

cessfully undertake any particular investigation, and the extensive facilities of the institute in the way of working space, apparatus, workshop appliances, skilled observers and mechanics are placed at the latter's disposal.

This might make it appear that all testing work from that time on was to be done by the institute as an institution, but such was not the case. No other than personal reports have been issued by the professors who have undertaken the work, and in every case the professors themselves have been entirely responsible for the payment of all expenses connected with the tests. In many cases the expenses of tests are quite large, and the payment of these must be secured either by obtaining a retainer or deposit from the parties for whom the work is to be done, or the professor making the test must run the risk of having to pay these expenses himself should the parties for whom he is doing the work fail to meet their obligations. This looking after the financial end of the problem is an essential one, as it gives the professors experience on the commercial as well as the engineering side of the work.

It has been claimed that the professors of an engineering college should not do work in the practical field, as this interferes with the consulting engineers who depend for their livelihood on just the sort of work that would be apt to be undertaken at a college. This is a very narrow view to take of the matter, and as far as my own personal experience is concerned, I can testify to the fact that much of the work undertaken in connection with my college duties has been done for consulting experts. The day is past when there can be a strict line drawn between the work of the consulting engineer and that of the professor who teaches in the same field. The ideal professor in a given line should be able to take up the work of the consulting engineer in that line, and the ideal consulting engineer should possess enough technical knowl-

edge to fit him for being a professor. There should be no jealousy, but rather a bond of friendship in that the fundamentals which each should master are the same.

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*ADDRESS BEFORE THE CENTRAL
BOTANISTS.¹*

THE opening of the year 1902 was marked by the assembling in Chicago of the American Society of Naturalists, an association based on strict professional requirements for membership, which for reasons of expediency had limited its meetings to the eastern part of the country—a limitation specially set aside for the purpose of holding this Chicago meeting. With the Society of Naturalists had become affiliated a considerable number of equally strong professional organizations devoted to branches of nature study. All were largely indebted for their existence to the need that every student and teacher feels of the stimulus of personal contact with his peers in the work to which he is devoting his life.

The great summer gatherings of the American Association for the Advancement of Science, with its greater variety of interests and less strictly limited membership, had seemed not to give opportunity for this contact in the way desired, and the general and special bodies of naturalists, a large part of whom were also members of the association, had provided for meetings such as they desired in the short college recess of the Christmas season. Into this recess, lengthened for the purpose by a considerable number of colleges, the American Association had deliberately moved its own meeting, in the hope that the active workers of the entire country, in every field of science, might find it possible to meet together as a single great body, impos-

¹ Presidential address at the Ann Arbor meeting, December 28, 1905.

ing in its numerical strength, stimulating in its general program, and affording through adequate subject organization all of the advantages for which special and separate meetings had been arranged.

The Society of Naturalists itself had long exemplified a good model of combined organization by occupying on its own general program only such time as was actually required for the transaction of routine business, an evening when the president's address followed a dinner, and one afternoon devoted to a discussion of some subject of broad interest, by capable, well-informed speakers. All of the rest of the time was devoted to meetings of the affiliating special societies.

At the Chicago meeting the discussion turned upon the future of the American Society of Naturalists in view of the proposed invasion of its meeting time by the Association for the Advancement of Science. Having been invited by the executive committee to participate in the discussion, I confess that I went to Chicago undecided whether to urge the sacrifice of all that the separate meetings of the Naturalists seemed to stand for, or the transfer of these meetings into the summer season—vacated by the association. I have never attended so large a meeting at which conditions were so favorable for personal conference without the formation of cliques as at the Hotel del Prado, where every post-prandial cigar was the occasion of a general discussion participated in by the officers and other members of the association and the society, or of comparison of ideas with individuals representing every phase of interest involved. I had expected to find a feeling of irritation on the part of those most vitally interested in the society, at the *coup* which the association had effected, and was not unprepared to hear private suggestion that action should be advised adverse to meeting in connection

with the association. On the contrary, whatever irritation may have been felt was kept out of sight, every one was disposed to try to realize the greater things that close union promised if effective, and my own mind clearly shaped itself into approval of the effort to secure for Convocation Week each year a great national meeting representative of American science as a whole. The public discussion did not show dissent from this conclusion.²

In deciding to try to meet with the Association for the Advancement of Science, the American Society of Naturalists did not for a moment contemplate passing out of existence or into desuetude. On the contrary, the decision led to its prompt reorganization on a national basis corresponding to its name, with provision for eastern, central and perhaps other branches, one or more of which should meet as the nucleus of the society in affiliation with the association, according to the place selected by the latter for its own meeting.

The second participant in the Chicago discussion began his remarks by quoting a resolution prepared for a business session, in which provision was proposed for the organization of a central branch of the American Society. My own opportunities for conversation with botanists of this part of the country had been many and favorable, and I felt that I presented their opinion also when I stated my belief that an organization of the botanists under such a central branch was desirable and probable.

Before adjournment, the Chicago meeting of the Society of Naturalists made tentative provision for the organization of a central branch, and as a member of the organization committee for this branch I am pleased to see the success that has attended the effort to provide for an annual naturalists' meeting within reach of every worker east of the Rocky Mountains. That

² SCIENCE, N. S., 15: 241-255.

our western and southern colleagues may effect similar organization—with the like connection with the national society—is my earnest hope.

