

1944

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Recommended Citation

Martin, J. N. (1944) "The Iowa Academy of Science in Relation to its Contributions to the Welfare of the Commonwealth of the State and Nation," *Proceedings of the Iowa Academy of Science*: Vol. 51: No. 1 , Article 9.
Available at: <https://scholarworks.uni.edu/pias/vol51/iss1/9>

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THE IOWA ACADEMY OF SCIENCE IN RELATION TO ITS CONTRIBUTIONS TO THE WELFARE OF THE COM- MONWEALTH OF THE STATE AND NATION

J. N. MARTIN

INTRODUCTION

State Academies have seemingly had their greatest success in the Central-Western states. In these states the more isolated conditions of the scientific workers made the need for such organizations keenly felt. But, important as the academies have been in broadening and shaping the scientific views and attitudes of their members and in stimulating the scientific endeavors of its members and others within the scope of their influence, they quite early in their history took on another function of great importance. They soon began to serve in advisory capacities on various scientific problems concerning the welfare of the state and even of the nation; and through the activities of their members, working jointly in meetings and during the intervals between sessions, the majority of the projects based on the sciences and pertaining to the welfare of the state and general public have been either originated or early taken into the folds of the academies and then fostered through to adoption. Thus in their promotion of interest in the sciences and in their contributions to the solution of many problems vitally important to the progress of their respective state commonwealths the academies have been mighty centers of emanating wholesome influences on the civil and political affairs of their respective states. These influences are far too extensive, intangible, and profound for anyone to venture an attempt to properly evaluate them. However, it is this aspect of the Iowa Academy of Science that I wish to dwell considerably upon in this brief account.

THE FOUNDING AND ORGANIZATION OF THE PRESENT IOWA ACADEMY OF SCIENCE

The present Iowa Academy of Science, founded in 1887, is the successor of an Iowa Academy of Science which was organized in 1875. The first State Academy, after a rather successful career, ceased to exist in 1884 because of the loss of many of its most active members and some unfortunate disagreements among the members remaining. The first Academy, which failed to survive largely because of the nature of its constitution, nevertheless brought together the scientists of the state into an organization where their scientific interests and efforts were pooled and experience in academy organization was obtained.

The charter members and organizers of the present Iowa Academy of Science were practically all members of the earlier Academy. They all had large visions as to the part the sciences should play in the development of the various affairs of the state. Among the charter

members were T. H. MacBride, F. M. Witter, Samuel Calvin, J. E. Todd, D. S. Fairchild, C. M. Hobby, W. H. Barris, Charles Wachsmuth, L. W. Andrews, R. E. Call, B. D. Halsted, H. W. Parker, and Herbert Osborn who was the first president, and so far as I know, is the only charter member still living.

Among those who became early affiliated with the Academy and greatly contributed to its initial and later success were C. C. Nutting, S. W. Beyer, L. H. Pammel, Bohumil Shimek, C. R. Keys, H. W. Norris, T. P. Hall, W. S. Franklin, W. S. Hendrixson, J. L. Tilton and W. H. Norton.

The first constitution and those that have followed explicitly state that the object of the Academy is to encourage scientific work in the state of Iowa. The general attitude of the Academy has been from the first that membership should be limited to those interested in and capable of doing original scientific investigations, and all individuals so qualified regardless of race, creed, and occupational pursuits have been welcomed to membership.

Of the main officials: president, vice-president, secretary, and treasurer provided by the constitution of the Academy, the secretary very largely carries the burden of running the organization. For the notable success of the Iowa Academy of Science, much credit is therefore due to its capable secretaries, some of whom as Herbert Osborn, L. S. Ross, J. H. Lees, and J. C. Gilman, have given a decade or more of efficient secretarial service.

Under the early organization the memberships were of three types, namely—the fellows, who were residents of the state and actively engaged in research; the associate members, who were residents interested but not necessarily direct contributors to original research; and corresponding fellows, who were non-residents actively engaged at sometime in original research. Over the years the constitution of the Academy has undergone a number of revisions and the membership now consists of honorary fellows, fellows emeritus, life fellows, fellows, and associates.

