

INVITED CONTRIBUTION

History of the Oklahoma Academy of Science

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When Dr. J. Teague Self, permanent secretary of the Oklahoma Academy of Science, asked me to write a history of the organization, he stipulated that it should not be an exhaustively detailed and long account. Apparently it was desired only that someone should go over existing records and correspondence to trace the trends of Academy affairs through the years. Accordingly, this is what I have attempted.

In addition to old correspondence, I have examined all volumes of the Proceedings and the minutes of the Executive Council and annual meetings (so far as now available); and I also sent out a form letter to each living past president whose address I could procure, asking for any special information which each thought might be of value to me. I received several replies. Then, of course, I have benefited by the active cooperative interest of Dr. Self, himself a past president, who has been active in the Academy's affairs for many years. Last of all, I also drew upon ideas and impressions obtained from my own membership through the past twenty-seven years (approximately half the existence of the Academy), including one term as vice-president of Section A, and thus a member of the Executive Council.

The Oklahoma Academy of Science was initiated by three men located at the University of Oklahoma. These were the late Dr. C. N. Gould, then State Geologist; the late Dr. D. W. Ohern, head of the Department of Geology; and Dr. H. H. Lane, head of the Department of Zoology. They met in a classroom and discussed informally the desirability of attempting to form an academy; and, having decided that the then new State of Oklahoma needed such an organization, drafted a letter which was sent to all scientists and teachers of science in the state, calling for a meeting to draft a constitution. This meeting took place in Oklahoma City, December 30, 1909. Twenty-one scientists attended—one to three each from Norman, Stillwater, Enid, Muskogee, Wilburton, Tonkawa, Millford, Edmond, Alva, Durant, Tahlequah, Blackwell, Tulsa and Frederick. Thus, all parts of the State were represented in this group. The organization was formally launched, Dr. H. H. Lane was elected president and ten papers were read at the meeting.

From the beginning, an attempt was made to hold the annual meetings in such places as (1) could accommodate a relatively large group and (2) would not unduly favor any one institution or region. The 2nd annual meeting was at Edmond (1911), the 3rd at Stillwater and 4th at Enid. The next five were held at Oklahoma City in conjunction with the annual meetings of the Oklahoma State Teacher's Association, a forerunner of the present Oklahoma Educational Association.

From this start, the rapid early growth of the organization can be seen from the following figures: At the first annual meeting at Norman (November 25-26, 1910) 33 papers were presented; at the 6th, in Oklahoma City, 1916, there were 43 papers; at the 11th, also in Oklahoma City, 51 papers.

By 1925, the annual meetings of the Academy had become unwieldy in that more titles were being presented than could conveniently be handled in one session. Accordingly, under the leadership of the president, Dr. Homer L. Dodge, Dean of the Graduate College, University of Oklahoma, with the active participation of the secretary, Dr. A. Richards, Professor of Zoology there, the Academy was reorganized into four sections: (A) Biological Sciences, (B) Geological Sciences, (C) Physical Sciences and

(D) Social Sciences, each with its own vice president, whose duty it was to collect titles for papers to be given in his section at annual meetings and transmit them to the secretary for the organization of the general program. Ordinarily each vice-president also presided at the meeting of his section. The vice-president of Section A had the added duty of selecting a meeting place and organizing a program for the annual spring meeting, more fully discussed below. With further growth, especially since the late war, it has seemed desirable to create several other sections and to break up the larger study areas into subsections as well. The leader of each section now bears the title of chairman and he is assisted by a vice-chairman.

This type of organization has both advantages and disadvantages. On the positive side, it increases the size of the Executive Council and gives the Academy the advantage of a more representative group. It also allows papers in botany to be read to botanists, chemical and physical papers to chemists and physicists, etc. On the negative side, however, it sometimes makes logical programing difficult. For example, should a paper in bioecology, known only by title to the programmer, be scheduled in Subsection Botany or Subsection Zoology? Should one whose title suggests that it concerns economics in various geographic regions be heard primarily by geographers or by sociologists? Or should it be scheduled in the Conservation Section? While this difficulty is inherent in the total situation and no perfect solution is likely to be found for it, perusal of recent programs shows that it has been handled about as well as possible.

