SCIENTIFIC ACTIVITIES OF THE ILLINOIS STATE MUSEUM OF NATURAL HISTORY.

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The Museum is fifty-eight years old. It is thus older than any other department represented here. For the first twenty-four years of its existence it was a part of the State Geological Survey. Then for twelve years the Museum and Historical Library were under the control of the former State Geologist. For the last twenty years it has existed strictly as a Museum of Natural History.

When in '75 the State Survey was discontinued there was a period of two years during which the Museum was not recognized officially, but the fossils and rocks could not be "discontinued" and consequently perpetuated the influence and spirit of the institution till a time when Professors Forbes and Worthen introduced into the legislature a bill creating the State Museum and Historical Library.

During all these years of its existence it has been pre-eminently a geological museum.

In spite of the fact that the law creating the survey in '51 provided that it should be in charge of a so-called "practical geologist" circumstances brought it about that the men who directed the affairs of the survey during the first twenty-four years were paleontologists—men whose work may be regarded as leaning more toward the scientific side than toward the practical side of geology.

But that Dr. Norwood and Prof. Worthen should work with the greatest enthusiasm along paleontological lines was natural and fortunate since at that time the fossils of Illinois offered a most attractive field for labor. As a result of their work large quantities of valuable materials were brought together in the museum, and the museum became a

laboratory and workshop rather than an institution for exhibition. The study and classification of this material yielded extremely valuable results and formed the basis for the publication of eight volumes of geological reports. These reports embodied practically all that was known of the geology of the State of Illinois at that time, contributed in an important manner to geology in general, and extended the reputation of the survey throughout this country and Europe.

After Worthen's death, his successor, Dr. Lindahl, while preparing an exhibition for the World's Columbian Exposition, extended the work of the museum so that it embraced somewhat more general geological lines. Some of Lindahl's energy was directed toward editing the last Worthen reports, and more toward overhauling and re-classifying the museum material which during the last years of Worthen's incumbency, much against his wish and during his absence from the city, were moved from one floor to another in the State House and thrown into endless confusion.

During Mr. Gurley's curatorship the work along paleontological lines was continued and eight bulletins on paleontology were published in collaboration with S. A. Miller, of Cincinnati.

During Mr. Crantz's incumbency the work was in the line of exhibition of material rather than in collection or investigation. The chief additions made to the museum were a collection of birds' eggs.

Some zoological and botanical material had come to the museum as early as in 1871, when upon the disbanding of the State Natural History Society a portion of its collections were given to the museum. From time to time the State Laboratory of Natural History, under Prof. Forbes, has added to the zoological collections of the State Museum. But taken as a whole the museum has been geological in character, and all of its contributions to science have been in the field of geology.

Such has been the history of the institution. What of its present and future? In what direction lies its greatest promise of useful service? In considering this question one should

not be largely influenced by obstacles and difficulties in the way—difficulties such as arise from unfavorable method of control, lack of adequate housing and material equipment, and preoccupation of the field by other organizations and departments.

Its method of control is unfortunate. When a museum is dependent upon trustees who are preoccupied with other affairs and who are trustees simply because of other positions which they hold and not because they have any interest in the museum, the service which they render the museum and the aid which they give to it for fulfilling obligations imposed upon it are a minimum.

In President Eliot's recent book on "University Administration" light is thrown on the great advantages enjoyed by institutions free from ex-officio boards of control. Such freedom would be to the advantage of the museum. For example, the State Academy might nominate a committee of six competent men willing to serve, and from them the Governor could select three to act as trustees. There are many men in the State who would give the museum their best thought and support and could help it to more nearly accomplish the work that is crying for attention.

An even more serious obstacle to progress is encountered in the lack of room for work and for exhibition. Many other states have surpassed Illinois in provision for their museums. Some have fine buildings. Here again the Academy could render a great service by urging that suitable museum room be provided. While the members of the General Assembly respect science and have a vague notion that it is worthy of encouragement, they will never do anything unless scientific men not only ask but urge each legislator to vote for a building. With legislators people count, abstract principles play an insignificant part. The State needs a fire-proof building where collections which have been growing for half a century may be preserved and where much needed work in natural history may be done.

