

The system is guarded against bacterial invasion through the alimentary tract by the presence of hydrochloric acid in the gastric juice, and, it is said, that also the bile is antiseptic. The acidity of the urine prevents putrefactive processes in the bladder. The alkalinity of blood of the body to perform their oxidative processes. And, venous blood, on account of its greater alkalinity, is more germicidal than arterial blood.

Nor must we disregard the natural compensatory activities of the body as manifested in Diabetes. In the later stages of this systemic disorder—when acetonemia sets in—the blood becomes impregnated with poisonous acids. Now, the body compensates by producing less urea (proportional to the amount of urine) and more ammonia, instead. So that, as a result, we find the ammonia in the urine quite excessive. The natural self-preservative properties are also exemplified by the mucous membrane lining the alimentary tract and the various ducts that convey the digestive juices into the intestine. For the cells have been stimulated so as to naturally produce some chemical substance which indurates or immunises it against the digestive activity of the various juices with which it is in contact unintermittently.

The next subdivision, according to the classification presented above, is vital Immunity. By the word "vital," in Physiology, is meant a certain series of phenomena which take place in the living animal body. These phenomena we are able to observe, yet unable to specify their primary causation; they are spontaneous, yet we cannot artificially reproduce them, even with the most ingenious uses of chemicals and electricity at our disposal. Such a series of activities is constantly taking place, normally, for the purpose of protecting the body against disease. In the investigations that are made towards the solution of this mystic problem of "vital" activity, it has been found invariably that the nervous system—peripheral, intermediate, and central, but mainly the latter—plays the most conspicuous part in these activities. Pathology teaches us that the nerves supplying the various tissues, organs, and joints, contain (besides sensory, motor, and secretory fibres, respectively, also) so-called "trophic" filaments. In fact, the belief is held by some that even those filaments not designated as such, are to a certain extent "trophic" also. The word "trophic" as applied here, must not be understood as meaning nutritious only. The trophic influences have also a protective influence on the part supplied by the nerve. And, if anywhere along the line of this trophic nerve-system there be a lesion (due either to traumatism or to disease), then the trophic influences to the part are intercepted, sometimes wholly, sometimes partially, according to the degree of injury. This fact is