

OFFICERS OF THE ACADEMY

1927-28

President.....	A. P. Larrabee,.....	Yankton
First Vice-President.....	H. A. Hill,.....	Huron
Second Vice-President.....	H. C. Severin,.....	Brookings
Secretary-Treasurer.....	A. L. Haines,.....	Vermillion

COMMITTEE ON MEMBERSHIP

J. H. Jensen, Aberdeen; J. Gladden Hutton, Brookings;
Charles A. Hunter, Vermillion; V. O. Peterson, Huron; A. P.
Larrabee, Yankton.

COMMITTEE ON PUBLICATION

H. A. Hill, A. L. Haines, E. P. Churchill

MINUTES OF THE THIRTEENTH ANNUAL MEETING

Brookings, South Dakota

May 20, 21

FIRST SESSION

The thirteenth annual meeting of the South Dakota Academy of Science was held in the State College Auditorium, Brookings, S. D., beginning at 11:00 a. m., President Pugsley acting as chairman.

Sir John Russell delivered an address on the subject: "Story of British Agriculture."

SECOND SESSION

The afternoon session was held at 2:00 p. m. in the Horticulture Building when the following papers were read by members of the Academy.

President's Annual Address—Conservation—A. P. Larabee.

Observations on the Effect of Sulphur Dioxide on Natural and Introduced Vegetation—Arthur T. Evans.

Metabolism Studies on Insects—M. D. Farrar.

Some Parasitology Methods—E. C. O'Roke.

The Cicindelidae (tiger beetle) of South Dakota, with Notes on Distribution—G. Gilbertson.

Further Notes on the Early Maps of South Dakota—Wm. H. Powers.

Practice Effect in Intelligence Production—Wm. Asker.

Some Relationships of Prices and Production—O. L. Dawson.

Some Outstanding Factors of the Tax Problem—E. P. Crossen.

Our Animal Health Laboratory—C. C. Lipp.

Fertility Elements Recovered from the Manure of Dairy Cows—C. F. Wells.

The Fatty Oils of Sweet Clover Seed—B. A. Dunbar.

A Third Report on the Membracidae (Tree Hoppers) of South Dakota—H. C. Severin.

The Relative Merits of Homozygous and Heterozygous Material in Fruit Breeding—N. E. Hansen.
Solubility of Barium Butyrate—H. J. Wing.

Following the afternoon session a banquet complimentary to visiting members was served in the College Dining Hall by the local committee of South Dakota State College.

The following program was rendered:

Address of Welcome by Dean C. Larsen of State College.

Response—A. P. Larrabee, Pres. of S. D. A. S.

Address by Sir John Russell.

THIRD SESSION

At 8:15 p. m. in the Auditorium of the Administration Building, Sir John Russell addressed the Academy and guests on the topic "Eighty Years of Rothamstad Experiments."

FOURTH SESSION

The fourth session of the S. D. A. S. met at 8:00 a. m. in the Horticulture Building when the following papers were read:

Diurnal Variations in Carbohydrates in Corn Leaves—A. L. Bushey.

The Effects of Sunlight on the Growth of Dairy Calves—T. M. Olson.

Carbohydrates-Relationship Charts—Clyde Eddy.

Food of Bullheads in Certain Lakes of South Dakota—Louella Cable.

Experiment Station Research—James W. Wilson.

Iodine and Goiter—H. LaMont Youtz.

Science Survey of South Dakota—J. H. Jensen.

Hydrogen Ion Concentration in some South Dakota Soils—J. G. Hutton.

The Hibernation and Spread of Rose canker caused by *Sphaeretheca pannosa* (Wallr.) Lev. (Lantern)—H. C. Abbott.

The Influence of Several Factors Including Stage of Maturity and Harvesting upon Quantity and Quality of Flaxseed Constituents—A. N. Hume.

The Relation of Farm Indebtedness to Farm Assets—M. L. Benedict.

Demonstration of Alpha Particle Tracks from Radium—Ray L. Kenworthy.

Delayed Dormancy as a Probable Cause of Uneven Stands in Field Planted Potatoes—Arthur T. Evans.

Relation of Mathematical Aptitudes to Other Aptitudes—R. D. Sinclair.

REPORTS OF COMMITTEES

Report of the Committee on affiliation with the A. A. A. S.

The Committee upon affiliation with the A. A. A. S. after consideration of the question desire to make no definite recommendation in this matter. Rather, they feel that the question should be referred to the Academy members, and let them decide for themselves whether such affiliation with the A. A. A. S. is deemed desirable and advantageous.

J. Gladden Hutton
Charles A. Hunter
A. P. Larrabee

Suggestions and Recommendations by the Committee on Extending the Services of the Academy.

1. Recommends that a committee of three, consisting of a Botanist, a Zoologist, and a Geologist be appointed to obtain information as to the possibility of establishing natural preserves, by seeking out information concerning promising localities and upon approval of same to extend all possible aid to local societies and organizations interested.

2. Recommends that a definite program be inaugurated by the membership committee to extend the membership in High Schools and institutions of higher education.

