organizations, institutions and individuals who responded so generously to his invitations to participate. Without such friendly cooperation nothing worth while could have been done. The final result exceeded anything that had been anticipated, and gives reason to hope that the annual exhibition of the American Association for the Advancement of Science and Associated Societies will grow in importance and value with the years.

THE ORGANIZATION, WORK AND PURPOSES OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE

GENERAL SCOPE

The American Association for the Advancement of Science aims to advance science in the New World in every feasible way. The majority of its members and all the societies now associated with it are of the United States or Canada, but its field is not limited to those two countries and it has members residing in all parts of the world. All who are interested in the progress of knowledge and education are eligible to membership. Its organization presents two aspects:

(1) It constitutes a cooperation of many thousands of individuals for the advancement of science and all that this phrase implies. At the opening of the Washington meeting the membership list included 13,633 names. Its membership represents persons engaged in scientific or educational work or appreciating the value of these lines of activity. The individual members of the association support its project through financial contributions, which may have the form of *sustaining-membership* contributions, *life-membership* contributions, *annual membership* dues, or *associateship* dues. Contributions of the last two forms are used directly to support the work of the association, while only the income from the first two forms of contribution is thus used, these contributions themselves being permanently invested and very carefully guarded.

(2) The association is also a great general organization of eighty-three wholly autonomous and independent *associated* scientific societies and twelve local academies of science and learning. Forty-nine of the larger associated societies and all the associated academies are officially *affiliated* with the association. Affiliated organizations have representation in the association council and in its section committees, thereby taking part in the control of its affairs. Whether affiliated or not, the associated societies have no responsibility for the financial support of the organization, which is borne, as has been said above, solely by the individual members. A list of the associated societies is presented farther on in this issue of SCIENCE.

The association aims to assist, in every feasible way, the work of all men and women of science and that of all scientific and educational organizations, especially those that are associated with it. A large number of the latter regularly meet at the times and places of the association meetings, while many others frequently do so. The facilities of the association, for arranging sessions, etc., are at the disposal of all the societies that meet with it at any of its meetings. Reduced railway rates for the meetings are generally secured. To individual members the organization is valuable in many ways, especially through its publications and through the meetings. The permanent secretary's office is always ready to aid the scientific work of members in every way possible. It is hoped that all members and all associated societies may realize that the American Association for the Advancement of Science is *their* association, and that they will continue to demand of its officers more and better work for the growth of knowledge, for increased popular appreciation of science and the scientific method of thought, and for the improvement of democratic civilization in general. It is also hoped that both the societies and the individual members will enter fully into the spirit of cooperation with the section secretaries, with the permanent secretary's office, and with the other officers and committees of the association, to the end that the services of the association may be still further broadened, its prestige may be still further enhanced, and its power may be still further strengthened, "to give a stronger and more general impulse and more systematic direction to scientific research, and to procure for the labors of scientific men increased facilities and a wider usefulness."

ORGANIZATION

The direction of the association rests in the council, a democratically constituted body that combines the legislative and executive functions. The council consists of the president, the vice-presidents (at present 15 in number), the treasurer, the general secretary, the permanent secretary, the secretaries of the sections (now 15 in number), the council representatives of the affiliated societies and academies (49 societies and 12 academies, with 102 representatives altogether), and eight elected members. All council members, excepting the representatives of societies and academies, are elected by the council itself, for it nominates and elects the president, the general and permanent secretaries, the treasurer and the eight additional elected members, and it elects the vice-presidents and section secretaries on nominations by

the respective sections. There are 144 council memberships at present.

A list of the council members for 1924 has been presented on earlier pages of this issue of SCIENCE. The council meets regularly four or five times during each annual meeting, and interim business is transacted by the executive committee of the council, which consists of the president, the general secretary, the permanent secretary and eight other members elected by the council. The executive committee for 1924 consisted of Simon Flexner, *chairman;* J. McK. Cattell, *president;* D. T. MacDougal, *general secretary;* B. E. Livingston, *permanent secretary;* H. L. Fairchild, L. O. Howard, W. J. Humphreys, G. A. Miller, W. A. Noyes, Herbert Osborn and H. B. Ward. For 1925 the executive committee consists of the following members: M. I. Pupin, W. J. Humphreys, B. E. Livingston, J. McK. Cattell, H. L. Fairchild, W. A. Noyes, H. B. Ward, B. M. Duggar, Vernon Kellogg and Edwin B. Wilson.

