	PACIFIC DIVISION			SOUTHWESTERN DIVISION			STATE COLLEGE BRANCH	AFFILIATED ACADEMIES		
	1920	1921	1922	1920	1921	1922	1922	1920	1921	1922
Total number of members, end of year	.....	1,190	1,278	.....	156	176	52	851	1,437	1,488
Number of new members received during year	.....	33	61	.....	57	34	20	.....	182	101
Allowances made during year	$1,784	$1,007	$1,126	$108	$131	$149	$27	$818	$1,141	$1,328

Membership. The increase in membership since September 30, 1920, is summarized in the following tabulation:

	Sept. 30, 1920	Sept. 30, 1921	Sept. 30, 1922
Number of members in good standing	10,002	10,160	10,566
Total enrollment	11,442	11,547	11,646

Changes in membership occurring in the fiscal year 1922 are shown below:

	Sept. 30, 1921	Sept. 30, 1922
Total enrollment	11,547	11,646
Number of sustaining members	3	3
Number of life members	346	352
Number of annual members, paid up	9,811	10,211
Total in good standing	10,160	10,566
Number of members in arrears for two years	705	455
Number of members in arrears for one year	682	625
Total enrollment	11,547	11,646

Gain in membership, October 1, 1921, to September 30, 1922:		
Reinstatements	33	
New members (11 life, 1,209 annual)	1,220	
Total gain		1,253
Loss in membership, October 1, 1921, to September 30, 1922:		
Dropped because of non-payment of dues	705	
Resigned	362	
Died	87	
Total loss		1,154
Net gain, October 1, 1921, to September 30, 1922		94
Transfers from annual to life membership		4

Special attention may be directed to the marked increase in paid-up membership for the last two years, owing to the very efficient work of the executive assistant and his staff. Paid-up membership for the three years 1920, 1921 and 1922 was 10,002, 10,160 and 10,566. The rate of increase in paid-up membership from 1920 to 1921 was about 50.5 per cent. higher than was the corresponding rate of increase in total membership. From 1921 to 1922 the rate of increase in paid-up membership was about four times as great as was the corresponding total membership rate of increase. It seems that membership in good standing is a much better index of our growth than is total membership, and this feature is very gratifying.

Financial Affairs. The permanent secretary's annual financial report for the fiscal year 1922 will be published in SCIENCE after the annual meeting, at which time a statement regarding the permanent secretary's budget for 1923 will be made.

BURTON E. LIVINGSTON,
Permanent Secretary

REPORT OF THE COMMITTEE ON CONVOCATION WEEK[1]

THE committee on convocation week appointed by the council of the American Association for the Advancement of Science at the Toronto meeting, and consisting of J. McKeen Cattell, Chairman, Herbert S. Jennings, J. Playfair McMurrich, Eliakim Hastings Moore and Edwin Bidwell Wilson, begs to report as follows:

Twenty years ago the first convocation week meeting of our national scientific societies was held in Washington, from December 29, 1902, to January 3, 1903. Prior to that time the American Association for the Advancement of Science with the societies affiliated with it had

[1] This report has been presented to the executive committee and approved. It is printed in advance of the Boston meeting in order that consideration may be given to the recommendations that are made prior to their presentation to the council.

held annual meetings in the summer; the American Society of Naturalists, with an affiliated group of societies in the natural sciences, had met in the Christmas holidays. Others of the national societies had met at various times and places.

The summer meetings of the American Association were found unsatisfactory owing to the difficulty of traveling and the wide dispersion of scientific men at that season. There had been a gradual development in the direction of making the American Association an affiliation of scientific societies responsible for their own programs, and the special programs of the sections of the association were becoming less important. After long discussion, it was consequently decided to transfer the meeting to the Christmas holidays, and to make closer the affiliation with the national scientific societies.

