

any precautions of this kind were taken by Openchowski in the research already mentioned it is impossible to state, for no actual experimental details are furnished and only an epitomised account is given of his results.

The present research was, therefore, undertaken at the suggestion of Professor Brodie with the idea of making a more extensive study of gastric sensation and especially of the paths taken by sensory impulses from the mucous surface of the stomach.

In selecting a form of stimulation for the gastric mucosa, the faradic current appeared the most desirable. I found, however, that neither the bipolar nor the unipolar method of stimulation, when applied to the mucous surface, was capable of inducing vomiting and, after testing a number of local emetics, I finally resorted to warm mustard solution as yielding the most satisfactory results.

The method of procedure in the experiments with mustard was as follows: the animal (cat) was anaesthetised with A.C.E. mixture and ether. The abdomen was opened in the middle line, and the stomach drawn out and protected by cloths wrung out of warm saline solution. The dorsal and ventral branches of the vagus were then isolated on the œsophagus just below the diaphragm and a ligature tied tightly around the œsophagus underneath the nerves. The pylorus was also firmly ligatured. An opening was made in the ventral surface of the fundus and a glass tube tied in. The other end of the tube was connected by a piece of rubber tubing with a small funnel. The stomach was emptied and thoroughly washed out. The mustard solution was then introduced. Almost immediately the respirations were increased in rate and force and tongue and swallowing movements, accompanied by salivation, were induced, whilst after an interval of 1—3 minutes, typical vomiting movements ensued. This result may be obtained several times in succession, the stomach being washed out after each experiment.

It will be seen that under these experimental conditions no actual discharge of the stomach contents is possible, and the occurrence of the vomiting reflex is indicated merely by the characteristic contractions of the diaphragm and abdominal muscles. The term vomiting will, accordingly, be employed in this special sense in the remainder of this paper.

In order to determine the afferent paths involved in this vomiting reflex the experiment was carried out as already detailed but, in addition, the splanchnics were isolated on both sides. Vomiting was