

and render intelligible the clinical findings in myxedema and exophthalmic goitre. Increased activity of the thyroid we should expect from the above experiments to be associated with a decrease in the power of the carbohydrate-destroying mechanism, and such is clinically shown to be the case by the finding of glycosuria in Graves' disease."

"Decreased activity of the thyroid should, on the other hand, at least not diminish the power of the carbohydrate destructive mechanism of the body, and this view is rendered very probable by the rare occurrence of glycosuria in myxedema, and, in addition, by the extremely high assimilation limit for dextrose in this condition."

From the foregoing it will be seen that we have an example of the retarding action of the active agent of one ductless gland on that of another (it being taken for granted that the active agent of the pancreas is provided by the islands of Langerhans). It will be of interest, in this connection, to discuss at this point the noteworthy work of the members of the Vienna School, Falta, Eppinger and Rudinger, who have devoted especial attention to the study of the inter-relationship of the action of the ductless glands. They have correlated their results and have come to the following conclusions:

- (1) The thyroid and pancreas mutually retard the action of one another.
- (2) The pancreas and chromaffin system mutually retard the action of one another.
- (3) The thyroid and the chromaffin system mutually increase the action of one another.

THE ADRENALS AND CARBOHYDRATE METABOLISM.

Although clinical experience has given us little or no evidence from which we could draw the conclusion that the adrenals materially influence carbohydrate metabolism, yet laboratory experiments have adduced ample testimony that they do. In 1901 Blum reported that the subcutaneous injection of an aqueous extract of adrenalin produced glycosuria in 22 out of 25 animals experimented upon. Herter, in the following year, published the results of a series of instructive experiments in which he showed that the subcutaneous, intravenous and intraperitoneal injection of adrenalin chloride solution into dogs was almost invariably followed by glycosuria. He demonstrated that marked glycosuria followed the application of small quantities of adrenalin directly to the pancreas—quantities which when applied locally to other parts of the body either gave rise to no excretion of sugar or to a trivial glycosuria.