The AIBS Story

AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES
Foreword

Since 1947 the population of biologists has more than doubled. the output of scientific literature has trebled and the whole massive structure associated with the support of civilian science has developed. Even more importantly, during this period pioneering scientific developments in the life sciences have posed social and political problems of immense importance to mankind.

The AIBS was founded on the assumption that changes such as these would take place and with the conviction that it was essential that there be a unified voice to ensure the proper influence of the life sciences as developments proceeded. The founding fathers, and there were many, can view their efforts with satisfaction, with pride, and with appreciation of the devoted labors of the many individuals who accomplished the task of guiding the Institute since its genesis.

The pages in this anniversary booklet show the substance of our progress, and the remarkable essay by Dr. Bronk outlines the role of people, of some of the individuals whose ability to see the emerging problems of the present projected into the future. It was indeed remarkable that, under Bronk's leadership, so many scholars of diverse interests could pool their efforts for the common good of the life sciences and humanity. Special tribute should be paid to three who are no longer with us: Ralph Cleland, Elmer Butler, and Wallace Fenn—a Plant Scientist, a Zoologist, and a Biomedical Physiologist. That men of such diverse backgrounds and leaders in their respective specialties could give so much of their efforts to the founding of AIBS went far towards assuring the successful launching of the new enterprise.

In the first call addressed to prospective AIBS society members, the final paragraph read:

"Great advances in the physical and chemical sciences have led to the disruption of established patterns of life. The sound adjustment of these social patterns can be accomplished only through the fields of research served by the biological sciences. The subjects of the biological sciences, in effect, comprise the basic attributes of all living things. pon the foundation of these biological sciences, the new social relationships of man must be adjusted. The responsibility is great."

To these words need only be added that the AIBS has effectively dealt with many problems and during its lifetime spectacular new advances in the life sciences make the responsibilities of the future even greater.

H. Burr Steinbach
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The Creation of the American Institute of Biological Sciences

An Adventure in the Unity of Fragmented Science
Detlev W. Bronk

During the morning in which I began this account of the founding of the American Institute of Biological Sciences, the New York Times announced the death of Elmer G. Butler. And so it was with a heavy heart that I proceeded to recount the creation of the Institute of which he was the spiritual founder and strong advocate. The American Institute of Biological Sciences is truly a memorial to him.

The Institute had its origin on the waters of the Great Harbor of Woods Hole during a pleasant afternoon in the summer of 1944. I was at the Marine Biological Laboratory for a few days to recapture the spirit of science before returning to the 8th Air Force in the European Theater of Operations. Elmer Butler and I were renewing our old friendship aboard a little Herreshoff sloop.

I told of the brilliant achievements of several hundred biologists—zoologists and botanists, physiologists and anatomists, biochemists and geneticists—whom I had recruited into the corps of aviation physiologists of the Army Air Force. They had trained our fliers to survive the hazards of high altitudes, high speeds and machine warfare. I spoke of the remarkable cooperation of engineers, physicists and biologists in designing oxygen delivery systems, instrument lighting for aerial night combat, equipment for prevention of "black-out" during high speed turns. I told of my hopes that this unusual association of physicists and engineers with biomedical scientists would produce machines better adapted to the human organism and would in a pressurized cabin provide an environment suitable for life at high altitudes.

This led Butler to recall that when I had organized the first national convocation of biologists and physicists with engineers in order to foster closer relations between the physical and biological sciences, I had used the American Institute of Physics as a sponsor. "Why?" he asked. I replied: "Because for 6 years the Institute had represented all fields of physics and had effectively organized all meetings and publications of the constituent societies. There was no such organization in the field of biology."

"Why," asked Butler, "do not biologists thus foster unity within the life sciences rather than fragment biology evermore? We still have a department of biology at Princeton, but at Pennsylvania you have separate departments of zoology and botany, of anatomy, physiology, biochemistry, pharmacology, bacteriology."

He plied me with questions about the origin, the functions and the structure of the AIP with which I had been much involved.

Before we went ashore, Butler told me of plans he had been evolving for the creation of a similar institute that hopefully would likewise draw together and pool the efforts of biological societies, facilitate the publication of journals, sponsor scientific meetings and overcome the fragmentation of biology. "It is more needed than was the AIP because there are more than a score of national biological societies, only four or five in physics."

Over a cocktail in the Pond House on Penzance Point, we agreed to emulate the AIP as soon as the war was over: Butler agreed to take the lead.

The author is with The Rockefeller University
It was a cold, wet day in Belgium when I next heard from Butler. He wrote that he had gone to the September meeting of the AAAS as President of the Union of American Biological Societies and had there suggested that the Union and the American Biological Society be superseded by his proposed institute. The suggestion had been well received. Because of illness in his family, he asked me to help carry forward his endeavor at an appropriate time. "An appropriate time" seemed very far away for the Battle of the Bulge was yet to come.

Fog and a sudden air field had kept me grounded a week at the Royal Air Force field in Ghent, but there was pleasant consolation in the warm home and friendship of Cornelle Heymans. As we whiled away a dreary day with talk of science, I told him of the letter I had just received, of Butler's despair over the growing fragmentation of biology, and his hopes for the unity of biology.

Heymans was sympathetic and thought the Institute highly desirable. "How can one separate the biological sciences into the zoological and botanical?" he asked. "As a pharmacologist, I deal with both plant and animal life. So do physiologists and biochemists. And what about cytology and genetics? Do you class them as botany or zoology?" I remembered Heymans of Ghent two years later when the chairman of the Division of Biology and Agriculture of the National Research Council wrote to Robert Chambers. "The plant science group is strongly against affiliating with the zoologists."

It was a dreary winter of continued war, but a pleasant spring brought victory on the European front. By that summer of 1945 the life of scientists began to resume a normal pattern.

I was again in Woods Hole for a week to give a Marine Biological Laboratory Lecture on "Bombers and Biologists." I used the occasion to speculate on the greater usefulness of biologists in the war had there been a biological equivalent of the AIP. It was a common theme in the Laboratory, for the biologists there had been well aware of the greater sense of national usefulness among the physicists in the Oceanographic Institution across Main Street. It was expressed in Science by the chairman of the Division of Biology and Agriculture of the National Research Council:

"Everyone knows the major contributions of physics to victory. But how many know that the contributions of biological science were of comparable importance?"

"...The contrast between the treatment of biologists and that of physicists by the Armed Forces was due to intelligent action by the American Institute of Physics."

Butler was succeeded by Robert Chambers as president of the Union of American Biological Societies; John Nicholas of Yale was president of the American Biological Society. The four of us gathered friends together for pleasant weekend discussions of the unity of biology throughout the winter in New Haven, New York, Princeton, and Philadelphia. Our crusade was aided by three significant events. The growing power of biological warfare and the grave biological implications of the recently developed atomic weapon stressed the need for an agency capable of marshaling a wide range of biological talents to deal with problems of great national importance. And the first draft of the Magnuson bill proposing a National Science Foundation made no mention of biology or agriculture except that biologists might be requisitioned into the service of medicine. Said a leading
biologist: "No one should have been surprised that biology was omitted. Biologists have not made the public aware of the importance of biology."

