juice of known peptic activity for as long as seventeen hours. No loss of potency was observed. Similar results were also obtained after tryptic digestion during a period of two hours.

The results obtained by oral administration and the digestion experiments outlined above would seem to indicate one of two things—either the placental ovary-stimulating hormone is essentially different from that of the anterior pituitary, or the latter has not as yet been obtained in a sufficiently concentrated form to show similar properties.

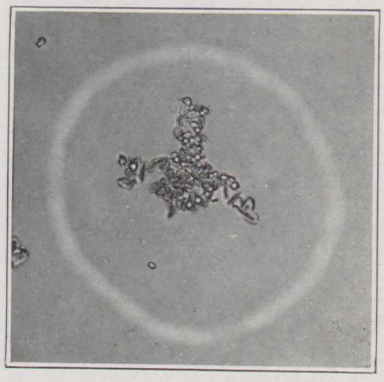

FIG. 1.—Photomicrograph of a potent crystalline fraction.

In order to study adequately the ovary-stimulating factor in placenta, it is necessary to employ a very large white rat or mouse colony. The albino rat has been used almost exclusively in this work, and breeding has been so arranged that litters of immature females of three to four weeks of age are available at all times. It is essential that both the breeding stock and the young be exceptionally well nourished. This is assured by feeding the basic diet of Sherman (whole wheat flour two parts, and powdered whole milk one part), supplemented by brewer's yeast, wheat germ, and a liberal amount of raw, lean meat.

A brief account of the more important findings to date in this research will now be given.

1. Immature female rats from 35 to 60 grm. in weight, and from 3 to 5 weeks of age, have been used according to a slightly modified technique of Aschheim and Zondek and of Wiesner, to assay biologically the content of the ovary-activating hormone in placental extracts. This method of assay has made possible the concentration and purification of the active principle by means of fractionation processes, to be described at a later date, to the point where one rat unit may be represented by 0.01 mgm. of dry substance. Certain micro-crystalline fractions of great potency have been obtained, but it is impossible to state as yet whether such fractions are pure chemicals. It is of special interest that immature white rats thus stimulated by the placental hormone to a state of œstrus as a rule become cyclic. Nine of these have also been impregnated by an active male in a normal manner.

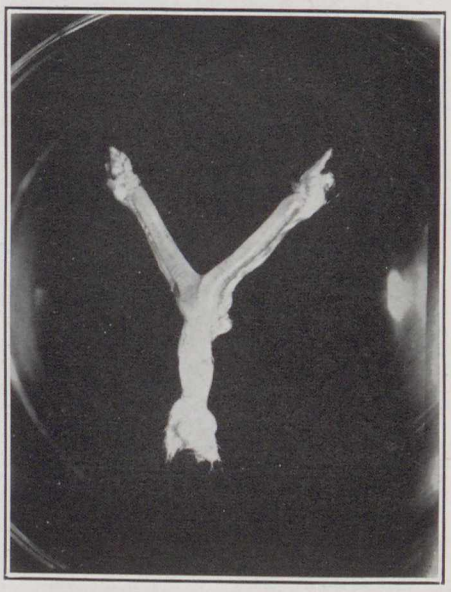

FIG. 2.—Genital tract of rat injected at 27 days of age with a total of 2 c.c. of an extract made from the crystalline fraction shown in Fig. 1. Autopsy on fifth day.

FIG. 3.—Control for Fig. 2.