In this investigation, responses of the isolated ventricle of clam (Meretrix lusoria, Röding) to nicotine were observed. The ventricle was sustained in the glass bottle filled with artificial sea-water, and its movement was recorded on a kymograph.

The ventricle did not show any response at the concentration less than $10^{-5}$ but it showed a decrease in the systolic amplitude of beats at $10^{-5}$. This response became marked at $0.5 \times 10^{-4}$, was followed by some irregular strong contractions with long intervals, and gradually returned to the regular rhythm and amplitude. The regular beats after recovery were higher than those before the nicotinization. At $10^{-4}$ ventricular movement was immediately arrested in the diastolic state, the decrease of its tonus was kept for a while, and it took back high and regular beats after irregular movements including the strong contractions (Fig. 1). At $10^{-2}$ the ventricle showed a similar response accompanying an arrest of beats followed by only the strong contractions with long intervals. At the concentration more than $0.5 \times 10^{-2}$ the ventricular movement resulted in a systolic arrest in wholly-contracted state.

In repetitive nicotinizations, the isolated ventricle did not respond to nicotine at the concentration less than $10^{-4}$, but it showed the strong contractions or the systolic arrest at the concentration more than $10^{-3}$.

**FIG. 1.** Change of ventricular movement at the concentration of $10^{-4}$. 