This growing dissatisfaction with the status and organization of the biological sciences encouraged the UABS to sponsor a joint meeting of all the biological organizations participating in the March 1946 meeting of the AAAS in St. Louis. The theme was a biological institute. A subsequent account in Science by Robert Chambers and John Nicholas, presidents of UABS and ABS, reported that "the meeting adjourned with enthusiastic approval of the project as proposed." And Robert Griggs of the NRC said that "the views of the group that had been promoting the establishment of an Institute of American Biologists were presented by Bronk to enthusiastic audiences at the annual meeting of the Division of Biology and Agriculture of the NRC."

My own notes and recollections are less enthusiastic. There were wide differences of opinion concerning the scope and functions of the proposed institute, uncertainty as to whether both the plant and the animal sciences could be combined in one organization, lack of agreement as to which existing society or group of biologists could appropriately and effectively act as the parent organization, and lack of funds with which to initiate the undertaking.

I became chairman of the National Research Council in July of that year; Butler immediately suggested that the Council act as the parent organization and provide the necessary funds for its initiation. In turn, I proposed that he convene a group of interested biologists at Woods Hole to consider his proposal and, if they so desired, request the Division of Biology and Agriculture of the Council to assume leadership. The group he convened consisted of D. W. Bronk, F. A. Brown, P. H. Burkholder, E. G. Butler, R. Chambers, O. C. Glaser, J. S. Karling, J. S. Nicholas, H. B. Steinbach, N. E. Stevens, and P. A. Weiss. After discussion throughout a day, they unanimously decided to write to Robert Griggs, chairman of the Division of Biology and Agriculture, with the suggestion that he take action early in the fall to implement the project.

At first Griggs expressed great interest, but soon thereafter told me that the plant science group was strongly against the plan. He expressed the hope that they could be "brought into line with patience and persistence, but it will take a good deal of quiet negotiation." He added that until then he hoped the other groups would quiet down.

My hopes for an institute that would promote the unity of the biological sciences began to weaken.

Neil Stevens, president of the Botanical Society of America, wrote to Griggs:

"You are the only botanist with whom I have discussed the matter who feels that the plant group would really benefit by such an institution or could be induced to join. I am ready to move in any direction that seems to offer the best chance of getting the plant science groups really together, but as you know the phytopathologists are meeting separately this year and the agronomists always have. My fear is that the present movement will result in their being pulled further apart."

Another wrote:

"The retiring President of the American Society for Horticultural Science states that in his opinion that organization might cooperate with other plant science groups,
but never with the zoologists. Some of the botanists have similar feelings.”

And from another who had heard of the Woods Hole meeting:

“There is some distrust of the Woods Hole crowd on general principles. I do not for a moment distrust them personally, but I do feel that the plant science people are likely to be at a disadvantage from sheer lack of numbers.”

A botanist himself and pressed by the supposed conflicting interests of zoologists and botanists and agriculturists, Griggs strove valiantly as chairman of the Division of Biology and Agriculture to report fairly their several points of view:

“As I sit on our fellowship committees, I find that applications have to be sorted rather arbitrarily. Many fellows who want to work on animal materials are much closer to those who work on plant material than they are to zoologists who work in the conventional sense and vice versa. This is especially true in your own very rapidly growing field of physiology. Of course, there is no distinction in cytology and genetics.

“Whether you like it or not, there is in the lay mind a very distinct category labelled biology... The issue that is present to the plant science groups is, therefore, will you join in with the animal biologists and accept a part in biology so broadly defined... I think the Woods Hole crowd is going to go ahead and organize an Institute with or without the cooperation of the plant science people. They will probably call it an Institute of American Biologists and any effort to get them to rename it an Institute of Zoology would fail.

“The real difficulty with the plant science people is their fear that they will not get a square deal at the hands of the zoologists. I think I know the Woods Hole crowd well enough to assure you that their offer of cooperation is made in good faith. Naturally they do not understand the plant sciences very well and cannot see things from their point of view. But I believe there is a genuine desire to unify biology and to inaugurate an era of give and take from which a solid organization of biology would emerge with good for all concerned.”

In that spirit of cooperation, Griggs invited five plant scientists and five zoologists to meet at the National Academy of Sciences on 21 November 1946. They were: P. R. Burkholder, E. G. Butler, R. Chambers, J. S. Karling, P. J. Kramer, J. S. Nicholas, H. B. Steinbach, N. E. Stevens, H. B. Tukey, and P. A. Weiss. Before the meeting Butler had written to me that it would be impossible for him to accept the chairmanship of the committee because he was loaded down with too many responsibilities both in Princeton and outside, but that he would serve as a member. It was typical of his devotion to the objective that he did on the contrary serve as chairman of this crucial meeting and of the subsequent meeting for organization that was convened four months later.

As chairman of the National Research Council, I had already become aware of its vast potential for the flexible furtherance of science and for the initiation of scientific undertakings and organizations. Accordingly, with my newborn enthusiasm, I opened the meeting by saying that until I had become associated with the Council I believed a separate agency for biologists was necessary. But I had become quickly convinced that such an agency could function most successfully through the Council under the Division of Biology and Agriculture. I added
that it was the tradition and appropriate function of the Council to foster the creation of institutes and boards and committees when they furthered science and the national welfare, but that it was policy to encourage such groups to assume independent status when that became feasible and desirable.

As the discussions proceeded, significant activities and functions of the new agency were readily formulated by the committee: create a central office to conduct the routine affairs of individual societies; provide editorial and managerial assistance in publications of the constituent societies and publish a journal dealing with common interests of all biologists; maintain a roster of biological personnel; assist in public relations regarding all societies; develop and improve biological curricula and teaching materials; foster interest in the history and philosophy of biology; assist in the organization of international congresses, international travel and student exchanges; collect and interpret information related to federal legislation; assist in securing funds for biological research and education. At the close of an enthusiastic discussion, it was recommended that: “the National Research Council establish an agency within the Division of Biology and Agriculture which will assume as many of the functions of the previously proposed Institute for American Biologists as would be possible, and that the Division expand its function in such a manner as to accomplish those objectives with the understanding that there is implied in the motion the possibility that the agency might evolve into a separate organization.”

The committee agreed to continue as an organizing committee with the understanding that a full time executive secretary be obtained as soon as possible.

