mine and neoarsphenamine show the soap-bubble-like appearance of hydrated lyophillic colloids, the micellae being smallest between pH 7 and 9, and again from 11 to 13. In the presence of proteins they aggregate to form stellate, highly refractive micellae. Rivanol is fluorescent, lyophillic, soap-bubble-like and aggregates with proteins. Triphenyl methane dyes are crystalloidal, but aggregate with proteins. Quinine and the hydrocuprein series (optochin, eucupin and vuzin) are fluorescent, crystalloid and aggregate with proteins. Metaphen is crystalloid and produces little change in the proteins. Mercurochrome and acriflavine show fluorescence, but no visible particles; the micellae formed by mercurochrome and protein appear to be quite small; with acriflavine the protein aggregates are somewhat larger.

These colloidal phenomena are probably associated with the toxicity and pharmacological action of the drugs, especially in intravenous injection.

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Determination of Oxyhemoglobin by Means of the Duboscq Colorimeter.

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In the determination of oxyhemoglobin by the Dare method the glass standard is never of the same color as oxyhemoglobin and therefore a color match is impossible. A better color match has been obtained by determining acid hematin as in the Sahli and Newcomer methods. The color match is not perfect, however, and an hour wait is required for all of the hemoglobin to be changed to acid hematin. If monochromatic light is used the difficulty of matching colors is eliminated but for practical reasons the wavelength should be one in which the blood pigment shows considerable absorption. The Wratten color filter 74, epsilon, shows a high transmission at 540 mμ and the center of one of the absorption bands of oxyhemoglobin is at 541.7 mμ. Furthermore, the transmission of this Wratten filter is in so narrow a band as to appear monochromatic to the eye. Hence the Newcomer glass standard may be used for determining oxyhemoglobin if this Wratten filter is placed in the eyepiece of the colorimeter. A slight change in the spectrum of the Newcomer glass as has been made by Bausch and

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 catasbiana* 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.)