

of animal life what would have taken years, if ever, to have learned from those diseases in man alone. The scientific study of the normal led to a study of the abnormal.

In 1850 Devaine of France discovered in the blood of wool sorters affected with anthrax minute rod like bodies, which he described as "little filliform bodies, in length double the diameter of a red blood corpuscle and having no spontaneous movement."

Brauel in 1857 noticed similar bodies in the blood taken from a man a few hours before his death from anthrax. By injecting this blood into the bodies of animals he was enabled to cause their death from this same disease. True neither Devaine nor Brauel at the time realized the true import of their discovery. Then followed the great renaissance in medical investigation, Pasteur's brilliant speculation on microbic life in the various forms of disease, in putrefaction, fermentation, stimulated research the world over. In 1882 Koch of Berlin discovered the bacillus of tuberculosis. In 1883 Klebs and Löffler discovered the bacillus of diphtheria which has since borne their names. Then followed the discoveries of the cause of erysipelas by Fehleisen, of Tetanus, by Rosenbaum and Neicolaier, and of the bacillus pestis, or plague bacillus by Kitasato. Others at the same time were diligently engaged either in perfecting these discoveries or in working along independent lines, Roux, Sternberg, Rokitsansky, a galaxy of great men in a great age. Not only did these scientists make themselves well acquainted with the morphological characteristics of these various bacilli, but what is fully as important, with the geographical areas wherein they flourish, with their propagation and with their habits of life. How could they turn this knowledge to account for the benefit of humanity? From these considerations sanitary science and preventative medicine had their origin.

Clinicians had already observed that in many diseases of microbic origin an attack however mild rendered the individual immune against a subsequent attack. This is nature's way of conferring immunity. This was the principle that guided Jenner. It occurred to these investigators, that by careful sanitary precautions on the one hand, and the general application of the law of immunity on the other, the ravages of the microbic