

in one of his wards, only a few days, where the stools at first had no bile; they were white, and on autopsy there was no obstruction to the bile duct, but a few days before death the stools were colored from blood. Dr. Janeway spoke of explorations with hypodermic needle for deep abscess of liver. He prefers to make punctures either in axillary line or on the back. He thought the occurrence of abscess in the left lobe was about one in four.

"AJAX."

Selected Articles.

"IT IS TO THE LYMPHATIC SYSTEM AND CELL AGENCY THAT MOST, IF NOT ALL, FORMS OF DISEASE ARE DUE."*

In every variety of disease to which the human body is liable we have a direct cause producing a definite result, and to determine the exact nature of the disease both the cause and its result have to be taken together into consideration. Thus fever is a symptom or result of some agency in the body producing that condition; but to constitute scarlet fever we must have these symptoms or results take a more or less definite course, be of a definite character, and dependent upon a specific agency. Hence in scarlet fever, and also every other variety of disease, we have an agency, or exciting cause and results, or symptoms originating therefrom. Between these a definite period of variable duration exists, known as the latent period, and it is during this period that I believe highly important changes take place. For example, in the ordinary operation of vaccination a definite material is introduced into the body at a certain spot, and no immediate results are visible, and it is only after the lapse of a certain period of apparent quiescence that a definite local result manifests itself, and this gradually takes a progressive course, accompanied with a distinct constitutional effect.

The question arises, What is it that occurs between the inoculation and the commencement of the papular formation with its attending febrile symptoms? To arrive at a possible answer to this question, we must first bear in mind the nature of the lymph inoculated. This is a slightly viscid, clear, and transparent fluid, with alkaline reaction and little or no smell, and when viewed with the microscope is seen to have a clear liquid portion or plasma, and a solid portion made up of corpuscular elements, which float in the plasma or lymph; these are few in number, of somewhat rounded but irregular outline, and correspond in all particulars

to a description of the corpuscles found in the lymph of the lymphatic system, and both of these are not far removed in character from that of an embryonic protoplasmic cell. In the next place, we must recollect that the seat of inoculation is constructed of cells, arranged with varying regularity in layers; the lowermost of these, belonging to the epidermis, are elongated in shape and perpendicularly disposed upon the dermis, and with their extremities intimately connected with the corresponding irregularities of the dermis. Immediately above these, the cells are of more rounded shape and are furrowed, and so arranged that these furrows, approximated together, form little channels. Above these we have the flattened cells which form the upper and denser portion of the epidermis. With the exception, therefore, of these latter layers, the epidermal cells are sufficiently loosely packed together as to leave interspaces, however small, between them; and, moreover, in these spaces leucocytes, or corpuscles similar in structure to those spoken of in vaccine lymph, and the lymphatic system may here and there be observed, and they also contain a fluid plasma. The dermis, or subcutaneous tissue also shows, on close examination, the existence of similar spaces, with their cells and plasma, and continuous above with those of the epidermis, and below in the closest contact, if not continuous, with the lymphatics. These spaces may therefore be looked upon as the very commencement of the lymphatic system. Now, in vaccination, these spaces receive some at least of the inoculated vaccine lymph; for, if the lancet wounds the bloodvessels in its course, it has first passed through spaces existing above them, and, as the blood current is rapid, and therefore does not afford sufficient repose for developmental changes to take place in it, we must, I think, conclude that such changes as do take place occur in these lymph spaces. In their ordinary course of life the lymph cells grow and multiply, and in their growth assimilate materials from, and modify the character of the plasma in which they live, in much the same way as a torula cell of yeast assimilates material from the saccharine solution in which it grows during the process of fermentation and converts that solution into alcohol. When, therefore, the plasma derived from a vaccine vesicle is deposited in a lymph space, it mixes with the plasma already existing there, and the cells in these spaces now live in material, much of which is the product of vaccine lymph cells. In their growth and physiological functions they assimilate and build themselves up with this material, and so get impressed upon them the same characters as the cells of vaccine lymph—as Dr. Creighton has called it—become spermatized. These cells then, in their turn, modify the plasma of the next space (remembering that the spaces are virtually continuous), and so on, until, by an onward progress from

* Extract from Thesis for the M.D. Degree.