

SCIENCE

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CONVOCATION WEEK.

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The second of the convocation week meetings of scientific and learned societies leaves no doubt as to the wisdom of the general plan, though it is evident that a final solution can only be reached by gradual evolution. The meetings held at St. Louis, Philadelphia, Pittsburg, Princeton and elsewhere brought together large groups of scientific men, and the programs of papers and other features, both formal and informal, were satisfactory and profitable. With the exception of the first of the convocation week meetings held last winter at Washington, when practically all the scientific societies met together, so many scientific men have not simultaneously attended the meetings of their societies. Last winter there was some friction in the relations of the numerous societies meeting together for the first time and partly confluent in their scope; but such friction naturally leads to attrition and adjustment. When individuals or societies are isolated there are always excrescences in process of formation, which require friction for their removal.

We can not, consequently, regard the meetings this year as wholly satisfactory. The attendance of the meeting of the American Association and its affiliated societies at St. Louis was not as large as had been expected. It seems unfortunate that

the American Society of Naturalists should have met at a different place from many of the national societies devoted to the biological sciences which have usually been affiliated with it; that the newly formed Paleontological Society should have met apart from the Geological Society; that the psychologists should have met at St. Louis and the philosophers at Princeton; the mathematicians of the central states at St. Louis and those of the eastern states in New York, and the like. The vast area of the country makes sectional meetings inevitable, but it can scarcely be assumed that the arrangements this year were the best possible.

This journal has consistently advocated a convocation week meeting of our national societies, in which all shall be represented, if not by sessions and programs, then by delegates. One of the most important problems of the present decade is the proper affiliation of men of science to promote their interests, which we sincerely believe represent the interests of civilization. Combinations of labor and of capital may be purely selfish, promoting the interests of one class at the expense of another, though there is good reason to hope that in the end trades unions and corporations will benefit the whole community; but from the very outset every advance in science is for the benefit of all. Faraday and Henry investigated the phenomena of electromagnetism in the laboratory; others joined in the work and gave us the telegraph, the telephone, the electric motor and the rest, adding billions of dollars to the wealth of the world. The direct and indirect work of a single man,

such as Liebig or Pasteur, adds more to the common wealth than all the scientific men that have ever lived have drawn from it. The material contributions of science are obvious and trite; but it is sometimes not fully realized that the social and intellectual results are even greater. All our mental, social and esthetic ideals have become clarified. Great men lived before the dawn of modern science, greater perhaps than any now living, but their activity was often fragmentary, and in many directions childish. The doctrine of evolution and other scientific concepts are now the common heritage of every one, guiding all thought and all action.

It is entirely reasonable to urge that whatever advances science must benefit every one; first perhaps an individual, but then a class, a country and the world. This truth must be impressed on the whole people; and it must be done by those who realize it most fully, that is by scientific men themselves. Much progress has indeed been made in this country. The national government does more for scientific work than any other; the states and municipalities do more; private gifts to universities and scientific institutions are larger, far larger, than elsewhere. But this is a matter of the last twenty years; we have only begun. The United States must assume the leadership in science, not only for its own advantage, but also for the welfare of civilization.

Our press, the pulpit, legislative bodies, public sentiment generally, are well meaning, but excessively crude. Scientific men have a large problem in education before

them, and it must be admitted that education must begin at home. All dissensions and petty quarrels are harmful. There is too much rivalry and too little cooperation in scientific work. We inherit from a long past certain competitive tendencies which should become obsolete. The attainment of priority, degrees, honors, membership in exclusive societies, and the like, have been largely the rewards of scientific men. Better no heaven than one with a limited seating capacity, for which each strives to the exclusion of others. It is less selfish to seek wealth by producing new wealth which is shared by all, than to attempt to secure honors at the cost of depreciating others.

The moral intended is, of course, that scientific men should unite to promote their common interests. A single individual should subordinate his interests to those of the group, and a single society to those of the general organization of societies. It is fortunately the case that the interests of the individual usually coincide with those of the group; the conflict is more often between the temporary and permanent interests of an individual or of a group. The theory of evolution tells us that this conflict is due to maladjustment, the environment having changed more rapidly than the individual or the group has been able to adjust itself to it.

