

racial immunity—that of relative immunity—in which some of the individuals of the same species are endowed with greater degrees of immunity (to the same disease) than others. Thus, field mice are quite insusceptible to tuberculosis and glanders, whereas the white and house mice are very little immune to these diseases. Similarly, in man, the adult is partially immune to scarlet fever and is comparatively immune to diphtheria and measles, whereas the child is quite susceptible. But, even when so-called absolute immunity is present it must not be taken for granted—

“As if this flesh which walls about our life
Were brass impregnable.”

Even the adult can be made susceptible to diphtheria, the Chinaman to typhoid and cholera, the negro to malaria, or the chicken to anthrax, provided that certain conditions are present. (Indeed, when we say absolute immunity we really mean comparatively absolute, if such an expression be permissible). These conditions are, that the general constitution be run down, that the exposure to the disease be long enough, and, lastly, that the virulency of the culture or of the infection be strong enough. Thus (to give at least one example), in man malnutrition—either through lack of food or through mental anxieties or some disturbance of the central nervous system—predisposes the individual to any disease to which he is otherwise immune.

Let us now take an insight into the virtual focus of immunity (against infections) as it is understood to-day. I mean so-called general immunity. General immunity is the term applied to that property (or series of properties), in virtue of which the system as a whole is able to cope with and destroy any intruding deleterious material. This injurious material may be of the nature either of living or dead bacteria, or of the toxins of these bacteria, or of the venoms (or deadly enzymes) of poisonous snakes. One of the most important influences controlling general immunity is, again, nervous. Next to the nervous influence, the blood is of prime importance in the maintenance not only of life but of health also. Even the Bible has said—a couple of thousand years ago—that “blood is life,” and we are, indeed, gradually coming to prove this fact in all its vital details.

As to the hypotheses that have been advanced to explain the causation of General Immunity against infections, the following deserve consideration.

The earliest—the Exhaustive Theory—was brought forward by Pasteur and Klebs. They believed that in the body there are certain substances of nutritive value to bacteria, which substances are used up after