College of Washington; David R. M. Scott, Trevor Kincaid, R. W. Walker, T. C. Frye, August Dvorak, E. C. Lingafelter, E. R. Wilcox, W. D. Finn, G. A. Vincent, E. E. Day, Joseph L. McCarthy, Blake Mills, E. R. Richey, Frank Neumann, Peter Misch, Howard A. Coombs, and Cornelius Gillam, University of Washington; R. W. Pillsbury, T. E. Hull, J. Harry G. Smith, Wilbert R. Danner, and P. M. Bandy, University of British Columbia; William H. Baker, Earl J. Larrison, and Lowell Jobe, University of Idaho; Henry P. Hansen and W. K. Ferrell, Oregon State College; C. T. Bressler, University of Oregon; Tracey G. Call and Charles W. Waters, Montana State University; Lewis Mayfield, Montana State College; Lyle M. Stanford and Robert D. Bratz, College of Idaho; Quentin D. Clarkson, Portland State College; Lee Ford, Pacific Lutheran College; F. A. McMillan, College of Puget Sound; James E. Brooks, Eastern Washington; and E. C. Steinbrenner, S. P. Gessel, Ralph L. Carmichael, James Dick, James E. King, Keith R. Shea, and Norman Johnson, Weyerhaeuser Timber Company, Centralia.

Two panels were held. The biologists discussed problems of a better liaison between the high school biology teacher and the departments of biological sciences in the college, and the chemists and engineers jointly discussed "The Manpower Crisis in Mathematics, Science, and Engineering."

At the business meeting it was agreed that a newly instituted $1.00 registration fee for nonmembers would take care of any guest members of participating associations. The Necrology Committee reported the passing of Paul B. Ashworth, Botany Department, University of Washington; E. B. Duncan of the Spokane Office of the U.S. Soil Conservation Service; Charles P. Robbins, Spokane geologist; and W. W. Wiedeman, geologist from Garrison, Montana.

Volume 31 of *Northwest Science* was issued during 1957 featuring a strong new book and film review section under the direction of Assistant Editor Joseph Mills. A tabulated rundown of the 1956 meeting revealed 298 official registrations. One hundred forty-six papers were presented, lead by 39 contributions from the University of Washington, followed by the State College of Washington with 17, and an equal number from private

industrial concerns. A total of 32 institutions or government agencies had been represented.

Early in the year the Wildlife Society decided to hold independent meetings, ending the special Wildlife-Fisheries Section. At the May officers' meeting the prizes for student papers were announced. First place was awarded to Don Stanton, University of Idaho, for a study on "Some Aspects of Strutting Ground Activity of Sage Grouse in Eastern Idaho." There was a second-place tie between Robert W. Merriam and Thomas Furman, both of the State College of Washington, with papers on "A Lower Madison Bioherm in the Big Snowy Mountains, Montana" and "Microscopy of the Root-nodules of Ceanothus," respectively.

The thirty-first annual meeting was held December 27-28, 1957, at the Davenport Hotel in Spokane. Charles A. Wellner, U.S. Forest Service, Spokane, was Program Chairman. Officers were S. Warren Hobbs, U.S. Geological Survey, Spokane, President; William K. Ferrell, Oregon State College, Vice-President; and Willis B. Merriam, State College of Washington, Secretary-Treasurer. New Trustees were William H. Baker and Kenneth E. Hungerford, University of Idaho; G. W. Gleeson, Oregon State College; and Ralph W. Macy, Portland State College.

The general luncheon speaker was Dr. Edwin G. Koch, President, Montana School of Mines, taking as his subject, "The Science Teacher of Tomorrow." Affiliated societies holding separate or joint meetings included the Inland Empire Chapter, Soil Conservation Society of America, and the Association of Geology Teachers. In seven sections 112 papers were presented.

