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PROCEEDINGS OF
THE MINNESOTA ACADEMY
OF SCIENCE

VOLUME ELEVEN, 1943



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PAPERS PRESENTED AT THE ELEVENTH
ANNUAL MEETING

at the

UNIVERSITY OF MINNESOTA

April 24, 1943

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REPORT FROM THE PRESIDENT

The activities of the Academy have been handicapped during the past year by the restrictions imposed by war conditions. However, we have sought to attain certain objectives, in spite of numerous limitations.

The war has made science extremely practical. Since men's lives are at stake, such practicality must be expected and tolerated. This emphasis on applied science may, in turn, be beneficial to fundamental science, for, as industry needs new knowledge, it supports research. Many of our members are now contributing all of their energy to winning the war. They, and all of us, are determined that the products of our scientific endeavors shall not dissolve into chaos during the present turmoil.

The membership of the Academy is increasing steadily. We now have more than 600 members. We hope to keep the membership list growing by having each member invite friends or colleagues who are interested in science. Membership in the Academy is not limited to professional scientists. The doors are open also to all amateur scientists, whatever their special interests, and to all who believe that through natural and social sciences a better society may be achieved. Names of candidates should be sent to the secretary who will, in turn, submit them to the Council.

The American Association for the Advancement of Science has made available to the Minnesota Academy, funds for Research Grants. There are now several hundred dollars available for new projects. The Council has recently awarded two grants. Other members are urged to present projects to the Council for their consideration. Such funds have previously been reserved for graduate students or young scientists who may have needed money for field expenses or for special equipment. Since many of the younger scientists are now giving their attention to projects that are under the auspices of the Federal Government, the Council has decided to consider the request for a grant from any member of the Academy, regardless of age or experience.

The Committee on the Preservation of Natural Conditions, with Dr. Arthur N. Wilcox as chairman, has reported that further desirable tracts of land have been added to the Cedar Creek Forest Project. More than 400 acres of this forest land have now been paid for by donations to the Academy or have been deeded to it by former owners. The title to most of this land has been transferred by deed to the University of Minnesota, under a contract agreement that will allow scientific studies to be conducted in the area. The University agrees to preserve the tract in its present natural condition. More money is needed for the acquisition of adjoining parcels of land in the Cedar Creek area. The Council realizes the

difficulty involved in raising funds at the present time, and wishes to express its gratitude to the Committee for its accomplishments during the past year.

Other tracts of land in various parts of the state are worthy of preservation in their natural condition. Several have been brought to the attention of the Council by members of the Academy. The President feels that the Academy should pledge itself to assist in every way possible.

Membership in the Junior Academy has not increased as steadily as was hoped. This is undoubtedly due to the fact that many of the science teachers who were active sponsors of high school chapters have entered military service. It is hoped that the present chapters will continue their activities and that a campaign will get under way to organize new chapters when the present emergency is over. The members of the Junior Academy showed special interest in the field meetings. It is hoped that these summer sessions in the field will be reconvened as soon as transportation facilities are again available.

Because of the difficulties of transportation, the Council again postponed holding the annual meeting at Mankato State Teachers College, and accepted, instead, the kind invitation of President Walter C. Coffey to meet at the University of Minnesota in 1944.

The retiring president wishes to record his appreciation of the splendid cooperation received from the members of the Council of the Academy, the officers, and members of the Council of the Junior Academy, and from the chairmen of the various sections, who helped prepare the program for the annual meeting. Special thanks are due to our Secretary, Dr. John Moore, for his devoted attention to matters of detail in working out the arrangements for a complicated program.

G. A. THIEL, *President.*