

tion would, later on, acquire such an importance in the pathology of infectious diseases."

Infectious agents can injure the organism by a mere mechanical action; they may by their abundance obstruct the capillaries of certain organs.

They possess besides a more purely vital action. To live, they want matter to consume, and living in our organism, they cannot consume but the matter destined to the nutrition of the cells of the latter. Thus, a vital competition is established between the cells of the parasite and the cells of the infected organism obliged to support new guests.

But that is not all. It has been thoroughly demonstrated, owing to recent investigations, that the pathogenic microbes secrete special toxic substances, real azoted bases, similar to the alkaloids extracted from vegetables and which, dissolved in the fluids of the organism, produce a true poisoning. Thus the microbe, the figured element, would be the factor of infection, and the soluble products which it secretes, that is, the ptomaines, and the leucomaines, the agents of poisoning.

Our organism may be considered as a receptacle and a regular laboratory of toxic matters. Even in the normal state, the digestive tube is the part of our body wherein can be found the greatest number of microbes. It incessantly receives them from without, through air, aliments and drinks. Some come from the cavities in communication with œsophagus, namely: the mouth, nasal fossæ, pharynx and lungs. They exist in small quantity in the stomach where they are killed by the chlorhydric acid of the gastric juice; they are more numerous in the small intestine, but it is in the large intestine that an enormous quantity of them is to be found. These microbes feed upon what we have prepared for our own nutrition; they are our guests, our parasites, and live upon the portion of our aliments which we do not consume, clients who eat the leavings of the table. Sometimes they work for us, some of them, in fact, play a certain rôle in the digestive transformations of alimentary substances, but more often they openly work against us. It is they which incessantly fabricate in the digestive tube, compound ammonia, such as leucin, tyrosin, indol, phenol, scatol, and various alkaloids, which render fæcal matters toxic, a fact experimentally demonstrated, particularly by Etich and Bouchard.

Well, in spite of all these toxic matters contained

in our digestive tube, we however escape poisoning, because the organism is incessantly working to be rid of them.

If, owing to phagocytosis and other means, the economy defends itself against the invasion of microbes, it is not either unarmed against the poisoning which may be the result of their toxic products. Emunctories constitute a real safety-valve, the physiological integrity of which shelters us against the accidents which otherwise would not fail to reach us. The kidneys, for instance, slowly but surely eliminate a certain quantity of these poisons. Bouchard has showed that the adult and healthy man eliminates in the twenty-four hours, for each kilogram of his weight, a quantity of urinary poison capable of killing 464 grams of living matter. It takes on an average, two days and four hours for a man to fabricate a mass of urinary poison sufficient to kill himself.

But the kidney is not the only safeguard of organism against poisoning of intestinal origin. The liver destroys half of the putrid matters coming from the portal vein. The system of defence, at last, is completed by oxydation, by the combustion which takes place in the blood and all the cells of the economy.

Thus, micro-organisms introduced into our body, provoke around them a reaction to bring back the individual to the normal state; the organism may remain victorious, cure is effected; it may be subdued, then it succumbs; but let the cause persist, let the organism strive to struggle in vain against an incessantly reviving adversary; and instead of being transient, let the cause be permanent, let the microbe persist within ourselves and the disease then will be chronic.

From the day that it was demonstrated that miasma, as well as virus, were nothing else than the germs of the air, that is, the microbes and their spores, the whole pathology became, as it were, illuminated by a resplendent light, the advantages of which can be calculated by the number of works accomplished in this direction within the last fifteen years.

Surgery was first to derive benefit from the memorable discoveries of Pasteur and his disciples on ferments and microbes. Thus, we had Guérin's and Lister's dressings. The former, in order to shelter his wounded against the germs of the air, would envelope the limb with a thick layer of