Prominent participants on the program included Maurice T. James, Adolph Hecht, John Mooring, C. E. Skinner, C. G. Shaw, Roderick Sprague, Gardner W. Stacy, N. S. Golding, R. W. Gelbach, Mark Adams, John DiGiorgio, Donald F. Adams, Harold Dodgen, William H. Knight, Lloyd B. Craine, A. R. Hard, George G. Marra, James S. Englund, Richard W. Dingle, Ira S. Cohen, Claudius O. Johnson, Daniel M. Ogden, Willis B. Merriam, and Glenn M. Horner, State College of Washington; R. L. Gilbertson, William H. Baker, Craig MacPhee, Robert E. Jones, Earl J. Larrison, William R. Nickle, Kenneth E. Grimm, and E. Malcolm House, University of Idaho; Robert J. Dwyer, Idaho State College; John P. Vloyantes, Pacific University; Harold R. Dodge and Charles E. Hardy, U.S. Forest Service, Missoula; Rufus W. Kiser, Centralia Junior College; William K. Ferrell and L. W. Powell, Oregon State College; Paul L. Weiss, George E. Becroft, F. C. Armstrong, E. R. Cressman, William C. Prinz, and Siegfried Muessig, U.S. Geological Survey, Spokane; John K. Rumley, Montana State College; Melvin S. Morris, Leon I. Cohen, R. W. Steele, and Milton Colvin, Montana State Uni-

versity; Ralph F. Palumbo, Dale W. Cole, S. Wallace Gentle, Robert Boardman, and S. P. Gessel, University of Washington; D. M. Thompson, Raymond F. Bell, H. Brooks Hanford, and Robert Hemingway, Eastern Washington College of Education; R. W. Pillsbury, Phillip G. Haddock, and J. Harry G. Smith, University of British Columbia; Ernest P. Bertin, S.J., Seattle University; and Norman R. Anderson, College of Puget Sound.

At the business meeting Mark Adams reported on his study of procedures for handling student-award papers. After this year, it was agreed, cash awards would be eliminated, and student papers would be honored by granting participating students a year's membership in the Association, together with a ticket for the annual dinner or luncheon. This action involves a recognition of student participation rather than the granting of a prize award. Student papers, it was pointed out, are always eligible for review and consideration for publication in *Northwest Science.*

The meeting for 1958 was set for December 29-30 at Corvallis, with Oregon State College serving as host. The Oregon Academy of Science was to be invited to participate as was the case at the Reed College meetings in 1952.

A grant-in-aid of $265 went to J. A. Waitz, University of Idaho, for a study of alimentary parasites of reptiles and amphibia in Idaho. An announcement was also made of a $200 award during the year to the Seattle Astronautical Society for research in jet propulsion fuels. The official acceptance of the resignation of Hal Buechner as Editor of *Northwest Science* was revealed, and Joseph W. Mills was selected in his place. Dr. Buechner had been granted leave from the State College of Washington to conduct a wildlife conservation study and program for the government of Uganda in Africa. It was also decided that the Association should increase the number of Life Members, and grant special recognition to present and past members for outstanding contributions to *Northwest Science.*

Officers-elect for 1958 were William K. Ferrell, Oregon State College, President; Mark F. Adams, State College of Washington, Vice-President; and Willis B. Merriam, State College of Washington, Secretary-Treasurer. New Trustees elected were John R. Roberts, Pacific University; John W. Duffield, Greeley Forest Nursery, Nisqually; the Reverend T. J. O'Leary, S.J., Gonzaga; and A. E. Weissenborn, U.S. Geological Survey, Spokane.

The Secretary-Treasurer's report revealed total receipts for the year at $2,257, and expenditures at $1,675. The Sinking Fund contained $1,425, the Howard Flint Fund $1,618, and the general research fund $104, or total assets of $3,729. Total paid members in recent years were listed as follows: 1953-263; 1954-325; 1955-286; 1956-338; and 1957-320.

