Second meeting.[1]

Physiological Laboratory of New York University and Bellevue Hospital Medical College. April 15, 1903.

5. **"Changes in the blood-volume of the vein of the submaxillary gland on stimulation of the chorda tympani and sympathetic nerves,"** with demonstrations of curves: **RUSSELL BURTON-OPITZ.**

The author explained the mechanism of a recording stromuhr by means of which he made quantitative determinations of the blood-flow in the vein conveying the blood from the submaxillary gland. The blood-volume was measured previous to, as well as during, the stimulation of the secretory nerves. The curves which were exhibited showed very striking changes in the blood-flow, namely, an increase on stimulation of the chorda and a decrease when the current was applied to the sympathetic fibers. In the former case the volume of the blood-flow (c.c. per second) was from about two to nearly six times as great as normal, and in the latter case it was from about one-half to one-fifth the normal volume. By using a strong stimulus a complete cessation of flow can be produced.

6. **"Does a backward flow ever occur in the veins?": RUSSELL BURTON-OPITZ.**

The results of this investigation may be summarized as follows: A backward swaying of the column of blood in the central veins is a constant normal phenomenon. It is produced by two factors: first, by the contraction of the right side of the heart; and second, by high intrathoracic pressure (forced expiration). If the distal conditions in the venous system are favorable, this backward movement can also be obtained in the peripheral veins (femoral veins). The same instrument was used in this investigation as in the former.

7. **"A new method of studying metabolism": GARY N. CALKINS.**

The author described experiments then in progress upon metabolism in unicellular animal organisms. These forms, reproduc-

[1] Reprinted from *Science*, 1903, xvii, p. 741 and *American Medicine*, 1903, v, p. 708.