The association has fifteen sections, representing the main current subdivisions of science, and each is designated by a letter, as follows: A (Mathematics), B (Physics), C (Chemistry), D (Astronomy), E (Geology and Geography), F (Zoological Sciences), G (Botanical Sciences), H (Anthropology), I (Psychology), K (Social and Economic Sciences), L (Historical and Philological Sciences), M (Engineering), N (Medical Sciences), O (Agriculture), Q (Education). Members of the association may be enrolled in one or more sections and a card file of the members of each section is maintained. Section P is planned for Manufactures and Commerce, but has not yet been organized.

ACTIVITIES

The activities of the association are, in general, of three kinds, those related to the holding of the annual and other meetings, those related to publications and those related to the advance of knowledge by research. These may be briefly considered in order.

Meetings

The regular annual meetings are made possible by the organization of the association. A local committee for each meeting has charge of all local details. These meetings are the only large gatherings of the kind that include all branches of science. They present to the people an orderly exposition of all the branches of American scientific thought. These, and the other meetings that are occasionally held, constitute a powerful means of disseminating knowledge, of cultivating the scientific attitude of mind and of promoting a general appreciation of the great importance of science and scientific study. For each meeting the association organizes a publicity service, which gives to the daily press authoritative accounts regarding science. The meetings also furnish the only means by which such a large number of active workers in all branches of science are brought together from distant regions, with consequent opportunities for the formation and renewal of numerous personal acquaintanceships and friendships.

When an associated society meets with the others of the group all its needs are cared for through the organization of the association. In these cases the society officers are freed from most of the preliminary work that must always be done in preparing for a society meeting. The association does not urge that associated special scientific societies should always meet with the larger group representing all the sciences; there are good reasons why some societies should generally meet at other times and places, and why some should frequently or occasionally do so. This matter is of course decided by each society for itself. But the association does *invite* all scientific societies to meet with it, especially at the greater four-yearly meetings, and it proffers the machinery of its organization for the advantage of all societies that accept this invitation. It asks the officers of societies that meet elsewhere and at other times to consider seriously how they may be able, nevertheless, to aid their respective section committees to present their respective fields of science in an adequate and impressive way, and it asks the council representatives of the societies to take active part in the work of the association. In a great exposition of American scientific work such as one of the annual meetings of the association, as well as in the conduct of association affairs in general, it is surely desirable that the work of every special scientific society should be well represented. When an associated society does not meet with the rest of the association the corresponding section committee arranges the program for its field of scientific work; in the presence of the societies the section programs are mainly left in their hands.

The council aims to select meeting places in such a way as to bring the meetings successively into the various regions of the United States and Canada, in order that all members may frequently attend without too extensive journeys, and that the wholesome local publicity for scientific work and the general educational influences that always result from the meetings may be brought to all quarters of the two countries.

Publications

The weekly journal SCIENCE, official organ of the association, furnishes an open forum for the discussion of questions regarding science and education. Almost every branch of scientific knowledge is represented in its columns. Many shorter scientific contributions of the results of research are published in SCIENCE, which probably has a larger circulation than any other journal that embraces the entire scientific field.

Since SCIENCE became the official organ of the association for the publication of its official announcements and the reports of its meetings, the annual publication of a volume of proceedings has been discontinued, and volumes of summarized proceedings have been published in their stead. Five volumes of this kind have appeared—the last one in 1921, covering six years. Each of these volumes presents the lists of officers, etc., for each of the years considered, together with references to SCIENCE for the presidential and vice-presidential addresses and other official communications and announcements for those years. It also includes the complete membership list as this stood at the date of printing. It is planned to publish the next volume in the fall of 1925.

The membership list of the association forms one of the most valuable instruments of its kind as an address list of American scientific workers and friends of science. Fellows of the association as well as life and sustaining members are specially designated. The name of every professional scientist ought to be included in this directory, as well as the names of all those who care seriously for any branch of science or for the advancement of science as a whole. The 1925 volume may be secured for $2.00 by members (non-members, $2.50) who make advance payment before the date of publication. After that date the price will be $2.50 to members ($3.25 to non-members).

From time to time the council of the association has adopted resolutions calling attention to various matters that pertain to the general welfare as this is related to scientific thought and setting forth the position taken by the association in these matters. Such resolutions are published in SCIENCE and are sent to interested persons and organizations.

