

and propagation in the same of a minute vegetable organism. This was one great truth learned by experimental research. But still this was only a stage from which more might be learnt.

To some sufferers from toothache it brings a certain amount of consolation to be informed by the dentist that the pain is due to, say, an abscess at the root of the tooth; but even to these, as to all others, the important question is: How is that abscess formation to be brought to an end? What treatment can the dentist employ which will surely stop the pain? Now, this subject of research into the nature and prevention of disease is so young that there are still at this moment many infectious diseases and those the commonest—for instance scarlatina, measles, small-pox,—of which as yet we do not know the cause of the ache, if I may so express it, and very many others, notably tuberculosis, of which we know the cause, but have not yet arrived at the stage of operative prevention. With anthrax, however, thanks to Pasteur, we have arrived at the preventive stage.

It is in the highest degree instructive to follow the steps whereby Pasteur gradually arrived at his great discovery of preventive inoculation. Koch was unable to give anthrax to guinea-pigs and rabbits by feeding them with large quantities of spores. Pasteur, with the aid of the Beauceron farmers, solved the difficulty. He made huge growths of the anthrax bacilli, and, with these, watered certain fenced-off patches of meadow-land; a small flock of sheep was turned on to the watered patches, another small flock on to the adjacent unwatered meadow. Among the former there was a fair mortality; the latter were unaffected. It was clear, therefore, that at times the disease can be produced by the ingestion of the bacilli or their spores. When, now, Pasteur fed the animals on spore-containing bacilli, together with the thorns and substances liable to cause irritation and laceration of the mucous membrane of the intestine, the mortality became enormous. Intestinal lesions are, therefore, an important predisposing cause.

Next, Pasteur turned his attention to the earth of the