THE AMCBT STORY (Part I)

John R. Carlock, Executive Secretary, AMCBT

As AMCBT moves toward a return to the Drake University campus on the occasion of its 20th Annual Meeting, it does so with members who have been with it for every one of its years of existence, with some who have been members for a few years, and with some who are new to the Association. Although no one, least of all a biologist, can profitably live in the past, a retrospective glance can sometimes be of value in providing a basis for future growth. For those of long continued membership, such a view may refresh their view of where we have been. For others it may provide an understanding of how the present form and interests of the Association evolved. But most important, it may provide us with ideas for future directions.

In 1957 all scientific instruction was in a state of flux. All facets of the scientific community were engaged in introspection regarding content, methods and the nature of the clientele. The impact of the geometric growth in quantity of information was beginning to be widely felt. And probably more important for biologists, the changed nature of available biological information was influencing their thinking. By 1957 an appreciable amount of hard data had become available in the areas of physical and chemical biology, in addition to a continued growth in descriptive material. New instructional techniques utilizing electronic aids, more varied projection systems and TV were widely available.

The Formative Years (1957 - 1961)

The forward thinking of a number of midwestern college biology teachers led to the call for a Midwest Conference of College Biology Teachers. The Conference was held at Drake University, Des Moines, Iowa, October 25 and 26, 1957, and attended by approximately 160 biologists from Iowa, Illinois, Indiana, Missouri, Wisconsin, Nebraska, Kansas, South Dakota and adjoining states. Several of the discussion groups were devoted to the nature of the introductory course, evaluation, and use of research in teaching. It may be significant to note that one discussion session centered on the biological core curriculum, a concept to which entire meetings of this and other organizations were later to be devoted. Service courses for the allied medical professions were also considered.

The general format for this original Conference has persisted throughout the years. Open discussion groups allowing for a maximum of interchange and expression of individual thinking, comprise the heart of the Conference program. The Proceedings indicate that in none of the eight discussion sessions was there a major speaker. Instead there was a chairperson, who directed a very open discussion, and a recorder who prepared a summary of the group discussion for inclusion in a report which was distributed to all who were in attendance. At this conference it was decided that an annual conference of a similar nature would be of value and that formal organization would be the optimum way to provide for planning of such conferences. A Steering Committee was elected with Leland P. Johnson of Drake University as President.

The members of the Steering Committee subsequently met in Indianapolis, Indiana. At this initial meeting of the Steering Committee, the Association of Midwestern College Biology Teachers was established, a committee to develop a statement of purpose and a constitution was formed, and consideration of a meeting place for the autumn of 1958 was begun. Focus for the 1958 meeting was decided upon. As a means of insuring
higher standards for secondary school biologists, a major portion of the 1958 meeting was to be centered upon the training of the secondary teachers and state requirements for the teaching of biology.

The 1958 meeting was held at Western Illinois University, Macomb. In accordance with concerns expressed by attendees at the first meeting, several of the discussion sessions dealt with the preparation of secondary biology teachers. Minimal preparation, certification requirements and graduate curricula were major concerns. Other discussion groups dealt with the freshman course, utilization of library references, seminars and honor programs, and the values of laboratory and field work. The Friday afternoon session was addressed by W.H. Braconier, Chairman of the Botany Department, Iowa State College. His topic, "Science Education and You," developed the theme of the conference. The evening session featured James F. Crow, Geneticist at the University of Wisconsin, discussing, "What is a Gene?" A portion of the meeting was devoted to completing the organization of the Association. With the adoption of the constitution the Association of Midwestern College Biology Teachers came into formal existence. The objectives of the organization as set forth in the Constitution are:

1) to further the teaching of the biological sciences at the college and other levels of educational experience;

2) to bring to light common problems involving biological curricula at the college level and by the free interchange of ideas, endeavor to resolve these problems;

3) to encourage active participation in biological research by teachers and students in the belief that such participation is an invaluable adjunct to effective teaching;

4) to create a voice which will be effective in bringing the collective views of the teachers of the biological sciences to the attention of college and civil government administrations.

