

THE STATE WATER SURVEY.

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The late Arthur W. Palmer, Professor of Chemistry of the University of Illinois, began the systematic survey of the potable waters of the State in 1895. In 1897* the work was officially recognized when the Legislature made it the duty of the University to collect facts and data concerning the water supplies of the State; to collect samples of water from wells, streams and other sources of supply; to subject these samples to such chemical and biological examination and analysis as would serve to demonstrate their sanitary condition; to determine standards of purity for drinking waters for the various sections of the State; and to publish the results of these investigations to the end that the condition of the potable waters of the State may be better known, and that the welfare of the various communities of the State may thereby be conserved.

Three thousand dollars per annum was appropriated at first. This has since been increased to \$6,000 per annum with additional money made available for the work by the State Board of Health and the University.

The work of the Survey may be classified in three divisions: first, Analytical and Experimental; second, Diagnostic; third, Education and Publicity.

Under the first division, Analytical and Experimental, the Survey collects waters and determines the normal constituents for a district. Some of the investigations along this line that are being carried on are, a study of farm water supplies; a study of well waters in villages; and a study of the character of the water of Lake Michigan along the Illinois shore. In order to study methods the Water Survey

*Laws of Illinois, 1897, page 12.

has joined with the laboratories of the State Boards of Health of Michigan, Wisconsin, Indiana, and the Health Department Laboratory of Chicago, in a comparative analysis of Lake Michigan water. It has also made a special study of methods of determining nitrogen as nitrates, a test which is of great importance as a sanitary test for Illinois waters.

Under the second division, Diagnostic, are included the large number of analyses made at the request of the health officers or other citizens to determine the character of waters. The Survey is working in conjunction with the State Board of Health in endeavoring to prevent and check epidemics of water-borne diseases. In 1908, 1862 samples of water were sent in by people not connected with the Survey staff, and a large proportion of the time of the active staff has been occupied with this work. Because of the great demand for work of this kind the Trustees of the University have recently passed a resolution concerning the work of this class to be done by the Water Survey, which is summarized as follows:

"The State Water Survey will make a sanitary analysis free of charge of any water from the State of Illinois, when there is any suspicion that there is danger to health.

"The Water Survey will make sanitary and mineral analyses free of charge of any present or proposed municipal water supply.

"A fee will be charged for the examination of the mineral content of waters, other than municipal supplies. This includes analyses to determine the medicinal value, and to determine the character of a water with reference to its use in boilers or for manufacturing purposes."

Under the third division, Education and Publicity, the Survey issues bulletins describing the work done. Lectures are given to communities on problems connected with water supplies. Water-works men have taken and can take advantage of the Water Survey Laboratories to learn methods of chemical or bacteriological control for their water-works plants.

The Survey should examine every water-works plant in

the State at least once in a year. It aims to become a clearing house for information concerning water supplies. Information that has proved of advantage to one supply may thus be passed from plant to plant. This aim may be more quickly realized through the Illinois Water Supply Association recently formed. The objects of the Association are the advancement of knowledge relating to water-works and water supply, and the conservation of water supplies for public use. The Association is to meet annually at the University of Illinois, where it can take advantage of the facilities of the State Water Survey and the Laboratories for Hydraulic and Mechanical Engineering. The Association can make valuable suggestions to the Water Survey, and can also strongly support the Survey in its endeavors to conserve the welfare of the people of the various communities of the State.