

only to think of what vaccination has done for smallpox, what anti-toxin is now doing for diphtheria, what improved sanitary measures have done for typhus fever, for scurvy and for preventing the spread of cholera and other epidemics ; and in Sanitary Science, as in the other Sciences, it seems impossible to limit the extent to which progress and improvement are to be carried.

And how have these successes been achieved ? By carefully studying the laws of Health and the natural (or unnatural) history of Disease, and by applying for their elucidation the modern methods of scientific investigation.

Physiology teaches that in an ideal state of health, in adult life, the metabolism of the tissues and organs is perfect : that the processes of waste and regeneration exactly balance each other, and that to maintain this balance, the ingesta and excreta must be in corresponding proportion. Were it possible in a healthy body, and with pure materials, always to maintain this equality, it would seem that the process should go on indefinitely, and that something approaching immortality should result ; but with our earthly environment no such perfection is possible ; under the most favourable circumstances the metabolism is only approximately perfect, the materials are only approximately pure, and almost from the beginning, a process of gradual deterioration commences, which, aided by other influences, ultimately ends in degeneration and death, and this without the supervention of what can properly be called Disease, but only as the result of processes rendered imperfect by complex disturbing forces which pervade our whole surroundings.

As I have said, this process is not Disease. There is nothing unnatural about it ; it is common to all living things with which we are acquainted, and when it ends in the usual way, we say death has resulted from natural causes or from natural decay ; indeed we are constrained to accept this result as the nearest approach to perfect Health which is attainable in this world. It is in short the natural or normal condition of all earthly living things.

If then we are to accept this as our type of Health, what is Disease supposed to be ? It must at least be something appreciably different, either in degree or in quality ; something added, something taken away, or something altered and perverted. A change sufficient to convert a natural or normal process into one which is measurably unnatural or abnormal.

It is the function of the Sanitarian by all means in his power to *prevent* these changes. When the changes have occurred it becomes the function of the physician to endeavour to remove or counteract them and restore the processes to their natural or normal condition.