The growth of the present Iowa Academy of Science has been encouraging from the start. The membership was 43 in 1890, grew to 163 in 1900, to 200 in 1910 and the present membership approximates 700.

The general business of the Academy, including the fixing of the time and place of meetings, has been done by a representative body which for a time was known as the council and later with a change in the selection of its personnel, it became the executive committee.

PUBLICATION OF THE PROCEEDINGS

In 1892 the General Assembly provided for the publication of the Academy proceedings jointly with those of the Iowa Horticultural Society. In 1894, a second act of the General Assembly, provided for the separate publication of the Academy proceedings. Since 1894 the proceedings have been published annually with almost no omissions.

THE VARIOUS PHASES OF SCIENCE INCLUDED AND PROJECTS PROMOTED BY THE ACADEMY

The Academy has always maintained a liberal policy towards the various phases of science, as is well shown by the personnel of its membership and the great variety of topics on its programs. Along with the more basic sciences, as chemistry, physics, mathematics, geology, botany, bacteriology, astronomy, and psychology, the applied phases of science pertaining to various phases of agriculture, engineering, medicine, public health, statistics, education, teaching, conservation of natural resources, and so on, are accorded a place on its programs.

PROJECTS PROMOTED BY THE ACADEMY

The first presidential address of the Iowa Academy was devoted to a discussion of its opportunities and some of the lines of work desirable in the State. Among the desirable projects discussed were state supported geological and biological surveys, a weather service, and a state museum.

The Iowa Geological Survey, as established in 1892 and now so well known for its many years of invaluable service in the state and nation, has largely been organized and supervised in cooperation with the Academy. Such well known heads of the survey, as Samuel Calvin, G. F. Kay, and A. C. Trowbridge and assistants C. R. Keys, J. H. Lees, H. G. Hershey and others, are numbered among those most active in the Academy. Not only has the Academy fostered the Iowa Geological Survey, but it has had at times a large part in saving the Survey from curtailment and even from abolishment by unfriendly General Assemblies.

The State Weather Service was organized in 1875 as a volunteer service by Gustavus Hinrich who was an active member of the first academy. Indirectly, if not directly, the Academy has contributed to the attainment of the Iowa Weather and Crop Service to its present high state of efficiency.

Early in the history of the Academy such topics as the relation of bacteria to diseases and the importance of the purity of foods, water, and air to the health of the commonwealth began to have a place of prominence on the programs. In 1902 the Academy prepared and presented to the General Assembly a pure food bill that became a law in 1906. The Academy has always been alert to recognizing conditions hazardous to the health of the state and has been prompt to urge remedial measures. Along with the growing sentiment for a pure food bill, there was a growing sentiment in the Academy that the General Assembly should enact laws pertaining to the purity and other qualities of commercial seeds. The adoption of a seed law by the General Assembly followed in 1907.

Throughout the entire history of the Academy, the conservation of natural resources of both the State and Nation has been a project of **primary concern**. As early as 1896 the Academy passed resolutions

in the interest of conservation, one petitioning the General Assembly to adopt measures to preserve the lakes of Iowa, and one petitioning the Congress of the United States to preserve certain forests and regulate the use of others.

In 1901 there followed another petition to Congress and also instructions to the Iowa Congressmen, urging the support of a bill then pending in Congress concerning the establishing of parks and forest reservations. Almost annually throughout much of its history the Academy has adopted resolutions and formulated petitions concerning conservation which have been increasingly strengthened by the accumulation of data by the members of the Academy. Largely as a fruition of the Academy's agitation for conservation the Iowa Conservation Association was organized in 1901 with T. H. MacBride as head and the State Board of Conservation in 1918. During the first decade of its history, the State Board of Conservation was fortunate in having as its head, L. H. Pammel, one of the most active members of the Academy and a most ardent advocate of conservation. The State Board of Conservation and its successor, the Iowa Conservation Commission, have maintained a close cooperative relationship with the Academy through an academy committee which is an advisor on conservation problems.

