

and hence, must always be septic, if we except the first few hours after birth. Holding in its lumen an ever present culture medium, the faeces, kept at the best temperature for growth, with but feeble antiseptic agencies at work to keep in check the growth of its contained bacteria, we find then its contents literally swarming with many varieties of microbes. The skin by adaptation to environment, has become hard and practically impenetrable, but the mucosa of the intestines, ever bathed by its warm, moist contents, has remained soft and pervious, and has developed for one of its chief functions the power of absorption, absorbing the products of digestion from out of this reeking mass of bacterial activity. How is it possible for this great absorption to go on, without the entrance of numerous bacteria into the organism? What plan has Nature prepared to protect herself?

It has been assumed that the normal mucous membrane forms an impenetrable barrier to the entrance of bacteria into the organism, and hence that the tissues of a healthy animal are sterile. Experiments have been undertaken to prove this; most elaborate bacteriological examinations have been made of the internal organs of freshly killed animals, employing the most approved methods of technique in handling the specimens and in utilizing the various culture media. The opinion arrived at in Germany was, that healthy tissues so obtained are free from bacteria. In America, Welch, of Baltimore, in 1891, speaking with especial reference to the *Bacillus Coli*, stated (Ford) "that he had only found this bacillus when there was present a distinct lesion of the intestinal mucosa." One of our own observers (Ford), working in the McGill Pathological Laboratory, has succeeded in proving the falsity of these experiments, and has found that at least 70% of the cultures made from the internal organs of domestic animals yield bacteria. He followed the same technique as the others, but they discarded their cultures as sterile on the third day, whereas he never found any cultural activity before the fourth day, and in some instances it was delayed as late as the seventeenth. We know that the blood and the tissues generally possess more or less bacterioidal properties and Ford supposes that the pieces of tissues used in these experiments possessed sufficient inhibitory power to prevent any active growth in the first three days. Later, this power diminishing, the bacteria were permitted to develop, proving that normal tissues may contain bacteria. Among those so isolated, may be mentioned staphylococci, both albus and aureus, and bacillus coli. It will be interesting to study their manner of entrance, a subject which has been admirably worked out by A. B. Macallum, of Toronto, whose name as an investigator has reached beyond this continent. In experiments on feeding iron, he found leucocytes free from