Professor C. N. H. Long and collaborators have also been unable to demonstrate an effect of progesterone on the carbohydrate metabolism of rats.[12] Experiments carried out in a different fashion might have given positive results. Gilder and Phillips[13] have found that estradiol-treated rats demonstrated significantly elevated liver glycogens only if glucose-fed.

Summary. Progesterone as well as cortical extract raised the liver glycogen levels of intact fasting ferrets. Pseudopregnancy probably enhanced the effectiveness of progesterone. In a small number of rats cortical extracts had similar effects, while progesterone, testosterone propionate and stilboestrol gave little if any response.

10700 P

Hormonal Induction of Abortion.*

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The present experiments represent an attempt to determine whether or not pregnancy may be interrupted in the rabbit by the induction of ovulation during the second trimester of gestation.[1, 2, 3] It was prompted by earlier work[4] upon animals observed during the last trimester of pregnancy in which it had been found that the duration of gestation could be profoundly altered by the induction of ovulation with extract of urine of pregnant women (Antuitrin S). The onset of parturition was delayed long past term in certain animals, while in others labor was induced prematurely. Factors which determined whether pregnancy would be lengthened or shortened were (1) the stage of pregnancy at the time of induction of ovulation, (2) the dosage of pregnancy urine extract adminis-

12 Personal communication.

13 Gilder, H., and Phillips, R. A., *Proc. Am. Physiol. Soc.*, 1939, p. 86.

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1 Wislocki, G. B., and Goodman, L., *Anat. Rec.*, 1934, **59**, 375.

2 King, J. L., *Am. J. Physiol.*, 1938, **122**, 455.

3 Engle, E. T., and Mermod, C., *Am. J. Physiol.*, 1928, **85**, 518.

4 Snyder, F. F., *Bull. Johns Hopkins Hosp.*, 1934, **54**, 1.

tered, and (3) the parity of the animal. In the present experiments two of these factors were kept constant, namely, dosage of urine extract and parity of the animal, while the third factor varied, namely, the stage of pregnancy at the time of injection.

Accordingly, one series of animals was injected 11 days after mating, *i. e.*, at the beginning of the second trimester of pregnancy, while a second series was injected about 17 days after copulation, *i. e.*, near the middle of pregnancy. All animals received a standard dose of 10 rat units of Antuitrin S of Parke, Davis and Company, *i. e.*, approximately 3 rat units per k, diluted with water to a volume of 1 cc and administered by a single injection in an ear vein. Of the total of 40 rabbits upon which the present observations are based, 35 animals were primigravidæ. The duration of pregnancy averaged 32 days in this stock. The stage of pregnancy was accurately known since the animals were mated in the laboratory.

There was a striking difference in the course of pregnancy between the group of animals which was injected 11 days after mating and the second group which was injected 17 days after coitus. In the former group pregnancy continued to term; in contrast, in the latter group early interruption of gestation involved the entire litter in most of the animals and part of the litter in the others.

In the series of 12 animals injected at 11 days there was no evidence of interruption of pregnancy. Normal fetuses were delivered at term in 8 animals; in 3 animals which were sacrificed at 15 days in order to examine the ovaries, the fetuses were found alive; and in one animal birth of normal fetuses occurred at 30 days.

In the group of 28 rabbits which were injected about 17 days after mating, early interruption of pregnancy involved the entire litter in 18 animals. The stage of development of the fetuses showed that intrauterine death had occurred about the second or third day after the injection. Of the remaining 10 litters, 3 were examined within 48 hours after the injection and showed 16 dead fetuses and 6 living ones; in each of the 3 litters at least two-thirds of the fetuses had succumbed after the time of injection. Four litters examined 4 to 6 days after injection showed 14 living and 9 dead fetuses. There were at least 2 living fetuses in each of these litters but the dead fetuses had succumbed after the injection as shown by the stage at which their development had been arrested. Of 3 litters in which fetuses survived 4 days or longer following injection, no evidence of induced ovulation was found in 2 of the animals when the ovaries were examined microscopically; in the third animal, fresh corpora lutea were present.

The presence of fresh corpora lutea following injections was determined by microscopical examination of the ovaries. In the group injected at 17 days, fresh corpora lutea were seen in all cases except the 2 animals previously mentioned. In the group injected at 11 days, ovaries of only 3 animals were examined 4 days following injection at which time fresh corpora lutea were readily identified.

The striking difference in the course and outcome of pregnancy, depending upon the stage of gestation at which ovulation is induced, is indicative of the rate at which changes occur in the hormonal mechanism by which intrauterine life is maintained.

Summary. Ovulation was induced during pregnancy by a single intravenous injection of 10 rat units of pregnancy urine extract. Abortion commonly occurred in rabbits injected about the middle of pregnancy. On the other hand, in animals injected at the beginning of the second trimester, interruption of gestation did not occur.

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Viral Effect Produced by Intestinal Contents of Normal Mice and of Those Having Spontaneous Encephalomyelitis.

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Spontaneous encephalomyelitis of mice was first described by Theiler[1] as a new viral disease. The case incidence among stock Rockefeller Institute mice was shown to be 1 or 2 per 1,000[2] and its existence in Germany[3] and in Japan[4] was reported later. Interest in the malady lies in its similarity in many characters to poliomyelitis[1, 4], especially in size of the virus; in its action chiefly on the CNS and the naturally occurring characteristic flaccid paralysis, and in the pathological changes of the CNS. It has been called "poliomyelitis of mice," although Theiler[1] first demonstrated that there is no relationship between the two in host-susceptibilities and immunological reactions.

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2 Sabin, A. B., and Olitsky, P. K., *J. Exp. Med.*, 1938, **67**, 201.

3 Gildemeister, E., and Ahlfeld, I., *Cent. Bakt.*, I Abt., Orig., 1938, **142**, 144.

4 Iguchi, M., *Kitasato Arch. Exp. Med.*, 1939, **16**, 56.