The enthusiasm developed at that historic meeting prevailed and spread among biologists. “The Woods Hole crowd” was becoming less suspect, there was less fear that zoologists would dominate botanists. H. B. Tukey, one who had doubted the willingness of horticulturists to join in a single institute of biology reassured me: “Real progress has been made and will be made. The officers of the UABS and ABS will propose that their organizations be liquidated as soon as the new agency is established.” A leader in the American Society of Professional Biologists wrote: “The objectives of our Society are distinctly more restricted than those in mind for the proposed institute. A voluntary merger will be a large gain in strength and effectiveness all around.”

The AAAS met in Boston during December 1946. Unity or separatism within the biological sciences was much discussed and vigorously debated in corridors and bars. Four members of the NRC Organizing Committee conducted a largely attended symposium: Robert F. Griggs. Present status of attempts to form a stronger organization of biologists; Ralph E. Cleland, Possible advantages of cooperation between societies in publication; H. B. Tukey, Advantages of close cooperation between fundamental biology and agriculture; and Paul J. Kramer. Advantages of close association of various biological groups. By the close of the meeting the will for unity was widespread.

I had a wise and cheering letter from James G. Horstfall after which I never again lost faith in the unity of biology and among the leaders of biology. He has graciously
given me permission to quote it here:

"Paul Burkholder of the Yale Botany Department has told me about the discussions in Boston concerning the possibility of organizing the biologists into some sort of a cohesive group. Speaking in a private capacity as a member of the Botanical Society of America and of the American Phytopathological Society, I am highly in favor of such a move.

"I have had rather extensive correspondence on this subject from time to time with Dr. Griggs and with Dr. H. P. Barss of the Office of Experiment Stations. At one time I unburdened myself of an epistle to Dr. Griggs on the possible causes of the present lack of emphasis on integration among biologists.

"In brief my thesis was that until recently, at least, biologists (certainly botanists) were largely led by taxonomists who in turn chose our apprentices from among the juvenile collectors of bottle caps and butterflies. Perhaps this was historically justified because any science is descriptive in its primitive phases. Linneaus, however, is a long time dead.

"Since the descriptionists had not been recruited from the ranks of alarm clock fixers, they were little concerned with how their organisms operated or how they reacted with each other in the real world.

"They emerged from among the pickled or dried specimens in the cloisters of their museums only long enough to collect additional specimens in the field to fill additional bottles and bags. With that background they persisted in particularizing biologists as well as biology.

"By now enough thinkers on the dynamics of biology have infiltrated the profession so that there is dissatisfaction with a continuing dichotomy. Biology now cries, perhaps not to loudly yet, for synthesis both of biology and of biologists.

"Here's wishing you luck in the effort."

I shall always be proud of the inspiration that led me to telegraph Burr Steinbach at Washington University on 4 March 1947, an urgent plea to serve as organizing director of the Institute during that spring and summer. I shall always be grateful to him for his distinguished achievement. For a year Steinbach served as executive secretary of the Organizing Board, as the committee was soon designated; he provided enthusiasm, developed harmony among what had been dissident groups, and wisely molded a viable organization. For 6 months longer than I had requested, he gave generously of his time in the creation of the Institute despite the extra personal burdens of terminating his academic responsibilities at Washington University and assuming new duties at Minnesota.

Steinbach's first action was to convene a meeting of the Organizing Board for the AIBS that comprised one representative from each of the member societies of the Division of Biology and Agriculture of the Research Council and the members of the original advisory committee convened by Griggs the previous November. A provisional constitution and bylaws were adopted at a subsequent meeting of the Board in April and it was then decided that the Institute would start to function when ten or more of the societies eligible for charter membership had ratified the provisional rules. Cleland, Steinbach and Weiss, with Bronk and Griggs ex officio, were appointed an Executive Committee until a permanent organization was established.

Our hopes rose. During May, Steinbach wrote:

"On the whole, the Organizing Board
was a fine idea and is functioning well. More than half the individuals are active which is a good response. Your vision of a biological Institute may very well become real! Part of my optimism is gendered by Fenn’s great letter he sent to the physiologists. When such an intelligent, though conservative man as Fenn waxes enthusiastic and literary, there must be virtue.”

And Griggs, who a few months before had said, “I wish I could share your enthusiasm for the formation of the new Institute which is for me a considerable headache” wrote in the 30 May 1947 issue of Science:

“All biology must organize to lead the public in its public thinking on biological matters. Whatever our individual scientists may do to strengthen themselves in public service, it is clear that one over-all organization embracing all the biological sciences is essential now.”

At the spring meeting of the Physiological Society, its president Wallace Fenn and I presented arguments in favor of the Institute and told our visions of what all of biology could be in this country if it were properly organized and supported. The Society voted unanimously to joint the Institute! At the same time “the biochemists and nutritionists were very apathetic,” said Steinbach.

Throughout that year Steinbach patiently explained the objectives and proposed structure of the Institute to biologists of all persuasions in meetings, by letter, and in personal conversations. But, as he wrote late in December, “Certainly we can say that no one is pushing the Institute down any one Society’s throat.”

The Christmas 1947 meetings of the AAAS were the culmination of our campaign of education. Cleland, Stevens, Tukey, and I were graciously received by the Botanical Society, the Society for Horticultural Science, the Society of Plant Physiologists, and the American Society of Zoologists. They all voted to become members of the Institute. Together with the American Physiological Society, the Genetic Society, the Limnological Society, Mycological Society, the Poultry Science Association, Society for the Development of Growth, and the Society of American Bacteriologists, they were the Charter Members that formed the American Institute of Biological Sciences on 20 February 1948 in the building of the National Academy of Sciences.

At the conclusion of the meeting on that day, Ralph Cleland was elected chairman of the Governing Board and Elmer Butler, vice chairman; W. O. Fenn and T. C. Byerly were members of the Executive Committee. “There was a rising vote of thanks to Burr Steinbach for his services as temporary executive secretary,” after which the directors of the eleven founding societies, observers representing eleven other prospective member societies, and representatives of the NRC adjourned to the Cosmos Club for a gay evening of drink and food and celebration. We recalled 4 years of vast goodwill and friendship within the fragmented divisions of biological science. We spoke of our debt to the American Institute of Physics for inspiration and example; we sent best wishes to the Division of Geology which was following us in the creation of their American Geological Institute.

Twenty-five years later, the American Institute of Biological Sciences has a record of remarkable leadership and achievement. The schism between the zoological and
botanical sciences is difficult to recall now that molecular biology comprises both and "biology" has been broadened to "the life sciences" which include the behavioral sciences too. In these times when life scientists are much concerned with the quality of life and the environment, there is no longer need to justify our organization that embraces all the biological sciences and their social adjuncts. The hopes of Butler and Cleland and Steinbach, of Chambers and Fenn and Griggs and their colleagues, have been fulfilled. The AIBS is thus a heritage from them to those who believe that knowledge cannot be contained within boundaries.
The AIBS Story

In the late fall of 1971, John R. Olive, Director of the AIBS, called a meeting of his assistant directors to discuss how the AIBS might best celebrate its 25th year. Through the ensuing discussions, it became obvious that few members were familiar with the Institute’s history, that many accepted the anecdotes that abound at annual meetings as an accurate portrayal of the Institute’s past activities, and that there has long been a need to “set the record straight” on several controversial issues. It was unanimously decided that *BioScience* would carry a series of brief articles about the Institute beginning with the January 1972 issue and concluding with the August 1972 issue.