One of the most important features of the work of the association is the support it gives toward the publication of SCIENCE, and one of its main objects is the publication and wide circulation of this weekly journal. SCIENCE is sent free to all members in good standing. Such members are allowed, however, to receive *The Scientific Monthly* instead of SCIENCE, if they so request. At the beginning of the calendar year a subscription to the journal for that year is ordered from the publishers for each member whose annual dues for the current fiscal year have been paid. As a special accommodation, members who paid dues for the preceding fiscal year are kept on the mailing list of the journal until about February 1 (February 6, in 1925), even though they may not have paid for the current year. The journal is then discontinued unless the current dues have been paid. Those paying their dues still later in the year receive the journal from the time the dues are paid, but, as a special favor, may receive the back issues for the current calendar year *if they so request, provided they pay for the transportation of these back issues at the rate of one cent for each copy.*

The association publishes a preliminary announcement for each meeting, which is mailed to all members. It also publishes a general program for each meeting. The general program of an annual meeting forms an excellent epitome of the status of American science at the time. General programs may be secured from the Washington office on request if postage (6 cents) is prepaid. (But the supply of programs of the Fifth Washington Meeting has been exhausted and that program can not be supplied.)

Endowment and Grants for Research

The Americah association is entrusted with a considerable permanent endowment (now about $133,000), which has been derived from gifts and bequests of public-spirited persons and from payments made by sustaining members and life members. The income derived from these funds is employed to advance scientific research. There is an annual appropriation for grants, which are made to individuals or scientific organizations to aid research projects. Applications for financial assistance in scientific investigations are referred to a special committee on grants which considers the application and apportions the available funds. Recipients of these aids to research make reports to the association, showing how the funds have been expended and the nature of the results obtained.

It is desirable that the endowment of the association be increased whenever possible, and it is hoped that the opportunity thus offered for continuously aiding the increase of useful knowledge may be widely appreciated. All who are interested in the advancement of science by research are urged to bring the existence of this trust fund to the attention of public-spirited and philanthropic men who might become donors, sustaining members or life members of the association. The fundamentally democratic nature of the American Association and its broad, general scope constitute an unusual guarantee that funds entrusted to it will be reasonably and efficiently employed in

ways calculated to advance science and improve education.

The association offers the most efficient means by which individuals, scientific societies and scientific institutions may unite to hasten the growth of scientific knowledge and to increase public appreciation of what the peoples and nations owe to science and what may be expected of science in the future. The insistent efforts of many individuals and organizations, united in such a comprehensive association for the advancement of learning, is capable of exerting a most powerful influence for good in national and international development.

Cooperation with Other Organizations

Besides the activities mentioned above, the American Association cooperates with other organizations for the advancement of learning. Most of the American scientific societies for special fields of science are affiliated or otherwise associated with the association.

A scientific society may become associated with the American Association on making application to the permanent secretary and upon a vote of the council. No special obligations are involved; but when associated societies meet with the association, the local committee attends to their arrangements, their official programs are published in the general program and their members receive the privilege of reduced railway rates whenever these are secured for the meeting. Their names are shown in the official list of associated societies. Scientific societies are encouraged to become associated with the association.

An associated society may become affiliated with the association upon application to the permanent secretary and upon a vote of the council. Affiliated societies are generally societies for the promotion of scientific research, and they have representation in the council of the association and in its section committees, their representatives being chosen from among the fellows of the association. Members of affiliated societies have the privilege of becoming members of the American Association without payment of the usual entrance fee, if they make application before the second October 1 following their entrance into the society. When a society first becomes affiliated this special privilege is offered to all its members, the offer being open until the second October 1 following the ratification of the arrangements of affiliation. Each affiliated society elects one member of the council of the association, and those societies of which one hundred or more members are fellows of the association elect two council representatives.

Two regional divisions of the association are in very successful operation—the Pacific Division and the Southwestern Division. The former includes all association members residing in Alaska, British Columbia, Washington, Oregon, California, Idaho, Nevada, Utah, Mexico (excepting Sonora and Chihuahua), the Hawaiian and Philippine Islands and other islands of the Pacific. The Southwestern Division includes association members resident in Arizona, New Mexico, Colorado, Sonora, Chihuahua and Texas west of the Pecos River. These divisions are autonomous, holding annual and other meetings and engaging in projects for the advancement of science in their respective regions. Their individual members are members of the association and have all the rights and privileges of this membership. Excepting newly elected members, members of a division pay their annual dues to the Washington office, and the division receives one dollar for each payment thus collected. New members of a division pay the entrance fee and the first annual dues to the division. The division retains the entrance fee and sends five dollars (the first annual dues) to the permanent secretary's office in Washington; upon the receipt of this the new member is enrolled and the journal is ordered for him, and one dollar is transmitted to the division secretary.

