mum lethal dose at slightly more than 0.075 mg. per 100 gm. body weight. The ratio of minimum lethal dose to body weight was constant over a wide range.

The hypophysectomized rats were prepared by the method of P. E. Smith, the sphenoid being trephined through the nasopharynx. The entire gland was aspirated without touching the brain. All of the animals had been operated at least 3 weeks before the tests and were definitely free from any post-operative complications. Thirteen operated animals were used; 8 of these received one-sixth grain of thyroid twice a week for 2 weeks previous to injection of the toxin to maintain the basal metabolic rate and eliminate the thyroid changes as a possible factor. Operated rats given doses of 0.043 mg. per 100 gm. body weight all survived, but when the total injection was 0.05 mg. per 100 gm. body weight, 10 animals died and 3 survived. Upon autopsy all of the animals which died were found to have complete operations. One of the surviving animals had portions of the anterior lobe still present. The minimum lethal dose for hypophysectomized animals was 0.05 mg. per 100 gm. body weight.

The detoxifying ability of hypophysectomized rats is therefore only ⅔ that of similar normal animals. The difference is even greater than the figures would indicate since the hypophysectomized animals had much smaller amounts of body fat. This effect of removal of the hypophysis is not due to the indirect effect of a lowered thyroid function but may be due to a reduced function of the adrenals.

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Sexual Variation in the Carbohydrate Metabolism of Rats.

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A distinct variation exists in the rate of development and the extent to which ketosis occurs in normal men and women during the early days of fasting.[1] The present investigation was undertaken to determine whether such a difference can be ascribed to a more rapid depletion of the carbohydrate supply of the female.

[1] Deuel, H. J., Jr., and Gulick, M., *J. Biol. Chem.*, 1932, **96**, 25.

Rats were used as experimental animals. In order to insure a uniform content of carbohydrate at the beginning of the test, the animals were first fasted for 48 hours after having been previously fed on an adequate normal diet. Glucose was then administered by stomach tube in 50% solution, 0.500 gm. per 100 sq. cm. of body surface. The animals were again fasted for 24, 36, 48 or 72 hours, then anesthetized with amytal and the whole liver, a sample of muscle and the heart were quickly removed and frozen in a mixture of CO_2 snow and ether. Glycogen was determined by a combination of the Pfluger method and the Shaffer-Hartmann procedure.

The glycogen content of the livers of mature female rats was invariably lower than that of mature males. However, no significant difference in the glycogen store in the liver, muscle or heart of sexually immature male and female rats was found. In castrated female animals as high or higher values were found as in males. In a series of 50 castrated female rats, half of which received sufficient theelin several times daily over a period of a week to keep them continuously in active oestrus, it was found that the injected animals behaved as normal females in respect to their glycogen stores. It is concluded that a sexual difference exists in the rate at which the carbohydrate stores are depleted in fasting. This variation is not noted before sexual maturity or after castration of the female. It is restored, however, in female castrates by the injection of theelin.

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A Roentgen-Ray Study in Absorption of Thorium Dioxide from Peritoneal Cavity of Albino Rat.*

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It has long been known that serous cavities have the capacity of absorbing certain injected substances. Cunningham[1] showed that, when a mixture of erythrocytes, large unfiltered carmine granules, and fine lampblack granules, made up in isotonic NaCl solution, was injected into the peritoneal cavity of animals, all 3 types of material reached the anterior mediastinal glands shortly after in-

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[1] Cunningham, R. S., *Am. J. Physiol.*, 1922, **62**, 248.