

and a representative number were present at an informal dinner arranged for the evening.

The next meeting of the Mathematical Society will be held at Columbia University on April 30. The Chicago Section will meet at Northwestern University, Evanston, Ill., on April 2. The San Francisco Section will meet at Stanford University on April 30.

F. N. COLE,
Secretary.

DISCUSSION AND CORRESPONDENCE.

CONVOCATION WEEK.

THE present multiplicity of scientific societies appears to have its origin in four conditions: (1) in adaptation to the present differentiating or specializing tendency in science; (2) in adaptation to the magnificent distances in this country; (3) in historical peculiarities of origin, notably the former existence of both summer and winter meetings, and (4) in sundry failings of human nature. In so far as this multiplicity is due to the first condition, it is inevitable, if not actually desirable; in so far as it is due to the second, it is necessary; in so far as it is due to the third, it is susceptible to an appeal to reason and public spirit; while as to the fourth, it must be allowed for in any plans for improvement of existing conditions. The other extreme from the present multiplicity, viz., consolidation into a single great many-sectioned society, seems to me, for the above reasons, not only impracticable, but highly undesirable. There is no real analogy between the conditions of scientific progress, which depends much upon individualism and little on organization, and the conditions of a great business where organization is in itself of prime importance; and it is a mistake to suppose that the benefits of consolidation would be as great in the one case as in the other. The real task before us, I believe, is to seek and to achieve that optimum in number and kinds of societies which lies somewhere between the present uneconomical maximum and the unattainable and undesirable minimum of a single society.

Some of the essential conditions of this optimum seem to me these. It must provide for yearly meetings in each of the great

natural divisions of the country, the eastern, central, (and ultimately) western and Pacific sections; for, so great are the distances, and so high the cost in money, time and effort required to cover them at the midwinter season, that a far greater aggregate attendance on scientific meetings, with the resultant benefits, will be secured by this system than can possibly be attained by any single meeting, however central. Furthermore, it is a mistake to suppose that the biggest meetings are, other things being equal, necessarily the best; there is much to be said for the greater profit, as well as pleasure, of smaller meetings. While, of course, a single great society could meet in geographical divisions, it is certainly wiser to utilize for this purpose the existent arrangements, namely, local meetings organized under the auspices of the American Society of Naturalists. There are other reasons, also, why a second group of societies in addition to the American Association is desirable: (1) A vigorous but friendly rivalry will be distinctly advantageous, and much preferable to a society monopoly, and (2) since the American Association is unlimited as to qualifications of membership, and must always have and care for a large semi-scientific or popular element in its activity, there is certainly a need for other societies which will be strictly scientific in their membership and able to conduct their affairs upon a purely scientific basis. I think, therefore, it is very desirable that both the American Association and the American Society of Naturalists should exist, the former meeting in different sections of the country in different years, and devoting itself to the more general aspects of the sciences, and the latter forming a center for the meetings of the more technical scientific societies, and holding a meeting each year in each of the great geographical divisions of the country. The relations between the two should be friendly and cooperative, and that division of the American Society within whose territory the American Association happens to meet should always combine with it in joint meetings, the other divisions meeting in their own territory. It might be advantageous at certain intervals, of not less

than five years for all the divisions and societies to hold one meeting in common.

This does not, however, touch one of the most serious phases of the present situation, namely, the existence of many independent societies within the same science, a condition especially pronounced in botany. Not only does this entail a great waste of effort, but it deprives the science of the advantage and prestige of a powerful national body which can speak and act with authority in the interests of the science. At the same time each science is becoming so specialized that it is more agreeable and profitable for those interested in the same phase of it to meet by themselves. It is customary to deprecate this tendency, on the ground that specialists should keep more in touch with other phases of their science as well as with other sciences. But in practise I think this segregation is inevitable, and not undesirable or, at all events, it represents the lesser in a choice of evils. A specialist in one branch of a science can not keep in touch with another branch by suffering through technical papers read on that latter phase; he can accomplish this result much better around the social table in the evenings, and by listening to, or reading, those admirable summaries of progress in other branches which it is becoming more and more the custom to present in vice-presidential addresses, in semi-popular lectures by great specialists, etc. The best solution of this particular problem seems to me to lie in the combination of all the societies devoted to a certain science into a single strong national society, which shall be divided into as many sections as there are special phases, attracting enough men to form working sections, and which shall hold simultaneous meetings in the great geographical centers, along with the other scientific bodies affiliated with the American Society of Naturalists. This can undoubtedly be accomplished without the abandonment of any of the existent societies, through their transformation into the special sections of the national society.