Prominent among the many achievements in conservation in which the State Board of Conservation and the Iowa Conservation Commission should have more or less credit are the following: The establishing of State Parks, now numbering well toward one hundred, with the object of preserving the areas noted historically or for their natural features; the retarding of soil erosion in the state by the use of various preventive means; the awakening of the public to the seriousness of soil erosion and other needless losses of the State's natural resources, by demonstrations, lectures, literature, and through locally organized conservation clubs; the acquiring of many thousands of acres of the State's poor grade land for state forests; the establishing and maintaining of a State Forestry Nursery which has supplied millions of trees for plantings on eroded and other waste land of the state; and the establishing of a Federal Soil Erosion Nursery in the State. Other projects more or less traceable to the influence of the Academy could be added, but the above suffice to show the enormous growth of a movement that started in the state Academies.

The office of State Fish and Game Warden, established in 1897, was likewise in keeping with the growing conservation sentiment of the Academy and has functioned in close cooperation with the Academy. W. E. Albert who was associated with the State Game Department for more than a score of years and held the office of State Game and Fish Warden for thirteen years was one of the active life-long members of the Academy.

The growing interest of the Academy in biological conservation led in the mid-twenties to the appointment of a special committee of the Academy designated as the Committee on Biological Survey. This committee among other things has emphasized an educational program

which has responded to the growing demands of schools, various clubs, and the public in general for information on the native flora and fauna of the state. The realization of a need of informational material on the flora and fauna of the State is being met by radio addresses and by many publications contributed by various members of the Academy and their students. In response to a recommendation of the committee on Biological Survey, the Academy has arranged to financially support publications that are within the province of the Committee. The titles of some of the publications contributing to the educational program are listed below:

"How to know the Insects", "Trees of Iowa in the Winter Condition", "Native Ferns of Iowa", "Some Common Iowa Fishes", "Upland Game Birds", "Winter Birds Around the Home", "Snakes of Iowa", "Plants of Iowa", "A Revised List of the Birds of Iowa", "Key to the woody plants of Iowa", "Woody Plants of Iowa in Winter Condition," and "Woody Plants of Iowa in Vegetative Condition."

During the recent years a number of Federal organizations in the field of science have invaded the state and with these, where possible, the Academy has cooperated in conducting their programs.

The Academy has recognized from its inception the importance of enlisting the public school teachers, especially the High School teachers and their pupils, in the fields of science. Their membership in the Academy has been encouraged. Since 1931 the Academy has promoted Junior Academies which now have reached many of the High Schools of the State. The Junior Academies along with the various Science Clubs in the public schools are promising organizations, since they stimulate and foster scientific interests in the oncoming generation at its plastic stage.

As shown by Zabel* striking evidence of the Academy's telling influence on scientific interests in the State is found in the Biological Directory of Scientists. In the sixth edition of the Directory there are listed 2623 scientists who are now, or formerly were, in Iowa. More than one-twelfth of the North America scientists are, or were, Iowans—and 1110 of them were born in Iowa. Iowa ranks sixth among the states in number of native scientists and also in the number of starred scientists. In the ratio of native scientists (1:2275) to the population of the state, Iowa is exceeded only by the two states, Vermont and Utah, both with a much smaller population. I think we would all agree that, with all due recognition of the numerous tangible ways the Academy has contributed to the welfare of the Commonwealth of Iowa and the nation, the intangible influences that have awakened and fostered the individual scientific abilities of the men and women of the state have been and will continue to be the greatest of the Academy's contributions.

This appraisal of the achievements of the Iowa Academy of Science should not leave the impression that it has outstripped all other State Academies. It has been one of a number of State Academies that can vie well with each other in respect to their contributions to their respective Commonwealths and the Nation.

This brief account of the Iowa Academy of Science has been confined to its past to the neglect of its present and the prophecy of its future influences. Its present contributions to the successful prosecution of the appallingly disastrous struggle in which we are now involved must be left to a later date for proper appraisal, but we can feel sure that they will be many and commendable. As throughout the years of the past, the opportunities for service will multiply with the post war years and the Academy will continue its alertness in seeing and taking advantage of opportunities for service.

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*Zabel, N. E.: Iowa's Contribution to American Men of Science. *Prof. Iowa Acad. Sci.* 46: 71-89, 1939.