One basic problem faced by the Academy from the beginning has been the familiar financial one. In order to make it possible for scientists and teachers with low salaries to be members, the dues had to be kept low. Unless some supplementary source of income could be found, this lack of funds could allow only limited activity and consequent limited usefulness to the state. Many members and officers through the earlier years considered the possibility of asking for a legislative appropriation, in view of precedents set elsewhere and the obvious potential benefit to the state of maintaining a strong academy. Whether this was ever requested I did not learn, but that no direct support of the Academy has ever been given by the government of Oklahoma is clear. It is indeed very doubtful whether such support would have been given up to about ten years ago, even if requested, because of the general public's lack of understanding of the practical importance of science to everyday life. In other words, this public lack of appreciation of the importance of scientific study was the very thing which hampered the organization in its attempts to increase this understanding.

It was early seen that the Academy could approach its goal only if it could initiate and maintain a published journal. Financial shortage, however, prevented this for about 11 years. Then in 1921, the first volume of the *Proceedings of the Oklahoma Academy of Science* was published. This was made possible through the cooperation of the Oklahoma Geological Survey and the University of Oklahoma.

Several early numbers of the *Proceedings* were published as bulletins of the University of Oklahoma by the University of Oklahoma Press. Volume I of the *Proceedings* was a quite modest publication, but it was at least a beginning. It consisted of 78 pages. The constitution and bylaws, a brief history of the Academy by Dr. C. W. Shannon, and a list of members, fellows and officers were followed by 39 papers (most of them short notes or abstracts) by 29 authors. The membership is given as 8 honorary members, 28 fellows, and 174 other active members—a total of 210. There had been 9 annual meetings under 8 presidents, 4 secretaries and 3 treasurers at this time.

This seems a good place to mention the role of those men who have been the work-horses of the Academy—namely, the secretaries. For many years, he who held this office in the Academy (usually for 2 or 3 years in succession) kept the minutes, organized programs, prepared agenda and took charge of registration at the annual meetings, edited the Proceedings, arranged for their publication and distribution to the membership and kept the membership rolls and correspondence up-to-date. At times, some of them had the assistance of publication or other committees; but only during the past few years have their duties been fully shared by an elected assistant secretary, a permanent secretary and an editorial board consisting of an editor and nine associate editors. Most secretaries were eventually made presidents but there have been 47 presidents during the first half century of the Academy's existence—some of whom never held the secretaryship as well as some secretaries who never became presidents.

The founding of the permanent secretaryship was a step forward. Prior to this time, all old records, back files of the Proceedings, and the journals received in exchange for the Academy publication had no permanent home and were a burden to the secretaries. Furthermore, the frequent changes caused confusion. No sooner would the officers of the AAAS or other scientific bodies learn whom to address (and where) as the secretary of the Oklahoma Academy, then a new secretary with a new address was selected. The first permanent secretary elected to the Academy was the late Dr. A. O. Weese of Norman who held the office from 1947 until his death in November, 1954. Since all of the old records were already at the University of Oklahoma and there seemed no reason to move them, Dr. J. Teague Self of the University of Oklahoma, past secretary and past president, was elected to fill the vacancy and he has held the office since that time.

At the present time (November, 1961) the Academy has expanded to such an extent that its officers consist of a president, vice-president, secretary-treasurer, assistant secretary-treasurer, permanent secretary, editor and the chairman and vice-chairman of each of seven sections. Section A had two Subsections (Botany and Zoology) for several years but at the 50th meeting in 1959 at Weatherford, a Subsection on Microbiology also met for the presentation of papers. Section F (Geography) has been separated from Section G (Geology) and Section C (Physical Science) has remained unchanged and Section E (Science Education) and Section G (Conservation) are relatively recent additions. In March, 1961, there were 483 members distributed as follows: fellows, 103; honorary members, 17; and active members, 363.

