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## Report of the Secretary, 1942-45, inclusive

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## A REPORT OF THE SECRETARY

The Academy, 1942-45, Incl.  
L. B. Ham

Detailed reports of the annual spring meetings of the Arkansas Academy of Science have been sent out to all members. Therefore, only a summary of Academy activities for a more permanent record will be reviewed. Further secretarial information will be found in tabular forms elsewhere. While the period under discussion has never been equaled before in history, the Academy has held meetings each spring, though on a smaller scale. In the meantime new evidences that the people of our part of the country sense the importance of research in industry may be seen in the new research organizations such as the University Bureau of Research, The Southern Association of Science and Industry, The Gulf Southwest Industrial and Agricultural Conference, Inc. and the Midwest Research Institute.

### Changes in By-Laws and Constitution

At the spring meeting of 1942 at Monticello, the Academy voted to adopt new amendments, numbers 5, 6 and 7, to the by-laws. The new by-laws are as follows:

5. The fiscal year and the membership year shall be designated as beginning with January 1 and ending with December 31.

6. All officers assume their duties at the beginning of the fiscal year following their election.

7. A person elected to membership within a year holds paid-up membership for the remainder of that fiscal year.

The academy voted also to authorize the president to appoint an auditing committee to examine the Treasurer's and the Secretary's books at the end of the fiscal year. The president was authorized in the spring of 1942 to appoint a membership and a publicity committee.

At a business session of the 1943 Academy session, the Academy voted, after considerable discussion, that a committee be appointed to consider the establishment of an Industrial Commission with a view to listing, tabulating, and correlating, in so far as possible, research work in Arkansas. The executive committee was authorized by vote, also, to handle routine matters in interim between the annual meetings.

The Academy at its spring session in 1944 voted to make the following changes in constitution and by-laws:

1. Article III of the constitution to be reworded to read "persons and organizations" in place of "persons".
2. Addition to amendment to by-laws No. 4 after the year 1942, "and dues of an institution, \$10.00 per year, carrying a single membership."
3. Take out Section 2 of Article III and also "two members and the payment of dues" in Section I in constitution and replace with "of the membership committee and payment of dues."

### Resolutions

The proposal to approve the Kilgore "Science Mobilization" bill was rejected by the Academy at the spring meeting in 1942. The Academy members preferred organization for concerted action in the war effort and during the post war period. At that time, the Academy members questioned whether the proponents of this bill understood it sufficiently to avoid serious political entanglements and research by bureaucracy from Washington.

Mr. H. L. Winburn, in behalf of the Research Committee, reported the following two resolutions to the Academy at the spring meeting, 1945: namely, that (1) the Academy members undertake independent scientific investigations and report the same to the Academy, (2) the Academy urge the state research program to be conducted at the scientific level in the colleges of the state and under the heads of the departments properly concerned. A general recommendation to the effect that all research programs in the state be coordinated, as far as possible, was made also. The above resolutions of the Research Committee were adopted.

Dr. Roberts introduced, orally at the 1945 spring business session, a resolution to be sent to the President of the United States and to the Arkansas delegation in Congress protesting the drafting of scientific and technical students. The general idea underlying the resolution was adopted by the Academy members. The exact form, which was later sent to the Senators, follows:

We believe that the withdrawal from American Colleges and Universities of almost all young men majoring in the Sciences will soon bring about a very serious shortage of technically trained personnel which may prove fatal to the adequate development of science and industry. More jobs depend upon an expanding industry and an expanding industry depends upon scientific and technical developments.

Further, we do not believe that the present and the near future needs, which are less pressing than formerly, can possibly justify so serious a drain on the future for benefit of the present, even if military victory could be won without technical support at home.

We, therefore, strongly urge that measures be taken at once to correct this dangerous situation.

We suggest such measures as the following:

1. Deferring from draft liability all bona fide science majors so long as they make satisfactory progress in their studies.
2. Deferring science graduates who enter critical occupations, and supervising their placement to best advantage.
3. Discouraging science students from entering the service voluntarily, or leaving their studies for other reasons. (If necessary, draft them, put them in uniform, and return them to their classes.)
4. Returning to the classroom as many as practicable of the science students who are already in service - with or without discharges.
5. Encouraging qualified high school graduates to enter college science courses.

### Research Committee

The afternoon session of the 1944 spring meeting in Little Rock was devoted to a round table discussion on "Research in Arkansas". Many of our members have been interested in a more definite organization to promote research in our state. The research institute idea was suggested by some members.

Dr. Roberts spoke at length on the need of some form of organized cooperative research. The rapid growth of the Alabama Institute was cited as an example of what can be done and to illustrate lines along which the academy may well be thinking. He stated that a research institute to be adequate ought not simply to encourage research and find what is being done, but to obtain funds, to subsidize research on industrial problems of the state, to cooperate with various laboratories in arranging for cooperative research programs, to help establish better research library facilities, to patent suitable inventions for the benefit of members and for licensing to non-members.

The discussion indicated that the members are much interested in the developmental possibilities through research, and are willing and anxious to contribute substantially of their services. Members felt that an enlarged research program spread over the state would aid much to lift the whole tone of educational outlook in the state as well as to raise the level of industrial efficiency in the state.

Mr. L. A. Henry, Engineer, Director of the State Planning Board and Mr. W. M. Shepherd, acting Director of the Arkansas Economic Council made valuable contributions to the discussion. The discussion brought out that there are about 1200 manufacturing and mining industries in the state. The chief function of the various research agencies, so far, has been to bring together the facts. Our guest speakers pointed out that our state's weak industrial situation is due to our vast deficiency in industrial research in the state, and that we have a great untouched field of industrial problems and opportunities for pure research for the development of the state's mineral and agricultural resources.

