

smallpox in which we had, thanks to Jenner, the first vaccine, and in hydrophobia in which Pasteur succeeded in attenuating the virus and using it as antidote, we have not succeeded in finding the micro-organism that is the true virus, unless, indeed, Copeman Monkton has at length done so in the case of smallpox and vaccinia. As a matter of fact this organized virus has yet to be discovered in many of the most common specific communicable diseases, but the knowledge gained by the study of some members of this class in animals, and of some, *e.g.*, diphtheria in the human subject has afforded a basis of knowledge applicable to the whole group.

There is one other branch of medical science which has been incidentally alluded to in the previous remarks, but which requires fuller recognition in the survey of the influences that have governed our progress. I allude to Experimental Investigations in Animals. In the Seventeenth Century, in the hands of Harvey and others, but more especially in the Eighteenth by the labours of Hunter and others, and in the Nineteenth Century, this method of observation has been the basis of normal physiology, and later of abnormal physiology or pathology and therapeutics. These investigations enabled us to reach a degree of knowledge not obtainable in other ways, not only of value to man, but also to the lower creation.

*Therapeutics.*—Until the exact nature of disease is fully understood, a truly scientific treatment is manifestly impossible. I need not discuss how entirely in the past but also at the present day, our knowledge of treatment has been mainly empirical. It could not be otherwise. It is true that up to the present time scientific therapeutics only influence our treatment to a small extent. But, looking back, as we have been doing, to the course of progress in medicine, we have seen that it has throughout followed the line of patient and exact research. The action of drugs is now studied with the same care and precision that have been employed in physiology and pathology, and we are yearly adding to the stock of exact knowledge of the action of remedies. The scientific application of this knowledge will come with a more complete understanding of the cause of the disease, increased knowledge of pathology, and greater precision in diagnosis. But therapeutics is not coterminous with drug treatment. It includes all the circumstances of the management of the sick, the surroundings, the feeding and general care of the patient. In all of these respects enormous strides have been made, which greatly influence the chances of recovery of the patient of to-day. Moreover, therapeutics includes prophylaxis, the prevention of disease. It is in preventive medicine that the greatest triumphs of medicine have been and will continue to