One is able to explain to himself now, why in a world where we all come in contact with infection, some people take tubercle and some do not, why some get boils and some do not; so we see that resistance is the important thing.

The next point is, What is the good of that unles you can alter it? And when you throw back your thoughts to what has been done in connection with the prevention of infectious disease you will see why inoculation is resorted to. Commonly when one speaks of inoculation he means vaccination, and people that are subject, as we all are, to attack by the small-pox microbe, take precautions through inoculation that they may have a higher resisting power. In order to do this we must first study what happens when the microbe attacks the body. For obvious reasons living bacteria could not be used, but Sir A. E. Wright used bacteria which had been devitalized at a comparatively low temperature—so low that though it was rendered extinct the chemical constitution of their protoplasm was not greatly altered. So he took cultures of bacteria and killed them at 60°C., thus obtaining what he calls a "bacterial vaccine."

Now when a proper quantity of vaccine is put into the body, what happens? When the resistance after inoculation is tested it is found reduced. This is called "the negative phase." The inoculation of a considerable quantity of vaccine thus reduces the resistance of the patient. Then after a time the resisting power increases; that is spoken of as "the positive phase." Later still it falls away and eventually the blood of the patient does not differ very much from the normal.

During the "negative phase" when the curve has gone down, the poisons which have been introduced are circulating in the blood of the person, and the immunization is under the influence of a stimulation. This stimulus will continue to act for days and the material injected will continue to circulate for days.

In other words, after inoculation there occurs first a diminished resisting power; that increased resisting power lasts for a period and then it falls away. Now, when the resisting power has fallen away, the patient is not what he was originally. He has retained the faculty of rapidly manufacturing protective substances again—these opsonins—as soon as he is re-inoculated.

What happens when a second inoculation is given? After the first there occurs the negative phase, and then the positive phase, and on the declining wave of the latter, the patient is re-inoculated. The opsonic power goes down again and then rises higher than before and so on in this step-ladder fashion. One can, however, usually increase the effects