The Necrology record revealed the passing of five honored members of the Association: Dr. Raymond L. Albrook, Director of the Division of Industrial Research, State College of Washington; J. H. Eby of Spokane, long associated with the Geology Section; Dr. Floyd W. Gail, Professor Emeritus, Botany, University of Idaho, and President of the Association in 1941; Dr. Donald M. Hetler, Department of Bacteriology, Montana State University; and Dr. Virgil S. Pratt, Director, Wildlife Research Unit, University of Idaho.

The first number of Volume 32, *Northwest Science,* came out in February under the editorship of Joseph W. Mills, State College of Washington, and with Kenneth E. Hungerford, University of Idaho, as Associate Editor. This issue contained the usual breakdown of attendance and participation at the last program meeting. Total registration was 225, and 112 papers were presented by personnel representing 22 colleges or universities, government agencies, or private industrial institutions, with 39 coming from the State College of Washington, 12 from the University of Idaho, 11 from private industry, and 22 from various government agencies.

A sustained drive for Institutional Members during the year swelled the list to 37 embracing most of the institutions of higher learning throughout the Northwest. The list now stands as follows: Centralia Junior College, Central Washington College of Education, College of Idaho, College of Puget Sound, Eastern Oregon College of Education, Eastern Washington College of Education, Everett Junior College, Gonzaga University, Holy Names College, Idaho State College, Lewis and Clark College, Linfield College, Montana State College, Montana State School of Mines, Montana State University, Multnomah College, Northwest Nazarene College, Oregon College of Education, Oregon State College, Oregon Technical Institute, Pacific Lutheran College, Pacific University, Portland State College, Reed College, Ricks College, Seattle University, Skagit Valley Junior College, State College of Washington, University of Idaho, University of Oregon, University of Portland, University of Washington, Walla Walla College, Wenatchee Junior College, Western Washington College of Education, Whitman College, and Whitworth College. Crown Zellerbach Corporation, Portland; Potlatch Forests, Inc., Lewiston; and Simpson Logging Company, Shelton, represent Sustaining Memberships from private industry.

At a meeting of the Board of Trustees May 10 in Portland, Dr. C. Clement French, President of the State College of Washington; J. Herbert Stone, Regional Forester, U.S.F.S., Portland, Oregon; and Dr. W. W. Moyer, Research Director, Crown Zellerbach Corporation, Camas, Washington, were named Honorary Trustees for 1958. The last of the prize awards for stu-

dent papers were also authorized, with first prize and $25 going to William R. Nickle, School of Forestry, University of Idaho, for his presentation on "Some Root Parasitic Nematodes of the Western White Pine Type." Second prize of $15 went to Donald R. Johnson, Biological Sciences, University of Idaho, for a report on "Seasonal Variation in Food Habits of Rodents on Southern Idaho Range Lands." A third-prize tie and $10 each went to Robert E. Jones, School of Forestry, University of Idaho, for a paper on "Activities of the Magpie During the Breeding Period in Southern Idaho" and to Don P. Merriam, Department of Electrical Engineering, State College of Washington, for his study on "Electro-Kinetic Potential Due to Pressure Gradient." An honorable mention was given a paper by H. Brooks Hanford, Department of Economics, Eastern Washington College, Cheney, for his observations on "Impact of Fairchild Air Force Base on the Spokane Area."

The thirty-second annual program meeting was held jointly with the seventeenth annual meeting of the Oregon Academy of Science on the campus of Oregon State College at Corvallis, Oregon, December 29-30, 1958, under the administration of William K. Ferrell, Oregon State College, President; Mark F. Adams, Washington State College, Vice-President; and Willis B. Merriam, State College of Washington, Secretary-Treasurer. George S. Meager, Pacific Northwest Forest and Range Experiment Station, Portland, was Program Chairman, and Donald Humphrey, Oregon State College, was Local Arrangements Chairman.