A committee, of which the late Professor Charles S. Minot was chairman and the chairman of the present committee was secretary, proposed and arranged a convocation week meeting of the American Association and other national societies to be held during the week in which New Year's day falls. The plan was to let the meeting follow Christmas day, at a sufficient interval to allow scientific men to spend the first part of the Christmas holidays at home, devoting the second half to the scientific meetings. Extensive correspondence was conducted with universities and colleges and about sixty leading institutions agreed either to let their Christmas holidays include the entire week in which New Year's day falls, or in case that were not possible to give leave of absence to those who wished to attend the meetings.

It was thought that the official recognition of convocation week would lead the authorities of the universities and other institutions to realize that attendance at scientific meetings is a part of the academic duties and privileges of their teachers. Efforts, in part successful, were also made to obtain payment of traveling expenses by the institutions.

A further part of the plan of convocation week was to hold a greater convocation of scientific, and perhaps also of learned, societies once in four years, in alternation in Washington, New York and Chicago. It was proposed that at the intervening two-year periods the association should meet in a large central city, where there would be accommodation for all the societies to meet with it. In the alternate years—the end of the year of odd numbers in the calendar—the meeting would be held in a smaller or more remote city, and in this case it was assumed that many of the scientific societies would prefer to meet singly or in groups, often in smaller university towns. This plan has since been carried out, the four-year convocation meeting, for example, having been held at the end of 1920 in Chicago, with a very large representation of national scientific societies and scientific men. The meeting last year was held in Toronto, a smaller city, where, however, the arrangements were admirable and the attendance large. The meeting this year will be at Boston, where the facilities are ample for a large meeting.

A difficulty has, however, occurred owing to the prescientific arrangement of the calendar, according to which the same day of the week does not coincide with the same day of the month. When New Year's day came early in the week, many institutions resumed their regular work in the middle of that week, and scientific men found it difficult to be absent to attend meetings of scientific societies at the beginning of their work. The present committee was appointed with special reference to this difficulty, but was authorized to report on other problems connected with convocation week.

This year Christmas occurs on Monday and it was not regarded as feasible to postpone the meetings to the following week. The council at Toronto appeared to be nearly equally divided among three alternatives—holding the meeting during Christmas week, extending it over Sunday, or postponing it to New Year's week. It was finally decided to hold the opening session on Tuesday. This has obvious disadvantages—it shortens convocation week by a day; it requires most members of the societies who wish to be present at the opening to leave home on or before Christmas day; it does

not allow a day in advance of the meeting for preparatory meetings of councils and committees. When Christmas occurs on Tuesday, as it does next year, the balance of the week is too short for the meetings of the different societies, for it is desirable that to a certain extent they meet successively rather than simultaneously in order to avoid conflicts in the programs.

Our committee has decided to recommend that when New Year's day falls on Thursday, Friday or Saturday, convocation week shall begin on Monday of that week and extend through the week; when it falls on Sunday, convocation week shall begin on Tuesday of Christmas week and shall continue five days; when Christmas day falls on Monday, Tuesday or Wednesday, convocation week shall begin two days later, namely, on Wednesday, Thursday or Friday, the meetings being continued to include, respectively, Tuesday, Wednesday or Thursday of New Year's week.

It is suggested that meetings acceptable to scientific men and to the community might occur on Sunday. Such would be meetings of councils and committees held at headquarter hotels, and perhaps public lectures. Indeed lectures might be given in the churches as is the custom at meetings of the British Association which always includes Sunday in its week of meeting. It may also be suggested that one of the main objects of scientific meetings is to bring scientific men together for acquaintance and conversation, and that Sunday could be utilized for such personal meetings, as also for smaller excursions, for informal dinners and the like.

The situation in which there appears to be most occasion for difference of opinion is when Christmas day falls on Monday or Wednesday. It might in these cases be desirable to meet the day after Christmas, so that in the first case the meeting could be completed in Christmas week and in the second case not extend beyond Wednesday of New Year's week. The committee, however, recommends that the official opening dates be two days after Christmas, though of course any society could place its first meetings on the day after Christmas and the council of the association and other councils and committees must meet on that day.