Willis H. Johnson of Wabash College, Indiana, was elected President, and the University of Notre Dame was selected as the site of the third meeting. On January 6, 1959, the Association was incorporated in the state of Iowa, with Leland P. Johnson, Rodney A. Rogers, and Fae Shawhan of Drake University as the incorporators.

At the third Annual Meeting the majority of the program was again devoted to problems of the preparation of secondary school teachers. In addition to course requirements for the baccalaureate degree and state certification requirements, attention was given to Masters and the Specialist in Education degrees. Other discussion groups considered undergraduate research participation, seminars and honors activities. The evening address, "Biogeography and Continental Drift," was presented by Theodor Just of the Chicago Natural History Museum. Ted F. Andrews was elected President and Mankato State College, Minnesota was selected as the site of the fourth Annual Meeting.

At the Mankato meeting the program of the Association included the first venture into examination of new curricula. A. Glenn Richards, of the University of Minnesota, described the AIDS High School Biology film course. Included in his presentation was a viewing of one of the films, the summary presentation for the unit on biochemistry. Other featured speakers were Norman S. Kerr of the University of Minnesota and David E. Green from the Institute for Enzyme Research at the University of Wisconsin. Dr. Kerr presented the opening lecture, "The Biology of A True Slime Mold." Dr. Green gave two presentations, the evening address, "Biochemical Machines," and a Saturday morning address, "Oxidative Phosphorylation." The discussion sessions at this fourth meeting showed a diversity which has characterized the continuing growth of the Association. One session was again devoted to the training of
secondary biology teachers. The senior year of the biology major program and the nature of laboratories were also again considered. Other sessions considered instruction in specific areas of biology, namely botany and genetics. Departmental organization and administration attracted the attention of a number of members, and as will be seen, this subject has been treated at a number of subsequent meetings. Another precedent for future meetings was set in the presentation of three experimental programs conducted by Ted Andrews, J. D. Novak, and W. K. Stevenson. These experiments involved teaching of large classes, teaching by means of project work, and the use of self-instructional materials in genetics.

One highlight of this meeting can not easily be forgotten by the members in attendance. The evening banquet, served smorgasbord style, featured a tremendous smoked salmon on a bed of wild rice and an awe inspiring haunch of beef. Looking back on this repast, one wonders how many were able to maintain their full attention during the evening address.

AMCBT participated in the program of the AIBS meetings at Purdue in August of 1961. Sharing sponsorship with the National Association of Biology Teachers and the teaching section of the Botanical Society of America, several sessions on instruction were arranged. These included BSCS developments, special teaching devices and demonstrations of Airborne Television Instruction.

The Fifth Annual Meeting was held at Illinois State University with President William Stephenson presiding. Nobel Laureate George Beadle highlighted the program with his address, "Genes and the Nature of Man." Several new features were added to the meeting. A special display of laboratory experiments and course outlines prepared by members was organized. For the first time, exhibits of commercial firms were included in the meeting. Thirty-five publishers and supply houses participated.

The discussion sessions also introduced some new features. All topics were organized in three major headings. One group concerned Recent Advances in selected areas of biology. Other sessions were concerned with Teaching Large Numbers, and Teaching Devices and Techniques. In addition to the evening address by Dr. Beadle, the Association also heard a presentation, "Energy and Life," by E. L. Powers of the Argonne National Laboratory.

During the business meeting the Association considered and approved of affiliation with the National Association of Biology Teachers. The interest expressed in continuation of the commercial exhibits led to the establishment of a class of sustaining membership. Two resolutions adopted by the Association presaged the increasing involvement of AMCBT in national curricular movements, and, many years before they finally appeared, indicated the need for technique films and modules. Because of their significance in indicating the leadership quality of the Organization, these 1961 resolutions are included here.

"The Association of Midwest College Biology Teachers, in annual meeting, resolve that this organization should offer to participate and cooperate with the AIBS and other appropriate organizations, in the development and evaluation of college biology courses appropriate to the students who will be the products of the "New Approach" in high school biology, as exemplified by the BSCS courses."

