

ments, in which the injection of the radioactive material was continuous, are shown in Table II and the time-activity curves are shown in Fig. 2. It is to be noted that the curves are markedly different from those of the series with the single injection. This result is to be expected. The calculated values of  $R$  are given as for the periods up to 1, 2, 3, 4 and 6 hours; these were respectively 0.051, 0.037, 0.054, 0.040 and 0.046, the last representing the result for the experiment as a whole. The figures are not quite so consistent as those for the first series but the variation is not larger than is to be expected, considering the smaller number of animals

used in this series. The relative activity shows no consistency with the first experiment. The figure for  $R$  provided by the entire experiment, 0.046, agrees very well with that obtained in the first experiment, 0.049.

*Conclusions.* The proportional turnover rate  $R$  for hepatic phospholipid P in the white rat is on the average close to 5% per hour, and since the mean concentration of hepatic phospholipid P for both experiments together was 132 mg per 100 g of liver, that  $r$ , the mass turnover rate, is about 6 mg P per hour per 100 g of liver, which is 0.2 mg P per 100 g body weight.

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### Growth of Normal Male and Female Mice and of Female Mice Bearing Ovarian Grafts.\*†

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It has been clearly shown that mouse ovaries, under certain conditions, can supply androgens of sufficient quantity and quality to maintain, in normal conditions, the accessory sex glands of castrate male mice.<sup>1,2</sup> It has been proven that environmental temperature is a factor in causing grafted ovaries to elaborate androgens, but the exact androgens secreted have never been determined.

It was suggested to the author by Doctor Carl G. Hartman that perhaps female mice bearing active androgenic ovarian grafts might assume a growth pattern comparable to that of normal males. Following this sug-

gestion a group of our animals in experiment were weighed twice weekly, and the weights obtained are presented in Fig. 1. Five normal males and 10 normal females were used as control animals. Twenty-eight females bearing autografts of ovaries in their ears comprised the experimental group. All of the animals were of the same age when started on the experiment. It will be noted that the normal males averaged 16.6 g at the outset of the experiment, while the normal and experimental females averaged 14.9 g. The weights were recorded and plotted for approximately 250 days. At the end of this period the plateau of growth was essentially complete.

A difference of slightly less than 2 g at the outset of the experiment, between males and females, had increased to approximately 4.5 g 60 days later. The difference of 4-4.5 g in the weights of the 2 groups was maintained from then till the termination of the experiment. At no time did the curve obtained

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† The mice used in these experiments were the CHI inbred strain obtained from Dr. L. C. Strong.

<sup>1</sup> Hill, R. T., *Endocrinology*, 1937, **21**, 633.

<sup>2</sup> Hill, R. T., and Strong, M. T., *Endocrinology*, 1938, **22**, 663.

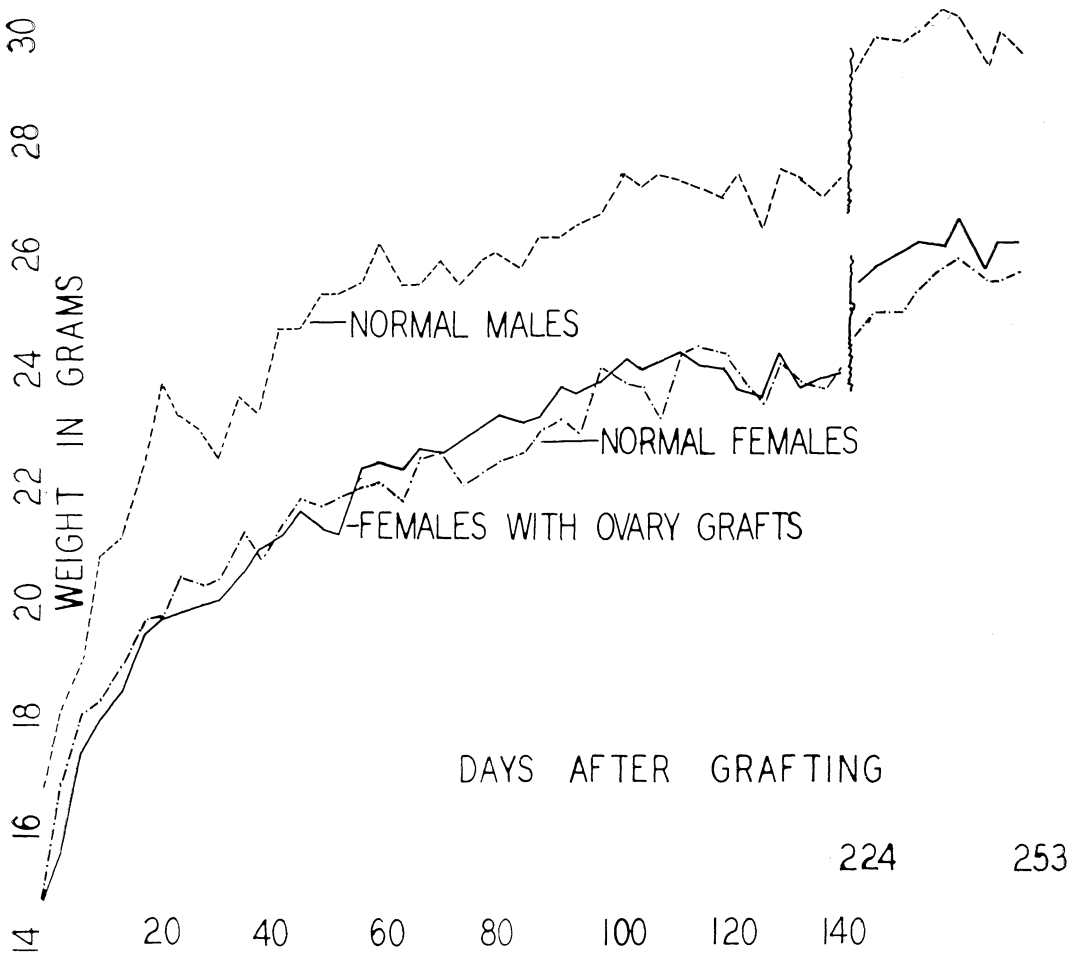


FIG. 1.

Curves representing growth of normal male and female mice and of female mice bearing ovarian grafts.

from the weights of the normal females and that obtained from the grafted females show any significant difference. Likewise, there was no time during the experiment when the growth of the females bearing ovarian grafts

even approached the growth of the normal males.

*Summary.* Grafts of ovaries in female mice which are androgenically active do not affect the growth weights of the host animal.