Many individuals, particularly those who were so instrumental in the founding of the AIBS and those who were present during those difficult days of 1963, provided invaluable information upon which this history was based. The series was prepared under the direction of Robert S. Leisner and written by Walter G. Peter III. The following articles are those which appeared in *BioScience* with few modifications.
On 21 November 1946, Detlev Bronk, serving as Chairman of the National Research Council (NRC), called a meeting of 12 eminent biologists to discuss the possibility and feasibility of organizing an association of professional societies of national scope to represent and advance the life sciences. These individuals were to provide the impetus to unify the field, provide a common voice, and achieve the public recognition recently acquired by physicists and long enjoyed by chemists.

There is little doubt that World War II provided the need to create such an association. The United States used the professional manpower of the physical and chemical sciences to unprecedented advantage while largely ignoring the talents that biologists put to use in national and industrial laboratories and failing to use the expertise of biologists who were drafted or enlisted in the armed forces. In great part, the reason the United States regarded biologists with such ambivalence was due to the changing nature of biology from a unified scientific estate in the late nineteenth and early twentieth centuries to a disparate group of competing or isolated interests. Very few of these viewed themselves as unified under the collective noun "Biology" except in the most ephemeral sense of the word.

It was out of this divisiveness and the inability to gain federal or public support that the American Institute of Biological Sciences (AIBS) was born. It is remarkable that the Institute ever became anything more than a wish on the part of the original organizers: Ralph Cleland, Wallace Pfen, H. B. Steinbach, E. G. Butler, Robert Chambers, John Karling, Paul Kramer, J. S. Nichols, H. B. Tukey, Paul Weiss, Robert Griggs, and Detlev Bronk.

From the outset, it was obvious that the AIBS would never succeed without the support of a number of professional societies which enjoyed national recognition, nor would these societies relinquish easily any of their prerogatives to an umbrella organization. Although a few societies would eventually give total support to the AIBS, most were dubious whether such an organization might not in some way weaken their effectiveness, others were divided in their support, and still others would vote to stay out of the AIBS completely. Some societies feared that the AIBS would become "too strong" and compete against societies for memberships. There were those who simply did not see that they had any interests in common with other societies and took no interest in the broad issues of biology.

At the 1946 Christmas meeting of the AAAS, position papers were presented to a large number of biological societies by Griggs, Tukey and Cleland. The general reaction is best understood in today bureaucratic lexicon, "cautious optimism." There was enough support however, to call a meeting of the Advisory Committee (the original thirteen discussants) on 18 March 1947. Two additional biologists were included, Raymond Zwemer, then executive secretary of the NRC, and Neil Stevens. An agreement was reached to establish an Organizing Board which would prepare a draft constitution for ratification by the biological societies. The Board was made up of delegates from the member societies of the Division of Biology and Agriculture, NRC, and members of the Advisory Committee. It fell to Cleland, Weiss, and Steinbach to write the proposed constitution.
In April of the same year, the Organizing Board met and passed the following motions, in addition to others, without committing member societies: (1) the establishment of the American Institute of Biological Sciences within the NRC, (2) adoption of the Institute form of organization in which control is placed within a Governing Board composed of representatives of societies since membership is primarily by societies, (3) the establishment of an Executive Committee that would represent as wide a variety of fundamental and applied sciences as practical, (4) acceptance of a constitution and by-laws, (5) authorization of the executive secretary of the AIBS to raise funds in the name of the AIBS, (6) formulate through the Executive Committee a provision for starting AIBS upon ratification of the constitution and by-laws by ten societies eligible for charter membership and asking approval by the National Academy of Sciences of the first Governing Board of the new Institute.

H. B. Steinbach, acting as temporary executive secretary, invited all the national societies in the biological sciences to become charter members outlining all the actions taken by the Organizing Board. In October of 1947 a temporary Executive Committee meeting was held at the University of Chicago to discuss society memberships. Six societies, at their annual meetings, had decided to join the fledgling institute. Fifteen societies had been contacted but not held their annual meetings, meetings. Three societies had shelved the question for consideration at their next annual meeting. By the end of the year 12 societies had confirmed membership. The Institute was formally established.

The first official Governing Board Meeting took place on 20 February 1948. Ralph Cleland was selected as the Chairman of the Executive Committee, E. G. Butler as vice-chairman, and Wallace Fenn, T. C. Byerly and F. P. Cullinan as the other members. The Executive Committee was authorized to choose an executive secretary and Clarence J. Hylander was later selected.

During the formative discussions concerning the organization of the Institute, one question in particular received special attention; should the AIBS be independent or under the auspices of the NRC? Would a conflict arise between the AIBS and the Division of Biology and Agriculture? How much “overlap” would exist between these two bodies? Detlev Bronk first recommended this arrangement, but he made it quite clear that such an arrangement was to be temporary; that as soon as the Institute could establish viability and financial strength that independence should be sought from the NRC. In the beginning, however, the financial support from member societies was meager. It is highly doubtful whether the AIBS would have survived its first few years without the generosity of the council in providing office space and logistical and staff support. In 1954, AIBS achieved the strength necessary to stand alone thus the Governing Board voted to sever the ties with the NRC with a three-fifth ratification by member societies.
Seven Years to Independence

From 1948 through 1954, the AIBS resided within the National Research Council (NRC) of the National Academy of Sciences. Although recognizing the tedious, time-consuming task of organizing the Institute and the innumerable procedural problems that had to be resolved, few AIBS members realized that anything of substance was actually accomplished on behalf of the membership. In fact, the AIBS accomplished a great deal more than most could logically expect of such a neophyte organization.

In an open letter to biologists, H. Bently Glass, as chairman of the Governing Board, announced the decision of the Governing Board to seek independence from the NRC. In the letter, published in the October, 1954 issue of the AIBS Bulletin, he reviewed the accomplishments of the past seven years, acknowledged the debt of gratitude owed the NRC, and called for renewed support of the Institute. The following is excerpted from that letter:

"After grave consideration, the Governing Board of the AIBS has made a momentous decision—that of severing its close ties to the National Research Council and of becoming independent. From the time of the founding of the AIBS, it was intended that this day would arrive whenever the AIBS had become strong enough to stand alone. . . ."