"Resolved: There is a need for short, 1 minute to 5 minute films, available at low cost, which illustrate a laboratory technique, a plant or animal structure or activity, a classical experiment in
biology or a personality sketch. To propose that an appropriate agency consider a survey of needed short films for biology. (sic) On the basis of suggestions obtained, we recommend a survey of existing appropriate footage, productions of needed film, and distribution at low cost of such films."

The Beginnings of National Involvement (1962 - 1966)

The Sixth Annual Meeting was hosted by Marquette University with James M. Barrett of Marquette serving as President of the Association. Following the lead of the resolution, Arnold Grobman and Walter Auffenberg spoke on "The Articulation of the BSCS With the First Year College Course In Biology" and on "Teacher Preparation For BSCS." The group discussions again featured recent advancements in biology with Growth and Development, Genetics, and Protozoology being featured. The panel on approaches to learning considered research as a teaching method and undergraduate honors. The third panel looked at Advanced Placement, the study of faculty load and a discussion of meeting the needs of future science teachers. In this last discussion, Ben Olson led the groups thinking away from the subject matter centered consideration toward developing an understanding of scientific process.

On the recommendation of the Steering Committee and approval of the Association the President was directed to appoint a Self-Analysis Committee. It was directed that the membership of this committee be represented by the wide variety of schools represented in the Association. The Self-Analysis Committee met at Mundelein College, Chicago, in November of 1962. The preliminary report of the group indicated the nature of their deliberations.

"The first part of the meeting was devoted to establishing an agenda. As each topic was considered, it became more evident that the magnitude and the scope of the responsibilities of the Association were so great that it would be impossible for the Self-Analysis Committee to do any more in one or two meetings than to outline these responsibilities and to make recommendations to the Steering Committee as to the approach that should be made in meeting them. It seemed agreed that because we were the only professional organization of our kind in the Midwest we had a number of responsibilities that devolved upon us just because we did exist. Some of these we shared with other organizations, some were essentially our responsibility alone."

It was agreed to make the following recommendations to the Steering Committee:

Most of the work of the Association should be assigned to a number of standing committees, to be created by the Steering Committee. So that committees might meet with reasonable convenience and frequency, some consideration to geography and ease of travel might be given in making appointments to committees. To give stability to committees and to encourage responsible, far-sighted work by their members, at least some committee appointments should be made for two or three years.

The following Standing Committees should be created:
1. Long-range Program Planning
2. Institutional Cooperation
3. Communications
4. Finances
5. Curricula
6. High School-College Relations
7. Professional Problems
8. Constitution & By-laws
The following ad hoc committee should be created:
Local Arrangements
The membership responsibilities and immediate problems for each committee to consider were indicated. With financial assistance from the Committee on Institutional Cooperation, the Steering Committee held a special meeting in April 1963 in Chicago and approved the implementation of the report of the group.

At the 1963 Annual Meeting at Purdue University, the Association took the first hard look at the entire undergraduate biology program. Henry Koffler, head of the Department of Biological Science at Purdue, gave the opening lecture. He discussed "Developments in Core Courses in Undergraduate Biology." Panel discussions were given in each of six areas, Introductory Biology, Genetics, Structure-Function, Ecology, Cell Biology and Developmental Biology. There were two panels for each area, one comprised of members of the Association from various schools and the other in which the Core courses at Purdue were discussed. The evening address was given by James Ebert, Past President of AIBS. R. Maurice Myers presided at the Purdue sessions. Joseph D. Novak was elected President for 1964 and the University of Kansas at Lawrence was selected for the site of the 8th Annual Meeting.

The 1964 meeting was organized as the Midwest Regional Conference of the Commission on Undergraduate Education in Biological Science (CUEBS). The meeting opened with a discussion of the CUEBS program by Victor A. Greulach, Executive Director of CUEBS, and a report on two previous conferences held by CUEBS at Berkeley and St. Louis. The report was given by Willis H. Johnson, CUEBS Commissioner and former AMCBT President. The numerous discussion sessions were all devoted to Curriculum Ann. Curriculum Ann was a distillation of the discussions from the Berkeley and St. Louis meetings. Each of the discussion groups went forward and developed its own modifications and recommendations in such a manner that Curriculum Ann Adams, Ann Brown, Ann Crowder, ... Ann Frank, ... and so on through the alphabet were developed. In a final plenary session all of these mutations were presented to the entire group and other national commissions were described. The final summary of the conference appeared as CUEBS Publication #8.

