The symptoms of cancer of the stomach are apt to be indefinite (for many weeks or months). There may be long-standing com­plaints of "indigestion,” which is sometimes made better, sometimes worse, by taking food. Then comes a feeling of discomfort which can be often localized, the individual pointing with his finger to a spot somewhere behind the end of the breastbone. Difficulty and pain in swallowing may be complained of when the cancer is beginning to block the inlet, but if it is situated at the pylorus the discomfort comes on an hour or two after a meal—at the time that the partially digested food is trying to make its way into the small intestine. Much of the food remains in the stomach and, undergoing fermenta­tion, causes the evolution of gas which distends the stomach and gives rise to unavoidable belching. Later on vomiting occurs. The vomiting may take place every two or three days, enormous quantities of undigested food mixed with frothy, yeast-like mucous being thrown up. And whilst the stomach is slowly filling up again after one of these uncontrollable emptyings, sudden and violent movements of the individual may cause the fluid to give rise to audible “ splashings.” But even at this stage the disease may be unrecognizable, though the symptoms are extremely suggestive. But later the vomited matter is blackened by blood which has escaped into the stomach from the ulcerated growth. The patient then rapidly loses flesh and strength, and a hard lump may be felt in the upper part of the abdomen.

A characteristic feature of cancer is the carrying of the epithelial cells (which are the essential element of the growth) to the nearest lymphatic glands, and in cancer of the stomach the secondary implication of the glands may cause the formation of large masses between the stomach and the liver, which may press upon the large veins and give rise to dropsy. Secondary deposits are apt to form also in the liver and they may cause the appearance of a bulging below the ribs on the right side.

Another characteristic of cancer is that it spreads far and wide, drawing other tissues to itself by contracting fibrous bands. These are sometimes erroneously spoken of as the “ roots ” of cancer, and in the case of cancer of the stomach they may fix it to the pancreas, the liver, the bowels or the spine. The invasion of the lymphatic glands and the spreading of the growth into neighbouring organs, render the successful operative treatment of gastric cancer hazardous and disappointing. By the time that a tumour has made itself recognisable the probability is that it is. too late for the attempt to be made for its removal. But in many cases the patient prefers that the abdomen should be opened for exploration for a possible operation than that he should hopelessly give himself over to the disease. And sometimes the surgeon is enabled by operation to give great relief, though the removal of the growth itself is impracticable.

When the growth is at the cardiac end of the stomach, blocking the gullet and causing slow starvation, the abdomen may advisedly be opened, and, the stomach having been fixed to the surface-wound, a permanent opening may be arranged for the introduction of an adequate amount of food. This operation is called *gastrostomy* and may be the means of giving many weeks of comfort to the unhappy patient—provided that its performance is not too long postponed. In the case of pyloric obstruction a permanent opening may be established between the stomach and a neighbouring piece of intestine, so that the food may find its way along the alimentary canal greatly to the relief of the symptoms of gastric dilatation. This is called "short-circuiting.”

In some early cases of pyloric cancer resection of the disease may be performed, the upper end of the intestine being afterwards joined to the middle of the stomach by a kind of short-circuiting operation. In certain rare cases the whole of the stomach has been removed, the bowel being brought up and spliced to the end of the gullet.

In the case of gastric dilatation from pyloric obstruction great relief may be afforded by washing out the viscus by means of a long rubber tube, a funnel, and a jug of hot water, as originally suggested by Adolf Küssmaul.

*Pyloroplasty.—*Simple fibrous narrowing of the gateway of the stomach or of the intestine is dealt with by dividing it longitudinally and then suturing the edges of the wound transversely. This ingenious operation widens the track at the expense of an unimpor­tant fraction of its length. In cases of great dilatation of the stomach with no obstruction to the outlet the slack of the walls may be gathered up by pleating and so permanently secured by suturing. Loreta’s operation for dilatation of the outlet of the stomach is now rarely performed. (E. O.\*)

**STONE, CHARLES POMEROY** (1824-1887), American soldier, was born in Greenfield, Massachusetts, on the 30th of September 1824. He graduated at West Point in 1845, and in the Mexican War earned two brevets for distinguished conduct. In 1856 he resigned from the army; and in 1857-1861 he led a scientific expédition in the state of Sonora, Mexico. He re-entered the service in 1861, and became a brigadier-general, United States Volunteers, but the defeat of a detachment at Ball’s Bluff (Oct. 21, 1861) was attributed to him, and he was imprisoned for six months, being then released without any charge being brought against him. After serving for short periods in the latter stages of the war, he resigned his commission (Sept. 1864). He was engineer and superintendent of a mining company, in Virginia from 1865 to 1870, when he entered the military service of the khedive of Egypt, whose chief of staff and general aide-de-camp he became, with the rank of lieutenant-general and the title of “ Ferik Pasha.” He returned to the United States in 1883, and resumed his engineering work. He died in New York City on the 24th of January 1887.

