dimension of the organ measured as before. It was found that the prostate increased the length 25 mm., and the width of the bulb 25 mm. The orchitic extracts gave an increase in length of 15 mm., and an increase in width of bulb of 23 mm. The ovarian extract gave an increase in length of 21 and an increase in width of bulb of 23 mm. The parathyroid extract gave an increase in length of 15 and an increase in width of bulb of 15 mm. The thymus extract gave an increase in length of 15 mm. and an increase in width of bulb of 12 mm. Pituitary extract as a whole, gave an increase in length of 11 mm. and an increase in width of bulb of 6 mm. Infundibulin gave an increase in length of 5 mm. and an increase in width of bulb of 6 mm. Pineal gland gave no increase in length but increase in width of bulb of 7 mm. The corpus luteum increased the length 15 mm. and the width of the bulb 28 mm.

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The depressor action of dog's pancreas and pancreatic juice.

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The marked lowering of blood pressure produced by the pancreatic juice of the dog when injected into the circulation of the dog, suggested that the sudden onset of prostration and collapse, symptoms indicative of vasomotor insufficiency seen clinically in acute pancreatic disease, might be due to the direct peritoneal absorption of the pancreatic juice set free in the destruction of the gland.

We have accordingly collected the pancreatic juice from anesthetized dogs by placing a canula in the duct, and the secretion so obtained was diluted with equal volumes of 0.85 per cent. salt solution and injected into the femoral or external jugular veins of the same or other dogs. Varying with the anesthetic used and directly with the blood pressure level at the time of injection, we have obtained falls of from 20 to 60 mm. Hg by injecting the equivalent of 1 c.c. of pancreatic juice. The action does not appear to depend on any primary cardiac effect. The fall is prompt and recovery to the original level occurs within 2 minutes. Pan-

creatic juice from which the coagulable proteins were removed by heat caused an equally marked fall in the blood pressure.

Extracts of the fresh pancreas were also prepared with the Buchner press or by simple grinding in a mortar with sand or glass and shaking with 0.85 per cent. salt solution. As a general rule 3 c.c. of the resulting solutions representing 1 gm. of the organ were used for single injections. The results were similar whether the solution was used at once or was kept on ice for 18 to 24 hours. Before use the solutions were cleared as far as possible by centrifugalization and filtering. Such extracts produced a fall in blood pressure averaging 30 to 50 mm. Hg. Similar results were obtained by using extracts from which the coagulable proteid was removed by heat and acetic acid, and also with the alcoholic precipitate of such a solution taken up in the original volume of 0.85 per cent. salt solution.

The alcoholic filtrates of the preceding extracts evaporated to dryness at 37.5° C. and made up to the original volume are inert. Washed or unwashed organs give extracts of similar depressor activity. The clear solutions obtained after heating and acidification were used to determine the effects of the injection of small amounts of extract over long periods of time. Death resulted generally from the injection of the equivalent of 3.5 to 6 grams of pancreas over a period of about one half hour, but in one instance an animal received the equivalent of 31 grams of pancreas, during two and one half hours, before death occurred.

It was found impossible by continuous injection of small quantities to keep the blood pressure at the low level produced by a single injection of the equivalent of 1 gram of pancreas. The blood pressure remains but slightly below its original level, but if a large dose is then given there is a marked fall, with recovery to the level existing at the time of injection. Attempts to determine the effects of continuous absorption of pancreatic juice from the peritoneal cavity by causing leakage from the severed ducts were also unsuccessful.

That there might be some ground for drawing analogies between experimental findings and clinical conditions, extracts were prepared from human pancreas and it was found that their action on the dog was in every way similar to that obtained with

the pancreas of the dog. We have, however, from our experiments no evidence to show that the prostration and collapse of acute pancreatic disease are caused by the absorption and effect on the blood pressure of the unaltered pancreatic juice or the products of the earlier stages of autolysis. The part played by autolysis in the production of further depressor and toxic substances and especially the part played by the activation of the pancreatic secretion by the enterokinase, which body presumably finds entrance into the organ in the development of the human lesion, are phases of the subject which we now are investigating.

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The significance of the structure of the medullary loop of the renal tubule of mammalia.

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A method of maceration has been devised recently[1] by means of which it is possible to isolate the entire renal tubule of adult mammals. Certain of the renal tubules thus isolated have been stained and permanently mounted in glycerine. This enables a study of their form in a manner hitherto not possible and admits of an accurate determination of their epithelial lining. Each mammalian renal tubule possesses four types of epithelium: (1) The pavement epithelium surrounding the glomerulus and lining the glomerular capsule; (2) the specific renal epithelium of the proximal convoluted portion and its medullary segment; (3) the pavement epithelium of the medullary loop; (4) the cubic or short columnar epithelium of the ascending or distal arm of the medullary loop and the distal convoluted portion. The following table shows the distribution of the last three types of epithelium in renal tubules of the rabbit, the tubules selected representing A, a tubule with renal corpuscle situated at the periphery of the cortex; B, a tubule with renal corpuscle situated in the deeper portion of the outer half of the cortex; C, a tubule the renal corpuscle of which is situated in the deepest part of the cortex.

[1] G. Carl Huber, "A method for isolating the renal tubules of mammalia," *Anat. Record.*, v., April, 1911.