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.

the known common or heterophile factor in certain artificial protein-crystalloid conjugates.

The native proteins selected for this comparison were horse serum (HS), cow serum (CS) and egg-white (EW). These proteins were benzoylated by the technic outlined previously,[2] the quantitative relationships being such that the average protein molecule of the final product (BHS, BCS, BEW) is the "carrier" of approximately 25 benzoyl radicals. Ophthalmic sensitivity was induced by the Seegal technic; unilateral injection into the anterior chamber of the rabbit eye. The subsequent local allergic test was made by intravenous injection, doses, time intervals and anaphylactic criteria being the same as those used by the Seegals.[3]

Preliminary tests showed that the 3 native proteins (HS, CS and EW) are strictly specific in their ophthalmic antigenicity when tested by the Seegal technic, no demonstrable cross-reaction or cross-desensitization being noted in 27 control tests. A series of 36 tests with the benzoylated proteins is recorded in Table I, the recorded

TABLE I.
Heterophile relationships of partially Benzoylated native proteins.

Groups of rabbits locally sensitized to:	Unilateral ophthalmic reaction following intravenous injection with: BHS	BCS	BEW
BHS	++++	0	0
BCS	0	++++	0
BEW	0	0	++++

data in each case being a composite picture of 4 parallel tests with different rabbits. No suggestion of a benzoyl cross-reaction is apparent from this table. Since the recorded reactions were independent of the order in which the tests were made on the same rabbit, there is no suggestion of a benzoyl cross-desensitization.

A second series of tests was made of the possible cross-reactions between the native and partially benzoylated protein "carriers". Eyes locally sensitized to BEW, for example, were found to react with equal severity to intravenous injection with BEW or EW, if the tests are made in this order (Table II). Eyes locally sensitized to EW, however, react with full severity to EW; but do not react on subsequent test 24 hours later with BEW. There is, therefore, a distinct "carrier" cross-reaction between the native and benzoylated proteins, the benzoylated "carrier", however, apparently serving as an ineffective desensitizing agent for the native protein.

[2] Kurtz, A. C., Sox, H. C., and Manwaring, W. H., PROC. SOC. EXP. BIOL. AND MED., 1932, **80**, 138.

[3] Seegal, D., and Seegal, B. C., *J. Exp. Med.*, 1931, **54**, 249.

TABLE II.
Cross-reactions with Native and Benzoylated Protein "Carriers".

Group of rabbits sensitized to:	Unilateral ophthalmic allergy following intravenous injection with:		
	BEW	EW	BEW
BEW	++++	++++	—
EW	—	++++	0

The reactions recorded in this paper are all of them strictly unilateral ophthalmic responses. On repeated intravenous tests on the same rabbit, "sympathetic allergy" is eventually elicited in the non-sensitized or control eye. These bilateral responses were originally described by the Seegals[4] and are apparently non-specific in character.

7087 C

Internal Migration of Ova in the Cat.*

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During other investigations, we have had occasion to interrupt one uterine tube to study the changes which might occur during pregnancy in the occupied and unoccupied horns. This report deals with observations on the uterine horns of 7 cats in which the right uterine tube was interrupted in each case a number of weeks before the animal was bred.

In 3 animals, the operative procedure consisted merely of ligation (with silk thread) of the right uterine tube in 2 places and section between the ligatures. These animals were bred and were sacrificed in the 7th week of pregnancy. Fetuses were found in both horns in all 3 animals. We were unable to find any macroscopic evidence of regeneration of the uterine tubes and in 2 animals the silk ligatures were found encircling the cut ends. Further evidence of migration of the ova from the unoperated to the operated side was obtained by a study of serial sections of both fragments of the tube and the tubal end of the uterine horn from the operated side of one of the animals. No histological evidence of a reestablishment of the lumen was present.

[4] Seegal, B. C., Seegal, D., and Khorazo, D., *J. Immunol.*, 1933, **25**, 207.

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