It has always been hoped that AIBS would become a voice for the biologists of our nation, and this can only be expected if AIBS becomes more truly representative, both by the inclusion of more societies than now belong to it, and also by the fuller and more frequent exchange of ideas and opinions between the AIBS and its member societies. The AIBS may indeed become the voice, but the societies themselves represent the will directing what is to be voiced; and unless biologists reflect on the crucial problems of our profession and provide the will and the breath, the voice perforce must remain dumb.

I am often asked what, apart from the arrangement of annual meetings for those societies that request it and apart from the publication of the Bulletin, the AIBS has accomplished in past years that justifies its existence and the active support of biological societies and individual biologists. I could mention, of course, the preparation and publication of parts of the Handbook of Biological Data, the work of the Advisory Committees to ONR, the assembling and dissemination of information on laboratory animals by the Institute of Animal Resources, the compilation of the National Register of Biologists, and the work of the Publications Committee in exploring the problems of authors, editors, and publishers of biological literature and the overwhelming difficulty of obtaining adequate indexing and abstracting for the enormous volume of original researches now annually accumulating. But these activities and others like them may well be expected to find support from outside agencies and to be financially independent of the biologists themselves. I want, therefore, to focus your attention on two major accomplishments of the AIBS that have, I believe, received too little recognition, and that could never be regarded as financially self-supporting activities.

First, let us recall the military failure to make use of the professional abilities of biologists during World War II—what was surely one of the most glaring effects to become apparent in the operation of the
Selective Service. After the war, when the task of revising the Selective Service law in the light of wartime experience was taken up, the most effective utilization of scientists in any war effort was a prime consideration. Physicists, chemists, engineers, medical men, and representatives of other scientific groups were on hand to point out the services rendered by their members and to emphasize the need to ensure that a continuous, adequate supply of persons with technical abilities would be maintained during the course of any future struggle. Preliminary drafts of legislation were drawn up to provide occupational deferments for these groups, and especially for young men in training for these professions. No one thought of including the biologists. It was then that the AIBS, newly organized, established a committee on selective service problems. By ably presenting to General Hershey and other officials the considerable contribution of biologists to the military effort during the war, and above all emphasizing the point that it is impossible to tell in advance from what group of scientists there may come discoveries of major military value, this committee was able to bring about a redrafting of the legislation such that occupational deferments would apply not only to biologists in addition to the other groups aforementioned, but would be applied right across the board to all groups of persons engaged in training for highly specialized occupations. It may fairly be claimed that every young biologist who has profited in the post-war years by obtaining deferment of military service until completion of his graduate studies owes an immeasurable personal obligation to the AIBS; and not only the student but also his professor, who thus was able to avoid the inefficiency, disappointment, and loss occasioned by the interruption of student training and the disruption of the education program.

Secondly, let me point to the similar role played by the AIBS in the formation and organization of the National Science Foundation. When, after the close of World War II, the organization of a national agency to promote research in the pure sciences was urged upon the Congress of the United States, the early drafts of enabling legislation ignored the importance of the biological sciences as such. Biology was included merely as an adjunct of the medical sciences. Once again it was because of the arguments and persuasion of the AIBS that in the final law which was enacted Biology emerged, with Medicine, as a strong division of the National Science Foundation. As each new announcement of research grants and aids is made, biologists have an opportunity to see what a striking effect that action has had. Again it may fairly be said that every biologist who has received from NSF a grant in aid of research, and all the many more students and technicians who have indirectly been assisted or supported thereby, are greatly indebted to the AIBS. Like the action in regard to Selective Service legislation, this effort has immeasurably profited the biological profession as a whole."
On 1 January 1951, the first issue of the AIBS Bulletin was published. An outgrowth of the AIBS Newsletter, the Bulletin did not enjoy a particularly auspicious beginning: 16 pages in length, there were only 3-1/2 pages of editorial content with the remaining 12-1/2 pages comprised of advertising and filler material. There was only one feature article and one book review. In fairness to those who founded the Bulletin, it was never intended to carry numerous scientific articles, primary research reports, extensive book reviews, editorials, and other types of manuscripts generally considered requisite for a science journal. The stated purpose of the Bulletin was to carry “news and views” of the Institute and adherent societies for the benefit of the AIBS membership. Judged on this basis, it was to become a masterful success and, in some cases, exceed these goals by publishing occasional articles on the broader issues affecting the life sciences.

The Bulletin was designed as a quarterly with a fifth issue that served as the Annual Meeting Program. The initial frequency of publication was realistic to ensure continued improvement in editorial content and financial solvency, a key factor for the fledgling Institute. For the next 12 years, the quality and quantity of manuscripts so improved that the Bulletin became a 48-page bi-monthly publication. It was not long before readers began thinking of it in terms of a recognized scientific journal of national scope as well as an in-house news source. Although the evolution from news magazine to science journal was nearly imperceptible in the early years, a comparison of editorial content in the 1951 volume with that of the 1963 volume shows a dramatic difference in style. The parochial, somewhat pedantic style of 1951 gave way to hard-hitting, simpler, and far more literate presentation. There was no question that the Bulletin was about to emerge as something more than “news and views.”

In many ways, the Bulletin’s growth and maturity reflected the overall success of the Institute between the years of 1951 and 1963. This period was to see a remarkable increase in Federal funding of scientific research and technological development. Some referred to this period as the “Scientific Revolution” and the more poetic called it the “Golden Age of Science.” Every scientific organization discovered the availability of almost unlimited financial support. The Institute was in a natural era of expansion with or without the benefit of Federal grants. The addition of numerous grants caused such a rapid acceleration that the Institute could not keep pace administratively. This resulted in a financial crisis that will be covered in depth in a latter segment of the “AIBS Story.” To the credit of the staff, the Bulletin published accurate and complete descriptions of the crisis along with candid commentary and objective appraisals not always expected of such publications. In fact, out of what at first appeared to be the ashes of ruin came a much finer journal than anyone had the right to expect. The ability to communicate effectively with the AIBS membership was, in great part, responsible for an overwhelming vote of confidence in an extremely difficult situation.

It should be noted that throughout the life of the Bulletin, it never lost sight of its primary objective to provide general news. Approximately 6 pages per issue were devoted to news items about people, meetings, societies, research developments.
and government agencies. Included under the banner title of "News," was a page devoted exclusively to international developments in the biological sciences. There was also a regular column on legislation entitled "Washington Microcosm" written as an exclusive feature by Howard Simons, twice winner of the AAAS-Westinghouse science writing award.

After 13 years as a bi-monthly publication, the AIBS Bulletin became a monthly journal with the new title BioScience. Although the Bulletin officially was transformed into a journal on 1 January 1964, it obviously had been regarded as a highly significant contribution by the AIBS membership long before the name was changed.

