

treatment it is necessary to give good food and a change of diet.

When bots only exist in small numbers they are generally harmless, when a multitude they prove detrimental to digestion, by absorbing part of the juices necessary for that process.

Percivall in his work on diseases of the horse mentions that he recollects of hearing Professor Coleman say, that he knew of a case where bots appeared to have destroyed life, since after death the coats of the stomach appeared eroded in places, as well as the diaphragm, and some of them had made their way into the cavity of the chest.

Inflammation in Animals.

A LECTURE BY PROFESSOR DICK, OF EDINBURGH.

(Concluded from Page 118.)

In the previous lecture we pointed out that in the web of a frog's foot, in which, from its transparency, the various processes which take place in it can be perceived with considerable facility by means of a microscope, the flow of blood through the minute vessels or capillaries becomes slower and slower, and at last comes to a complete stand-still, notwithstanding that the latter are dilated beyond their usual dimensions; and offer, therefore, apparently at least, less mechanical resistance to the onward passage of the blood than usual. We further pointed out that this remarkable stagnation of the blood in a part about to become inflamed is not due to any primary alteration of the blood corpuscles, in as much as these bodies exhibit no deviations from their usual properties in the vessels before they arrive at, and after they left, the part about to become the seat of inflammation, so that the cause of the remarkable tendency which the corpuscles show to adhere to each other and to the walls of the vessels, so as to cause stagnation of the circulation, must be looked for in some alteration which has taken place in the surrounding textures.

In order to understand the nature of the alteration which first takes place in the textures of a part about to become inflamed, so as to cause stagnation of the circulation, it will be necessary to notice the remarkable movements which take place in certain cells, called pigment cells, of the frog's foot, and which appear to have been first noticed by Brucke, of Vienna, in 1852, but more recently and more correctly by Mr. Lister in the Philosophical Transactions for 1858. It has been long known that the frog is capable of changing its colour under certain circumstances—becoming dark when placed in

a dark place, and assuming a brighter hue when placed in the light. This capability of the frog of changing its colour, although possessed to a certain extent by all the species of the frog, appears to be best marked in the tree frog. Now, the lighter or darker hue of the frog at different times is due to changes in the pigment cells above mentioned. These cells are distributed, in great numbers in the substance of the true skin, and, in the web at least, are situated also on the walls of blood-vessels. On examining the web with the microscope, and directing attention to the pigment cells, they are seen to be black bodies consisting of a central portion, from which processes of various lengths radiate. On more careful examination the cell is found to consist, like all other cells, of a delicate yet firm and elastic membrane enclosing in its central portion a round or oval body, called the nucleus. The nucleus is usually situated in the centre of the cell, but sometimes it is found placed more to one side. In addition to the nucleus, the cell contains a transparent, colourless fluid, in which float an immense number of minute particles, which, when viewed singly, have a brownish tint, but when seen aggregated in groups, present a coal-black appearance. The processes which proceed from the central cell like fine tubes, contain fluid and coloured particles, so that they are not solid outgrowths of the cell wall, but may be regarded, as in truth they are, as prolongations of the cell itself. These processes, where they arise from the central portion of the cell, are usually of considerable breadth, but as they pass outwards they soon ramify and break up into numerous slender, thread-like processes, which anastomose or become continuous with similar prolongation from neighbouring cells. All these processes, even the most minute, are enclosed in a delicate membrane, continuous with that of the central cell, and are filled with a colourless fluid, in which coloured particles float. It follows, therefore, that the contents of the central cell can pass readily into the various processes which radiate from it, and *versâ* the contents of the processes may, under other circumstances, pass into the cavity of the central cell. Moreover, owing to the processes of one cell anastomosing freely with similar processes of neighbouring cells, the contents of one cell may mingle with those of other cells. It is doubtful, however, whether this actually takes place, but at all events we have here a remarkable series of tubes, along which the minute particles and the fluids in which they are suspended may move, quite independently of the circulation. It is very probable, if not certain, that the contents of all cells undergo changes similar to those which will be described immediately, but owing to the absence of coloured particles and the consequent homogeneity of appearance of their contents, the movements cannot be demonstrated. It is different