Approximately 365 persons attended, with 214 registering with the Northwest Scientific Association. A total of 161 papers or discussions were given by representatives of 40 colleges and universities, government agencies, or private industrial institutions. Oregon State College dominated the program with 51 contributors. Representatives of federal agencies presented 26 papers, the University of Oregon 13, private industry 13, and the State College of Washington 11, among the leaders.

The only general program session involved an evening panel on "Science Teaching in the Secondary Schools" moderated by S. E. Williamson, Oregon State College, and participated in by G. W. Gleeson, E. J. Dornfield, and J. J. Brady, all of Oregon State College, representing the college teacher's viewpoint, and Harry Hansen, Sandy, Oregon, and Wayne Hood, Hillsboro, expressing the high school teaching viewpoint.

Other prominent names on the program were A. L. Soderwall, R. R. Huestis, and Lloyd Staples, University of Oregon; Howard H. Hillemann, W. H. Slabaugh, J. Richard Dilworth, and J. Granville Jensen, Oregon State College; Earl J. Larrison, William H. Baker, and Frederick C. Hall, University of Idaho; Steven H. Weisbroth, Paul Sunset, Mark Adams, Roger

Humberger, Richard W. Dingle, Joseph W. Mills, Charles D. Campbell, and Willis B. Merriam, State College of Washington; Richard B. Walker, Reid M. Kenady, and Stanley P. Gessel, University of Washington; Richard Eilbott and John P. Vloyantes, Pacific University; H. H. Hossam, Eastern Washington College; Harold H. Howard, Montana State University; and Martin A. Kaatz, Central Washington College.

The number of papers presented in the Forestry Section was especially impressive with a total of 43 and including such names as Charles D. Leaphart of Spokane, Robert F. Tarrant of Portland, John W. Duffield of Nisqually, and E. C. Steinbrenner and James Dick of Centralia. Biology had 34 papers, Chemistry 25, and Geology-Geography 23.

At the business meeting three members were chosen for citation as outstanding men of Northwest Science: Dr. J. Warren Severy of Montana State University, Dr. Robert F. E. Stier of Stier-Hollister Laboratories, Spokane, and Dr. L. C. Cady, University of Idaho. Drs. Stier and Cady were present to receive their awards. Dr. Severy was cited in absentia.

Under the newly adopted program of honoring student participants at the meeting, 10 names were read and welcomed into complimentary membership. These 10 had previously been guests at the general luncheon.

Another action, long past due, in many cases, centered around the election of eight new Honorary Life Members including Lewis and Clark High School in Spokane (in a posthumous recognition for former faculty members Thomas Large and J. G. McMacken), Robert F. E. Stier, C. R. Stillinger, Harold E. Culver, William A. Rockie, Ellis B. Harris, Joseph W. Hungate, and Edward C. Johnson. Each of these men has given long service to the Association, and several are charter members.

At the meeting of old and new officers an important change in policy was adopted regarding grants-in-aid from the Association, limiting funds to a $500 annual maximum and restricting such aid to faculty members of instructor or assistant professor rank at any school of higher education within the Pacific Northwest area, but with special consideration to applicants from the smaller schools in which normal channels of research funds are restricted.

The Secretary-Treasurer was able to report the addition of Weyerhaeuser Timber Company as the fourth Sustaining Member, and that a total of 371 members had paid dues for 1958—a new membership record.

During the year death came to four honored members of the Association: Lincoln Ellison, Ogden, Utah, Chief of the Division of Range Management and Resources, Intermountain Forest and Range Experiment Station; Dr. Martha R. Flahaut, Washington State Museum and University of Washington Anthropology Department; Fay A. Givan, Bureau of Indian

Affairs, U.S. Department of Interior, Lapwai, Idaho; and Dr. Charles E. Skinner, Professor and Chairman of the Department of Bacteriology and Public Health, State College of Washington.

