iodine and sheep's pituitary from the Ithaca slaughter house yielded only a trace.

Our experiment was performed at the suggestion of Professor Schäfer with the view of determining whether iodine appears in the pituitary after thyroidectomy. We removed the thyroid glands completely from ten sheep. Each was weighed at the time of removal and again when dried, and the iodine estimated. Great variation was found in the ratio of thyroid to body weight in different individuals, but the iodine corresponded pretty closely to the weight of the gland.

Five of the sheep were infected by a parasite and died at intervals of from six to thirty-two days after the operation. The remaining five showed no symptoms and were killed from forty-seven to fifty-six days after throidectomy. After death the pituitary was removed, weighed, dried and put aside until all had been collected and then on account of the small size of the individual glands, they were examined for iodine collectively by Hunter's method. None was found. The weight of the substance available for examination was 1.02 grams. In this amount 0.005 milligram could have been detected with certainty.

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Parabiosis as a test for circulating antibodies in cancer.

By **PEYTON ROUS.**

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Sauerbruch and Heyde have united animals side by side, with an opening between the peritoneal cavities and suture of the apposed skin and connective tissue. They find that healing between two individuals thus joined brings with it a considerable physiological intimacy. Ranzi and Ehrlich, following them, have demonstrated that circulating antibodies pass with ease from one of such a pair to the other. On this evidence it seems possible to utilize the condition (parabiosis) for experiments on the question of the existence or non-existence of circulating antibodies for cancer. Accordingly, I have united white rats with a growing tumor, the result of transplantation, to others which had proved themselves resistant to the same type of neoplasm. Careful watch

was kept for signs of retarded development or retrogression in the tumors thus brought under the continued influence of blood from a resistant animal, but no alteration of the sort was observed. The growths extended with the same rapidity as those in control animals. The findings are against the presence in circulation of destructive antibodies for cancer.

The Flexner-Jobling adeno-carcinoma was the tumor employed. Animals were selected which bore in the subcutaneous tissue of one side a vigorous growth 1 to 3 centimeters in diameter. Some were kept as controls and others placed in parabiosis with resistant rats. These latter had failed on three successive implantations to develop a tumor. The appearance in most of them of a small retrogressing nodule after the first implantation, and the complete absence of such a nodule after the later ones pointed to an acquired immunity in addition to the natural resistance. Experiments with rats of high acquired immunity are now under way.

Sauerbruch and Heyde found that for the healing together of rabbits or dogs it is imperative that they be young and of the same litter. Even then they did not endure the union for more than two weeks, one succumbing within that time to a cachexia, incident, it is supposed, to the new metabolic relation. My observations show that white rats tolerate much better the conditions of union. Adult animals of different litters will heal together *per primum* and live in parabiosis as long as thirty-four days. Evidently those tissue distinctions between individuals based on parentage and age are much less marked in white rats than in some other species.

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The excretion of calcium and magnesium after parathyroidectomy.

By **JEAN V. COOKE.** (By invitation.)

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The brains of dogs dying with parathyroid tetany contain a slightly greater amount of calcium than do those of normal dogs, which would indicate that a decreased calcium content of the brain is not constant in tetany. The magnesium content of the brain is