appearance (Fig. 2). The reason for this phenomenon is not known to us, but it seems that the living granulosa and ovum protect the theca. This observation reminds one of the fact that thecal luteinization as produced by the anterior pituitary-like hormone of pregnancy urine also appears most readily in thecal cells which are not in immediate contact with living granulosa cells.

We conclude from this experiment that the hypophysis has a definite trophic influence on the ovary of the rat long before the animal reaches maturity. It is interesting to note that in these immature rats the most obvious signs of deficiency after hypophysectomy appear in the theca—that is, in those cells which are the only ones which respond to the administration of A.P.L. in the very young rodent.

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Effect of Anterior Pituitary-like Hormone on the Ovary of the Hypophysectomized Mouse.

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We have stated previously that preparations of A.P.L. (anterior-pituitary-like hormone) from pregnancy urine or placenta do not lead to maturation of follicles or formation of corpora lutea in the ovary of the hypophysectomized rat,[1, 2] but only to luteinization of theca cells. Smith,[3] however, who repeated this experiment with the commercial preparation of the anterior pituitary-like hormone prepared from pregnancy urine bearing the name Antuitrin S., found that after such treatment new corpora lutea could be seen in the ovaries of both pre- and post-pubertal hypophysectomized rats; these were of the same type as the normal corpora lutea of the postpubertal animal. Thinking that the difference in results might be due to a difference in the preparations used, we repeated our experiment on 10 prepubertal (22-day-old) rats, using Antuitrin S.,* but the results

[1] Collip, Selye and Thomson, *Nature*, 1933, **131**, 56.

[2] Selye, Collip and Thomson, PROC. SOC. EXP. BIOL. AND MED., 1933, **30**, 780.

[3] Leonard and Smith, PROC. SOC. EXP. BIOL. AND MED., 1933, **30**, 1248.

* We used the standard commercial preparation, but Dr. Smith has informed us that the material employed in his experiments was a special sample of greater purity.

were the same as in our previous experiments. The ovaries of these rats showed no corpora lutea, and the only effect of the treatment was thecal luteinization.

It occurred to us that the difference in the results obtained by Smith and by us might be due to differences in the 2 colonies of rats. We decided, therefore, to repeat our experiments on a different animal species. The mouse seemed to be especially suited to an experiment of this type, because the corpora lutea existing at the time of hypophysectomy disappear very rapidly after operation in the non-pregnant animal, and any normal corpora lutea seen in the ovary a few weeks after hypophysectomy would have to be ascribed to the treatment.

Fourteen adult female mice were hypophysectomized for this experiment, and after a period of 2 weeks A.P.L treatment was initiated in 10 of them; 4 were left as untreated controls. We gave 5 units daily for 9 days, and killed all the animals, including the controls, on the 10th day. We have not seen normal corpora lutea in any of these animals, and the only difference between the treated and the untreated animals was that the theca showed signs of luteal transformation in the former group, while in the latter this was not the case.

These experiments show that in the postpubertal mouse treatment with A.P.L. does not lead to the formation of corpora lutea, but only to luteinization of the theca cells.

7086 C

Heterophile Ophthalmic Allergy. Reactions to Landsteiner Conjugates.*

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It was tentatively concluded from previous data from this laboratory[1] that the heterophile relationships between certain natural antigens are not necessarily the same in local and systemic specific immune reactions. We have extended these comparisons to include

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1 Chambers, J. V., PROC. SOC. EXP. BIOL. AND MED., 1933, **30**, 874.