Final major action at the 1958 meetings involved the selection of officers and Trustees for 1959. Mark F. Adams, State College of Washington, was elevated to the Presidency; John R. Roberts, Pacific University, was named Vice-President; and Willis B. Merriam, State College of Washington, was retained as Secretary-Treasurer. New Trustees included Earl F. Cook and H. C. Harmsworth, University of Idaho; Charles D. Leaphart, U.S. Forest Service, Spokane; Royce G. Cox, Potlatch Forests, Lewiston; Lee Hunt, Bureau of Land Management, Winston, Oregon; and Robert MacLauchlan, Soil Conservation Service, Corvallis.

The thirty-third annual meeting was held at the Davenport Hotel in Spokane, December 28-29, 1959, with W. Frank Scott, Washington State University, as Program Chairman, and A. E. Weissenborn, U.S.G.S., Spokane, as Chairman of Local Arrangements. Registration was 223.

The luncheon meeting and general session was favored by an address on "Century 21 Exposition: Men in the Space Age," by Joseph Gandy of Seattle, President of the Century 21 Corporation. An added guest at the head table was William A. Rockie of Portland and Spokane, retired from active service with the Soil Conservation Service, who was President in 1939 and is an Honorary Life Member of the Association.

A total of 99 papers were presented, 12 each for Botany-Zoology, Chemistry-Physics-Mathematics, and Engineering, 20 in Forestry, 19 in Geology-Geography, 7 in Social Science, and 17 in Soils and Water Conservation. Washington State University with 27 papers headed the list, followed by United States government agencies with 20 and the University of Idaho with 13. Eleven additional colleges and universities were represented.

Prominent members from Washington State delivering papers included Irwin A. Dyer, Ray Moore, Noe Higinbotham, Donald F. Adams, Mark F. Adams, Paul Sunset, E. N. Klemgard, James S. Englund, Homer J. Dana, Lloyd B. Craine, C. Gardner Shaw, Dillard H. Gates, Milton M. Mosher, Willis B. Merriam, and Warren Starr. Idaho's representatives included E. W. Tisdale, Craig McPhee, Earl J. Larrison, Frederick C. Hall, Edwin C. Clark, Rolland R. Reid, George A. Williams, Kenneth E. Grimm, Earl F. Cook, and Robert E. Hosack. Eastern Washington College was represented by Clifford A. Rajala, C. W. Booth, Francis J. Schadegg, John E. Casey, and John G. Curry. Kenneth J. Turnbull and William B. Fowler were present from the University of Washington, as were R. W. Pillsbury from University of British Columbia, Dale E. Courtney, Portland State, and James R.

Leonard, Montana State. From the United States Forest Service came Charles D. Leaphart and Ray J. Boyd, and from private forest interests were James Dick, Michael J. Wotton, Kenneth N. Wiley, David C. Nicholson, and John W. Duffield. Soil Conservation featured Robert MacLauchlan, Verle Kaiser, and Homer J. Stockwell.

At the officers' and Trustees' meeting Joseph Kramer, Montana State University, C. W. Hungerford, University of Idaho, and Thornton W. Munger, Forest and Range Experiment Station, Portland, were added to the Honorary Life Membership list, and Roderick Sprague, Tree Fruit Experiment Station, Wenatchee, and George E. Goodspeed, University of Washington, were cited for outstanding contributions to Northwest Science. Honorary Trustees selected for 1960 were Wilford Johnson, General Electric Company, Hanford, D. R. Theophilus, President, University of Idaho, and Robert W. Cowlin, Pacific Northwest Forest and Range Experiment Station, Portland.

Officers of the Association for 1960 are John R. Roberts, Pacific University, President, Kenneth E. Hungerford, University of Idaho, Vice-President, and Willis B. Merriam, Washington State University, Secretary-Treasurer. Trustees chosen for three-year terms were Henry P. Hansen, Oregon State College, W. Frank Scott, Washington State University, Robert E. Hosack, University of Idaho, Richard B. Walker, University of Washington, and Reuben A. Diettert, Montana State University.

