In the mid-1940s a major milestone was reached in terms of progress in the field of surgery. Far-reaching discoveries, which included a sound concept of surgical shock, development of techniques that would make blood transfusions readily available, the introduction of powerful antibiotics, and dramatic advances in anesthetic management along with vastly improved anesthetic agents, all led to an increased margin of safety in major operations. Significant technologic advances soon followed in the wake of these fundamental surgical adjuncts. This review will trace the evolution of surgical gastroenterology over the past 60 years, focusing on specific areas of the gastrointestinal tract along with associated diseases, complications, and other abnormalities.

STOMACH

Sixty years ago gastric surgery was one of the most prominent components of general surgery. Professor Hans Finsterer, a well-known Viennese surgeon, had just visited the United States and demonstrated his technique of partial gastrectomy to treat duodenal ulcers. Gastroenterostomy was still widely used despite the growing recognition that anastomotic ulceration was at times associated with the procedure. Distal gastric resection was becoming the standard operation at most major medical centers where it was rare for even one week to pass without several such procedures being performed.

A stressful lifestyle was considered the most common etiologic factor, and the mainstay of medical treatment was a bland diet that included large quantities of milk and tincture of belladonna four times a day. H₂ blockers and the recognition of Helicobacter pylori were, of course, years away. As the incidence of recurrent ulcers following resection began to mount, the extent of these resections was continually increased. Seven-eighths and nine-tenths gastrectomy procedures were even proposed, but fortunately these were never widely accepted.

The effectiveness of Dragstedt's vagotomy as compared to partial resection was a hotly debated subject during the late 1940s and early 1950s; however, as the procedure became widely accepted, attention turned toward attempts to improve results and lessen side effects by restricting the vagotomy to an increasingly limited section of the nerve ending with the use of the so-called "parietal cell vagotomy."

At approximately the same time that operative techniques of acid reduction reached a high level of acceptance, vastly improved antacid medications also became available; thus the incidence of operative treatment of peptic ulcers has plummeted since the 1950s and 1960s. Treatment of Helicobacter pylori infection also seems to have lessened the need for surgical treatment.

The standard indications for surgical treatment, which formerly included bleeding, perforation, obstruction, and, most common of all, intractable pain, have now been more or less limited to perforation, obstruction, and refractory bleeding. Pain refractory to all forms of medical treatment today is rare.

The uncommon form of peptic ulceration associated with the Zollinger-Ellison gastrinoma can now usually be controlled by removal of the tumor or pharmacologic reduction of acid secretion without resorting to total gastrectomy as recommended in early reports.

The incidence of stomach cancer in the United States has declined so consistently and dramatically.
since the 1930s, when it was the most common cause of cancer death, that gastric resection for cancer is no longer the common procedure it was. For example, it was reported that 62 gastric resections for stomach cancer were performed at the University of Minnesota in one year (1945). The cause or causes of this decline are still a bit of a mystery, although there is much evidence to suggest that it is related to dietary factors and possibly to a lower incidence of *Helicobacter pylori* infection.

After a brief trial using total gastrectomy to treat stomach cancer, high subtotal gastrectomy is currently the most widely accepted procedure in the United States, although total gastrectomy is still being evaluated in certain European clinics.

Discouraged by the advanced stage of the disease when it is first diagnosed in the United States, surgeons are using extended lymph node dissections less frequently in this country than in Japan where the concept of “early gastric cancer” was first emphasized and stomach cancer is common.

**BILIARY TRACT**

The technique of cholecystography, which was first introduced in 1924, allowed an accurate preoperative diagnosis of gallbladder disease (much later, ultrasonography permitted an even more accurate preoperative diagnosis). No longer was it necessary to wait until the inflamed gallbladder could be palpated or the patient became jaundiced before a definitive diagnosis of gallbladder disease could be made. Thus within a few years cholecystectomy became one of the most frequently performed abdominal operations. With the introduction of laparoscopic cholecystectomy, the number of operations being performed has again sharply increased.

Operative cholangiography, which was first introduced in 1931, greatly enhanced the identification of common bile duct stones at operation and lowered the incidence of retained stones to a level that remained fairly constant until the introduction of the choledochoscope.

Less common conditions such as choledochal cysts were rarely diagnosed before middle age, and exploration after repeated attacks of cholangitis presented the surgeon with an inflammatory vascular mass that made any type of surgical approach hazardous whether it involved cyst excision or a bypass procedure such as choledochoduodenostomy or choledochojejunostomy. Recognition of the potential hazard of malignant degeneration of the cyst lining has made excision of the cyst, or at least the mucosal lining, the standard treatment today. Fortunately most of these cases are currently recognized early in life before repeated attacks of cholangitis have caused severe inflammatory changes in and around the wall of the cyst.

Patients with iatrogenic strictures of the bile duct were generally seen late in the course of their disease. They were deeply jaundiced and frequently had biliary fistulas and/or intra-abdominal abscesses. A biliary-duodenal anastomosis, the usual method of repair, was often unsuccessful. The dense hilar scarring that followed repeated unsuccessful repairs led to attempts to establish biliary-enteric drainage via the intrhepatic ductal system, thus avoiding the hilar region. The incidence of strictures declined over the years with the increasing availability of well-trained surgeons to perform the original cholecystectomy, and a hilar Roux-en-Y jejunoiliary reconstruction became an increasingly successful method of repair. A resurgence of ductal injuries has occurred with the rapid introduction of laparoscopic cholecystectomy, which is apparently associated with the so-called “learning curve” of this new technique.

In 1957 several investigators pointed out the difficulties in establishing a differential diagnosis, either clinically or pathologically, between sclerosing cholangitis and carcinoma of the bile duct, and they suggested that certain strictures of the bile ducts, which were thought to be caused by sclerosing cholangitis, might actually be due to a slowly progressing, obscure carcinoma. Today the characteristic cholangiogram of sclerosing cholangitis and its recognized association with other disease (i.e., ulcerative colitis) aids greatly in establishing the diagnosis, although differentiation may, at times, still be difficult.

Intubation, performed either surgically or endoscopically, has been found to provide acceptable palliation if resection of the bile duct carcinoma is not possible. Sclerosing cholangitis may be palliated for years by resection of accessible lesions or by prolonged intubation. Hepatic transplantation is considered in long-standing cases because palliation by other means is often inadequate and there is also the possibility of malignant changes in the bile duct endothelium. A satisfactory “cure rate” for both of these diseases is still being sought.

**ESOPHAGUS**

Thoracic surgery was in its infancy 60 years ago. The first successful pneumonectomy was performed in 1933, but adequate anesthetic techniques and the dangers of mediastinal infection impeded surgery of the esophagus. The report of a successful intrathoracic esophagogastrectomy for resection of a carci-