tinguished by a 1-1,000 but not by any higher dilution of bichloride.

The specific doses of bichloride were applied to fresh suspensions of the viruses and half of the mixtures treated with H_2S, which treatment had restored the activity of bacteriophage. Virus-saline mixtures treated with H_2S served as additional controls. The experiment was performed twice. In each instance the addition of H_2S to the virus-bichloride mixtures did not render the mixture active when inoculated into rabbit skin. The addition of H_2S to virus-saline mixtures did not destroy the virus though there was slight diminution in the extent and severity of the reaction in rabbit skin. This was probably due to unfavorable changes in the tonicity and acidity of the suspending medium.

7153 P

Effect of a Diet Consisting Exclusively of Carrots on Serum Protein Concentration of the Rat.*

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It was pointed out[1] that no significant fall of serum protein concentration occurred in rats kept for a period of 5 months on a diet extremely low in protein, provided the diet was otherwise adequate. These results are at variance with the conclusions of Kohman,[2] and of Frisch, Mendel and Peters.[3] However, the diet used by these observers consisted in large part of carrots and the question therefore came up whether carrots alone may exercise some specific blood protein lowering effect. The present experiments were planned to obtain information about this possibility.

Eighty-eight young adult white rats were placed on a diet consisting exclusively of fresh carrots. No salts or vitamins were added. After varying intervals groups of 5 or 6 animals were exsanguinated under ether anesthesia, aliquot portions of serum were pooled and the total serum proteins were measured.[4] The experi-

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1 Bloomfield, A. L., *J. Exp. Med.*, 1933, **57**, 705.

2 Kohman, E. A., *Am. J. Physiol.*, 1920, **51**, 378.

3 Frisch, R. A., Mendel, L. B., and Peters, J. P., *J. Biol. Chem.*, 1929, **84**, 167.

4 Barnett, C. W., Jones, R. B., and Cohn, R., *J. Exp. Med.*, 1932, **55**, 683.

ment lasted 145 days during which time the rats remained well and active and there were none of the usual signs of vitamin deficiency. There was progressive weight loss.

In the majority of the animals there was a definite fall in serum protein concentration and values as low as 4.28, 4.44, 4.72 were obtained with some of the groups (control level 6.30-6.50 gm. %). Five rats among the whole group of 88 developed gross watery effusions into the serous cavities and in one of these animals the serum protein concentration was only 2.99 gm. %. It is of interest that the serum protein level bore no close relation to the *duration* of carrot feeding. Serum protein from a group of rats on the 61st day averaged 4.44 gm. %, from another group on the 82d day 5.06 gm. % and from the final group on the 145th day 4.28 gm. %.

The mechanism of the lowering of serum protein concentration after carrot feeding appears to be extremely complex. Neither lack of protein alone nor lack of vitamins seem to offer a complete explanation.

7154 C

Absence of Compensatory Hypertrophy of Cowper's Glands in the Albino Rat.

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Compensatory hypertrophy may follow a deficiency in the total cell mass induced by operative removal of one of the paired organs. The process is manifested in some but not in all paired organs. The present study was undertaken because no data are available with respect to compensatory hypertrophy in Cowper's glands.

Albino rats of 250 days of age were used. The age of the rat excluded the possible influence of growth on the size of the gland. The stimulus to compensatory hypertrophy was given by the removal of one Cowper's gland from each rat. Under ether anesthesia and through the perineal route, alternate glands were removed from each successive rat. Immediately after removal each gland was freed from any adherent fat or tissue and weighed to within a milligram on a torsion balance. The weights of these glands were taken as controls.

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