

Lomb, does not prevent a color match being made. Diluting the blood 1-502 with distilled water resulted in complete laking in 15 minutes so that only this amount of time was required before making the reading. After a number of hours the formation of methemoglobin changed the reading, so it is necessary to take the reading between 15 minutes and 3 hours after diluting the blood.

If blood is to be collected during the night and the colorimeter readings made next day, the Newcomer method is preferable, but if the readings are to be made immediately (as during a physiological experiment) the present method is preferable. By substituting the Wratten filter for the B. and L. blue glass and using a different conversion table, the apparatus made for the Newcomer method may be used in this method. We prepared such a conversion table but since Bausch and Lomb have changed their Newcomer glass standards about four times, we do not reproduce it.

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Action of Splanchnic Nerves on Glomerular Blood Flow and Mechanism of Reflex Aneuria in Frog's Kidney.*

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The present opinion of the splanchnic nerves upon the function of the kidney is that these sympathetic nerve fibers exert a primarily vascular effect and thus modify the size of the organ and its output of urine.

Experiments upon the living kidneys of *Rana pipiens* and *Rana catesbeiana* in which the glomeruli were observed under the microscope by "Richards' Method" have shown the following findings:

1. Section of the splanchnics increases the number of glomeruli showing active blood flow.
2. Electrical stimulation of the peripheral end of the cut splanchnic trunks decreases the number of glomeruli showing active blood flow.
3. Electrical stimulation of the central ends of cut sensory nerves, the application of irritants to the ureter externally and in-

* The experiments reported in this paper form the basis for a part of a Thesis presented by Raymond N. Bieter in partial fulfillment of the requirements for the degree of Doctor of Philosophy at the University of Minnesota (May, 1929.)

ternally and to the inside of the tubules, and the entrance of edema fluid into the general circulation, lead to decrease of glomerular blood flow.

4. The effects of the measures described in (3) are lost by section of the splanchnics or anesthesia of the part stimulated.

These results tend to support the current conception of the vascular effects of the splanchnic nerves upon the kidney, and to furnish an explanation for the genesis of reflex aneuria.

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Influence of Diet on the Phospholipid Fatty Acids of Growing Rats.

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Evidence has been presented¹ to show that the type of diet has a characteristic influence on the degree of unsaturation of the phospholipid fatty acids of various tissues of the cat. This influence of food fat may be divided into 2 categories: (1) in the intestinal mucosa and in the liver the phospholipid is involved in the absorption and assimilation of fat and undergoes an immediate change in composition during the absorption of a characteristic fat; (2) in all tissues studied (mucosa, liver, smooth and skeletal muscle) the degree of unsaturation of the phospholipid fatty acids is characteristic of the type of diet fed over a considerable period of time. This latter influence is probably the result of the utilization of the fatty acids of the food for the repair of the phospholipid broken down by the continuous wear and tear of cellular protoplasm.

The data presented in the accompanying table show that the type of diet has a distinct and uniform influence on the constitution of the phospholipid synthesized by young growing rats. Likewise the values given for the iodine numbers of the fatty acids of the neutral fat show the unmistakable influence of diet, thus confirming the findings of Shioji² and Anderson and Mendel.³

Two facts are outstanding. It is evident that the neutral fat of the young control rats is similar in composition to that synthesized

¹ Sinclair, R. G., *Proc. Soc. Exp. Biol. and Med.*, 1929, xxvi, 436; *J. Biol. Chem.*, 1929, lxxxii, 117.

² Shioji, E., *J. Biochem.*, Japan, 1924, iv, 43.

³ Anderson, W. E., and Mendel, L. B., *J. Biol. Chem.*, 1928, lxxvi, 729.