TABLE I.

Date of autopsy	No. of rats	Test material	Histological Findings
7/23/26	5	Non-sapon. fraction of cod liver oil, +3% olive oil; in diet	Advanced healing
,,	5	Crude extract; injected in ether solution	Advanced healing
,,	5	Controls	No healing
9/12/26	5	Cholesterol-free extract; injected in ether solution	Advanced healing
,,	2	Controls; injected with ether	No healing
,,	6	Cholesterol-free extract; injected in palmitin	No healing
,,	3	Controls; injected with palmitin	No healing
,,	6	Controls; no injection	No healing
,,	6	Cholesterol-free extract, +3% cottonseed oil; in diet	Moderate healing
,,	6	Controls; 3% cottonseed oil in diet	No healing

[1] Zucker, T. F., and Matzner, M. J., PROC. SOC. EXP. BIOL. AND MED., 1924, xxi, 186.

[2] Lesne, E., and Vaglianos, M., *Compt. rend. Acad. d. Sc.*, 1924, clxxvii, 711.

[3] Soames, K. M., *Biochem. J.*, 1924, xviii, 1349.

[4] Hess, A. F., Weinstock, M., and Hellman, F. D., *J. Biol. Chem.*, 1925, lxiii, 305.

[5] Wilkins, L., and Kramer, B., (unpublished work).

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Antagonism of Barium Chloride and Glandular Extracts on Chromatophores by Epinephrin and Ephedrine.

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In the course of a comparative study of the effect of ephedrine and epinephrin on the chromatophores of the Squid, *Loligo Pealii*, it was observed that these drugs antagonize the stimulating action of barium chloride, the extracts of the parathyroid and anterior as well as the posterior lobe, pituitary gland. Epinephrin is not effective as a rule after barium chloride in mammals. Roth[1] described a good case of such action in the frog. Fawcett, Beebe, et al.,[2] found that the stimulation by the extracts of

various glands on the uterus of the cat could likewise be inhibited by epinephrin. It is therefore interesting to note that invertebrate smooth muscle cells which appear to be under the control of the sympathetic nervous system exhibit actions similar to the above.

It was found that epinephrin is about twenty times as effective as ephedrine in antagonising the action of the extracts of the parathyroid and the anterior lobe of the pituitary gland; twice as effective in antagonising the action of the extract of the posterior lobe of the pituitary gland. Ephedrine is almost ten times more effective than epinephrin in antagonising barium chloride. (This work will be published in full elsewhere.)

[1] Roth, G. B., *Arch. Internat. Pharm. et Therap.*, 1923, xxvii, 333; PROC. SOC. EXP. BIOL. AND MED., 1922-23, xx, 43.

[2] Fawcett, G. G., Beebe, S. P., et al., *Am. J. Physiol.*, 1915, xxxvii, 453; xxxix, 154.

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Influence of Salts and Acids on Penetration of Brilliant Cresyl Blue into the Vacuole.

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The theory[1] underlying the experiments described in the present paper is that the basic dye, brilliant cresyl blue, exists in two forms which we may call DB, a free base (predominant at higher pH values), and DS, a salt (predominant at lower pH values). It is assumed that the living cell of *Nitella** is permeable primarily to DB, and only very slightly to DS. Thus when we speak of the entrance of the dye into *Nitella* we refer to penetration of DB and not of DS. At equilibrium DB in the vacuole is equal to or proportional to DB in the external solution, and the amount of the total dye (DB and DS) in the sap depends on the extent to which DB changes to DS in the sap.

* The *Nitella flexilis* used is a fresh water plant, with multinuclear cells about four or more inches in length, having an outer cellulose wall, a very thin protoplasmic layer, and a relatively large vacuole filled with sap at about pH 5.5, containing about 0.1 M halides, protein, potassium, and other substances.