Some idea of the scope and importance of the work that

may reasonably be expected of the museum can be obtained by considering the magnificent work being carried on by the greatest of the museums in the United States, such as the American Museum of Natural History in New York, the National Museum in Washington, and the Field Museum in Chicago. These institutions send out exploring expeditions, collect, prepare, study and exhibit materials, publish reports of investigations along special lines and furnish lecture courses. They are educational institutions of an effective type. Any museum which is doing its work properly is an educational institution. The State Museum aims to be such. Two years ago the writer applied to a United States Government official for tax-free alcohol for preserving museum specimens, but was refused on the ground that the museum is not an educational institution. Some discussion was necessary to make it clear that the institution exists for nothing else than to educate. Its collecting is with that end in view. Its study, preservation, exhibition and publication is for that purpose and for that alone.

While dealing with historical objects in archæology, palæontology and other sciences, it affects modern questions and present-day issues. When attention is being so strikingly called to the necessity of conserving the natural resources of the country, museum collections are of unusual interest, since they offer tangible illustration of the passing of fauna and flora and of the origin, value, and limited quantities of our mineral resources. One needs but to pass through a good museum to gain a vivid impression of the changeableness of nature, of the destructiveness of man and of the danger of watchfulness. The museum should make a concrete and compact plea for care and wisdom in the use of natural resources.

The excellent work which is being performed by a number of departments of the State would be better appreciated if the material results were well exhibited in the State Museum. The law provides that the Geological Survey may deposit materials in the museum, and it is the wish of the director

of the survey and of the curator of the museum that this work be carried out in a thoroughgoing manner. The director of the Natural History Survey is ready to furnish materials which may visually illustrate the work of his department, and no doubt such a relationship would be extremely desirable for many other departments, such as the Water Survey, Soil Survey, Board of Health, State Highway Commission, etc. The present obstacle to carrying out this plan is the absence of room in the museum. The museum may thus become a great and popular representative of the various lines of scientific activity in the State.

It should aim above all things to be a popular institution; one for the people. But while so doing it does not cease to aid investigation and to promote the advance of science. As Dr. L. A. Baur, of the Carnegie Institution has said, "Sight plays the greatest part in investigation." The museum appeals first of all to this faculty, and is aiding investigation when stimulating a boy in his early efforts to observe nature, as well as when furnishing material for the trained specialist in some particular line of investigation.

One of the greatest needs of the museum is the interest and cooperation of some permanent organization. Individuals may come and go, but the museum will last indefinitely. Situated as it is at some distance from the scientific center of the State, it may be regarded as being on the frontier and extending the influence of science to the south and west. Fortunate indeed would it be in having the hearty support of the State University, of the University of Chicago, of the Northwestern and of every educational institution of the State. That interest might well be expressed through the State Academy of Science. As the State Historical Society is closely associated with the Historical Library and is asking for a room for its meetings in the proposed new building, and actively cooperates with the library, so the State Academy may well be provided with a room in a new museum building and use its influence to see that the museum collections are properly preserved and utilized. If the Academy would make

itself felt effectively in this regard the museum would be protected from many errors and dangers and would be aided in its work.

Wm. A. Hornaday at the "Founder's Day" of the Carnegie Institution, in Pittsburg, last year said the function of the museum is "to furnish food for thought, to expand the human mind, and to illuminate the soul."

Morris K. Jesup said at the American Museum of Natural History of New York, "I believe the museum to be to-day one of the most effective agencies which exist for furnishing education and innocent amusement and instruction to the public."

This should be true of the State Museum, and will become increasingly so as the museum is enabled to do some exploring in fields not already occupied, to do some collecting, to care for the results of the work of different scientific departments of the State, to preserve vanishing natural history data, and to properly exhibit materials which show our natural resources and their well-marked bounds.