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A continuous method of studying hydrogen ion concentration of urine during secretion.

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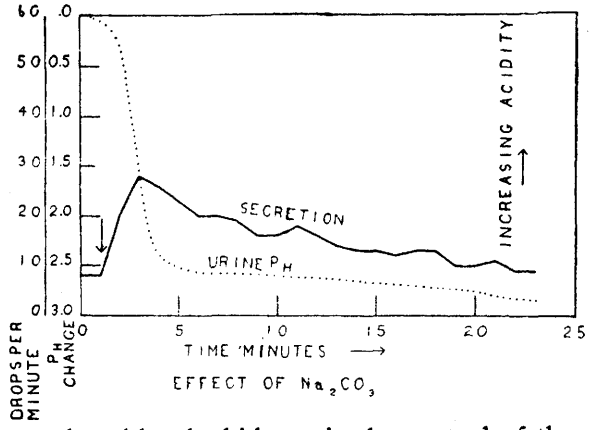
The continuous method of recording the hydrogen ion concentration of the circulating arterial and venous blood[1] has been applied to the urine flowing through the ureter from the kidney. The purpose of the work is to study the mechanism of renal secretion, the relation of the cH of the urine to the cH of the blood and the cerebro-spinal fluid, in the hope of elucidating the mechanism of respiratory control. The application of the method to urine promises to be of value. The administration of various salts such as sodium carbonate, ammonium chloride, and magnesium sulphate, gave characteristic curves of changes in hydrogen ion concentration. The accompanying graph shows the im-



portant part played by the kidneys in the control of the acid-base equilibrium of the body. The large and prolonged increase in secretion and in alkalinity of the urine agrees with the recovery of the blood towards normal reaction after a similar injection of sodium carbonate.

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[1] Gesell, Robert, and Hertzman, Alrick B., PROC. SOC. EXP. BIOL. AND MED., 1925, xxii, 298.