At the time the program was planned, but few knew anything about the University of Arkansas Bureau of Research which had just recently been established by an act of the 1943 Legislature.

As an immediate result of the round table discussion a Committee on Research was authorized at the business session which followed the round table discussion. This committee was to work with the University Bureau and with the Committee on Surveys and Research headed by Mr. Thomas Jones. The suggestion was made that this committee contact Mr. Jones. The committee is composed of the following members:

Mr. H. L. Winburn - Noloak Pottery  
Dr. Byron L. Robinson - University of Arkansas  
School of Medicine

Other members to be added as needed.

The research committee consisting of the above two members and Dr. Roberts, President of the Academy at that time, held many informal talks. They had luncheon December 15, 1944 with the Arkansas Economic Council in Little Rock at Lafayette Hotel and then held a meeting at 2:30 p.m. After a lengthy discussion, decision on formation of any research organization was postponed until it

could be determined whether the University Bureau of Research would cover the field and make such an organization unnecessary.

The research committee will award the AAAS research grant as one of its functions. Steps were taken to affiliate with the American Association for the Advancement of Sciences in October 1942. The question of affiliation was placed before the Executive Committee of the AAAS at the December meeting. Affiliation of state academies with the AAAS entitles them to a yearly research grant, the amount depending upon the number of Academy members who are also members of the AAAS. The minimum grant is \$25.00. Because of our small membership in the AAAS, we have been awarded the minimum grant of \$25.00 since 1943. This is a beginning. There is no reason why much more money from sources, at present unknown, will not become available as fast as the money can be shown to be fruitfully spent. Those who wish to be considered for the AAAS research grant should send a brief abstract of their project to the research committee.

There were no applications for the 1944 grant and none for the 1945 grant up to the present time. The whole amount of a year's grant, or more than a single year's grant may be awarded to one grantee.

The research grants must be called for within three years but the three year limit does not include the calendar year 1945. Perhaps we have some Academy members now in a position to undertake some research requiring extra funds not otherwise available. The Academy does not receive the money until the Secretary of the AAAS receives a report stating the name and address of the grantee and the subject of the project to be undertaken.

### Junior Academy Discussions

There have been a number of discussions on the formation of a Junior Academy dating even before the war. The Academy voted at the 1942 spring session to have the president-elect appoint a committee to consider the formation of a Junior Academy and report at the next meeting. Plans were launched at the following year's meeting for organization of such an Academy, with Dr. Wills heading the committee. The war, restricted travel and heavy war time duties have stalled any real headway on the Junior Academy organization. The report of the Academy Conference of the AAAS, which held its sixteenth annual session at Cleveland, Ohio, September 11, 1944, contains some very excellent remarks not only on Junior Academy activities, but also on Science Clubs of America activities. Dr. D. M. Moore, our Academy Conference representative, was present at this meeting. A great challenge presents itself in the organization of our young potential science workers.

### Concluding Remarks

Abstracts of all papers read before the regular Academy sessions since 1941 will be printed in this volume, if an abstract was received as requested, unless the complete paper is presented for publication. In the latter case, the complete publication will be substituted for the abstract.

## OFFICERS\* SINCE 1941

No. of Annual Meeting	Year	Place	Pres.	V.Pres.	Sec.	Treas.	Editor and Ass't Editors
26	'42	Monticello (Arkansas A. and M.)	Wills, I. A.	Roberts, L. B.	Ham, L.B.	Horsfall, W. R.	Moore, D. M.
27	'43	Little Rock (U. of Ark. School of Medicine)	Roberts, L. B.	Abbott, C. E.	Ham, L.B.	Smith, T. L.	Moore, D. M.
28	'44	Little Rock (U. of Ark. School of Medicine)	Roberts, L. B.	Dennison, M.	Ham, L.B.	Smith, T. L.	Moore, D. M.
29	'45	Little Rock (U. of Ark. School of Medicine)	Banks, J.	Beach, I. T.	Ham, L.B.	Smith, T. L.	Moore, D. M.
30	'46	Little Rock Junior College	Winburn, H. L.	Erwin, W. G.	Ham, L.B.	Smith, T. L.	Moore, D. M.

## ABSTRACTS OF PAPERS SINCE 1941

26th Annual Meeting May 1-2, 1942.

Arkansas A. &amp; M. College, Monticello, Arkansas

1. **The Corpus Allatum of *Galleria Mellonella* L.** T. L. Smith, The College of the Ozarks. 15 minutes. Evidence is at hand to indicate that in *Galleria*, as has been shown to be the case in many other insects, there are (a) incretory or endocrine substances found in the head region which govern the metamorphosis of the last larval instar into the pupa, (b) critical periods in late larval development beyond which the endocrine actions cannot be interfered with. The structure of the corpus allatum in *Galleria* is typical of that found in other lepidopterous insects.
2. **An Exploratory Study of the Early Effects of Antuitrin-S in Prepubertal Rats.** Mrs. E. Z. Burkhart, Clarksville. 15 minutes. Previous work by the author ('39, '42) has shown that, by the use of colchicine, very early responses to single small doses of androgens can be detected in the accessory sex glands of castrated young adult rats. These results suggested a study of the early effects of gonadotropic substances on the accessory sex glands of prepubertal rats. Twenty-day-old rats were injected with 20 R. U. of Antuitrin-S. Uninjected animals served as controls. All the rats received 0.1 mg. of colchicine per 100 grams of body weight approximately six hours before sacrifice. The animals were sacrificed in pairs (one control and one which had received Antuitrin-S) at intervals from 13 to 44 hours after injection.

\* All Academy sessions were held in the spring, preferably the last week in April, otherwise the first week in May. All yearly elected officers serve the following calendar year.