

The laboratory of the Bussey Institute, near Boston, is of good size, about 27 by 40 feet, and is furnished with a large fume cupboard of good width, the floor of which is of brick and the front enclosed with sliding glass doors.

It was thought desirable whilst in Boston to see the laboratories of the Institute of Technology. In all the branches of Applied Science this institution was found to be very well equipped as to apparatus, appliances and models. The laboratories intended for pupils are very large and capable of accommodating over one hundred students at once. There was no shelving for bottles upon the tables; the students keeping apparatus and chemicals in the drawers and cupboard assigned to each of them. The waste water, containing as a matter of course, often large quantities of corrosive chemicals, is conducted by means of an open pitched gutter, which can be examined at any time by removing certain of the floor boards. This arrangement obviates the expense of removing the pipes from time to time and has some features to recommend it where students are engaged in studying chemistry practically, but on the other hand it is to be noted that there would be a great likeliness of foul odours arising into the laboratory unless a large flow of water was continually kept running.

The question of the purity of the water supplied to our Canadian cities and towns I deem of such importance, that I venture to bring before the Government, through you, the work of Mrs. Ellen H. Richards, who, at the time of our visit, was engaged in the laboratories of the above institution upon the analysis of a large number of the waters of the state, under the direction of the State Board of Health. This work is of a most useful and important character, and it can hardly be too strongly emphasized that such an investigation into the condition of our water supplies should be commenced and systematically carried on from time to time. In this connection I would also refer to the work in water analysis inaugurated some years ago, and since carried on, by the members of the Society of Public Analysts in England. The result of their labours has been to bring about greater uniformity in methods of water analysis, and with greater uniformity in methods has come greater uniformity and reliability in the interpretation of the results of such examinations. Standards of purity by which waters may be judged have been proposed in England and are satisfactory for English waters; but these can scarcely be applied with accuracy to a large number of Canadian waters, owing to the different character of the source of the supply, and before we can make and adopt standards for ourselves more data are required.

As pure water is an indispensable article of diet, without which health cannot be preserved, and as impure and contaminated water has been proven to be the source of so many diseases, it becomes a matter of the greatest importance that all public water supplies should be examined and reported upon by competent chemists, and that farmers and others not drawing from such supplies should have an opportunity offered them—perhaps at a small cost—of having their water examined. That wells in the country should be examined, may, by some, be thought to be unnecessary, but I am convinced that there is much impure water drunk in the country, owing to the ignorance of many digging their wells in the barnyard or in close proximity to a source of contamination. In many instances where the soil is sandy the wells often act as a cesspool for draining a large adjacent area, and if in such area excreta or urine are allowed to lie, the consequence is that the water is but a more or less diluted sewage.

From Boston I went to Washington in order to see the laboratories of the Bureau of Agriculture, as well as to attend the Fourth Annual Convention of the Association of Official Agricultural Chemists. This association, as its name implies, consists of analytical chemists connected with the United States Department of Agriculture, or any State Experimental Station or educational institution having official control over fertilizers, and who are engaged in analytical work and research upon soils, cattle foods, dairy products, and other materials of agricultural industry. However, other chemists are welcomed to the meeting, and discussion invited from all who may be present. The result of these annual conventions and the publication of the proceedings has been fraught with much good; greater accuracy and