Gleanings from the reports of the Secretary-Treasurer reveal 371 paid memberships for 1958 and 386 for 1959. Living Honorary Life Members now number 13, and the Association lists 37 Institutional Members and four Sustaining Members. Total receipts for the year 1959 involved $2,358 and total expenditures $2,070. The Sinking Fund has around $1,500 in it, and the Howard Flint Fund has swelled to over $1,800. Total assets are approximately $3,600. During the year three deaths occurred: Roy J. Ely, Dean of the Department of Economics, Montana State University; Albert W. Slipp, Assistant Professor of Research Forestry at the University of Idaho, one-time Pro Tem Editor of *Northwest Science* and editorial board adviser; and John Hunt, Portland, of the Forestry Section, who was the victim of a sensational homicidal attack in southern Idaho early in the summer.

Since the last official Necrology announcement, four additional deaths were reported to the Secretary: Bliss F. Dana, Plant Pathologist, U.S.D.A., passed away at Corvallis, Oregon, in mid-October, 1959. He was formerly on the staff of the State College of Washington and presented papers at the founding meetings in 1924 and 1925. Another currently active member to leave the ranks was Albert N. Steward of the Botany Department of Oregon State College. Dr. Steward died in June of 1959. The third report involved

Stephen N. Wycoff of the California Forest Experiment Station, San Francisco, and a Councilor of the Association in 1945. The fourth death report is that of Charles W. Waters, Forest-Botany, Montana State University, who on January 21, 1960, was the victim of carbon monoxide fumes at his home in Missoula.

No editorialized conclusions need to be added to this impressive historical record of the development of the Northwest Scientific Association, except to point out that its breadth of membership, its span of existence in time, the quality of its research papers, both oral and published, combine to rank it well up with any of the national or regional scientific institutions in America. Already it has served as an inspiration and a model for numerous other younger scientific organizations throughout the country. The Northwest Scientific Association proudly stands in its maturity as a contributing medium to scientific advance. It was founded for promotion of local scientific research and the diffusion of scientific findings. It has fulfilled that obligation for more than a third of a century. It has developed with dignity, and it faces the future with confidence.

Appendix

Northwest Scientific Association

Major Officers

Year	*President*	*Vice-President*	*Secretary-Treasurer*
1924	M. F. Angell Univ. of Idaho	Curtiss Merriman Cheney Normal O. C. Pratt Spokane	F. D. Heald, Sec. State College of Wash. E. B. Harris, Treas. Spokane University
1925	M. A. Brannon Univ. of Montana	L. K. Armstrong Spokane	F. D. Heald, Sec. State College of Wash. S. E. Wodsedalek, Treas. Univ. of Idaho
1926	C. H. Clapp Univ. of Montana	L. K. Armstrong Spokane	F. D. Heald State College of Wash.
1927	L. K. Armstrong Spokane	E. C. Johnson State College of Wash.	J. W. Hungate Cheney Normal
1928	E. A. Bryan State College of Wash.	I. C. Crawford Univ. of Idaho	J. W. Hungate Cheney Normal
1929	J. A. Kostalek Univ. of Idaho	F. A. Thomson Montana Mines	J. W. Hungate Cheney Normal
1930	F. A. Thomson Montana Mines	C. C. Todd State College of Wash.	J. W. Hungate Cheney Normal
1931	E. O. Holland State College of Wash.	Carl von Ende Univ. of Idaho	J. W. Hungate Cheney Normal
1932	I. C. Crawford Univ. of Idaho	T. C. Spaulding Univ. of Montana	J. W. Hungate Cheney Normal
1933	H. R. Flint U.S.F.S., Missoula	Thomas Large Spokane	O. W. Freeman Cheney Normal
1934	Thomas Large Spokane	J. W. Hungate Cheney Normal	O. W. Freeman Cheney Normal
1935	W. A. Rockie S.C.S., Pullman	T. A. Bonser Spokane	O. W. Freeman Cheney Normal
1936	J. W. Hungate Cheney Normal	C. W. Hungerford Univ. of Idaho	O. W. Freeman Cheney Normal
1937	C. C. Todd State College of Wash.	J. H. Ramskill Univ. of Montana	O. W. Freeman E.W.C.E.—Elected W. B. Merriam E.W.C.E.—Acting
1938	J. H. Ramskill Univ. of Montana	E. F. Gaines State College of Wash.	W. B. Merriam E.W.C.E.
1939	E. F. Gaines State College of Wash.	F. W. Gail Univ. of Idaho	W. B. Merriam E.W.C.E.
1940	F. W. Gail Univ. of Idaho	J. H. Christ S.C.S., Spokane	W. B. Merriam Oregon College of Educ.