Of the 49 men who have headed the Academy (see list through 1959 in Vol. 40), I know of 15 who have passed on, and there are two about whom I could learn nothing. Institutions represented have been as follows: O.U.—25, O.S.U.—9, U. Tulsa—4, Phillips U.—3, Okla. City Univ.—1, Langston U.—1, the various state colleges,—3. Organized by subjects represented, the list of presidents is as follows: earth sciences—12 (including one from geography); Biol. Sci.—16 (9 from zoology, 6 from botany, and 1 from biology as a whole); physics, chemistry and mathematics together—7; medicine—4, soils—1, and sociology—1, philosophy—1, no information—4.

Very early in its history (I did not learn exactly when) the Oklahoma Academy of Science was affiliated with the American Association for the Advancement of Science (A.A.A.S.) There have been two separate but interrelated aspects of this affiliation: (1) research grants, and (2) the Academy Conference at each annual meeting of the American Association.

The A.A.A.S. has for many years granted \$1.00 per year in research funds for each member of an affiliated academy who also belongs to the American Association. This award has varied in total amount from year to year but, before the war, usually approximated at least \$50. The custom was for the academy secretary to issue an invitation each year for any member of the Academy to apply for this grant, the Executive Council of the Academy then evaluated the proposals submitted and gave the award to one individual. More recently, this fund has sometimes been allowed to accumulate so that a larger award could be made. Over the years, science in Oklahoma has benefited by several hundreds of dollars through this cooperation with the A.A.A.S. and the process is continuing.

The Oklahoma Academy was one of the original eight to be granted representation on the A.A.A.S. Council. In 1926, at the Philadelphia meeting of the A.A.A.S., Dr. John T. Magill of Tennessee proposed an association of all academies affiliated with the A.A.A.S. This proposal was accepted and the resulting organization became known at the Academy Conference. At its meetings, problems of academies in general are discussed, reports are made of special activities of the academies by their representatives and, usually, one or more addresses are given by prominent scientists of the A.A.A.S. The greatest value is derived from personal contact between representatives of the various academies and the stimulation from discussion of common problems.

But the conference at first was not as effective as it might have been because of inadequate representation. Too often, academy officers in selecting someone to represent a given academy, merely found some member who happened to be going to the A.A.A.S. meeting. Often, this individual was not well informed as to the nature of the Academy Conference, knew little of what had transpired there in previous years and might not even know very much in detail about what his own academy was doing unless he happened to be an officer.

Fortunately, the Oklahoma Academy is already heading in the right direction through its permanent secretary. Dr. Self, who has himself represented the Academy several times recently, is now chairman of the Conference; but we need more members who are well informed about the problems and organization of the Academy Conference, should our current permanent secretary be unable to represent us at any given meeting.

One of the major objectives of the Academy Conference since its early days is one in which the Oklahoma Academy has always been interested—namely, to find ways to stimulate interest in science among high school students and their teachers. Long before the days of talent searchers, organized science fairs and the like, now common enough, the Oklahoma Academy was searching for the best means to organize high school science clubs into a state organization—a Junior Academy of Science. Twenty-five years ago, some thought that high school students in science should be invited to attend the annual meetings of the Academy and especially the field meeting held in the Spring. Others objected that the immaturity of the average secondary school student in Oklahoma would not only make such contacts of little value to him but could tend to disrupt the adult meeting. One former academy president wrote me of just such a time in a Spring Meeting at Waynoka during which the excitement of a group of high school girls kept the older folks awake until close to 3 a.m. The objections obviously had some merit.

