

**Galvanometer Tracings Obtained in a Physico-Chemical Schema
Simulating an Electrocardiogram, and the Influence of
Membranes on These Records.**

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A schema is described in which interruptions of a direct current of known direction and intensity in the primary circuit are re-recorded on a string galvanometer which forms part of the secondary circuit. Evidence was presented to show that the apparatus was adequate for the problem concerned. When the nonpolarizable electrodes dip into the open bowl, or when the primary electrodes are enclosed in a collodion membrane, making and breaking of the primary circuit results in a single monophasic deflection, the string maintaining a constant position as long as the key is closed. If the

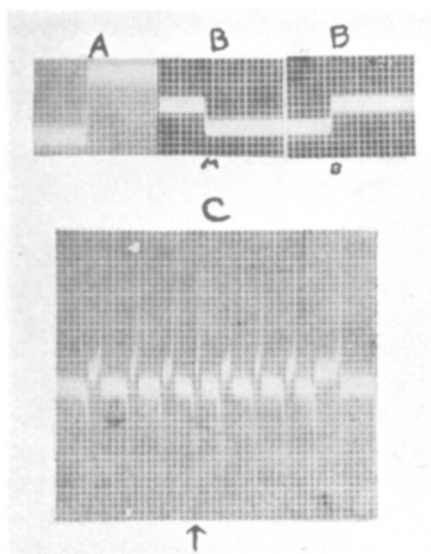


FIG. 1.

A. Standardization: 1 cm. = 1 mv.

B. Galvanometer response, when primary electrodes are enclosed in a collodion membrane, and when the primary circuit is interrupted. Interval deleted between make and break = 10 seconds.

C. Galvanometer response when primary electrodes are enclosed in a protein coated collodion membrane. Note the appearance of "Quick" deflections upon making and breaking of the primary circuit. If the interval between make and break is very brief, the record simulates the Q-R-S group of the electrocardiogram (indicated by arrow in C).

primary electrodes are enclosed in a gelatine coated membrane, a quick deflection occurs when the primary circuit is made and again when it is broken. If the make and break recur rapidly, these quick deflections simulate the QRS of an electrocardiogram. The importance of membrane polarization as a factor causing distortion of electrocardiograms is stressed. A full report is in press.¹

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Specific Dynamic Action of Meat, Glycine, and of Meat Plus Glycine in Man.

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(Introduced by J. R. Murlin.)

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Preliminary results on 2 human subjects indicate that the increase in metabolism caused by the ingestion of 300 gm. of lean meat is approximately double that resulting from the ingestion of 150 gm. Twenty-five gm. of glycine, equivalent to 150 gm. of meat as regards nitrogen content was taken by one subject, and 50 gm. of glycine, corresponding to 300 gm. of meat, was taken by the other, both alone and with 300 gm. of meat. In one subject the maximum metabolism observed after ingestion of 25 gm. of glycine and after ingestion of 150 gm. of meat agreed rather closely. The effect of 50 gm. of glycine on another subject, however, caused a smaller increase than 300 gm. of meat.

No summation of effect was obtained when 50 gm. of glycine was ingested an hour and a quarter after 300 gm. of meat. In the case of one subject, the effect of glycine alone was without marked irregularity, while in the other marked irregularity was shown, though not as great as has been reported by others in experiments on the dog.¹ As has been noted by other workers,^{2,3} the urinary nitrogen excretion is probably not a very exact measure of the protein katabolism over a short period.

¹ 1930 Year Book of the Physicians Hospital of Plattsburgh, N. Y.

² Weis, R., and Rapport, I., *J. Biol. Chem.*, 1924, **60**, 513.

³ Gephart, F. C., and DuBois, E. F., *Arch. Int. Med.*, 1915, **15**, 835.

⁴ Williams, H. B., Riche, J. A., and Lusk, G., *J. Biol. Chem.*, 1912, **12**, 349.