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1942	J. W. Severy Univ. of Montana	J. B. Appleton Northwest Planning Bd. Portland	H. F. Raup E.W.C.E.
1943	J. W. Severy Univ. of Montana	J. B. Appleton O.S.S., Wash., D.C.	J. W. Hungate E.W.C.E.
1944	J. W. Severy Univ. of Montana	J. B. Appleton O.S.S., Wash., D.C.	J. W. Hungate E.W.C.E.
1945	J. W. Severy Univ. of Montana	J. B. Appleton O.S.S., Wash., D.C.	J. W. Hungate E.W.C.E.
1946	H. T. Gisborne U.S.F.S., Missoula	J. G. McGivern Gonzaga Univ.	G. O. Baker Univ. of Idaho
1947	J. G. McGivern Gonzaga Univ.	O. W. Freeman E.W.C.E.	G. O. Baker Univ. of Idaho
1948	O. W. Freeman E.W.C.E.	R. F. E. Stier Spokane	L. C. Cady Univ. of Idaho
1949	R. F. E. Stier Spokane	E. E. Hubert Univ. of Idaho	L. C. Cady Univ. of Idaho
1950	E. E. Hubert Univ. of Idaho	J. L. Culbertson State College of Wash.	L. C. Cady Univ. of Idaho
1951	J. L. Culbertson State College of Wash.	R. A. Diettert Univ. of Montana	L. C. Cady Univ. of Idaho
1952	R. A. Diettert Univ. of Montana	H. P. Hansen Oregon State College	L. C. Cady Univ. of Idaho
1953	H. P. Hansen Oregon State College	L. C. Cady Univ. of Idaho	F. J. Schadegg E.W.C.E.
1954	L. C. Cady Univ. of Idaho	T. J. O'Leary, S.J. Gonzaga Univ.	F. J. Schadegg E.W.C.E.
1955	T. J. O'Leary, S.J. Gonzaga Univ.	P. E. Church Univ. of Washington	F. J. Schadegg E.W.C.E.
1956	F. B. Farquharson Univ. of Washington	S. Warren Hobbs U.S.G.S., Spokane	W. B. Merriam State College of Wash.
1957	S. Warren Hobbs U.S.G.S., Spokane	William K. Ferrell Oregon State College	W. B. Merriam State College of Wash.
1958	William K. Ferrell Oregon State College	Mark F. Adams State College of Wash.	W. B. Merriam State College of Wash.
1959	Mark F. Adams State College of Wash.	John R. Roberts Pacific University	W. B. Merriam State College of Wash.
1960	John R. Roberts Pacific University	Kenneth E. Hungerford Univ. of Idaho	W. B. Merriam Wash. State Univ.

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1940
Stanley A. Easton, Kellogg, Idaho
R. L. Rutter, Spokane, Washington

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Stanley A. Easton, Kellogg, Idaho
R. L. Rutter, Spokane, Washington

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Stanley A. Easton, Kellogg, Idaho
R. L. Rutter, Spokane, Washington

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1944
NO MEETING

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R. L. Rutter, Spokane, Washington

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W. M. Compton, Pullman, Wash.
R. L. Rutter, Spokane, Washington

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W. M. Compton, Pullman, Wash.
R. L. Rutter, Spokane, Washington

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E. Ralph Edgerton, Spokane, Wash.