3. Recommends that the aims and purposes of the Academy be presented at each of the Science Round Tables at the S. D. E. A. meeting at Sioux Falls.

4. Suggests that the Executive committee have a meeting at the time of the S. D. E. A. meeting.

5. Suggests that publicity be extended and that the institution entertaining the Academy give special publicity for the year.

6. Suggests that a stenographer be employed to assist the Secretary in reporting the meetings.

A. M. Pardee
J. G. Hutton
V. O. Peterson

The membership committee presented the following names:—Abbott, Howard C.; Ayers, G. H.; Benesh, Alfred J.; Barrett, J. H.; Brent, J. A.; Brown, Gladice L. A. Clause, J. H.; Cooper, Maurice E.; Danielson, P. W.; Dunbar, B. A.; Dunbar, Ralph E.; Farrar, M. D.; Ganzenmueller, Clara E.; Hansen, N. E.; Holleman, J.; Jensen, J. H.; Lawrence, John; Logerstrom, Olive; Puhr, L. F.; Quiring, Peter F.; Peterson, Wesley R.; Reinecke, Lilly Lois; Voorhees, A. Willard; Watson, Helen Field; Wilson, Lewis A.; Wilson James W.

On motion the group was elected to membership.

It was moved and carried that the Academy should not make application for membership in the American Association for the Advancement of Science this year.

The report of the Auditing Committee was read and accepted.

It was moved and carried that a vote of thanks of the Academy be extended to Dr. Hopkins of the University of Illinois for his excellent address on the new element Illinium only a month after he had discovered it.

On recommendation of the Nomination Committee the following officers were elected on motion:

President, H. A. Hill, Huron College.
First Vice-President, H. C. Severin, S. D. State College.
Second Vice-President, E. P. Rothrock, University of S. D.
Secretary-Treasurer, A. L. Haines, University of S. D.

On motion Brookings was chosen as the place of the next annual meeting the date to be selected by the Executive Committee.

On motion E. P. Churchill was appointed a member of the committee on publications.

REPORT OF THE CHAIRMAN OF THE ECOLOGICAL
CONSERVATION COMMITTEE

Mr. President, and Fellow Members of the S. D. Academy of Science:

Your chairman of Ecological Conservation, who is also State Chairman for the Ecological Society of America, takes pleasure in submitting the following report of progress in ecological conservation:

Firstly, as to National Conservation, it will doubtless be of interest to have it stated here, that the motion which your chairman made before the Ecological Society of America, in session at Cincinnati (1923-24), requesting the setting aside of Glacier Bay, Alaska, as a National Monument, was so set aside, by Presidential Proclamation on February 26, 1925. However, your Chairman disclaims credit for preparation of the motion, and for determination of the facts embodied therein.

A few paragraphs from President Coolidge's proclamation may be appropriately quoted here:

"WHEREAS, There are around Glacier Bay on the southeast coast of Alaska a number of tidewater glaciers of the first rank in a magnificent setting of lofty peaks, and more accessible to ordinary travel than other similar regions of Alaska,

"AND, WHEREAS, The region is said by Ecological Society of America to contain a great variety of forest covering consisting of mature areas, bodies of youthful trees which have become established since the retreat of the ice which should be preserved in absolutely natural condition, and great stretches now bare that will become forested in the course of the next century,

"AND, WHEREAS, This area presents a unique opportunity for the scientific study of glacial behavior and of resulting movements and development of flora and fauna and of certain valuable relics of ancient interglacial forests.

"AND, WHEREAS, The area is also of historic interest having been visited by explorers and scientists since the early voyages of Vancouver in 1794, who have left valuable records of such visits and explorations."

Secondly, as to state conservation, the surveys and descriptions of natural areas already preserved, or suitable for state or national conservation, have been printed in one compact volume of 760 pages, called the *Naturalist's Guide to the Americas*. This will, of course, be of interest to all tourists and sportsmen, as well as to students of nature. It should also serve to create greater interest in the conservation of natural areas which are in danger of destruction by commercial interests.

More specifically, the data concerning the descriptions of natural areas in South Dakota may be of interest here when compared with what the representatives of adjoining states have been permitted, by the editors, to enter into this volume. Parenthetically, your chairman should of course say that, as in other states, he was assisted by two Animal Ecologists. These able men, Drs. L. R. Dice and S. S. Visher, deserve much credit for certain ecological details of animal and plant life in South Dakota, which otherwise would not have been entered into this volume.

Considering the United States proper, alone, South Dakota numerically represents 1/48th of the country, or 2.03% —the space allotted South Dakota by the editors is 2.30%; giving us an excess of over 13.0%. According to area i.e., pages per 1,000 square miles, we were allotted considerably more space than our neighbors, who, on this basis, received 20% less than we did. Without Minnesota's excessive figures, we obtained 65.3% more space for descriptions.

Comparative ratios, based on area, give the following figures for our neighboring states:

Minnesota 177.0; Iowa 75.5; Nebraska 58.0; Montana 43.0; South Dakota 87.3; Wyoming 60.0; North Dakota 48.0.