This appears to be the case just now in the organization of science. Scientific workers have increased fivefold in from ten to twenty years; new and specialized lines of scientific work have arisen; the geographical center of scientific population and interest is moving from the eastern

seaboard toward the west. The organization that sufficed twenty years ago is no longer adequate. Special societies for each science have arisen and regional and local sections have been formed. Organic fusion must be slow, but better progress can be made by intelligent guidance than by submission to the wasteful processes of natural selection. No one can lay out a valid program for the future, but suggestions can be made subject to the survival of the fit, among which the waste by failure is less than in the case of experience by the rule of thumb.

The Smithsonian Institution, the National Academy of Sciences and the Carnegie Institution, each has had an opportunity to become the center of scientific organization for the country, and each has completely failed. This is not altogether regrettable. We live in a democratic age and community; government by representation is better than any aristocratic or despotic form, however benevolent. The organization of the council of the American Association adapts it for becoming the chief center for scientific organization. The association represents the entire country and all the sciences. If any regions are inadequately represented in its membership or any sciences are not included in its scope, this need not continue to be the case. The council is not only the representative body of the association, but also of all scientific societies that wish to be represented on it. It is not known to every one that any scientific society may by vote of the council become affiliated with the association. In this case it sends one or two delegates, accord-

ing to its size, to the council, and has the option of meeting with the association; its members, even when not members of the association, enjoy all the privileges of reduced rate of transportation, provision of place of meeting, entertainments, etc., provided by the association. At the same time the society retains its complete autonomy. It can meet when and where it likes, and if it meets with the association its scientific program and other functions remain entirely under its own control. The association has been liberal and catholic in its treatment of affiliated societies. For example, at the meeting last week the Society of College Teachers of Education and the Society for Horticultural Science were admitted to affiliation. Some societies, as the American Chemical Society and the American Physical Society, met at St. Louis in conjunction with the corresponding sections of the association; others, as the Geological Society of America and the American Botanical Society, provided independent programs. No society that has met several times with the association has shown any disposition to separate itself from it. Different societies may hold independent meetings in summer or even in convocation week, but they will not break an affiliation that has proved useful for the society, for the association and for the general progress of science. If any society is unwilling to become affiliated with the association, it is probably due to ignorance of the conditions.

The American Association, the American Society of Naturalists and about twenty affiliated societies, including all

those devoted to the physical sciences and many of those devoted to the natural sciences, met together at St. Louis. It was believed by many members of the council that it was undesirable to select St. Louis as the place of meeting this winter. The council has in recent years recommended a place of meeting two years in advance. When the meeting at St. Louis was first discussed at Denver, it was supposed that it would be last summer in connection with the exposition. The exposition was postponed for a year, and the association changed its time of meeting to the winter. It would probably have been wiser for the association to have continued its summer meetings, at least until the relative advantages of winter and summer meetings had become evident. If the association and such of the affiliated societies as had wished had met last summer at Ithaca, this winter at Philadelphia and next summer at St. Louis in conjunction with the Congress of Arts and Science, the conditions would have been more satisfactory than is the case at present. But at Washington the council of the association had no definite knowledge of the congress of the exposition, the chemists had met at Philadelphia the year before, and no one could have supposed that the eastern branch of the Zoological Society and other biological societies would have met at Philadelphia, when it was known that the association would meet there next year. Scientific societies, like national governments, have a way of muddling through; but it is surely reasonable to suppose that men of science should be the first to

apply scientific methods to their own guidance.

The American Association and a majority of our scientific societies will meet next year at Philadelphia and the following year at New Orleans. Other societies should adjust their plans to this definite program. It may be desirable for the naturalists of the central states to hold a meeting of their own next year and for the naturalists of the eastern states to hold a separate meeting the following year, and individual societies may like to meet sometimes apart from the general meeting. But it would be unfortunate to have two competing groups of naturalists meeting next year at the same time and in the same region. If this should occur, it would not be the result of the wishes of the general body of naturalists, but through misunderstandings on the part of a few officers. If any of the societies that met at Philadelphia last week are unwilling to return next year, or wish to hold meetings apart from the main group, it is to be hoped that they will meet separately in small university towns, rather than undertake to organize a conflicting group.

