

obscure organs, the system is deprived of the products of its metabolism or internal workings, a corresponding departure from health must follow. No medical education is required to see that a rational method of treatment of such a disease would be to supply by artificial means the peculiar substance which the organ would itself supply in its normal condition. This peculiar substance, in the parlance of therapeutics, is called an "animal extract."

An example will serve to make this plain. There is situated in the neck, just in front of the larynx, an organ called the thyroid gland. In a positive way we know little of its function. It forms no visible secretion, and is not provided with a duct; yet it is abundantly supplied with blood, and has every appearance to the eye of being an important organ. Moreover, it has been found that when it is removed for disease from an adult there follows a peculiar train of symptoms. The mental powers of the patient undergo great deterioration, so that in a few months the patient becomes quite imbecile; at the same time there is formed beneath the skin a thick layer of mucous material which entirely changes the physical aspect of the sufferer.

A failure of development of this organ in infants is also found to be followed by most distressing results. Though born of healthy parents, and perhaps with robust brothers and sisters, a babe in whom this gland is functionally inactive is mentally an idiot, and physically a dwarf, with scarcely more life than a vegetable, repulsive and bestial in appearance, habits, and instincts.

Experimenting upon monkeys and other animals, it was found that removal of this organ was followed by results precisely in conformity with what had been learned by clinical experience such as I have mentioned. Moreover, a most important point was further discovered, viz., that in a monkey suffering from the effects of removal of the gland all the symptoms might be made to disappear by transplanting the gland of another animal—say, the sheep—into the tissues of the monkey. Subsequently it was found that almost equally good results followed the feeding of the animal with either the glands or an extract made from them by means of maceration in glycerine or alcohol. You may be very sure that it was not long before the human race was given the benefit of the results of these experiments. The class of cases of which I have spoken, in which mental and physical deterioration were known to be due to the absence or disease of the thyroid gland, were early subjected to this treatment, and with most startling results. Dr. Byron Bramwell reports a case of a girl sixteen years old, twenty-nine and one-half inches high, who, under this treatment, in six months grew six and one-half inches (one-fifth of height before treatment). "The skin," he says, "lost its harshness and became soft and smooth, and