Since deciding for it, I have been an earnest and consistent advocate of the plan for holding the annual national meeting in affiliation with that of the American Association. The first effort to bring about this united action was made in connection with the Washington meeting of the association, a year after that of the naturalists in Chicago. Washington is a Mecca for every American. The interest of a visit to the national capital alone forms a great inducement to attend any meeting held there, and the attendance at this meeting was good and its program ample. Unfortunately, though, the meeting places were so scattered that practical difficulty was found in getting from place to place, and the program seems not to have been such as to give the concentration of special interest that the naturalists originally organized for, although their attendance at the meeting was large. I chanced to be closely connected with the provisions for the ensuing St. Louis meeting, and was able to assist the local committee in avoiding—so far as was in the power of such a committee—dispersal or clash of the many interests to be represented. Programs, however, are in the hands of the bodies that are to meet and not of a committee that is to provide conveniences for a meeting. The affiliating organizations were given dignified place on the general program of the association, their components were appropriately correlated, and the St. Louis committee had the satisfaction of winning commendation for a nearly ideal provision for the meeting, so far as its own duties went. A persistent gratuitous effort to adjust the meetings of sections and societies of like interests so that they should not clash was also made by the local com-

mittee, and met with the fullest cooperation of the officers of the association. These efforts resulted in very largely removing the difficulties that had been experienced in Washington, and led to the conviction that all clashes might have been removed if a little more care had been given to the preparation of special programs with reference to the work of the week as a whole. They also showed very clearly that far greater need exists than is generally and practically recognized, for the advance cooperation of the secretaries of all bodies that are to meet together.

The trial already made, however, had failed to convince the naturalists that the experiment of affiliation promised a full measure of success. The American Society of Naturalists—I thought at the time largely out of consideration for its president, who was charged with responsibility for the local arrangements for the St. Louis meeting—decided to meet again with the association; but several of its strongest component societies declined to follow the time-honored custom of adopting its meeting place as theirs, and the purpose of the naturalists not to meet in regular affiliation with the association seemed to be clear to a superficial observer, from what was overheard where men get together, and from their selection of a separate meeting place for this year, though I understand that a very good joint meeting was held at Philadelphia last winter, and one is hoped for at New York next year.

Thus it comes that the Botanists of the Central States have as presiding officer at this meeting a member of their executive committee and not the man whom they have honored by election as their president, who, called by conflicting duties at places as far apart as the Gulf and the Great Lakes, finds it possible to greet and thank his fellow members only through the voice of another—exemplifying in his own person the

present unfortunate decentralization of our national effort.

It should be clearly understood, though, that conflicting duties of this kind are of necessity to be expected, and that their occurrence is not inherently harmful. This is a proposition of easy demonstration, whatever may be the status of national scientific cooperation. The clearest note in the Chicago discussion that preceded our own organization was the pressing call for local societies.

It has been generally conceded that meetings at least once a year are vitally necessary for men having closely allied professional interests. It is equally conceded that our land is too large for all workers in a given field to flock to a single central point. However desirable it may be for us to have our interests represented in national societies that do meet together and that speak for us all in the way that unified action alone can make possible, it is evident that more of us must necessarily stay at or near home during Convocation Week than can possibly go to any general meeting place, even when this chances to be central—and the stimulus afforded to local growth by great national gatherings in every section is too valuable an agent in the furtherance of our purposes to be subordinated to the obvious immediate advantage of their restriction to easily accessible places. By going to the general meeting we shall always gain personal touch with men whom we never meet in any other way. But when we can not participate in the general meeting, we can get in the same personal touch with a smaller number of equally good men by attending the local meeting; and concentration of effort on our own specialties without the necessary distraction of conflicting attractions seems likely to yield us more real individual good at these local meetings. It is also possible that persons

who go to remote national meetings may be given the privilege of attending those of a more local nature by the ultimate shifting of the latter into the short Easter recess, which, though too short for extended travel, may be found to suffice for this purpose.

We Botanists of the Central States may unaffectedly congratulate ourselves on the successful way in which our organization committee has performed its task. A charter membership of 124 men professionally trained in one science affords evidence of intelligent search for available timber. It affords equally gratifying evidence that botany between the Appalachians and the Rocky Mountains has enlisted the effort of men among whom mutual contact is to be now more possible than before; and in quality the list is as satisfactory as in numbers.

The mechanical trades have largely grown out of the journeyman system that once gave them a breadth that they no longer possess. In our professional life the migration of men from college to college is frequent and beneficial. Perhaps some of our charter members have already removed from our territory before the holding of our first regular meeting. If so, let us urge them to withdraw their names from our list and promptly add them to those of botanical organizations in their new homes—always cultivating the strongest possible federation of interests in national enterprise. Others have doubtless come within our range since the organization committee completed its work, and some already here may have escaped even the keen-eyed search of this committee. Can I close better than by expressing my earnest hope—which I am sure you all endorse—that all such, now and always, will promptly unite with us?

WILLIAM TRELEASE.