we discover new ones in our laboratory. Those that we take ready-made from nature, as, for example, quinin, digitalin, etc., are, for the most part, excreted products of vegetable metabolism, whose presence and retention in the vegetable cell, like that of the nitrogenous products in the animal body, are injurious to life. In other words, we use the excreta or by-products of one kingdom to irritate or stimulate the organism in the other. Unless we believe that Providence ordained that vegetable organisms should produce such compounds to touch with exactness the springs of life within us, we may be excused from considering many of them as permanently placed in our pharmacopeia. Were all the therapeutists of the present day to search for a drug which would benefit cases of pancreatic diabetes, would they ever find one which would replace exactly that physiological compound whose absence in disease of the pancreas is the cause of the appearance of sugar in the blood? Is it possible to find a by-product of vegetable metabolism which will replace, when the thyroid gland is diseased or atrophied, that physiological compound whose formation and presence in the normal thyroid gland prevents that deposition of mucin in the body which characterizes the disease myxedema? These facts and the possible advances in our knowledge of physiological chemistry suggest how transient is the present character of our pharmacopeia. At the present day we indulgently smile when an old wife gives a child a dose of castor oil or calomel for toothache, knowing how very indirectly the toothache is alleviated, if at all; but what a large number of drugs must we employ whose action, contrary to what we suppose, may be as indirect as that of calomel in toothache!

Apart from this, and from the crudities at present exhibited in the administration of the so-called animal extracts, physiological chemistry is destined to be a very important factor in the treatment of bacterial diseases. It is now known that some animals do not take certain diseases because of the presence in their blood of proteids which destroy or prevent the growth of the bacteria causing those diseases. Hankin has investigated some of these proteids, and found that they belong to the class called nucleo-albumins. Vaughan and McClintock have determined that they are nucleins. The nucleins and nucleo-albumins have been but little studied, but that they are a very important class of compounds is rendered apparent also by the extreme probability that the digestive and other ferments belong to that class. Kossel advances the view that the animal organization defends itself against the poisonous proteids formed or secreted by bacteria through the nucleinic acid of the organism uniting with the toxic compound and thereby rendering it insoluble. If, as some physiological chemists maintain, the nucleins can be formed out of simpler elements in the laboratory, and if, further, a very large number of them