

10 per cent. The whole series of females composed of ten spayed and eleven controls gave an average for the operated animals of 16.35 mg. and for the controls 13.71 mg. or a gain of 18 per cent. The curves of growth from this grouping are essentially the same as by the grouping just mentioned.

From these results it would seem that the apparent increase in weight of the pituitary after castration in case of the male rabbits should be entirely neglected, since it is no more than would be readily shown by two groups of normal animals. In case of the females of the second series the increase in weight of the pituitary of the spayed rabbits, although not marked, is quite distinct, and is accompanied by no response in overgrowth of body weight as is shown in case of the males.

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**Effect of thyroidectomy followed by thyroid feeding on weight of pituitary in rabbits.**

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The object of this experiment was to determine the effect upon the weight of pituitary in the rabbit following the administration of sheep's thyroid. Both males and females were used. The male rabbits were divided into two groups. The animals of one were thyroidectomized and those of the other used as controls. To one half of the thyroidectomized animals and one half of the control group a capsule containing one tenth of a gram of Armour and Company's desiccated sheep's thyroid was administered on alternate days. The females were treated in precisely the same manner and thus each sex was composed of animals under four conditions: first those which were entirely normal, second those normal and fed thyroid, third those thyroidectomized and not fed thyroid, and fourth thyroidectomized and fed thyroid.

The males and females were kept separate but under the same conditions and each animal was weighed once a week. All the animals were killed at the end of about six months after operation

and in every case of thyroidectomy postmortem examination showed that the thyroid had been completely removed. The body weight of each animal was corrected by deducting the weight of contents of stomach, intestines, and bladder. The pituitary was carefully dissected out and weighed to the tenth of a milligram and the weight of each pituitary was then calculated in milligrams per kilo of corrected body weight.

The average weight of the pituitary, of the animals under the above-described conditions, in milligrams per kilo of corrected body weight may best be seen in the following table. The figures in parenthesis indicate the number of animals used in each case.

FEMALES.			
Thyroidectomized.		Controls.	
Fed (4).	Not fed (2).	Fed (4).	Not fed (4).
14.72	14.80	14.56	13.90
MALES.			
Thyroidectomized.		Controls.	
Fed (3).	Not fed (2).	Fed (4).	Not fed (4).
13.26	23.43	12.81	10.79

In the literature dealing with this subject it is generally agreed that removal of the thyroid is followed by an increase in the weight of the pituitary, but whether this increase is due to absence of the internal secretion of the thyroid or to some other cause has not been determined. If feeding thyroid to rabbits which have been thyroidectomized prevents the increase in size of the pituitary this would point to the conclusion that the determining factor is to be found in the internal secretion. Such seems to be the case in the male thyroidectomized group where no increase in pituitary weight is evident while thyroid substance is being supplied, but when not fed the weight of the gland is almost double the normal. The female thyroidectomized group however does not show this but here it will be observed that apparently the pituitary did not increase in size after removal of the thyroid where no desiccated gland had been fed and this might be explained by supposing that in these individual animals the glands happened to be unusually small to begin with.

No effect on the pituitary weight was observed from feeding desiccated thyroid to normal rabbits.

The substance fed was proved to be active by administering it

to rabbits employed in another experiment where, in somewhat larger doses, it rapidly produced toxic symptoms.

The number of animals used in this experiment is, of course, too small on which to base any definite statement, but in the thyroidectomized group of males it appears to point to the fact that thyroid feeding does prevent the enlargement of the pituitary which would otherwise follow on removal of the thyroid.

41 (858)

**Method in the investigation of sensibility after the section of a cutaneous nerve. (Preliminary communication.)**

By **EDWIN G. BORING.**

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The difficulty of obtaining from clinical subjects, untrained in introspection, reliable accounts of the changes in cutaneous sensibility occurring during the regeneration of a cutaneous nerve has been partially obviated by Head<sup>1</sup> and by Trotter and Davies<sup>2</sup> through the use of the experimental method with themselves as subjects. These observers, however, did not take the precaution to make sure of their own ability to give the most accurate descriptions of cutaneous complexes, nor did they work with areas small enough to permit the application of the most exact experimental methods available. For this reason the writer has sought to conduct an experiment with such changes in procedure as should make for a more detailed and thorough description of the sensations involved. The writer acted as subject, and the conditions of the experiment were established by a section of the anterior branch of the internal cutaneous nerve. The following points may be noted:

1. A special attempt was made, during the year preceding the operation, to train the subject in the observation of cutaneous sensation and in the analysis of the sensational complexes mediated by the normal skin. Care was taken to distinguish between the

<sup>1</sup> *Brain*, 28, 1905, 99; 31, 1908, 323.

<sup>2</sup> *Jour. Physiol.*, 38, 1909, 134.