discussed at the last meeting of the British Medical Association, seem to point to the fact that variola and vaccinia are really the same disease. So that probably what Jenner actually used was a virus which had been accidentally attenuated by passing through the comparatively refractory tissues of the cow. In this view of the case, then, the attenuation would be called upon to account for the fact that the vaccinia was not infectious, as the varioloid unfortunately was. At all events, these early inoculations. made, it must be admitted, in a somewhat empirical manner, were the nioneer instances of this plan of treatment, which is to-day, perhaps, the most promising feature of curative and preventive medicine. As it is only reasonable to expect, opinions differ as to the theory of action of the immunizing agents. Welch says : "We now know the protective influence of the blood serum of immune animals consists quite as much in the power to destroy the poisons produced by the bacteria as in the power to destroy the bacteria directly"; and he deduces from this fact the idea that "the antidotal capacity of the blood and animal fluids may be one of the means employed by nature to dispose of the pyogenic cocci." Pasteur, in speaking of the action of the infusions prepared from the desiccated cords of animals affected with rabies, considers "that, together with the modified virus enclosed in the desiccated cords, there exists special chemical products elaborated by the microbe of rabies which play a part in the production of immunity." Kitasato showed "that in animals, at least, by the inoculation of certain chemicals, immunity against tetanus infection may be secured; and, further, that the blood of these animals made immune against the disease may have the effect, when injected into other animals, not only of preventing infection, but of curing the disease when it is definitely established."

Gamaleia considers that immunity to certain diseases enjoyed by various animals is due to the presence in their tissues of certain "defensive proteids," which he thinks are also developed in the processes of vaccination.

Having thus merely grazed the subject of the causes of immunity, let us turn for a moment to the results which may be placed to the credit of the theory.

The results which have been obtained through vaccination against smallpox are too widely known to require more than a mere mention.

Dr. Haffkine's method of inoculation against cholera is still on its trial, but as one instance of its success the following may be mentioned : "Of 200 inhabitants of a native *bustee* (hamlet) 116 were inoculated with the protective vaccine. Not long afterwards an outbreak of the disease occurred in the hamlet; ten persons were affected, none of whom had been inoculated, and seven died. All those who had been inoculated remained free." At all events, Haffkine's work has made so great an