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Norman Krey, Spokane, Washington
H. M. Peet, Portland, Oregon

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R. F. Bessey, Portland, Oregon
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E. B. MacNaughton, Portland, Oregon

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Stanley A. Easton, Kellogg, Idaho
Carl McFarland, Missoula, Montana

1955
Frank McLaughlin, Seattle, Wash.
Thornton T. Munger, Portland, Ore.
R. R. Renne, Bozeman, Montana

1956
William M. Allen, Seattle, Wash.
Allen C. Johnson, Idaho Falls, Idaho
Don S. Patterson, Cheney, Wash.

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William M. Allen, Seattle, Wash.
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Don S. Patterson, Cheney, Wash.

1958
C. Clement French, Pullman, Wash.
J. Herbert Stone, Portland, Oregon
W. W. Moyer, Camas, Washington

1959
C. Clement French, Pullman, Wash.
J. Herbert Stone, Portland, Oregon
W. W. Moyer, Camas, Washington

1960
Wilford Johnson, Hanford, Wash.
D. R. Theophilus, Moscow, Idaho
Robert W. Cowlin, Portland, Oregon

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3. Mrs. Howard K. Flint 1939
4. Andrew V. Corry 1951
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6. Winston R. Hatch 1957
7. Lewis and Clark High School 1958
   (Posthumous recognition for Thomas Large and J. G. McMacken)
8. Robert F. E. Stier 1958
9. C. R. Stillinger 1958
10. Harold E. Culver 1958
11. William A. Rockie 1958
12. Ellis B. Harris 1958
13. Joseph W. Hungate 1958
14. Edward C. Johnson 1958
15. Joseph Kramer 1959
16. C. W. Hungerford 1959
17. Thornton T. Munger 1959

Necrology

Recording the Deaths of Prominent Members

Joseph Edward Kirkwood, University of Montana 1928
Dana J. Leffingwell, State College of Washington 1930
Martin Fuller Angell, University of Idaho 1930
Francis Garner Miller, University of Idaho 1934
Carl L. von Ende, University of Idaho 1935
Charles H. Clapp, University of Montana 1935
Thomas A. Bonser, North Central High School, Spokane 1935
Howard R. Flint, United States Forest Service, Missoula 1935
John Anton Kostalek, University of Idaho 1936
E. M. Keyser, United States Weather Bureau, Spokane 1941
Enoch A. Bryan, State College of Washington 1941
Hubert V. Carpenter, State College of Washington 1941
Lyndon K. Armstrong, Spokane, Washington 1942
Jerome Hinds Ramskill, Montana State University 1942
Edward F. Gaines, State College of Washington 1944
Ernest C. McCulloch, State College of Washington 1948
Harry T. Gisborne, United States Forest Service, Missoula 1949
Joseph G. McMacken, Lewis and Clark High School, Spokane 1949
Ernest O. Holland, State College of Washington 1950
Kirk Bryan, Harvard University 1950
Warren De Pre Smith, University of Oregon 1950
Thomas Large, Lewis and Clark High School, Spokane 1951
Ernest Everett Hubert, University of Idaho 1954
Claire Chrisman Todd, State College of Washington 1954
John Swackhamer, Montana State University 1955
T. C. Spaulding, Montana State University 1955
Raymond L. Albrook, State College of Washington 1957
Floyd W. Gail, University of Idaho 1957
Virgil S. Pratt, University of Idaho 1957
Lincoln Ellison, Intermountain Experiment Station, Ogden, Utah 1958
Charles E. Skinner, State College of Washington 1958
Roy J. Ely, Montana State University 1959
Albert W. Slipp, University of Idaho 1959
Stephen N. Wycoff, California Forest Experiment Station, San Francisco 1959
Bliss F. Dana, Plant Pathologist, U.S.D.A., Corvallis 1959
Albert N. Steward, Oregon State College 1959
Charles W. Waters, Montana State University 1960