In addition to the convocation-week meetings during the Christmas holidays, it seems desirable that the association should resume regular summer meetings. The sections need not be fully organized, and it would not be expected that most of the affiliated societies would meet. The four summer meetings that have been held since the establishment of the winter convocations—in Ithaca, Hanover, San Francisco and this year in Salt Lake City—have been enjoyable to those able to be present and useful to the communities, to science and to the association.

The country is large; scientific men are many and have diverse interests. The association should aim to be of service to all in so far as this is possible without sacrifice of other interests. A meeting in summer, smaller and more informal than the winter meetings, more sectional in character, enables the association to visit universities and places not suited to a large winter meeting or impossible when there is only one meeting a year. Excursions and social features may be arranged for a summer meeting, which give it an individual character.

The committee proposes that in addition to migratory convocation-week meetings during the Christmas holidays and meetings in summer, it may be desirable to standardize other times and places for scientific meetings, more especially for meetings of committees, boards and the like. In many such groups, for example, in practically all the committees of the National Research Council, there are men working in different sciences, and the cost and time of travel could be economized if several meetings were held on the same or consecutive days.

We consequently suggest that it would be an advantage to scientific organization and research if committee and similar meetings were called in Washington in the fourth week in April; in New York City in the latter part of Thanksgiving week; in Chicago about the first of February, and in Wood's Hole in August. This would give a convenient distribution both in time and place for such meetings.

The committee does not regard convocation

week meetings during the Christmas holidays as necessarily final. There is much to be said for placing convocation week in the scholastic year, so that attendance at the meetings may be regarded both by teachers and administrators as part of the privileges and duties of scientific men. It is doubtful whether students would suffer by the absence of part of their teachers for a week, and it is certain that it would be to their advantage for their teachers to attend scientific meetings. It is further the case that neither midsummer nor midwinter is the best time for traveling or for the holding of meetings. Apart from inconvenience, dysentery in summer and colds in winter are a common sequence. A convocation week in autumn or in spring might be best for scientific men and ultimately in the interest of the institutions with which they are connected.

It is perhaps not necessary for the committee to enter into a discussion of the advantages and disadvantages of large meetings. The inter-relations of the sciences are so fundamental, however, that it is difficult to make separation in time and place of meetings of societies that is not inconvenient to some and perhaps adverse to the development of inter-relations that are important for the advancement of science. It is also the case that a large meeting may impress the magnitude and importance of science on the general public. In addition it may be noted that it is not so difficult either for executive officers or for hosts to arrange for one large meeting as for many small meetings, and there are other extrinsic advantages, such as reduced railway rates.

On the other hand, it is desirable for men whose work is in the same science to meet together intimately, and the social arrangements for a small and isolated group are usually more agreeable than those for a large gathering. The compromise that has been worked out appears to be working with reasonable success, namely, that there be a general convocation-week meeting once in four years in three large scientific centers, Washington, New York and Chicago. In New York and Chicago, at least, there is ample accommodation, so that societies can have headquarters and places of meeting that will give them any desired degree of isolation.

It might also be useful to arrange a twelve year schedule for convocation-week meetings of the second class, say, in Philadelphia, Baltimore, Pittsburgh or Buffalo four years hence; in St. Louis, Cincinnati, Columbus or Cleveland eight years hence; in Boston again, or in another New England city, such as Providence, Worcester or New Haven, twelve years hence. Then it might be convenient to arrange a provisional schedule for minor convocation-week meetings for the alternate years, including those cities mentioned when not selected for the twelve-year rotation and cities such as Montreal, Toronto, Albany, Rochester, Richmond, Louisville, Atlanta, Nashville, New Orleans, Houston, Indianapolis, Detroit, Kansas City, Omaha, Minneapolis, Denver, Salt Lake City, San Francisco, Los Angeles, Portland and Seattle.