It would be desirable for the council of the American Association, representing the association and affiliated societies, to lay out its program even more than two years in advance, it being of course always adjustable to new conditions. There appears to be no valid argument against both summer and winter meetings. It entails extra labor on the secretaries, but they should be adequately paid, and different summer and winter secretaries could be

elected should this prove desirable. The council of the association should and does meet twice a year, and it appears that a summer meeting would be a better occasion than the time of the meeting of the National Academy at Washington. A summer meeting, supposing waste on printing programs and the like to be eliminated, would increase the receipts more than the expenditures; in any case the association has an ample income, having been able in recent years to turn over large sums from the income to the permanent funds. Since the New York meeting of the association, when it was decided to send *SCIENCE* free of charge to all members, the membership has increased from 1,700 to over 4,000. If seventeen hundred members—there were actually but twelve hundred who were in full standing—could hold one meeting annually, four thousand members can hold two. It is nearly always a mistake for those who do not want to do a thing to say to those who do: You must not. With the exception of certain officers, most of whom might be elected in duplicate, no one need attend any particular meeting of the association. If the work were somewhat differentiated there would be ample room for two meetings a year, with a satisfactory attendance and program at each.

We look forward to seeing the convocation week meeting in midwinter the great assemblage of American men of science, where all societies will be represented either by a plebiscite or by delegates, which will impress on the public at large the weight and magnitude of scientific work. The

meeting should be essentially an affiliation of scientific societies, but they should when convenient confine their special programs to the mornings, leaving the afternoons to the sections of the association, two or three of which should arrange for each afternoon programs of general interest to scientific men, uniting in many cases the common fields of several sciences. This convocation week meeting must be held in a large city and its work must be largely technical. But there appears to be ample room for smaller and less formal meetings in the summer, held in a university town or summer resort, where those who liked—and many teachers and others whose work in science is somewhat that of the amateur would appreciate the opportunity—could come together. Out-of-door life and scientific excursions would there be possible, pleasant and profitable.

A full discussion of the whole problem of scientific organization would be opportune and useful at the present time. This journal will be glad to give space to those who are willing to express their views on the subject, and we hope that it will be discussed from different standpoints.

*SOME RECENT PHASES OF THE LABOR PROBLEM.**

OLD PROBLEMS, BUT NEW CONDITIONS.

IN the rapid development of modern industry old problems are ever assuming new and perplexing phases, but intrinsically new ones rarely develop. Each age is quick to imagine that its difficulties exceed those which were conquered by its predecessors, and to fancy the latter as free

from the obstacles in overcoming which the courage and genius of its own leaders are subjected to their supremest tests. But this is the superficial view only. Just as the principle upon which the most complex mechanism performs its marvelously specialized functions is to be found in the crudest labor-saving devices of the earliest dawn of culture, so the most primitive industrial organization, when subjected to minute scrutiny, is sure to present traces of those elements of friction, which, one after another in different stages of progress, become the particular and absorbing problems of generations to which each in turn seems the sole serious impediment to the realization of perfect conditions.

The labor problem is no exception. It is the struggle between different factors in production over the relative shares of each, and its origin lies deep in fundamental conditions which have existed as long as men have known the wisdom of saving labor by the use of tools and of conserving productive resources by the device of private property. It will persist, in one or another of its protean forms, until by some unlooked-for alchemy man learns to satisfy all human wants without requiring from any individual more labor or abstinence than he will voluntarily undertake. In every historic era this unceasing struggle has left indelible traces upon the record of man's progress, and rarely has it yielded the place of primary importance in the minds of men to anything less compelling than religious zeal.

A PERSISTENT INQUIRY.

How shall the comfort of satisfied economic wants be divided between those who contemporaneously endure the physical discomforts of toil and those who control the other factors in production? This is the everlasting question which, in various forms, has been asked and answered, re-

* Address by the vice-president and chairman of Section I, Economics and Social Science, St. Louis meeting, December, 1903.