The Junior Academy idea had as its advocate a forceful personality with a clear-cut goal in view in the person of Miss Edith Force (now, Mrs. Daniel O. Kassing) of Tulsa. She had organized a science club

called "Field and Stream" at Okmulgee in 1923, and three years later, another at Tulsa's Woodrow Wilson Junior High School, under the same name. This junior group in Tulsa under Miss Force's leadership was continually active for twenty-five years. Its influence (probably in reality mostly the influence of Miss Force) reached deeply into the secondary schools of the State, stimulated discussions at the annual meetings of the senior academy, and was somewhat influential in the formation of the Tulsa Audubon Society.

It was, however, only in fairly recent years that the Junior Academy has formed an effective organization under leadership from O.S.U., working with the Senior Academy principally through Dr. Robert G. Fite. It now has its own annual meeting at Stillwater and publishes its own journal consisting mostly of selected research and science project papers submitted for approval prior to each meeting. At the 1960 meeting, 20 papers were on the program. Recently, in addition, outside speakers of note have been brought in to enhance the interest and stimulate the students to scientific endeavor and to open up new fields of interest.

One of the most valuable, as well as enjoyable, activities of the Oklahoma Academy of Science has always been a field meeting held each spring. This is usually spoken of as the Spring Meeting. Various facilities such as unused airport hangers, scout camps, church camps, park cabins, lodges and the like have been used for these gatherings. Often, many of those attending have camped out individually or in small groups at these gatherings, sometimes preparing their own food. Many family groups have attended.

The Spring Meeting has traditionally been organized by Section A (Biology) but, in reality, by its vice president in the earlier years. He selected an appropriate location, arranged for housing and food for those not wishing to care for themselves, arranged for a program of field leaders and evening speakers and, at the meeting itself, collected fees and became general trouble shooter in keeping things going smoothly. As the Academy has grown, the chairman of Section A has had the help of the vice-chairman in these duties.

By necessity, these spring meetings have been of most interest to the biologists and geologists and the programs have centered on these interests. Nevertheless, at least some physical scientists have found them very valuable. For example, Dr. Homer L. Dodge, formerly Dean of the Graduate College at the University of Oklahoma, a physicist, and a past president of the Academy, wrote me, "I hope that you will properly emphasize the splendid contribution made by the Spring Meetings—these were delightful affairs—possibly I appreciated them more than those in the biological sciences. For you, they were a part of the regular business, but for me they afforded an opportunity for me to see you biologists (and also geologists) at work. As dean of the graduate school, I counted these meetings as very much 'my business' for they gave me an opportunity to become acquainted with scientists and students from all parts of the state."

From quite a different viewpoint, the Spring Meetings were sometimes somewhat less than delightful! Being held in April or May and usually in the less populated areas of the state, several Spring Meetings have been all but disrupted by rain. At Pine Valley in 1935, for example, it took the combined efforts of most of the men present to get the cars out of the woods and one group from Norman had to go home by way of Arkansas and Texas because so many roads were flooded. At another meeting, the only shelter from rain for the men attending proved to have

a very leaky roof—and of course, that was a night of very heavy rain! With the increase in paved roads and the development of more adequate camping facilities, such difficulties are now much less frequently encountered than formerly. We older members of the Academy, however, can remember when anything might happen at a spring meeting—and usually did!

Prior to the Second World War, pure science was little appreciated by those most able to support it; and this was at least as true of Oklahoma as anywhere in the United States. The coming of the atomic bomb, rockets, jets, space satellites and the like, has changed this rapidly and radically and the Oklahoma Academy has shared in the benefits of this change. During the past few years, financial and other types of support and cooperation have been given by the Frontiers of Science Foundation, organized a few years ago by a group of far-sighted business men in our state to promote science in general and science education particularly, in the smaller institutions of higher learning and in the secondary schools. Its executive vice president, Dr. James G. Harlow, is both a scientist and a leader in education. As an active member of our academy, he is familiar with its problems and policies. Probably no one in Oklahoma is better qualified to sit in a liaison capacity among the scientists of Oklahoma (represented by the Academy), the schools and colleges, and the business and financial leaders of our state.

The following statement concerning the history and objectives of the Academy was recently sent to the permanent secretary by the late Dr. Horace Harper of Stillwater. Whether he or some other is the author, I do not know—nor do I know when it was written. I append it to my own account as well stated and pertinent.