The committee consequently recommends that all national scientific societies arrange to meet in Washington at the end of the year 1924, in New York in 1928 and in Chicago in 1932, and arrange their intervening meetings with a view to this program. The council of the American Association, which is primarily composed of representatives of the affiliated societies, will in accordance with its present policy arrange places of meeting that will be convenient for all societies for the intervening even years, namely, 1926, 1930, etc. For the intervening odd years the association will arrange a program for places of meeting to which the affiliated societies will be welcome, but which will, as a rule, be in cities that are smaller and more distant from the center of scientific population. The meeting at the end of 1923 will be in Cincinnati.

In pursuance of these considerations the committee recommends the following resolutions for passage by the council:

Resolved, That the greater convocation-week meetings of the American Association for the Advancement of Science and the affiliated national scientific societies be continued as for the past twenty years at four year periods in succession in Washington, New York and Chicago, and that all national scientific societies be invited and urged to join in these meetings.

Resolved, That a corresponding twelve-year cycle of meetings for the intervening two-year periods be arranged for large cities in succession in the New England, the Central and the Atlantic States, in which it is desirable that the national scientific societies join.

Resolved, That a provisional schedule of meetings in other cities for the odd years be arranged in advance for the convenience of the scientific societies that may find it desirable to meet with the association.

Resolved, That arrangements be made for a summer meeting in 1923.

Resolved, That scientific councils, boards and committees can to advantage hold their meetings in Washington during the fourth week of April, in New York at the end of Thanksgiving week, in Chicago on or about February 1, and in Wood's Hole in August.

Resolved, That Convocation-Week be the week in which New Year's day falls when this is Thursday, Friday or Saturday; that when New Year's day falls on Sunday, it be the preceding week, that when it falls on Monday, Tuesday or Wednesday, it begin two days after Christmas and continue into New Year's week.

J. MCKEEN CATTELL
Chairman

FUNCTIONS OF THE DIVISION OF GEOLOGY AND GEOGRAPHY OF THE NATIONAL RESEARCH COUNCIL[1]

THE purpose of this paper is to ask the geologists of the country what ought to be done with the National Research Council. I do not mean to imply that there is any trouble, or any disappointment, or that the right thing is not being done now. But the council is young, very young, and also very plastic, as it should be. It has the possibilities, and the dangers, of an infant.

It may be well to state first certain dangers that do *not* exist. The organization is *not* likely to die, in the sense of ceasing to exist. If it does there will be left a million dollar building bearing the words *National Research Council* carved in marble along with the words *National Academy of Sciences.* In the second place there is no immediate danger of its not having an organization and officers. The income from a few million dollars of permanent endowment is enough to settle the question of continued existence in some form. So, for better or for worse, the National Research Council is here, probably to stay. But what the council will be like in ten years or fifty years from now is what no man knows.

When all foreseeable possibilities have been assembled, they gravitate into two main groups. The council may become, on the one hand, a dispenser of "grants" or, on the other, an agency for promoting research in other ways, mainly by stimulating, organizing or federating the research activity which arises without grants. In either case money is paid out and research comes in, more directly in the former case, indirectly in the latter. One of the questions for the future will be whether research comes higher by direct purchase or by the more roundabout method.

The above statements apply to the council as a whole, but our own interest is in a single division, Geology and Geography, which is one of seven covering Science and Technology. It does not follow that the seven will, or ought to, develop alike. Exactly opposite divisional tendencies are among the possibilities and may even prove desirable.

Before setting forth more fully the option which lies before geologists, it will be well to describe more exactly several of the possible functions of a national council of scientific men. On the approach of war in 1916-17 it suddenly became necessary to find out what was known and who knew it; also what had to be done and who could do it. It was mainly for such purposes that the National Research Council was organized under the Council of National Defense. The details of this war organization were not suited to times of peace, but the central idea held over, namely, that it paid to get scientific men together in groups to take stock of what had been done and what is being done and to advise together concerning the things that remain to be done, especially those which ought to be done soon.

[1] Published in advance to be discussed at a round table of the Geological Society of America at Ann Arbor, December 28. Discussion to be led by David White.