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.

provided the recipients have not been thyroidectomized.[1] On the other hand, as many as 200 (about 1600 mg.) adult male rat hypophyses implanted into intact rats produced no adrenal enlargement whatsoever; however, 350 whole glands administered to one rat did induce adrenal hypertrophy. Preliminary work indicates that adrenalectomy greatly increases the interrenotropic capacity of rat pituitaries, which, as we have just seen, is normally very low compared with the thyrotropic content.

7963 C

Sex Comparison of Gonadotropic Content of Anterior Hypophyses from Rats Before and After Puberty.

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

From the Anatomical Laboratory, University of California.

One hundred and eleven immature female rats (Table I) were each implanted intramuscularly with 2 to 10 (usually 7) anterior pituitaries from male or female rats of 5 main age groups. In parentheses will be given the average ovarian weight induced by each group when implants of 7 hypophyses were made.

18-23 *days:* Female rat pituitaries are very potent (73 mg.), while the level of gonadotropic hormone is much lower in male hypophyses (27 mg.).

27-30 *days:* Female glands still show a high hormonal content (88 mg.). A prepubertal rise in gonad-stimulating capacity has taken place in the male pituitaries (73 mg.).

35-38 *days:* A sudden prepubertal drop in the amount of hormone has occurred in both male (29 mg.) and female (32 mg.) hypophyses. Note that although the pituitaries are heavier, they have lost two-thirds of their potency in the period of one week.

42-44 *days:* Male remains the same, but female pituitary potency has decreased. More than half the female rats in this group had just matured.

Over 4 *months:* Adult female hypophyses cause but slight ovarian enlargement (25 mg.) and rarely corpora in the immature recipients, whereas male pituitaries induce ovaries 3½ times as heavy (84 mg.), which is in accord with the work of Evans and Simpson.

[1] McQueen-Williams, M., PROC. SOC. EXP. BIOL. AND MED., 1934, **32**, 296.