

*On the Water Supply and Drainage of Montreal.* By G. F. GIRDWOOD, M.D., M.R.C.S. Eng., late Assistant Surgeon Grenadier Guards. Lecturer on Practical Chemistry at McGill University, Attending Physician, Montreal Dispensary, &c.

In selecting a place for camping ground the first consideration is to ascertain the quality and quantity of the water supply at the disposal of the campers, so in the selection of the site for a town or future city. This appears to have been the prime consideration in the minds of those who first selected the present site of Montreal, for the natural facilities for giving the city an ample supply of good pure water are not to be surpassed anywhere. Firstly, there is the magnificent water power at Lachine to raise the water to any required height; then there is the mountain whereon to place a reservoir of any capacity at almost any required height; then the water of the Ottawa river itself is in quality excellent, containing in solution scarcely any salts, only a small quantity of lime, silica and minute quantities of carbonic acid to make it palatable to drink, with a small trace of soluble organic matter, so that the natural means of water supply are excellent; but all river water contains a large amount of both animal and vegetable life. In this respect the Ottawa river is no exception, as it teems with the lower forms as also many of the larger and more commonly known varieties, but the larger and more visible forms, such as fish, &c., we need not trouble ourselves with, as they are easily prevented from leaving the reservoir in which they are either bred or into which, from accident, they find their way, but the smaller varieties are not so easily kept out. Many persons have doubtless noticed the unusually turbid appearance presented by the Montreal water at different seasons of the year, and also that at ordinary times, in fact, always, the water presents an opalescent appearance. This opalescence attracted my attention long ago, but it is only lately that I have been able to examine into its cause and nature. I find it arises from solid matter in fine division suspended through the water, the majority of which will settle on being allowed to stand. I accordingly allowed a quantity to stand and then examined the sediment under the microscope, when the whole mass was found to be made up of fragments of low types of vegetable and animal life, many forms of which I identified, and numerous bodies appearing like spores or ova of both animal and vegetable origin with small fragments of sand and some particles of dust. The quantity of sediment I obtained induced me to keep a record of it day by day, and the results I give below from the 15th of July, when I commenced my record, to the present date; the water was filtered and the residue collected, dried and weighed, the weight is represented in grains per im-