in the character of the vaginal smear comparable to those found in the active breeding period. In some instances we have encountered smears resembling so closely those found during oestrum that only after tests with 2 vigorous males were we convinced that the animal was not in true heat. Two or more of these inhibited cycles were usually recognized in early and late anoestrum. A similar observation was made upon 2 ewes during the third month of their lactation periods. In one instance true oestrum occurred. Histological study of the reproductive organs of the ewe at various times of anoestrum and lactation should give further data on this point.

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Ineffectiveness of Prolan in Hypophysectomized Animals.*

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A complete hypophysectomy with cautery at the base of the brain was done by Frederick L. Reichert on a female collie (hybrid) puppy 7 weeks of age from a litter where fortunately we had a sister control. Every 2 weeks, weighings and radiographs of the leg and skull were taken. After 2 such periods it was evident that the hypophysectomy was complete. Six months after the operation daily administration of Prolan was begun and continued for 53 days. An average of 30 cc. was given daily. At this juncture an ovary and one uterine horn were removed and sectioned. The naked eye impression of infantilism in the genitalia was verified. The animal was allowed to rest for 2 weeks. For a month thereafter about 15 cc. daily of a more potent preparation of Prolan was administered. This was proven to contain 80 to 100 rat units per cc. Death from a pneumonia at this juncture terminated the experiment but examination of the remaining ovary and uterine horn showed essentially the same conditions as were previously found, *i. e.*, a persisting true infantilism.

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Two other puppies were totally hypophysectomized at 6 weeks of age and subsequently similarly treated with Prolan—one of them a year after the operation and hence open to the objection that an irretrievable recession and fibrosis of the ovaries had resulted before treatment. The second puppy was hence treated 2 months after the operation but in spite of prolonged high dosage with Prolan the results were completely negative as in the first case reported.

A female rat 15 weeks of age and weighing 172 gm. was hypophysectomized by Richard Pencharz, on November 4, 1930, and its body weight and dimensions followed for several weeks to prove the completeness of the removal, which was established on January 14, 1931, when a laparotomy was done. One ovary was removed and its infantile character established by section. Four days later, the daily administration of 100 units (1 cc.) of Prolan was begun and continued for a week without the slightest effect on the sexual sphere (behavior, character of vulval lips, and vaginal smear).

After a pause of 20 days, the experiment was repeated for a duration of 10 days with similar non-effect confirmed by examination of the internal organs. The experience harmonizes completely with that with the hypophysectomized dogs.

The experiments, especially the very prolonged ones with dogs, both from the standpoint of duration and height of dosage with Prolan, of proven potency, appear to amply establish the incapacity of this substance to reestablish the normal development and function of the reproductive system after hypophysectomy. In this ineffectiveness, it is in contrast with the successful effect of anterior hypophyseal substance itself.†

† After our experiments were concluded, the publication of Hill and Parkes appeared with a different animal material and a different test. These investigators secured results which we consider analogous to our own. They reported the practical failure of Prolan to produce ovulation in decerebrated rabbits. The deductions to be drawn from both kinds of experiments will be clear in the second paper of this series.