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The Vitamin B Complex in Relation to Food Intake During Hyperthyroidism.

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Dogs 1 and 2 had maintained their appetite for a diet of dog biscuit for at least 3 months. After 5 gm. of desiccated thyroid were added to their daily ration they exhibited a loss of appetite and consequent loss of weight for approximately 2 weeks. During the next 3 weeks occasional administrations of vitamin B were followed by restoration of the urge to eat. The diet was then changed to the artificial one developed by Cowgill[1] and daily doses of vitamin B were administered, whereupon appetite was restored and the animals proceeded to regain their initial body weight.

Dogs 3 and 4 had exhibited the characteristic anorexia on the artificial food mixture in 23 and 31 days respectively. When 5 gm. of desiccated thyroid were added to their daily dietary, anorexia supervened in dog 3 in 12 days, while dog 4 lost its appetite in 21 days. These results harmonize with the theory of Plimmer,[2] and Cowgill and Klotz[3] that the amount of vitamin B required by the organism is determined chiefly by its caloric requirement.

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Non-Toxicity of Certain Aniline Dyes for Bacteria.

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If 1 cc. of saturated aqueous solution of neutral red (5.6%) be put into tubes containing ½ cc. of heavy aqueous suspension of 24 hour culture of *Staphylococcus aureus, B. prodigiosus,* and *B. anthracis,* and plants be made on agar at the end of 48 hours, the organisms will grow as vigorously as if no dye had been present in the tubes. *B. prodigiosus* will be still capable of vigorous growth on

[1] Cowgill, G. R., *Am. J. Physiol.*, 1923, **66**, 164.

[2] Plimmer, R. H. A., *Brit. Med. J.*, 1926, **1**, 239.

[3] Cowgill, G. R., and Klotz, B. H., *Am. J. Physiol.*, 1927, **81**, 470.

transplant after 9 days' exposure to the saturated solution of the dye.

If, instead of saturated solution, 2% solution be used, all 3 organisms will grow vigorously on transplant even after 21 days' exposure, and *B. prodigiosus* and *B. anthracis* will grow well at the end of 35 days' exposure.

Staphylococcus aureus (now known to be highly susceptible to triphenyl methane dyes, like crystal violet) readily survives 24 hours' exposure to saturated aqueous solution of Bismarck Brown (1.2%); and *B. anthracis* (another organism susceptible to triphenyl methanes) put 39 days ago into this solution still grows vigorously when transplanted.

These observations again make clear that the statement sometimes made that a strong aqueous solution of dye stuff is *eo ipso* sterile must undergo considerable modification before it conforms with the facts.

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Resistance of B Prodigiosus to Aniline Dyes.

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B. prodigiosus is known to be one of the organisms which are resistant to triphenyl methane dyes, as well as to other classes of dyes. The experiments here recorded indicate the—perhaps not generally realized—degree of this resistance.

Careful determinations showed that growth of *B. prodigiosus* on agar is prevented by gentian violet* only when the dye is used in dilutions of 1 to 900. Compare this with *B. anthracis* whose growth on agar is completely inhibited by dilutions of approximately 1 to 1,000,000, and whose growth in broth is inhibited even by much weaker dilutions.

This marked resistance of *B. prodigiosus* to the *bacteriostatic* effect is paralleled by its resistance to the bactericidal effect of certain triphenyl methane dyes. That the organism (at least the strains of it usually encountered) readily survives exposure to gentian violet

* These experiments were started several years ago and at that time Grübler's gentian violet was being used under the generally held, but mistaken, notion that it was particularly "pure".