As 1,000 square miles represents 13 hundredths (0.13) pages, (390. divided by 3026.8 thousands of square miles in the U. S. proper), it will be understood that many of the

smaller states in filling out the minimum form requirements of the editors, were obliged to exceed this small page quota. This allowed less space for the larger states, very few of which got their full quota. Minnesota, having a large number of areas was, of course, properly allowed the excess space.

Two conclusions can be drawn from all data presented here, and in this volume:

The first is, that tourists who drive from Minnesota into South Dakota are making a logically profitable journey, as compared with more northerly or southerly courses, which they might take.

The second is, that there are many natural areas such as our proposed Wonderland Park in the Big Badlands, the Buffalo Lakes, and Waubay Lakes regions, which need much conservation effort to save them from destruction, and for legitimate state and national use by the present and future generations.

As this work progresses, more accurate biological surveys of these and other areas will be needed. Until a state-supported survey can be organized, your chairman wishes to suggest that members of the committee and others, can greatly further this work by making surveys in their respective fields, and by presenting their data to the Academy in the form of papers to be read at the annual meetings.

—E. J. Petry

TREASURER'S REPORT

Receipts	
Cash on hand May 1, 1927	167.19
Dues from members	50.00
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	217.19
Expenditures	
Stationery	13.25
Stamps	8.00
Cash on hand May 1, 1926	195.94
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	217.19

Approved by auditing committee May 1, 1926.

Committee

F. T. Doane
A. N. Hume
V. O. Peterson

REPORT OF THE COMMITTEE ON RESOLUTIONS

1. Whereas Dr. Stout passed away since our last meeting, be it

Resolved, that the following expressions of our esteem and regret be spread upon the minutes of the South Dakota Academy of Science.

Dr. Levi Asa Stout died at his home in Mitchell on January 31, 1926. He was born November 1, 1857, on a farm near Chauncy, Illinois, where he spent most of his boyhood years. His mother taught him the fundamentals, and he entered school at the age of fourteen. He made rapid progress in the grades. Next he entered high school at Olney and Chauncy. After a short term of teaching he entered Adrian College, Michigan, where he received the A. B. degree. Then he attended Upper Iowa University and took his master's degree in 1896. In 1916 he received the degree of doctor of science from Dakota Wesleyan University.

As teacher he served as principal at Monona, Iowa, for a year, and at Bradford for three years. In 1888, he was called to Dakota Wesleyan University, and served as principal of the normal department. After a few years he was made professor of mathematics, which place he filled up to his death.

Dr. Stout's work is ended, his mission fulfilled. His Master called him to his reward. Over thirty-seven years he served Dakota Wesleyan University. He was known as a careful, devoted, and untiring teacher, and as a man of high Christian principles. Not he alone, but his Christian home, with which countless students came in contact, has been an inspiration to hundreds. His one big ambition was to inspire his students with a greater zeal for Jesus Christ and his Church, and to let God use all his talents in the advancement of the kingdom. Probably because of these virtues, God has crowned him with joy, health, a radiant Christian

home, and a long life of service. His life was an inspiration to us all. May we not forget to follow his example.

2. Resolved, That the visiting members of the South Dakota Academy of Science tender a rote of thanks to the South Dakota Wesleyan University for the cordial and excellent entertainment afforded them, and especially for the complimentary dinner, the demonstrations by instructors, and the use of efficient illustration apparatus.

3. Whereas, The progress of the human race, more than ever, is dependent upon scientific endeavor; be it resolved that the South Dakota Academy of Science solicits the continued interest and support of all citizens, even though the economic condition may still tend to divert attention from this most essential human activity.

4. Resolved, That the Secretary of the South Dakota Academy of Science be reimbursed for his personal expenses incident upon attendance at the Mitchell Meeting, 1926.

Committee

A. V. Arlton
E. J. Petry
E. P. Churchill

1. Resolved, that the visiting members of the South Dakota Academy of Sciences tender a vote of thanks to the South Dakota State College for the cordial welcome and hospitality, for the complimentary dinner and for the splendid entertainment and program.

2. Resolved, that the Academy express its gratification at the interest shown in scientific work in the state, as evidenced by the attendance of persons from distant parts of the state and by the large number of interesting papers read.

3. Resolved, that the Academy put forth special effort to induce business and professional men over the state who manifest interest in scientific endeavor to affiliate more extensively with the Academy than heretofore.

4. Resolved, that the Academy use its influence to secure from the special session of legislature the necessary

appropriations for the furtherance of scientific work in this state.

5. Resolved, that the Academy support the policy of the Izaak Walton League in its efforts to conserve the fish and game of this state.

6. Resolved, that the Academy endorse the movement for a more adequate conservation of rainfall and flood control along the principal rivers of our country.

7. Resolved, that the Secretary of the South Dakota Academy of Sciences be reimbursed for his personal expenses incident upon attendance at the Brookings meeting, 1927.

Committee

A. V. Arlton

E. J. Petry

E. P. Churchill