W. F. GANONG.

I beg leave to submit the following plan for increasing the usefulness and influence of the

American Association for the Advancement of Science:

Organization.—In addition to the present organization, establish a branch in each community where there are a number of members of the association.

Meetings.—In addition to the general meeting, have each section meet once a year and each branch once a month, or oftener if it should appear to be profitable.

Publications.—Publish SCIENCE as at present, and in addition publish all the papers presented at the section meetings and the more important of those presented at the branch meetings (in the *Transactions*); issuing a set of the *Transactions* for each section.

In nearly every community there is a demand for some organization of those interested in science; so we see science clubs in nearly every university. These clubs form social centers for the scientists of the communities, and their meetings offer an opportunity for their members to report on and discuss the work which they are doing. In most cases they would be willing to reorganize as branches of the American Association for the Advancement of Science if given considerable freedom in the character of organization. The parent society could charter a branch on receiving a copy of its constitution, which should make provision for a report of each meeting, being sent to the general secretary. Each will then have the advantage of cooperation while still having freedom of government.

The best time for holding the general meeting, at which the social element should be emphasized, appears to be in the early summer. Each section would hold its meeting in connection with the general meeting as at present; but in addition would hold a meeting during convocation week, the summer meeting being given to the more general papers and excursions, while the more technical papers would be presented at the winter meeting. These winter section meetings need not be held all at the same place, and if desirable any section might hold two simultaneous meetings at different places.

SCIENCE is serving a very useful purpose now in publishing the vice-presidential ad-

dressess and the abstracts of all the papers, as well as serving as a clearing house for scientific thought. The objection may be raised that publishing all the papers would make the *Transactions* too expensive. The answer to this is that the present fee should cover the general expenses and SCIENCE only, while the *Transactions* should be sold by subscription; each member subscribing for the *Transactions* of those sections in which he may be interested.

This plan would provide more time for the presentation of papers; provide meetings at which matters of somewhat local interest could be discussed; allow the sections a choice as to the place of meeting, and provide a place where all papers could be found instead of having them scattered through many periodicals. The economy of this plan as to both time and money would probably check the formation of new societies and also lead to the abandonment of many now organized; which are ends much to be desired.

ARTHUR H. FORD.

OUR FUTURE 'PUBLIC ANALYSTS.'

THE era of *scientific* investigation and protection of our food products and standard drugs, in distinction to the medico-political attempts of the past twenty years, is apparently at hand, and, as time will undoubtedly demonstrate, in proper hands. To be sure a certain few boards of health and food commissioners have at various times accomplished much in partial food inspection and one or two, notably the Massachusetts Board of Health, through its efficient secretary, Dr. Abbott, have rigidly inspected both foods and drugs for many years, bringing the universal fifty per cent. adulteration of those foods, etc., that can be adulterated, as shown by investigation statistics in other states, down to about fifteen per cent. and keeping it there. In these few widely separated states the legislatures will no doubt 'let well enough alone,' and, if appreciative at all of what has been accomplished, will increase the appropriation, which in nearly every case is absurdly small at present. In the forty odd states as yet unawakened or only partially awakened to a

realization of our national negligence in this great economic question, it is gradually becoming apparent that the state experiment stations are, or soon will be, the logical and most appropriate institutions to entrust the collection, investigation and subsequent defined inspection work to; the 'food commissioner' (if that be what he is called) being merely a prosecuting officer, which in general is the arrangement (and doubtless a satisfactory one) in Connecticut at present.

There are several gradually developing and well-founded reasons why we must begin to consider these well-organized, federal and state supported, scientifically equipped branches (in their chemical work) of the Bureau of Chemistry at Washington in this light. In the first place, there is very little adulteration of food products harmful from a hygienic standpoint. Physicians of course must be able to depend upon the strength of the drugs they prescribe, but otherwise the whole subject is really an economic one, closely related to agriculture, horticulture and animal industry, the three most important lines of experiment station work. Secondly, the Bureau of Chemistry, under Dr. Wiley's direction, already has charge of the examination of imported food products and, as soon as the long-delayed federal food law becomes effective, will have charge of the interstate commerce aspect of the question, thereby greatly assisting the states in their necessary local work. In several states, notably Connecticut, Pennsylvania and Kentucky, the experiment stations already carry on the state investigation and food inspection analysis work. Thirdly, these stations are financially and scientifically able to carry on research work upon the composition, nutritive value, utility, etc., of new or little-understood foods, simultaneously with official inspection work; and finally the chemists of these stations in their official association, commonly spoken of as the A. O. A. C., have recently studied, compiled and published provisional official methods of food analysis (at present, however, better adapted to investigation work rather than to rapid inspection and legal work), and defined the standards that legally pure food products should conform to.