As with most publications, there have been cyclical changes that have caused brief periods of readjustment for the journal. There have been format alterations, changes in frequency of publication, and varying lengths. There have been several significant additions which enhance appearance, such as four-color process covers, a standard format, a vastly improved lithography. An unrestricted editorial policy allows for balance and change within the confines of accepted journalistic practices. BioScience has long enjoyed such a policy and will continue to speak forcefully about the manifold problems facing contemporary biologists and serve as an effective mechanism for the dissemination of a broad spectrum of pertinent information.
Acutely aware of its responsibilities to biological education, the AIBS was instrumental in developing two innovative programs: the AIBS Film Series and the Biological Sciences Curriculum Study (BSCS).

The AIBS Committee on Education and Professional Recruitment discussed at some length and in considerable detail the need to strengthen the course content of high school and college curricula and the methods by which these courses could be taught more effectively. It proposed two new programs.

The first proposal was to film a complete high school level biology course suitable for classroom and closed-circuit television instruction. The second proposal involved a complete reappraisal of the course content of high school courses. This led to recommendations for the development of textbooks, lab manuals, monographs, review journals, supplementary films, film strips, and magnetic tapes, as well as recommendations for the improvement of pre-service and in-service training of teachers.

Film Series

The series was started in late 1958 with grants provided by the Fund for the Advancement of Education and the Atomic Energy Commission. Calvin Productions, Inc. was selected to produce the films and McGraw-Hill Book Company to distribute them.

Basically, the filmed courses consist of 120 lecture-demonstration films of 30-minute duration. It is designed and produced in 10 major subject areas each consisting of 12 films. Laboratory guides and teachers’ manuals supplement the films.

The same narrator appears in each film. Guest lecturers, visits to other biologists’ laboratories, field excursions, microscopy, still photographs and animation supplement his presentations.

Titles for the 10 parts are: (1) Cell Biology; (2) Microbiology; (3) Multicellular Plants; (4) Multicellular Animals; (5) Reproduction, Growth and Development; (6) Genetics; (7) The Diversity of Plants; (8) The Diversity of Animals; (9) Ecology; and (10) Life, Time and Change.

Although the project has long since terminated, the films continue to be used widely not only in the high schools but also at the introductory college level.

Biological Sciences Curriculum Study

In the fall of 1958, the Biological Sciences Curriculum Study was established to evaluate the content of present biology course offerings, to determine what biological knowledge can and should be taught at each school level, and to recommend how this goal could best be achieved. Funding for the project was provided by the National Science Foundation.

The BSCS opened its headquarter offices on the University of Colorado campus in Boulder in January 1959 with Arnold B. Grobman, formerly at the University of Florida, as its director. A steering committee, under the chairmanship of H. Bentley Glass of Johns Hopkins University, was organized to establish policy for the study. As the need arose, other standing committees and special committees were to be established. In April 1959 the committee on laboratory innovations was established at the University of Texas.
to revitalize the laboratory aspects of biology teaching.

It was the consensus of the steering committee that the area of high school biology presented the most urgent need for study. Consequently, the BSCS concentrated much of its energies on a general biology course for the secondary school level.

After considerable background work by the committee on content of curriculum the first BSCS summer writing conference was held in Boulder in June 1960. Here, 69 writers—high school biography teachers and collegiate research biologists—prepared materials for three experimental versions of a new high school biology course. Three teams were requested to prepare three different approaches to the teaching of biology, using texts, laboratory manuals, teachers’ commentaries and guides, and brief films on techniques. The three courses became known as the Green, Yellow and Blue versions.

In August 1960, coordinating committees were formed for the three versions and for the laboratory materials. These four groups completed work on the manuscripts of the various versions to be tested during the 1960-61 school year. The testing program for the new materials began in September 1960 with 118 teachers and 14,000 students participating.

During this period other BSCS activities were initiated: (1) gifted student committee, (2) committee on teacher preparation, (3) publication of a BSCS Newsletter, (4) biological techniques films, (5) foreign utilization of BSCS materials, and (6) development of a pamphlet series, with each pamphlet devoted to a particular area of biology.

A second writing conference was held during the summer of 1961 to revise course materials for the three versions. Testing and evaluation continued during the 1961-62 school year with a larger number of schools involved and with a more detailed analysis of the revised experimental program.

The writing teams completed their work in 1963 and commercial editions of the three versions were made available in September 1963: High School Biology, BSCS Green Version, Rand McNally Co.; Biological Science: An Inquiry into Life, (yellow version), Harcourt, Brace and World Co.; and Biological Science: Molecules to Man, (blue version), Houghton-Mifflin Co.

Grobman resigned as BSCS director in September 1965 to join the staff of Rutgers University as Dean of The College of Arts and Sciences. William V. Mayer of Wayne State University assumed the directorship and has retained this important post to the present.

To enumerate the exceptionally large number of additional activities and programs initiated and developed by the BSCS during the past decade would be impossible to describe adequately in the space available.

Information is available by writing to the BSCS, Box 930, Boulder, Colorado 80302.
The Annual Meeting

Each year the AIBS sponsors an annual meeting for both individual members and adherent societies. Each year the same questions are asked: “Is another scientific meeting really necessary? Is it worth the time and expense to attend? What will be accomplished by going?” These questions are especially vexing in a year when salaries, research funds, and traveling expenses have been sharply curtailed.

The AIBS Annual Meeting has the skeletal arrangement of large-scale scientific conclaves, i.e., a plenary session, disciplinary and interdisciplinary sessions, awards presentations, tutorials, exhibits, abstracts and society papers, key speakers, and special symposia on topical subjects. There are also the usual trappings—banquets, press releases, field trips, and social events. Without minimizing the need for all of these features—all are necessary if not of equal value to all who attend—it is the informal structure of the annual meeting that provides an affirmative answer to the perennial questions.

The AIBS Annual Meeting should not be considered in isolation, but as part of an information exchange system vitally needed for the unification of biology. The late Clarence J. Hylander, past Executive Secretary of the AIBS, once stated, “...as specialization has become the keynote of science, specialized scientific societies by the hundreds have come into existence, resulting in a compartmentalization of human knowledge; often each society is composed of individuals interested in only a small fragment of the whole. Many of the older societies, although maintaining their existence, tend to split off ‘other societies’ which form as by fission, in bewildering number. This trend has added an intellec-
tual isolation to the already confusing multiplicity of minor disciplines.”

To combat the centrifugal force exerted by proliferating disciplines and societies, the AIBS Annual Meeting was created in 1948 to exert a countervailing centripetal force in the interest of restoring some degree of advantageous association between disciplines and thus stemming the tide of “intellectual isolation.” The informal exchange of information and ideas between colleagues at the annual meeting, often in hallways, corridors, and hotel rooms, has proved beneficial to this goal. It has brought together scientists from different disciplines and diverse backgrounds working on common problems, and lasting relationships have evolved. Old friendships have been renewed and new ones begun. It is impossible to measure the value of this informal structure. However, scientists have repeatedly testified to the need for these personal contacts and have been effusive in their support for interdisciplinary meetings. So long as the need continues, the AIBS will continue to provide the forum.

