The results described briefly above indicate rather clearly that the chick blastoderm contains anterior to the node at the head-process stage, 2 distinct laterally placed areas of prospective thyroid material. In view of the fact that the thyroid arises morphologically as an unpaired median organ, this dual origin is of exceeding interest. The question of whether the thyroid is segregated or determined at this stage; and of whether the right thyroid area differs from the left; cannot at present be answered.

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Effect of Histamine Upon the Salivary Flow Induced by Pilocarpine in Dogs.

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In the course of an investigation of the variations in the flow and composition of saliva secreted in response to different types of stimuli, histamine was tried among other pharmacological agents, chiefly because of reports in the literature on its effects upon the salivary glands. These reports refer to acute experiments upon anesthetized or decerebrated animals. Our experiments were made on unanesthetized dogs with permanent fistulae of one of the submaxillary glands, and, aside from obvious advantage of using such animals, it made it possible to repeat an experiment on the same dog several times under identical or different conditions. The 3 dogs used had been accustomed to being placed in a stand and having a measuring tube attached to the lower jaw.

Subcutaneous injections of 1 to 5 gm. of histamine sulphate were not followed by any secretion of saliva. To bring out the possible effect of histamine upon the salivary flow elicited by other means, the dogs were given subcutaneous injections of 1 mg. histamine sulphate, followed 20 minutes later by a subcutaneous injection of 1/3 mg. pilocarpine sulphate per kg. The quantity of saliva secreted under these conditions was compared with that elicited by a similar dose of pilocarpine, not preceded by histamine. This was repeated several times on each dog, histamine-pilocarpine alternating with pilocarpine only experiments. The results in all 3 dogs indicate that a previous injection of histamine inhibits the flow of saliva which follows the administration of pilocarpine. Thus in one dog

pilocarpine alone caused a flow of saliva from the fistula amounting on different occasions to 54.9, 48.9, 39.7, and 46.9 cc. per hour (average, 47.6 cc.), whereas in experiments with pilocarpine after histamine, the corresponding amounts of saliva were 31.9, 26.6, 37.6, and 33.8 cc. (average, 32.5 cc.). The largest volume of saliva collected in 5 minutes was 12.8 cc. under pilocarpine alone, and 8.6 cc. with histamine preceding pilocarpine.

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Effect of Pituitary Extract (Posterior Lobe) on the Concentrations and Distributions of Chlorides and Bromides in the Blood and Urine.

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The mechanism by which pituitary extract causes antidiuresis in unanesthetized mammals has been considered by some workers as chiefly extra-renal, by others as chiefly renal. The experiments reported here were undertaken in the belief that studies of electrolyte distribution (chlorides and bromides) between erythrocytes and serum might support or oppose the hypothesis that an extra-renal mechanism is involved.

All experiments were performed on unanesthetized dogs with permanent fistulae of only the ureteral portion of the urinary bladder for the accurate collection of urine. Blood was withdrawn from the jugular vein under oil, defibrinated and then centrifuged to separate the serum from the erythrocytes. The serum and the erythrocytes were transferred to separate tonometers without exposure to air. Determinations of the hydrogen-ion concentration of serum and of the water-content and concentrations of chlorides or of chlorides and bromides in urine, erythrocytes and serum, were made 3 or 4 times (including a control-period) in each experiment. Posterior-lobe pituitary extract was given subcutaneously (except in control experiments) in an amount sufficient to cause a typical antidiuretic effect.

The results obtained under the experimental conditions described above appear to justify the following conclusions: 1. Pituitary extract does not significantly change the concentrations of chloride in erythrocytes or in serum of intact (13 experiments on 5 dogs) or of nephrectomized dogs (2 dogs). 2. When part of the blood-chlo-