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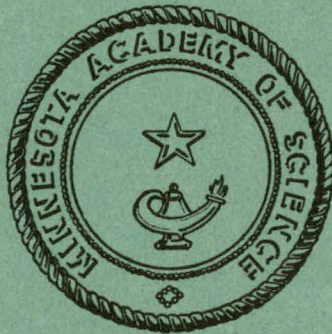
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Proceedings of

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VOLUME SEVEN • 1939



PROCEEDINGS OF
THE MINNESOTA ACADEMY
OF SCIENCE

VOLUME SEVEN, 1939

Edited by

G. A. THIEL, P. O. JOHNSON AND H. K. WILSON

PAPERS PRESENTED AT SEVENTH ANNUAL MEETING

MACALESTER COLLEGE

April 22, 1939

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FROM THE PRESIDENT

The work of the Academy, since the last annual meeting has been, and is, a continuation of the realization of its principle objectives. Among these are the dissemination of information about the natural conditions and resources of the State, seeking ways and means for their conservation and perpetuation wherever desirable and feasible, fostering the spirit of inquiry among its members, encouraging, through special financial grants, original investigations and research in the different fields of interest; promoting a spirit of co-operation between the varied interests and developing an increased appreciation of our main objective, namely, the furtherance, by all, of the common good in an ever continuing and ever improving democracy.

SUMMER MEETING

The annual summer meeting of the Academy was held on September 16, 1939, in the auditorium of the Hibbing High School. This location was selected by the Council to give the members of the Academy an opportunity to secure first hand information about one of Minnesota's most outstanding industries, and to facilitate the attendance of a larger number of members living in the northern half of the State.

The meeting was attended by approximately eighty members and some visitors. After a very cordial address of welcome by Superintendent S. A. Patchin, Doctor George A. Thiel gave an illustrated lecture on the "Geology of the Arrowhead Region with Special Reference to Iron Deposits." This was followed by an illustrated lecture on the "History of the Development and Operation of Mesaba Range Iron Mines," by Doctor Stanley A. Trenslove. Both lectures proved to be very informing and prepared the way for a better understanding and appreciation of the afternoon trip through "The World's Largest Open Pit Mine." The conducted trip of the afternoon was made possible through the courtesy of the Oliver Mining Company.

The success of the summer meeting was due in no small measure to the chairman of the local committee on arrangements, Doctor R. W. Erickson, and his efficient associates.

COMMITTEE ON PRESERVATION OF NATURAL CONDITIONS

This committee, under the very able chairmanship of Doctor A. N. Wilcox, has been working most energetically and has made notable progress in recent months. At its December meeting it was decided to enlarge the committee by inviting public spirited persons from representative parts of the State into its membership.

The work of this committee is of vital importance to all nature lovers, and to all who are interested in preserving for future generations some of the virgin areas of field and forest which we enjoy and take for granted, but which are rapidly yielding to plough and axe, and the ever-present menace of fire. The progress report of Doctor Wilcox at the annual spring meeting will be of interest to every member of the Academy.

THE JUNIOR ACADEMY

This organization has the enthusiasm and vigor of youth. Its membership is increasing and its endeavors promise to be greatly augmented during the current year. Professor W. C. Croxton, president of the Junior Academy, is applying himself vigorously to the task of stimulating the members to undertake various types of field and laboratory studies which will be in the nature of contributions to the science of the State. Charters have been granted to eight chapters of the Junior Academy.

In keeping with the recommendations of the American Association for the Advancement of Science two members of the Junior Academy were nominated for Honorary Junior Membership. The nominees of 1939 are Alice Burns of Albert Lea, and James Shean of Washburn High School of Minneapolis.

EDITORIAL COMMITTEE

The committee to edit Volume VII of the Proceedings of the Academy consists of Doctor George Thiel, Doctor Palmer Johnson and Doctor H. K. Wilson, secretary of the Academy.

PROGRAM COMMITTEE FOR 1940

The program for the annual spring meeting of 1940 will consist of three sections. The following members have kindly consented to act as chairmen of the respective sections:

Biological Sciences . . .	Professor C. O. Rosendahl
Physical Sciences . . .	Professor George Glockler
Science Education . . .	Professor E. T. Tufte

Each chairman is to preside at his section meeting and to arrange the program in co-operation with the Secretary of the Academy.

Pursuant to the policy of previous years the Council of the Academy authorized Doctor H. K. Wilson, the secretary, to represent the Academy at the annual meeting of the American Association for the Advancement of Science at Columbus, Ohio, December 1939.

ANNUAL SPRING MEETING OF 1940

At the invitation of Doctor Guy Stanton Ford, President of the University of Minnesota, the eighth annual meeting of the Academy will be held on the University campus on April 19 and 20, 1940. The Council is initiating a departure from the practice of previous

years when the entire program of the society was limited to one day. This year the program will open with a dinner meeting followed by a general lecture and business meeting on Friday evening. Papers of general interest will be read on Saturday forenoon. Opportunity will be given members of the Academy to visit the exhibits of the Junior Academy. Also section meetings will be held on Saturday.

The officers of the Academy sincerely hope that each and every member will continue to put forth every effort to make this meeting a genuine success.

The splendid co-operation of the officers and members of the Academy has been a true inspiration to me during the past year.

O. T. WALTER, *President*

Dec. 31, 1939.