Local branches of the association are authorized; and one such branch has thus far been formed, the State College (Pennsylvania) Branch. This branch has two kinds of members—national (regular members of the association residing in or near State College) and associate (individuals who take part in the work of the branch but who are not members of the association). The affairs of the branch are mainly directed by its national members; it is autonomous in its local work.

State academies of science, excepting those representing states lying within the region of either of the two divisions, may become affiliated with the association, there now being twelve affiliated academies. This form of affiliation has been planned to promote the growth of the several academies and especially to aid them in making their meetings increasingly successful and locally influential.

The association cooperates in many ways with its regional divisions and with the affiliated academies to aid in their work of encouraging local interest and appreciation regarding scientific progress.

Many projects for the advancement of science, for the improvement of education and for increased national and international welfare have received the support of the association. Its Committee of One Hundred on Scientific Research, organized early in

1914, formed the beginning of a nation-wide endeavor to accelerate systematic research and to render the knowledge of individuals more readily available to other individuals and to their government and nation. The National Research Council, of the National Academy of Sciences, is now the most prominent national organization for this work in the United States, and the association cooperates with the Research Council in many ways toward the advancement of science and the encouragement of scientific research. The Committee of One Hundred is now being reorganized for new lines of work.

The association has been appreciative of the need for improved facilities for bringing published scientific work to the attention of those who would make use of it—such facilities as abstract journals and other similar aids to research. Financial grants were made to aid the *Concilium Bibliographicum* in its earlier years, and *Botanical Abstracts* was similarly helped at a time when such support was greatly appreciated. Both of these enterprises are now in very promising condition, through assistance secured for them through the National Research Council. For 1923, 1924 and 1925 the association has contributed some financial help to the Annual Tables of Physical, Chemical and Technological Data. For 1925 it is to contribute to the new project of Biological Abstracts, which is being organized under the auspices of the Union of American Biological Societies.

The association cooperates with the U. S. National Academy of Sciences and the U. S. National Research Council in the recently founded Science Service whose aim is to disseminate truthful and at the same time readable information about scientific subjects.

The association is now engaged in a broad survey and study of the place of the sciences in education and it has a special committee on that subject. For the work of this committee financial aid has been provided by the Commonwealth Fund, of New York City. It is hoped that there may result from this study some much needed improvements in education.

It is the aim of the association: To extend its activities in all lines just as rapidly as possible; to make its meetings more efficient and more beneficial; to enlarge the journal and give it a still wider circulation throughout the world, and a farther-reaching influence upon thoughtful people; to become the trustee of increased endowment for scientific research, thereby being able to aid directly in new discoveries and new applications of knowledge.

MEMBERSHIP IN THE AMERICAN ASSOCIATION

Any person interested in the progress of science and education in any way may become a member of the association and all are invited to do so. An application and information card is filled in and returned to the permanent secretary, with a remittance covering the amount of the entrance fee ($5) and the amount of the annual dues for the first year ($5).[1] On receipt of this payment by the permanent secretary the journal is ordered. A certificate of membership is sent to each new member as soon as he has been enrolled.

Any member of an *affiliated society* may become a member of the association on payment of annual dues for the first year ($5), the entrance fee being omitted in such cases, *providing application is made before the second October 1 following the affiliation of the society or following the applicant's admission to the society.* Such application should be made on a special (blue) application card provided for this purpose.

In making applications for membership the blanks on the application card should be carefully filled in, to the end that the permanent secretary's files and the published membership lists prepared therefrom may be correct. Cards may be obtained from the permanent secretary's office at any time.

Life members each pay $100 in one year (having paid the entrance fee or having had it omitted through membership in an affiliated society) and are exempt from all further dues.

Sustaining members each pay $1,000 and are exempt from all further dues.

Members who are engaged in scientific work or who have advanced science by research may be elected to fellowship in the association.

FUTURE MEETINGS OF THE AMERICAN ASSOCIATION

Under the present rules the association holds its main meeting each year during convocation week—at

[1] Persons residing in the region of the Pacific Division or of the Southwestern Division send their applications and remittances for the first year to the division secretary instead of the permanent secretary. For later years they pay their dues to the permanent secretary. New members of the State College Branch pay entrance fees and annual dues for the first year to the branch secretary. For later years their dues are paid to the permanent secretary's office. Members of affiliated societies and academies send applications and all remittances to the permanent secretary.