pholipid fell in value and in 6 it rose. Plasma-free cholesterol had fallen in 10 and risen in 11 rabbits. A reciprocal change between body temperature and plasma phospholipid was noted in 12 of the 21 and no reciprocal change in 9. Plasma-free cholesterol varied inversely with the recorded change in temperature in 9 of the 21 animals and directly in 12. In other words, there was no consistent reciprocal relation between the concentration of plasma phospholipid and free cholesterol and changes in body temperature in these individual rabbits. These experiments demonstrate thus that there is no relation between variations in the normal body temperature of rabbits and the concentration of plasma phospholipid and free cholesterol. In conjunction with the previous work of Stoesser and McQuarrie[6, 9] they indicate that body temperature itself is not the factor responsible for the variations in blood lipids seen in the lipopenia of fever.

*Summary.* Plasma phospholipid and free cholesterol were estimated by oxidative micromethods in 30 normal young rabbits and their concentration found to bear no relation, individually or collectively, to variations in normal body temperature between 100 and 103°F.

## 9024 C

## Effect of Amputation of Apical Portion of Uterine Horn Upon Labor.

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Visual inspection of the monkey uterus in labor indicates that the uterine contractions start in the region of insertion of the tubes and then spread over the body of the uterus.[1] One obtains the idea that the region of the tubes serves as a sort of "pace-maker" for the uterus. In the post-partum uterus of the dog many waves of contraction start at the apex of the horns. This suggests that in the dog as well as in the monkey the waves might originate preferentially in the region of the tubes. In the uterus of the pregnant dog the contractions appear to originate usually in the ampulla that is being

[1] Ivy, A. C., Hartman, C. G., and Koff, A., *Am. J. Obst. and Gynec.*, 1931, **22**, 388.

evacuated rather than in the apices of the horns.[2] However, it is possible that the contractions in the active ampulla are due to an "impulse" that originates in the apex of the horn and does not cause contraction until it reaches the ampulla that is ready for evacuation. This work was undertaken to ascertain whether or not the apex of the horn is essential for normal parturition.

Three dogs, 5 rats and 2 rabbits were used in this study. Shortly before the expected date of delivery they were operated upon under ether anesthesia. In each case the distal fetus of one horn was gently milked toward the corpus of the uterus in order that a ligature might be placed about the apical portion of the horn. A figure of eight suture-ligature was then applied, and directly distal to this a second ligature was placed. The horn was then severed between them. In all of the rats and in one rabbit the apical portion of the cut horn was removed from the abdomen. In the other animals it was left in place.

All of the animals so treated showed no impairment of the processes of labor. Labor did not appear to be prolonged, and all of the fetuses were delivered with no apparent embarrassment on the part of the mother. Autopsy at a later date showed normal involution of both horns, the control horn appearing to differ in no way from the horn of which the apical portion had been amputated.

Rudolph and Ivy[3] showed that in the dog separation of the uterine horns from the corpus at their origin from this structure interfered only temporarily with coördinated contractions of the post-partum uterus. In order to disturb the coördinated nature of uterine contractions between the corpus uteri and the horns it was necessary to separate the horn from the corpus and also excise the utero-vaginal ganglion. Coördinated activity occurred when the utero-vaginal ganglion alone was excised. This showed that the coördination of uterine contractions could be maintained by either an intrinsic mechanism, or by an extrinsic mechanism in the ganglion. They further found that excision of the ganglion did not materially alter parturition insofar as the uterus was concerned. However, in their work they did not rule out the rôle that the apical portion of the horn might play in the coördinated activity of the horn itself. Our results together with those cited above indicate that each ampulla in the dog, rabbit and rat is automatic in regard to the contractions necessary for the evacuation of the uterus. However, to prove this conclusively both the ganglion and the apical portion of the horn would have to be excised in the same animal.

[2] Rudolph, L., and Ivy, A. C., *Am. J. Obst. and Gynec.*, 1930, **19**, 317.

[3] Rudolph, L., and Ivy, A. C., *Am. J. Obst. and Gynec.*, 1931, **21**, 65.

*Conclusion.* The apical portion of the uterine horn is not essential for the evacuation of the uterus in the dog, rabbit and rat.

## 9025 C

## Effect of Gonadotropic and Oestrogenic Hormones on Regenerating Feathers of Weaver Finches (*Pyromelana franciscana*).*

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The seasonal change of plumages in certain birds has long attracted the attention of ornithologists though until recent years little has been accomplished in the analysis of factors in control of this periodicity. The literature shall be considered in a following paper, which will deal with the many correlated features of seasonal variation in different species. The present paper reports only some experiments on the effects of certain hormones on the breast feathers of the African orange weaver finch *(Pyromelana franciscana).* The females carry a hen plumage throughout the year. The breast appears white in the midventral region, as in Fig. 1, left breast, turning into a light buff laterally. The base of the feathers, always invisible in the well arranged plumage, is of a dark gray, due to the deposit of melanin granules (Fig. 3, top left). The males also have this hen plumage outside of the breeding season. It is identical with the plumage of the female to such an extent that it is impossible to tell the sexes apart, unless an occasional nuptial feather may be found that was not shed during the preceding molt. With the approach of the breeding season the males pass through an incomplete molt, shedding only the "small plumage" which is replaced by a brilliant cock plumage in orange-red and black colors. The breast feathers are black (Fig. 1, right breast). Along with the color, the size and shape of the feathers also change (Fig. 4, lower row, right). Regenerating feathers assume the cock type during the active breeding season (about June 15 to September 30) and the hen type during the remainder of the year. Castrated males and females show in principle the same seasonal periodicity as normal

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