A group of 18 animals treated for 10 weeks was divisible into 3 groups: One group of 8 rats had ovaries averaging 26 mg.; the pooled sera of this group inhibited the action of maturity hormone in the immature female assay animals. In the second group of 7, and the third group of 3 animals, with average ovarian weights of 66 and 267 mg. respectively, the sera failed to show inhibitory potency.

Summary. From these experiments we conclude that the chronic administration of gonadotropic extracts from the pituitary or from pregnancy urine leads to the formation of substances inhibitory to their action, and that a passive resistance to both these hormones may be produced by the administration of serum obtained from animals chronically injected with these gonadotropic substances.

7758 P

Total Creatinine Content of Perfused Rabbit Hearts.

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In our efforts to determine the part played by creatine and its possible precursors in heart muscle metabolism, we perfused isolated rabbit hearts in Dawson's modification[1] of the Gunn-Locke apparatus. We used oxygenated Ringer-Locke solution to which 0.1% dextrose was added in one apparatus, and in the other the same solution plus 0.1% glycocoll. About 250 cc. of each mixture was placed in the reservoirs, and that which perfused through the coronaries was collected and returned automatically to the reservoirs and oxygenated by an oxygen pump system.

Thirty isolated rabbit hearts, or 15 pairs, were perfused from 1 to 5 hours, beating spontaneously, or stimulated at the rate of 60 per minute when spontaneous contraction was too slow. Thirteen isolated hearts were perfused for a minute each in order to wash the blood from the coronary system, and used as controls. All hearts were weighed, cleaned of fat and connective tissue, and the ventricular muscle minced. Part of the tissue was dried at 105°C. for 22 hours to give the percent of solids; the remainder was used for determination of the total creatinine content by the method of

[1] Dawson, W. T., *J. Lab. and Clin. Med.*, 1925, **10**, 853.

Rose, Helmer and Chanutin.[2] Because of the variable amount of edema produced during the perfusion, it was thought desirable to calculate the results in terms of the dry weight.

In the control hearts, the total creatinine content varied from 144 to 168, with an average of 153 mg. per 100 gm. of muscle. In terms of dry weight, there were from 753 to 868, with an average of 795 mg. per 100 gm. of dried muscle.

In the hearts perfused with Ringer-Locke solution alone, the total creatinine values ranged from 100 to 151, with an average of 123 mg. per 100 gm. of moist muscle; or, from 652 to 827, with an average of 742 mg. per 100 gm. of dried muscle. In the series perfused with Ringer-Locke to which glycocoll had been added, the values ranged from 103 to 159, with an average of 126 mg. per 100 gm. of moist muscle; or, from 623 to 855, with an average of 739 mg. per 100 gm. of dried muscle.

Under our experimental conditions, the addition of glycocoll to the perfusion fluid had no evident influence on the total creatinine metabolism of the heart muscle. The fact which we observed, that in most instances the hearts perfused with a fluid containing glycocoll beat more vigorously, and maintained a spontaneous rhythm for a longer period than did those perfused with Ringer-Locke alone, may be explained by assuming a specific stimulating action of the amino-acid. This has been suggested to us by Prof. B. M. Hendrix as the possible explanation of the effect of glycocoll in diseases of striated muscle.

We are indebted to Prof. W. T. Dawson for the loan of the apparatus.

7759 P

Comparison of a Rapid (Folger-Solé) Method and the Routine Loeffler's Method for Diagnosis of Diphtheria.

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Recently a paper by Solé[1] describing his diagnostic results in 200 cases of diphtheria, by a rapid cultural method originally suggested by Folger some 35 years ago but never published, inspired us to

[2] Rose, W. C., Helmer, O. M., and Chanutin, A., *J. Biol. Chem.*, 1927, **75**, 543.

[1] Solé, Alphons, *Wien. Klin. Wchschft.*, 1934, **47**, 713.