everything in the best possible manner, carefully studying the best models in this country and Europe and attempting to advance upon anything that has been done hitherto. Thus the Park, although far from complete, in many respects marks a great step forward in zoological park development. Most of the animals enjoy an exceptional amount of freedom. The ranges in the smaller installations are numerous and as a rule the animals are in a splendid state of health. There have been relatively few losses. The rate of growth of the animals especially in the Reptile House and the Bear Dens and in the interior Flying Cage for Birds is rapid and there is every reason to believe that most of these animals are in a perfectly normal state.

Naturally the more purely scientific work in the Society must be deferred. The field of publication has hardly been entered upon. The admirable 'Guide' which was prepared by the Director is proving very popular and has met with large sales. Illustrated bulletins describing the development of the Park have appeared only at rare intervals but it is hoped to make them more regular next winter. Considerable progress has already been made in photography and many of the photographs of living animals are not only beautiful but possess considerable scientific value as presenting perfect representations of pure types of North American and exotic animals, seen to best advantage in their natural surroundings.

HENRY F. OSBORN.

SIGMA XI, AT THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

DURING the last meeting of the American Association for the Advancement of Science, at Columbus, Ohio, the convention of Sigma Xi was held with a very large attendance, and it was decided to have a reunion of such members of the Society as might attend the meetings of the American Association at New York. It is planned, therefore, to hold a meeting at which all members of Sigma Xi are cordially invited to be present some evening during the meeting of the Association in New York. The date and hour of the meeting will be announced by posters and in the daily program.

The rapid rise of this Society in American universities is signified by the large number of young men prominent among the officers and participants in the various sections of the American Association. It was started in 1886, at Cornell University, by a few graduate students in engineering. At first the intention was to make it a purely engineering society, but soon after its organization the scope of the Society was broadened, so as to take in all the most promising men in the Senior classes giving special attention to any of the branches of science. In its extension to other institutions, it has become the representative honor-society for the ablest students of science in the institutions where it is established.

According to the constitution the object of the Society is to 'encourage original investigation in science, pure and applied.' In the report of the Committee on Extension, made at the convention of 1895, the following words express the purpose of the Society: "In establishing a new chapter * * * in each case we should make sure that we entrust the power of distributing the honor of membership only to such persons and institutions as are capable of giving the education and training necessary to the carrying on of scientific investigation; * * * we should also be well assured of the hearty co-operation of the scientific faculty in the establishment of the local chapter."

At present there are ten chapters connected with the following institutions, and the eleventh has already been voted, although not yet established:

1. Rensselaer Polytechnic, Troy, N. Y.
2. Union College, Schenectady, N. Y.
3. Cornell University, Ithaca, N. Y.
4. Kansas University, Lawrence, Kas.
5. Yale University, New Haven, Conn.
6. Nebraska University, Lincoln, Nebr.
7. Minnesota University, Minneapolis, Minn.
8. Ohio, State University of, Columbus, Ohio.
9. Pennsylvania, University of, Philadelphia, Pa.
10. Brown University, Providence, R. I.
11. Iowa, University of, Iowa City, Iowa.

In the Universities where the chapters have been established, the organization takes the place of Phi Beta Kappa among the science men, and the purpose of the organization is to recognize and associate the men of marked ability in scientific studies. The Society has been running long enough to show very clearly that there is an academic side to science, as well as to literature, and that the academic qualities promoted by scientific studies are as important as those fostered by the pure study of literature. It will be interesting to note in the course of the year to what extent the culture of the scientific qualifications of men gives them power of leadership among their fellows. It is certain that in business affairs we are already observing the important place which scientific ability takes in the really dominant men in America. If the conceptions of Sigma Xi are correct, we shall see a similar condition of leadership among the scientific scholars of the country when sufficient numbers of such scholars have been developed to overcome the precedence which we are accustomed to grant to literature as the standard of real scholarship. The chapters recently started in the University of Pennsylvania and in Brown University exhibit the enthusiasm which is already being kindled in this department of university life. The charter membership in both of these cases was composed, practically, of the whole staff of scientific professors of the university. As an honor society, it promises to take a leading part in all our universities in which science holds a prominent place.

The present officers of the Society are: *President*, H. S. Williams, Yale; *Vice-President*, S. W. Williston, Kansas; *Corresponding Secretary*, J. McMahon, Cornell; *Recording Secretary*, F. C. Caldwell, Ohio; *Treasurer*, E. W. Davis, Nebraska; *Chairman of Council*, E. L. Nichols, Cornell.

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*THE BIOLOGICAL SCIENCES AND THE PEOPLE.**

Like the American Association for the Advancement of Science (and other similar organizations), the Michigan Academy is an expression of the voluntary scientific activity of the people of the State, and depends for its continued usefulness on a rational interest and a helpful co-operation on the part of the people.

It has therefore occurred to me to inquire in what way the biological sciences, from whose adherents the Academy draws most of its membership, touch the people: what in the growth of these sciences makes toward and what away from a contributory interest on the part of the people. By contributory interest is meant that which aids in the upbuilding of the sciences by adding something of importance to their store of fact or theory. The question that is raised is then, not what benefit do the people receive from the biological sciences, for these are many in the practical and in the educational application of these sciences; the question is rather how may or how do the people benefit these sciences by aiding in their further growth.

I shall speak from the zoological standpoint, but what is true of zoology, is true, in this matter, in large measure, also of botany.

The question seems to be intimately associated with the recent history of zoology.

* Abstract of the address of the retiring president of the Michigan Academy of Sciences, delivered at the Lansing meeting, March 29, 1900.