the large bowel, and attains a high peak at the end, in the region of the rectum. The incidence of cancer in the various parts of the intestine is entirely unrelated to their lengths (i.e., the surface area). The distribution of the intestinal cancers does not depend upon the relative surface area of a particular part of the intestine coming in contact with the substances present in its content.

The nature of the controlling factors becomes clearer when the distribution of the tumors within the individual parts of the bowel is studied. Of the 2 to 5 per cent of intestinal cancers occurring in the duodenum, 60 to 80 per cent are situated on or near the papilla Vateri, where the bile and pancreatic secretion enters the duodenum. The next most frequent location of duodenal malignancy is the parapyloric region. The infra-ampullary zone exhibits the lowest incidence of tumors [Fenwick: 51 cases of duodenal cancer: 21.5 per cent, supra-ampullary (para-pyloric) location; 57 per cent, periampullary (region of papilla Vateri) location; 13.5 per cent, infra-ampullary location. Geiser: 71 cases of duodenal carcinoma: 15.5 per cent, supra-ampullary site; 71.8 per cent, periampullary site; 12.7 per cent, infra-ampullary site. Rolleston: 40 cases: 20.0 per cent, supra-ampullary location; 60 per cent, periampullary location; 10 per cent, infra-ampullary location]. The supra-ampullary location of duodenal cancers, chiefly near the pylorus, agrees with the distribution of duodenal ulcer (Ewing), and reflects the etiological relations apparently existing between the two conditions (Jefferson). The ulcer craters or cicatricial, duodenal diverticles may retain traces of the carcinogenic material included in the gastric content, when this material is emptied into the duodenum, or may come into contact with cancerous matter excreted with the bile, and regurgitated into the duodenal bulb. Such a retention may be accentuated by the presence of adhesions or spasms.

The accumulation of duodenal carcinomas on and around the papilla Vateri is a clear demonstration that carcinogenic substances are excreted under proper conditions with the hepatic secretion. Corresponding to the increasing dilution of carcinogenic matter contained in the bile by the duodenal contents, the incidence of malignancy decreases rapidly beyond the periampullary section of the duodenum. The relatively quick passage of the chyme through the small intestine decreases an effective contact of any carcinogenic substances which may be present in this material with the intestinal mucosa. Carcinomas of this part of the bowel are relatively rare because of this. The great majority of malignancies of the small bowel are situated in the prececal portion of the ileum, that is, where the chyme moves less rapidly through the intestinal conduit than in the upper portion, and thus establishes a somewhat longer contact with the intestinal mucosa.

Similar conditions determine the incidence and distribution of cancers in the different parts of the colon. Here the intestinal content, by re-adsorption of most of its watery components, is concentrated and the movement of the fecal matter is much slower than in the small intestine. An increased oppor-