**STONE, EDWARD JAMES** (1831-1897), British astronomer, was born in London on the 28th of February 1831. Educated at the City of London School, he obtained a studentship at King’s College, London, and in 1856 a scholarship at Queen’s College, Cambridge, graduated as fifth wrangler in 1859, and was immediately elected fellow of his college. The following year he succeeded the Rev. R. Main as chief assistant at the Royal Observatory, Greenwich, and at once undertook the fundamental task of improving astronomical constants. The most important of these, the sun’s mean parallax, was at that time subject to considerable uncertainty. From a discussion of the observations of Mars made in i860 and 1862 at Greenwich and Williams­town (near Melbourne), Stone deduced for it a value of 8∙932" *(Mon. Not. R.Λ.S.* xxiii. 183), and in a further investigation in which he included the observations made in 1862, at the Cape of Good Hope, he obtained 8∙945" *(Mem. of R.A.S.,* vol. xxxiii.). Confirmatory results were afforded by his discus­sion of the observations of the transit of Venus in 1769 which yielded the figure 8∙91" *(Mon. Not. R.A.S.* xxviii. 255). In 1865 he contributed a memoir to the Royal Astronomical Society on the constant of lunar parallax. He also deter­mined the mass of the moon, and from a discussion of the Greenwich transit circle observations between 1851 and 1865 he found for the constant of nutation the value 9∙134". These services were recognized by the award of the Royal Astronomical Society’s gold medal in 1869, and on the resig­nation of Sir Thomas Maclcar in 1870 he was appointed Her Majesty’s astronomer at the Cape. His first task on taking up this post was the reduction and publication of a large mass of observations left by his predecessor, from a selected portion of which (those made 1856-1860) he compiled a catalogue of 1159 stars. His principal work was, however, a catalogue of 12,441 stars to the 7th magnitude between the South Pole and 25° S. declination, which was practically finished by the end of 1878 and published in 1881. Shortly after the death of Main on the 9th of May 1878, Stone was appointed to succeed him as Radcliffe Observer at Oxford, and he left the Cape on the 27th of May 1879. At Oxford he extended the Cape observations of stars to the 7th magnitude from 25° S. declination to the equator, and collected the results in the *Radcliffe Catalogue* for 1890, which contains the places of 6424 stars. Stone observed the transit of Venus of 1874 at the Cape, and organized the government expeditions for the corresponding event in 1882. He was elected president of the Royal Astronomical Society (1882-1884), and he was the first to recognize the importance of the old observations accumu­lated at the Radcliffe Observatory by Hornsby, Robertson and Rigaud *(Mon. Not. R.A.S.,* vol. lv.). He successfully observed the total solar eclipse of the 8th of August 1896 at Novaya Zemlya, and purposed a voyage to India for the eclipse of 1898, but died suddenly at the Radcliffe Observatory on the 9th of May 1897. The number of his astronomical publications exceeds 150, but his reputation depends mainly on his earlier work at Greenwich and his two great star catalogues—the *Cape Catalogue* for 1880 and the *Radcliffe Catalogue* for 1890.

See *Proc. Roy. Society,* lxii 10; *Month. Not. Roy. Ast. Soc.* lviii. 143; *The Times,* 10th of May 1897; *Observatory,* xx.234; *Astr. Nach.* No. 3426; *Roy. Soc. Cat. Scient. Papers.* (A. Μ. C.)

**STONE, FRANK** (1800-1859), British painter, was born in Manchester, and was entirely self-taught. He was elected an associate of the Society of Painters in Water Colours in 1833 and member in 1843; and an associate of the Royal Academy in 1851. The works he first exhibited at the Academy were portraits, but