Probably the most unusual evening program that has been presented at any AMCBT meeting was given. Sam Hinton, Curator at the Scripps Institute of Oceanography was introduced by Ben Olson. Sam accompanied his presentation, "Biology of Folk Music" on the guitar. At the business sessions of AMCBT, J. Bennet Olson was elected President and Northern Illinois University announced as the location for the 1965 meeting.

Two activities of the Association had their inception at this time. A Newsletter, to be published in the Spring of each year, first appeared under the direction of LaRoy Zell. In order to facilitate the business of the Association, a Central Office was established at Purdue University. The Central Office, under the direction of J. Bennet Olson, was responsible for publication of the Newsletter, the Proceedings and provided a permanent mailing address.

In contrast to the concentration on Core Curricula of the preceeding two years, the Association moved back to a more diversified set of topics for the 9th Annual Conference. The question of certification of college biology teachers, preparation for medical school, graduate education, programmed audio-tutorial instruction and approaches to undergraduate research were considered. A proposal for microbiology as the first course was made and a formal report of the CUEBS Writing Conference was presented. One of the foremost women biologists, Mary A. McWhinnie, spoke on "Oceanography and Marine Biology: Recent Research In Antarctica."
It is interesting to note, in view of the fact that President Ford recently (1976) signed legislation providing for a shift of the United States to the International System of Measurements, that at this 1965 meeting the Association adopted a resolution, to be communicated to the Secretary of Commerce, advocating the adoption of the Metric System. Jack Bennett of Northern Illinois was elected President of the Association for 1966.

The location for the 10th Annual Meeting is an indication of the geographical extent of the Organization. Southeast Missouri State University at Cape Girardeau took the membership to the seventh state in its short life. Jack Carter, Assistant Director of BSCS, keynoted the meeting with his address, "Impact of BSCS on College Biology Teaching." Group discussions on Junior College programs, audio-tutorial techniques, courses in related disciplines, and masters programs for the preparation of biology teachers pursued this theme. In addition, other groups discussed educational opportunities at Argonne National Laboratory and continued the examination of the question of certification of college biology teachers introduced in 1965. David M. Gates, Director of the Missouri Botanical Gardens, discussed "Energy Exchange in the Biosphere." He illustrated his presentation with a remarkable series of photographs taken with a schlieren lens system. These photographs indicated heat loss in biological objects by the temperature induced refraction of light. Brother George Pahl was elected President and Hamline University selected as the site for the 1967 meeting. (The AMCBT STORY will be continued in a future issue.)

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LONGEST BINOMIAL? In the last issue a nomination for longest binomial was made, the green sea urchin - STRONGYLOCENTROTUS DROEBACHIENSIS. Bill Downing of Hamline has reminded us of that old reliable GYMNOSEPORANGIUM JUNIPERI-VIRGINIANAE. Of course, this leaves the question as to whether a hyphenated term of this nature can really qualify as a binomial. The question is still open and we look forward to receiving a defense from Bill for his nomination.

MEETING DATES

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<tr>
<th>AIBS</th>
<th>1976 Annual Meeting</th>
<th>Tulane University</th>
<th>New Orleans, LA</th>
<th>May 30 - June 4</th>
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<tr>
<td>AMCBT</td>
<td>1976 Annual Meeting</td>
<td>Drake University</td>
<td>Des Moines, IA</td>
<td>Oct. 1-2</td>
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<td>AMCBT</td>
<td>1977 Annual Meeting</td>
<td>Monmouth College</td>
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<td>NABT</td>
<td>1978 National Convention</td>
<td>Chicago Marriott</td>
<td>Chicago, IL</td>
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Humanity, surely, needs practical men who make the best of their work for the sake of their own interests, without forgetting the general interest. But it also needs dreamers, for whom the unselfish following of a purpose is so imperative that it becomes impossible for them to devote much attention to their own material benefit.

- Marie Curie