As Hylander so correctly predicted, “It is inevitable that, as each society becomes concerned with its own discipline, the more insulated it is likely to become from its fellow biologists. Just as a specialist has been defined as one who knows more and more about less and less, so each new society represents a trend toward stockpiling more and more detailed scientific data in smaller and smaller areas of human endeavor. As a result, increasing numbers of specialists engross themselves in restricted areas of investigation, unable to correlate their knowledge with that being gained simultaneously in an allied field.” It is for these reasons that the AIBS has so
strongly urged adherent societies to take advantage of the annual meeting by combining their individual annual meetings under an umbrella concept. Some adherent societies maintain separate annual meetings but hold special symposia at the AIBS meeting.

In the past, society participation has fluctuated considerably. Not all AIBS meetings have been glowing successes in terms of society participation, quality of symposia, and individual attendance. There have been years when the goal was missed in one of these areas by a rather wide margin and other years when there have been unplanned successes. To bring all the biological disciplines into harmony with each other is an extremely difficult goal and there are many who consider it unattainable. This August the AIBS will celebrate its 25th year at the annual meeting to be held at the University of Minnesota in Minneapolis. To date, over 20 adherent and several non-adherent societies will participate and it is expected that more individuals will attend than ever before. Considering the imperfections of the annual meetings, this is a significant show of support that cannot be ignored.
In late 1962, the American Institute of Biological Sciences suffered a most agonizing, frustrating, and exasperating financial crisis. The proverbial sword of Damocles swung perilously close to the economic throat of the Institute, and in some quarters the reverberations of this experience are still being felt. In brief, the AIBS held a number of Federal grants and contracts including several from the National Science Foundation (NSF). In November 1962, NSF auditors complained to the Comptroller of the NSF about the deduction of too much overhead, diversion of BSCS funds to the AIBS Film Series and poor fiscal records. Using these accusations as a base, the NSF temporarily froze the assets of the AIBS.

A thorough review of the records and comments from those most closely involved in the crisis are inconclusive or conflicting; therefore, we see no value in attempting to find fault or place blame. To do so would only serve to perpetuate rumors and anecdotal tales which have scant relation to the truth. The only incontestable fact is that the AIBS was involved in a misapplication of some Federal funds. It is unfortunate that few have looked to the underlying set of circumstances and allowed such a situation to exist. Although prosaic in contrast to the immediate problems, these circumstances were of vital significance to the continued existence of the AIBS. When the assets were frozen, confusion reigned supreme. Neither the Governing Board, the Executive Committee, nor the officers of the AIBS had any real grasp of what was happening; none had more than a cursory understanding of the financial management of their own organization. Thus the flurry of activity, the accusations and counteraccusations, and the attempts to protect personal reputations had almost a tragi-comic air. Fortunately, a few individuals tried to understand what had happened and gathered together to pull the AIBS safely from the jaws of impending doom. There were a number of societies and individual biologists who made donations in the amount of $125,000 thereby expressing confidence in the Institute.

In addition to the lack of careful attention to financial matters by those in authority, lack of adequate financial support by individual biologists through membership and over-eagerness to expand the number of projects also were near fatal defects in the structure of the organization. To understand these last two points it is essential to place events into historical perspective.

On 4 October 1957, the Soviet Union launched Sputnik I. At that time, federal support of the life sciences was a marginal $30 million. By 1963, federal support of science had risen dramatically to nearly $185 million. In fact, there was so much money available that obtaining grant and contract support for scientific programs was practically automatic. The sudden upsurge in the availability of federal funds roughly paralleled the mercuric rise of the AIBS. An examination of the AIBS financial position in the years 1959-1962 presents convincing evidence that these two events were not just coincidental. The AIBS budget for 1959 was approximately $1,500,000 of which all but $35,000 was attributable to federal grants and contracts. By the end of 1962, the budget was substantially larger and the staff numbered in excess of 80. It is now obvious that reliance on "overhead" from grants and contacts put the
Institute in the highly vulnerable position of “feast or famine” depending on changes in government policy. It is also now obvious that changes in government funding policies are not always predictable and at times are baffling.

The initial position taken by the government toward the AIBS at the end of 1962 was extremely harsh and in some ways appeared vindictive. It should be noted that at the time the Institute came into conflict with the NSF, the Foundation was quite busy trying to explain to Congress about excessive expenditures for the Mohole project. How much this had to do with the attitudes of some of the NSF administrators, we can only speculate; however, circumstantial evidence would indicate that the NSF was not in a receptive mood for arbitration.

Furthermore, while admitting its liability, the AIBS was not willing to accept total blame for the misapplication of funds and was ready to use legal channels, if necessary, to prove its point. After the first meetings between AIBS and NSF representatives, it was obvious to both parties that there was no fraud, nor attempt to “cover-up.” Although the AIBS was perhaps guilty of irresponsible financial management, the records accurately reflected its financial position at the time of the NSF audit. Quite correctly, the AIBS asked why it took government auditors several years to raise objections to these procedures. This question and others helped to restore lost equanimity and resulted in the NSF being most cooperative in helping devise a plan to repay the monies.

In retrospect, it is interesting to note that a number of other scientific organizations and universities which held NSF grants and contracts were operating in a similar manner to the AIBS. As a result of our difficulties, a number of accounting procedures were quickly changed or adjusted to meet NSF requirements. Had this not been the case, it is questionable whether the AIBS would have received such strong support from all sectors of the scientific community.

As soon as an agreement was reached, the AIBS took immediate steps to ensure that the Executive Committee would be kept completely informed of the fiscal operations of the Institute. Staff was reduced, programs that the AIBS felt it could not support during this period of readjustment were moved elsewhere, and spending of certain funds was brought to an immediate halt. In a very short period of time, the AIBS regained the full confidence of granting agencies and has continued to receive numerous grants and contracts since 1962. Such rigid administrative control has been continued and it is to the credit of the Institute that government auditors have never disallowed a single expense item over the past 10 years.

The most important fundamental change to take place involved membership. The AIBS decided to place financial reliance upon Individual Membership dues; thus Adherent Society membership no longer gave society members automatic membership in the Institute, as had been the procedure since the AIBS was founded in 1947.
The Special Science Programs of the AIBS provide biologists with the opportunity to interact with and influence biological programs of federal agencies. Through the auspices of the AIBS, thousands of biologists have served on advisory panels, committees, and proposal review groups; participated in symposia, workshops, and surveys; and published books, review articles, and numerous reports on many disciplinary and interdisciplinary research projects. Far too many biologists in the United States have a monolithic image of the AIBS as either publisher of BioScience, promoter of undergraduate education, or sponsor of Annual Meetings. Nothing could be further from the truth. The constraints of space prevent listing all of the special programs; therefore, the following are offered as examples of the diversity of programs the AIBS has undertaken.

