

It is likewise conceivable that the organic processes in the soil on which epidemics of cholera depend may be effectually checked by an excess of subsoil water, or by a want of material. Micro-organisms have been divided into two classes: anaerobe and aerobe. If now we have to deal with an organism which requires oxygen for its existence (aerobe), it is not difficult to understand how the excess of water might deprive the soil of the necessary proportion of air. The more the pores were filled with water the less air would be contained in the soil. In heavy clay soils the water drives the air completely out, and thorough desiccation would be required to replace all the air. Klebs and Tommasi-Cendeli have already discovered a micro-organism which flourishes only in a moist soil containing air—the *bacillus malarie*.

MAN A COOKING ANIMAL—PRINCIPLES OF DIGESTION.

In a recent Lettsonian lecture, delivered at the Medical Society of London, T. Lander Brunton, M.D., F.R.C.P., F.R.S., of St. Bartholemew's Hospital, spoke as follows: Man had been defined as a cooking animal. This definition might not be absolutely correct, and there might be some of the lowest races unacquainted with methods of cooking, although other characteristics entitled them to be called men. Yet the definition was, in the main, true, and the fact that man cooked his food, while the lower animals ate theirs raw, was one of the most marked distinctions between him and them. The practice of cooking was familiar to man at a very early stage indeed of his history. Long, long before the historic epoch, when man's only implement consisted of broken flints, he cooked his food by roasting, and the charred remains of bones, which he had roasted in order to enjoy the savoury marrow, had been found in caves, along with fragments of the skeletons of the cave-bear, woolly rhinoceros, and other animals long ago extinct. There was little doubt that roasting was the first method of cooking adopted, for no implements were required, beyond a piece of pointed stick, to hold the food in front of the fire. Boiling was a considerably more complex process, and required a vessel in which to hold water. The simplest method of boiling, and the one which was probably first adopted, appeared to be that of heating the water, by putting

red-hot stones into it, until the temperature was sufficiently raised. But after man had learned to make pottery, and to bake it in the fire, so that heat could be applied from the outside without the vessel cracking, the simpler plan of boiling the water by putting the earthen pot upon the fire would be sure to be followed; for man, as a rule, liked to save himself trouble, and usually took what seemed to him to be the easiest plan.

Health in man, as in other animals, depended upon the proper performance of all functions. These were (1) tissue-change, (2) removal of waste, (3) supply of new material. For the activity of man, like the heat of the fire by which he cooked his food, was maintained by combustion. It was with the supply of new material that they had to concern themselves chiefly in the present lectures. The body might be roughly compared to a cylindrical box, through the centre of which ran a tube, open at both ends, but not communicating with the cavity of the box. Food and drink, when swallowed, were still outside the body, and in certain circumstances remained so just as much as if they had been laid against the skin. Sometimes food which had been swallowed passed through the intestine, and was evacuated almost or entirely unchanged. It had simply fallen, so to speak, from the mouth to the anus, much as it might have fallen from the neck to the feet, had it been laid against the skin. There was one great difference between the skin and the intestine, namely, that the nerves of the intestinal tract were more sensitive than those of the skin, and in passing over the mucus membrane the substance might have exercised a greater action on the body, reflexly through the nerves, than it would have done in passing over the skin, but otherwise the condition in the two cases was much the same.

In the alimentary tract, provision was made both for solution and for absorption, and those two processes were included under the term digestion. Digestion, like the health generally, might be strong or weak. Some persons were able to take with impunity quantities of indigestible food of various kinds, which in other persons would cause discomfort, pain, vomiting or diarrhoea. Some were able to take meals at irregular hours, to do hard work for a whole day without food, and then consume an enormous dinner, to go through all sorts of anxiety without