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On the physiology of the thyroids.By **L. B. STOOKEY.**

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It seemed possible that many of the symptoms following thyroidectomy, namely, decreased metabolism, accumulation of mucoïd in the subcutaneous connective tissues, colloïdal changes in the kidneys and liver, hyaline degeneration in the arterial walls, decreased development of bones, delayed ossification of epiphysial cartilages and synchondroses, disturbances in temperature, and decline in muscular tone might result from decreased or incomplete protein oxidation. Conversely, this hypothesis would imply that the thyroids exert an influence over some intracellular oxidative processes.

To throw light on this hypothesis the power of tissues taken from normal animals to oxidize indol was compared with that of tissues taken from thyroidectomized dogs. The dogs were bled from the carotids, the organs removed under the usual precautions, hashed, divided into convenient quantities and exposed to seven times their weight of 0.005 per cent. indol solution. Toluol was added to prevent bacterial action. The mixtures were kept at body temperature, and the amount of unoxidized indol was determined at varying intervals. The indol was estimated colorimetrically by means of the glyoxylic acid reaction. Results obtained in this manner were checked by Kjeldahl nitrogen determinations.

In all cases it was found that thyroidectomy led to a *decreased* power on the part of the liver, kidneys, and spleen to oxidize indol. These findings might seem to indicate that the thyroids bear to intracellular nitrogenous oxidation a relation analogous to that existing between the pancreas and the utilization of glucose. namely: the thyroids through their internal secretion activate the oxidizing enzymes of the different body cells.