TABLE I.

The effect on kidney weight in young and adult rats of increase in nitrogen consumption derived from addition of protein or from addition of urea.

Diet.	Young Rats.		Adult Rats.	
	Nitrogen eaten per rat per day.	Average kidney weight.	Nitrogen eaten per rat per day.	Average kidney weight.
	mg.	mg.	mg.	mg.
18% protein	402	646	344	1034
31% protein	700	835	656	1102
Urea + 18% protein	746	729	467	1033
70% protein	1680	963	1140	1145
Urea + 18% protein	1810	838	858	1035

[1] MacKay, L. L., MacKay, E. M., and Addis, T., PROC. SOC. EXP. BIOL. AND MED., 1927, xxiv, 335.

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Genital System Responses to Daily, Pituitary Transplants.

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The daily transplantation of pituitary tissue from full-grown rats into immature female rats hastens development.[1] Daily, pituitary homeotransplants, the donors being adults, likewise hastens the growth of the genital system in the immature male rat. Nine animals from 4 litters have been treated, each having 1 or more littermate control. Results gained from 1 of these litters illustrate the typical response to the transplants.

Protocol. Of a litter of 4 males daily pituitary homeotransplants were begun in 2 on the 14th day of life, 2 serving as controls. The animals were nearly identical in weight.

One treated and 1 control were autopsied 10 days later (age 24 days). *Treated animals:* Weight, 44 gm.; weight of both testes, 0.254 gm.; of genital system exclusive of testes, 0.480 gm. *Control:* Weight, 43 gm.; weight of testes, 0.240 gm.; of genital system exclusive of testes, 0.249 gm.

The remaining 2 animals were autopsied at the age of 31 days, the treated animals thus having received 17 transplants. *Treated*

animal: Weight, 74 gm.; weight of both testes, 0.603 gm.; of genital system exclusive of testes, 0.916 gm. *Control:* Weight, 69 gm.; weight of both testes, 0.339 gm.; of genital system exclusive of testes, 0.409 gm. (Weight of the genital system include the empty urinary bladder.)

It is seen that there is no marked effect upon the size of the testes in the younger animal from these transplants. The genital system, exclusive of the testes, however, shows a marked increase in weight, transcending all normal variability. It is nearly double normal weight. The other (older) animal shows that with a more prolonged treatment, and possibly also due to an increase in age, the testicular response also becomes marked. The disproportion between the weights of the rest of the genital system of the treated and control animals is likewise increased.

After ablation of the gonads in the immature male, pituitary transplants have no effect upon the remaining components of the genital system. This is identical with results obtained in the immature female.

I have also made daily transplantations of the pituitaries from adult guinea pigs into immature male rats. The technique was identical with that employed in the homeotransplants. These transplantations made in 2 animals for 10 and 12 days, respectively, failed to stimulate the growth of any part of the genital system.

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[1] Smith, P. E., PROC. SOC. EXP. BIOL. AND MED., 1926, xxiv, 131.