THE OTTAWA NATURALIST.

to be perfectly satisfactory for city supplies, not only from their extreme softness (which means a considerable saving in soap and labor to the community) but from the hygienic standpoint. These waters keep well, for their dissolved peaty matter does not readily undergo further decay, is in fact remarkably stable. It is true that temporary indisposition frequently follows the use of these waters when one has been accustomed to a hard, colourless water, but it is equally true that the reverse happens. Any change in the character of the water consumed may bring about a slight derangement, for the system becomes habituated to a certain water and some persons are very susceptible, for a time, to any difference in its character. The case, however, with coloured waters from low-lying swampy, shallow lakes and ponds is very different. Such bodies of water being more or less stagnant, produce an abundance of vegetable growth largely algal, which under favourable weather conditions may rapidly decompose, giving rise to offensive and nauseating products. If, as frequently happens in summer, these decay products accumulate, in other words get ahead of growth that can utilize them, the water becomes foul and unfit for consumption. The result of drinking such water usually shows itself in an attack of diarrhoea or nausea. From these considerations it would be obvious that colour is not in itself a quality or factor that can be used alone in deciding upon the suitability of a supply. Leaving out of consideration sewage pollution, we may have on the one hand a comparatively colourless water but one in which algae and other low forms of life are present in large numbers and in which chemical analysis proves the presence of easily decomposable organic matter, and on the other hand a highly coloured peaty water from a large and quickly flowing river, and the former will be distinctly the inferior water, one that must be efficiently filtered and purified before it can be regarded as a wholesome, potable supply.

Ground Water. This is the rain and melted snow absorbed and retained by the soil and subsoil. It is the source that sub-lies the shallow, domestic well so commonly used on the farm homestead and in the village. When the surroundings are perfectly satisfactory from the sanitary standpoint, these wells are frequently a source of excellent water, but, when, as is usually the case, convenience to the house or farm buildings is alone considered in the location of the well, the water is seldom of first class quality and more often must be adjudged as quite unfit for consumption. On the larger number of farms we find these wells, usually between 10 and 25 feet in depth, sunk in the barnyard or under the stable or other outbuildings, or not very far from the privy (a most crude and unsanitary affair

1912]

177