Young mature males were castrated and after 40 days their pituitaries were implanted into hypophysectomized females 26 days of age. While a dose level was found in which follicles only occurred in the ovaries of the hypophysectomized recipients, double this dose (4 glands) led to the appearance of corpora lutea. Implants of the hypophyses from normal litter brothers produced only follicles at both dose levels. Parallel experiments with normal recipients showed that corpora were produced by both levels of castrate and normal hypophyses.

The luteinizing effect of castrate male hypophysis as tested by implantation, therefore, contrasts with the results obtained by parabiosis. The explanation offered for the difference is that the absorption of the implant frees the factor responsible for luteinization, whereas this substance is retained *in vivo* by the hypophysis of the parabiont.

7961 P

Detection of Mammotropin* in the Urine of Lactating Women.

WILLIAM R. LYONS AND EMERY PAGE. (Introduced by Herbert M. Evans.)

From the Division of Anatomy, University of California.

In the course of studies on the hormonal control of the mammary gland, it has been of interest to ascertain by urinalysis to what extent a lactating woman is under the influence of estrin and the hypophyseal mammotropic hormone. A crude estrin may be prepared from the urine and tested by smearing it in the vaginae of ovariectomized rats. The urines of 8 lactating women (4-13 days postpartum) have been tested and all found to contain mammotropin in amounts that make it appear that at least as much of this hormone is excreted daily as is extractable from a bovine anterior lobe. The urine may be treated as follows: (1) to 100 cc. add 200 cc. acetone and 3 cc. HCl (concentrated); centrifuge and discard insoluble material; (2) add acetone to 90%; discard supernatant; (3) extract precipitate with mixture of 10 cc. stronger ammonia water, 20 cc. water, and 60 cc. acetone; discard insoluble; (4) add one volume of acetone; discard supernatant; (5) wash precipitate with 85% acetone, absolute acetone and ethyl ether (2 x 25 cc. in each

* Lactogenic hormone, prolactin, galactin.

case); (6) dry precipitate in warm desiccator; dissolve in 5.0 cc. water; adjust to pH 7.6; discard any insoluble.† Inject in doses of 0.1 and 1.0 cc. intradermally over the right and left crop sacs of squabs one month from hatching‡ for presumptive testing. Sacrifice birds at 48 hours, and retest in accordance with results until the minimal effective dose is determined. Until the hormone is purified it may suffice to consider the minimal effective dose in a statistically adequate number of birds as the temporary unit of urinary mammotropin. Sufficient amounts of untreated urine or blood plasma may be injected into the crop areas to allow for detection of mammotropin, but this procedure sometimes prevents accurate reading of the reactions because of inflammatory processes.

7962 P

Is Thyrotropic Hormone of Beef Ant. Pituitaries Identical with Indirect Interrenotropic Factor?

MORVYTH MC QUEEN-WILLIAMS. (Introduced by Herbert M. Evans.)

From the Anatomical Laboratory, University of California.

The ratio of the amounts of thyrotropic hormone in rat and beef hypophyses is entirely different from the ratio of the interrenotropic content in pituitaries of these 2 animal forms. Per unit of weight, adult male rat hypophyses are 7 to 9 times as potent in thyrotropic hormone as beef glands, whereas bovine pituitaries exceed male rat hypophyses in the ability to hypertrophy the adrenal cortex of adult male rats.

Intramuscular implants into immature male guinea pigs and subsequent histological study of the thyroids showed that as good a response can be elicited with 6 mg. of male rat pituitary as with 50 mg. of beef.

The adrenal weight is almost doubled when 1800 mg. of bovine glands are implanted over a 5 to 10 day period into adult male rats,

† If large volumes of urine are to be worked up, evaporate to dryness over a steam bath and under negative pressure, remove salts, and substances soluble in absolute fat solvents and proceed as above.

‡ Our method of local administration of mammotropin allows for its detection in a single microgram dose, whereas, when given intrapectorally (Riddle, *et al.*, PROC. SOC. EXP. BIOL. AND MED., 1932, **29**, 1211) 100 microgram amounts are required.