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Some Effects of Borate Upon Reducing Sugars.

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In a study of urines from diabetic dogs, it was noted that boric acid interferes with the determination of glucose by Folin's¹ method. Losses of 7.5% to 13% were found in 2 hour urines to which saturated boric acid solution was added. Other alkaline copper methods also gave low values with glucose solutions containing boric acid as well as with fructose, galactose, maltose and lactose, but not with arabinose. Boric acid does not interfere with the oxidation of glucose by Barfoed's reagent.

The oxidation of glucose, galactose, arabinose and maltose by alkaline iodine solutions is retarded by the presence of borate.

The low specific rotation of glucose in the presence of borax observed by Rimbach and Weber² and by Murchhauser³ is due to the formation of an ester between the borate ion and glucose which decomposes on the addition of a strong acid to give an excess of α glucose. This mutarotates to the normal equilibrium value.

¹ Folin, O., and Peck, E. C., *J. Biol. Chem.*, 1919, xxxviii, 287.

² Rimbach, E., and Weber, O., *Z. f. Physikal. Chem.*, 1905, li, 477.

³ Murchhauser, H., *Biochem. Z.*, 1923, cxxxviii, 6.

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Myostatic Contracture and Other Changes in the Extensibility of Skeletal Muscle.

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By myostatic contracture we mean to designate a condition of permanent shortening in resting muscle, which is maintained in the entire absence of nerve impulses, the muscle having acquired, usually as the result of prolonged immobility, a new and shorter than normal resting length. Familiar examples are the contractures which limit the movement of joints after prolonged immobilization in plaster casts, the permanent shortening of muscles after division of their