National Aeronautics and Space Administration

The AIBS supports standing advisory panels on biology, exobiology, behavior, medicine, and spacecraft sterilization to advise on the scientific merit of research proposals submitted for review by the Office of Life Sciences. The Planetary Quarantine Advisory Panel has reviewed proposals in the limited area of spacecraft sterilization technology and research; however, the committee continues to be primarily concerned with the broad aspects of the planetary quarantine program.

The Regional Council Advisory Program to Bioscience Programs, Office of Space Science and Applications was completed in December 1967. Several areas of biological research were identified that would benefit from experimentation conducted in space environment. As a logical sequence to the Council Program, the AIBS initiated the Experiment Survey Program. The objectives of the program were to acquaint the prospective experimenter with the opportunities and requirements for biological experiments in space, to encourage them to submit carefully designed proposals, and to participate in flight programs.

The program enlisted the cooperation of NASA personnel, the Ames Research Center, former Regional Council members, the University of California at Berkeley, and other scientists and engineers in the organization and management of flight experimentation programs. The Experiment Survey Program was concluded in 1969.

From 1965 through 1970, the AIBS conducted Summer Colloquia on Theoretical Biology and Biophysics to stimulate and encourage active research in theoretical biology.

Office of Naval Research and the U.S. Atomic Energy Commission

The program advisory committees to these agencies have represented the national biological interest for many years. One group, the AIBS Shark Research Panel gained an impressive international reputation over its 12-year lifespan. The Panel was established in Jun 1958 to (1) expedite and initiate recommendations formulated at the ONR-sponsored conference on Basic Research Approaches to the Development of Shark Repellants and (2) to serve as a clearinghouse for all information related to the field of elasmobranch biology in general and the shark hazard problem in particular.
The Panel served in an advisory capacity in basic research, applied science, maintenance of a shark-attack file, analysis of anti-shark devices, and meetings. Two major books, *Sharks and Survival* and *Sharks, Skates and Rays*, and two sets of abstracts resulted from papers presented at Panel Symposia and open meetings.

The AIBS is currently supporting two programs in association with the Division of Nuclear Education and Training, U. S. Atomic Energy Commission. The Traveling Lecturers Program enables students and faculty in high schools and colleges to meet distinguished radiation biologists and thus to receive factual and up-to-date information which will foster an interest in radiation sciences. The second program, Management Services, is designed to provide logistical support for consultants, special meetings and/or conferences, and when appropriate, the spring meeting of the directors of the ACE-NSF summer institutes, academic year institutes, and the mixed institutes for faculty training in radiation biology.

**International Biological Program**

In 1971, a cooperative project of the U.S. International Biological Program and the AIBS was initiated. The project is an effort to inventory and describe existing terrestrial, aquatic and estuarine Research Natural Natural Areas and to identify additional areas to provide for the preservation of a representative spectrum of major ecosystems in the United States and other western hemisphere countries.

Based upon past accomplishments, the AIBS will probably continue to initiate Special Science Programs in the foreseeable future, thus helping to ensure the role of biologists in federally funded scientific research.
The American Institute of Biological Sciences exists today for the same reason that it was founded 25 years ago: the unification of biology into a single scientific estate. Although the AIBS has made significant progress in supporting the role of biologists in a myriad of activities and in achieving Federal recognition of biology as an important sector of the scientific community, the basic roadblock to unification remains—fractionalization of biology into numerous disciplines and subdisciplines. The best evidence of this continuing division is the proliferation of scientific societies. In his article “Memberships in Biological Societies” (BioScience, 22:303-307), Sydney Anderson estimates that there are 65,000 biologists in the United States and over 80 national biological organizations. He further states that there are more biological societies than in chemistry or physics and that biologists belong to more societies than do chemists and physicists (the average biologist belongs to 3.6 societies). Although the rate of growth of biological societies has declined to about 25% per decade. Anderson speculates that even if it were to decline to 10% per decade, a new society would be formed every 15 months.

Obviously, one of the problems in unifying biology is that of sheer magnitude. When the AIBS Governing Board first met in 1948, the Institute consisted of 12 adherent societies. Today the AIBS has about 40 adherent societies, 12 industrial members, 11 affiliate members, and about 13,000 individual members.

Division along disciplinary lines is not the only difficulty. Job descriptions also serve to divide vested interests. Administrators, educators, researchers and graduate students often view biology from vastly different perspectives. Even those in the same discipline and with the same job description can be divided by the type of employer, i.e., industry, Federal or state government, university, museum, or independent laboratory. Add to these factors such general problems as the “generation gap,” regionalism, and other organizational affiliations and the complexities of achieving unity become manifold.

For the AIBS to represent biology, it must define common interests, derive consensus opinions on major issues, support all areas of membership equally, and, above all, present a unified front to the public. The AIBS believes that these are obtainable goals and will be achieved with much greater regularity in the future.

One of the common complaints leveled at the AIBS is that the Institute does not take public stands on critical issues. Although there are instances where stands have not been taken, this is not a valid complaint. The AIBS has gone on record before congressional hearings, federal agencies, and in meetings with allied scientific organizations on a number of issues when a majority opinion was clearly visible; i.e., concerning the use of laboratory animals, overpopulation, depletion of natural resources, pollution control, and the development of secondary and college level curricula. The Institute cannot and will not go out on any “limbs” for specific groups where it is clearly not in the interest of the majority to do so. As tempting as it has been to pursue a popular cause, the AIBS would be violating its very mandate if the organization began making decisions that most properly belong to the membership. It would serve to promote the very
devisiveness that the AIBS is dedicated to dissolving.

In its search for unity, the AIBS sees improved communication with the individual member as the key. While the AIBS has been highly successful in keeping the individual member informed through the pages of BioScience and numerous other publications, as well as its Annual Meetings, interdisciplinary meetings, and various symposia, there has been a lack of useful “feedback.” To this end, the AIBS is currently exploring several methods of quickly and efficiently sampling membership opinion through BioScience readership polls, direct mail surveys, personal contact, and regional meetings. Once a workable system is agreed upon, the individual member will have a much greater role in the decision making process; thus the path to unity will be perceptively shortened.
AIBS Presidents: 1954 - 1972

W. Frank Blair 1972
David E. Davis 1971
George L. McNew 1970
LaMont C. Cole 1969
Wm. D. McElroy 1968

J. Roger Porter 1967
Clement L. Markert 1966
Kenneth V. Thimann 1965
Paul J. Kramer 1964
James D. Ebert 1963

Frits Went 1962
Tracy Sonneborn 1961
James G. Dickson 1959-1960
Wallace O. Fenn 1957-58
H. Bentley Glass 1954-56

AIBS Chairmen: 1948 - 1953

Ted C. Byerly 1952-53
Frank P. Cullinan 1951
Elmer G. Butler 1949-50
Ralph E. Cleland 1948