"In the early history of the Academy of Science, a committee on legislation was appointed to bring about incorporation by special act of the legislature, and in 1915 the Academy appointed on such a committee C. W. Shannon and H. H. Lane. These members prepared a bill to accomplish the results and presented same to the legislature. The bill received due consideration until some legislator interpreted the bill as creating an organization which might in the future ask for appropriations and for this reason the bill died in committee. However, the committee above named from the Academy presented the matter to the Secretary of State and secured a charter, so that since the early part of 1916, the Oklahoma Academy of Science has been a properly chartered organization. No funds have been asked for in the past from the State and these Proceedings are being published chiefly at the expense of Oklahoma University, in cooperation with the Oklahoma Academy of Science and the Oklahoma Geological Survey. Future years will bring many valuable papers to the Academy, and the State should be called upon to appropriate money for the printing of the Proceedings from year to year in order that copies may be available for all libraries of the State.

"Since 1913, four meetings have been held, all of which were in Oklahoma City in connection with the Oklahoma State Teachers Association and in each case a part of the meetings were in joint session with the Science Teachers Section. During the years 1914, 1918, and 1919, no meetings were held.

"In the above discussion concerning the Oklahoma Academy of Science the subject matter has had to do chiefly with the organization. The work that has been accomplished in the past by the Academy may be judged by the character of the programs and the reports published in these Proceedings. However, it may be stated that perhaps the greatest advantage to the members has been in the discussions at various meetings

concerning the purpose of the Academy and the incentive to instill an interest in research work and in science.

"The third matter worthy of due consideration is the present purpose of the organization. My purpose has been to call to mind those things for which the Academy stands, and to invite discussion of the subject, so that the Academy may fulfill its chief aims as an organization to stimulate scientific research; to promote fraternal relationship among those engaged in scientific work in Oklahoma; to diffuse among the citizens of the State a knowledge of the various departments of science; to investigate and make known the mineral, educational, and other resources of the State; and to publish such reports, papers, or discussion as may embody the purpose of the Academy of Science.

"The opportunity for certain lines of scientific investigation in this State is unexcelled. It is a work that invites and needs the united efforts of all progressive citizens and science workers.

"If Oklahoma is to stand for scientific progress the work of active investigation must be done. No one institution can do the work, nor can it be done by individuals, but it requires the united effort of an organization that will bring together and secure the hearty cooperation of all workers. We have in this State those men who have the ability to do scientific work that the growth and development of the State may be assured along this line. It is the purpose of the Academy to invite cooperation—to give all interested in science the opportunity to express themselves and give to the public the value of their investigations."

To sum up the history of the Academy, I need only to list briefly the major points already stressed. From a small start in 1909, the Academy has grown steadily through the unselfish devotion to its ideals so well expressed in the quotation just given. It has been singularly free of those petty institutional and regional rivalries and jealousies which plague many organizations. Its publication is still hampered by lack of adequate financial support but this is beginning to improve. Three free pages in the Proceedings have recently been voted for each member publishing instead of the one page of long standing. Conservation has always interested the Academy and many resolutions have been voted at the annual meetings expressing our collective concern for unnecessarily destroying natural areas. Science education at the secondary level has been steadily promoted, both in the present Junior Academy and the Section on Science Education. Cooperation with other academies, principally through the Academy Conference has not always been as effective as it could be; but again, this has improved in recent years. The annual meetings have always been beneficial to members in at least three ways: (1) in their keeping informed on and being stimulated by research carried on by other members, (2) in giving each an opportunity to discuss his own research and to benefit by informal critical discussion of it, and (3) in the more intangible but no less real social relations of any member with others of his own interests. Finally, the spring meetings have afforded an outing with nature and a chance to show college and university students some of the animals, plants, and geological oddities of our state. Looking back, the Academy can well be proud of its fifty-two years of development, and looking forward, the future appears bright.