meat and glycerine extract of meat, but although he seemed to get some benefit from the treatment, it was not sufficiently marked to attract general attention. His attempts to isolate a glycolytic ferment from flesh were also only partially success­ful. One of the great difficulties in the way of applying this treatment is that in all probability many of the ferments or enzymes are altered during the process of absorption in the same way as the normal ferments of digestion, and unless the tissue enzymes can be isolated and injected subcutaneously the desired results will not be obtained. The most striking of all the results of organo-thcrapy are those obtained in myxoedema. In this disease the face is heavy, puffy and expressionless, the lips thick, the speech slow, the hands shapeless and spade-like, the patient apathetic, the circulation slow and the extremities cold. Under the influence of thyroid gland these symptoms all disappear, and the patient is frequently restored to a normal condition. When the thyroid gland is absent in children, not only is the expression of the face dull and heavy as in the adult, but the growth both of body and mind is arrested, and the child remains a stunted idiot. The effect of thyroid gland in such cases is marvellous, the child growing in body and becoming healthy and intelligent. In the case of the thyroid the function of the gland appears to be to prepare a secretion which is poured out into the blood and alters tissue-change. When the thyroid tablets or extract of thyroid are given in too large quantities to patients suffering from myxoedema, the symptoms of myxoedema disappear, but in their place appear others in­dicative of increased metabolism and accelerated circulation. The pulse-rate becomes very rapid, the extremities become warm, so that the patient is obliged to wear few clothes, the temper becomes irritable, the patient nervous, and a fine tremor is observed in the hands. On stopping the administration of thyroid these symptoms again disappear. When the thyroid is hypertrophied, as in Graves’s disease, the same symptoms are observed, and these are probably due to increased secretion from the thyroid. At the same time other symptoms, such as exophthalmos, may appear, which have an independent origin and are not due to the secretion of the gland. The whole of the secretion here is poured into the blood and not at all on to a mucous surface, and herein the thyroid gland differs largely from such glands as the pancreas or peptic and intestinal glands. But it seems now probable that all glands which have what may be termed an external secretion like the pancreas, stomach, intestine, skin and kidneys have also an internal secretion, so that while they are pouring out one secretion from the ducts into the intestine or external air, they are also pouring into the lymphatics, and thus into the blood, an internal secretion. In fact, a splitting appears to take place in the process of secretion somewhat resembling that which takes place in the formation of a toxin and anti-toxin. The secretion of some digestive glands would prove poisonous if absorbed unchanged. For example, the trypsin of the pancreas (see Nutrition) digests albuminous bodies in neutral or alcoholic solution, and if the whole of that which is secreted in the pancreas for the digestion of meat in the intestine were absorbed unchanged into the circulation, it would digest the body itself and quickly cause death. The secretion of trypsin by the pancreas may therefore be looked upon as the formation of a toxin. We do not know at present if any corresponding anti-toxin or anti­trypsin, as we may term it, is returned into the lymphatics or blood from the gland, but the pancreas, which in addition to secreting trypsin secretes a diastatic ferment forming sugar from starch, pours this into the intestine and secretes at the same time a glycolytic ferment which breaks up sugar, and this latter passes into the blood by way of the lymphatics. Thus the gland not only breaks up starch into sugar in the intestine, but breaks up the sugar thus formed after it has been absorbed into the blood. It is known that several, perhaps very many, if not all glands have also the power of secreting substances to which Starling has given the name of “ hormones.” These pass into the blood and cause other glands to secrete. Thus an acid in the duodenum causes it to secrete a hormone to which the name of “ secretin ” has been given. This passes to the pancreas and causes increased secretion from that gland. It is probable that the pancreas in its turn also secretes something which activates a ferment in the muscles. It is evident there­fore that the connexion between the different glands of the body is a very complicated one and that the effects of a drug which acts upon any one of them may be of a very far-reaching character. It is by no means improbable that all glands have a double or even triple function, and that sometimes the external may be even less important than the internal secretion. On this point, however, we have but little definite knowledge, and a great field is open for future research. At the same time, there are many indications of the importance of an internal secretion in popular treatment. For example, there are many people who feel very much better after profuse perspiration, and as sweat appears to contain little but water and a few salts, it is not improbable that the improvement in their condition is due rather to the internal secretion from the skin than to the elimination effected by the sweat. It is probable that the kidneys also have an internal secretion, and that the great oedema sometimes found in kidney disease is rather due to the action of some proteid body resembling in its effects the strepto­coccus anti-toxin, than to accumulation of water due to im­perfect action of the kidney. Similarly the beneficial effects of purgation may be due not only to the elimination which takes place through the bowel, but also to the internal secretion from the intestinal glands.

The health of the body depends upon the proper kind and supply of food, upon its proper digestion and absorption, on the proper metabolism or tissue-change in the body, and the proper excretion of waste. We have considered how these may be disturbed by microbes from without and from within. We have also considered in a general way the treatment of local diseases by passive protection, active protection and repair of waste; but both maintenance of health and repair of waste depend very largely upon the condition of the blood. When this is healthy the attacks of microbes are resisted, wounds heal readily, and patients recover from serious diseases which in persons of debilitated constitution would prove fatal. In order to keep the blood in a satisfactory condition it must be well supplied with fresh nutriment, and the products of waste freely eliminated. The food required for the body may be divided into five kinds—carbo­hydrates, such as starches and sugars; fats; proteids, such as meat and eggs; salts; and last, but not least, water. Water forms almost three-fifths of the weight of the body, so that it amounts to more than all the other constituents put together. Without it life would be impossible, and it is well recognized that death from thirst is more awful than death from hunger. The healthy organism can adapt itself to great varieties both in regard to the quality and quantity of food; but when health begins to fail much care may be required, and many ailments arise from dyspepsia. Imperfect digestion is very often caused by defective teeth or by undue haste in eating, so that the food is bolted instead of being sufficiently masticated and insalivated. The food thus reaches the stomach in large lumps which cannot be readily digested, and either remain there till they decompose and give rise to irritation in the stomach itself, or pass on to the intestine, where digestion is likewise incomplete, and the food is ejected without the proper amount of nourishment having been extracted from it; while at the same time the products of its decomposition may have been absorbed and acted as poisons, giving rise to lassitude, discomfort, headache, or perhaps even to irritability and sleep­lessness. Much dyspepsia would be avoided by attention to the condition of the teeth, by artificial teeth when the natural ones are defective, and by obedience to one or two simple rules: (1) to eat slowly; (2) to masticate thoroughly; (3) to take no liquid with meals excepting breakfast, but sip half a pint of hot water on rising in the morning, on going to bed at night, and again about an hour before luncheon and dinner. The object of taking no liquid with meals is that it ensures mastication