

know the conditions of their reproduction, within or without the body; he should know the conditions of their existence outside the body; and especially of their destruction, for upon this, in connection with what has just been mentioned, depends his success in restricting or preventing communicable diseases.

#### A MEDICAL OFFICER OF HEALTH.

Some of the cities in Michigan do not obey the law which requires that the health officer shall be a physician. No man can be of much use as a health officer unless he has a good knowledge of biology, at least of the general principles. We might better put a blacksmith in charge of a milliner's shop than to choose as our health officer one who does not understand the nature of those vital actions which human bodies undergo in health, and of those processes which are coincident with disease. While much of the knowledge of the physician is entirely inapplicable to the work of public sanitation, and while this work demands of a health officer much knowledge which the ordinary physician has had no occasion to acquire, still the fact remains that in order to become a useful health officer, one must have had a thorough training in the biological sciences which lie at the foundation of the medical sciences.

A health officer should be sufficiently familiar with mycology not only to know that certain kinds of fermentation are ordinarily harmless, and certain other kinds are generally harmful, but he should know how to stop the harmful fermentation. Inasmuch as nearly all the ferments are invisible to the naked eye, a health officer must have an educated imagination in order successfully to deal with his everyday work. This is so because much of his work should be a battle with some of the special ferments. Perhaps I can make this plainer by briefly outlining what, in the present state of our knowledge, seem to be essential facts in this connection. Active cells in the human body act as ferments, destroying organic matter used as food, and creating special products differing according to the functions of the particular organs in which the action takes place. In the healthy adult, the requirement seems to be mainly to get from the food employed force to use in brain-work and muscle-work, very little being then required for growth or development of the body, so that the process is one of destruction through fermentations which yield force, for the purposes of life, and poisonous products which