

From a movement initiated at this school, sprang a second State Natural History Society, organized in December, 1878, of which the director of the laboratory has been secretary from the first. This society holds semi-annual meetings,—one in June for field work, and one in February for the reading and discussion of papers. It is an active and flourishing organization, and gives every indication of a long and useful life. The educational value of the establishment is greatly enhanced by the fact that all its material and appliances are free for the use of such special students of science as wish to push their studies independently. Many capable teachers of science, and several promising young naturalists, have found here the means of entering upon their careers, or of adding largely to their resources.

And so the State Laboratory of Natural History, embodying the earnest and devoted labors of many whose names have found no place in this brief record, has grown and developed with the steadily increasing wealth and intelligence of this great State, by a slow and healthy enlargement of its field and building up of its power, until to-day it stands unique among all the state institutions of America. Its work will not be done until the life of the great and varied region which its operations cover, is known in all its forms and details, and understood as a whole,—until the general system of laws by which this complex aggregate of living things is unified and governed, has been mastered and made known. It is properly only at the real beginning of its career,—now first actually equipped for systematic and effective service. Its prime and essential function is not to do that which has been done before, nor even to teach that which is already known, but to push forward the bounds of human knowledge along certain special lines, and to apply the knowledge gained to the welfare of the people of the State. Its office is to enlarge that knowledge and mastery of nature which distinguishes the civilized man from the savage, and the support which it receives is to be regarded as a contribution to human progress.

FURTHER IMPROVEMENTS.

The foregoing article shows the development of the work in natural history during the last few years. But, in the mean time, other departments have been increasing their facilities and changing their methods of work.

When Dr. Sewall left the school to take charge of the Colorado State University, in 1877, he was succeeded by M. L. Seymour, of Blue Island. This gentleman had already won considerable reputation on account of his skill in devising simple apparatus to illustrate the work in the natural sciences. Under his management, a change has

been effected in the appearance of the lecture room and chemical laboratory that would astonish the "old-timers." A steam pump that had outlived its usefulness, and had given way to one of more modern design, was transformed into an engine for working a pump to condense oxygen and hydrogen. It stands at the right of the door at the entrance to the lecture room. By its use, these gases are packed into cylinders and are always "on tap," to run the excellent lantern that has been added to this department of the school. The utility of this apparatus becomes apparent in many ways, especially in the study of anatomy and botany. Near the engine stands a three-story case, filled with beautiful and ingenious appliances for class use. At the back of the room is a commodious herbarium case, furnished with a large collection of plants for the botany classes. Large twenty-four-cell batteries illustrate the work in electricity, while the chemistry classes are assigned places at tables in the adjoining room, where the study is pursued by objective work on the part of the pupils themselves. A Bunsen filter pump adorns the south wall of the laboratory, and a lathe for wood and metal, a furnace, a bench and vise, numerous wash-bowls supplied with water from the cisterns in the roof, and many other conveniences are close at hand.

The work in physics has also changed its character to conform to modern ideas of teaching. A large case is filled with excellent apparatus from the establishment of James W. Queen and other manufacturers, and the pupils constantly use it in their work. This collection is increased from time to time by the liberality of the Board of Education. About a year ago, a four-inch glass was obtained from the celebrated house of Alvin Clark & Sons, and the astronomy classes are enabled to form a more intimate acquaintance with our celestial neighbors.

The room formerly used as the boys' play-room was remodeled about two years ago and is now used by Miss Rosalie Miller, the teacher of drawing. During the summer vacation of 1882, the dressing room in the southwest corner was converted into a class room for the observation classes, and the adjoining dressing room was furnished with cases and will henceforth be used as the library room. The part of the basement formerly occupied by the janitor was fitted up for the gentlemen's dressing rooms.

WORK OF THE UNDER-GRADUATES.

In Dr. Hewett's paper will be found certain statements respecting the attendance of pupils, and the reasons for the small percentage of graduates. The work of the under-graduates, however, is worthy of a large place in this volume. As has been stated, the reputation of the school must probably rest chiefly with them.