Anatomical variations of the ampulla are not uncommon, and malignant growths complicating the anomalies set up a different train of symptoms for each. Thus at times we find the bile duct and Wirsung's duct unite at some distance from the papilla, converting the ampulla into a long tube; or else a septum exists between the two ducts throughout their course through the ampulla, when each opens by a separate orifice on the top of the papilla. Occasionally too, the ducts open into the duodenum at some distance from each other. In this case the bile duct opens at the normally situated papilla.

Microscopical Examination of the reported cases.—In the first case cited the microscopical examinatio showed the tumour to extend laterally from the epithelium lining the ampulla, for a distance of not more than one centimetre, and to infiltrate the muscularis of the bowel by solid columns of cells. The free surface of the tumour within the ampulla showed a partial degeneration and softening which accounts for the epithelial debris removed with the probe during the *post mortem* examination. There was very little change, if any, noticed on the duodenal surface of the papilla, other than a slight inflammatory condition. Brunner's glands could not be found involved—in fact, the growth did not extend as close to the surface as these glands, but was lying rather closer to the head of the pancreas where the cells became more spheroidal. No part of the pancreas was found to show any infiltration of the aberrant tissue, while the pancreatic duct was likewise free. The neighbouring lymph glands showed no secondaries, nor were any found in the liver, though in the latter organ there was an overgrowth of the fibrous tissue along the portal systems and an atrophied condition of the liver cells. The tumour is a primary cancer of the ampulla.

In the second case, sections taken from the region of the papilla, showed the structure of an adenocarcinoma. Near the surface it was more of an adenomatous character than is found in the deeper parts where the alveoli contain large multinuclear cells. In the sections the growth can be traced as extensions from the duodenal glands (Brunner's), leaving the muscularis unbroken except where the ulceration has taken place. The rapidly growing neoplasm has led to softening with the consequent necrosis of the papilla, similar to the ulceration of the superficial structures in cancer of the breast. Even underneath the ulcerated mucosa, partially preserved cancerous masses similar to the proliferated Brunner's glands at the border, were found. I consider the case clearly one of primary cancer of the duodenal gland. There was a diffuse small celled infiltration of the connective tissue; while the cells immediately lining the alveoli were columnar. Below these