Schindler (1936) described the interior of the stomach as seen at gastroscopy in patients lying on their left side. In this position the pyloric part falls to the left and forward towards the anterior abdominal wall. While radiologists perceive the incisura angularis as an indentation of the lesser curvature side of the barium column, gastroscopists see it as a prominence or “kind of fold” in the inside of the stomach, called the angulus or angle. According to Schindler the stomach could be divided into two parts: the part above the angulus or pars digestoria, and the part between the angulus and pylorus or pars egestoria. If little air is used for inflation at gastroscopy, another prominent fold, the musculus sphincter antri, becomes visible on the anterior and posterior walls and greater curvature at the level of the angulus. It is a separate entity from the angulus, is probably formed by contraction of the muscularis externa and is usually not demonstrable radiologically.

According to Schindler (1936) peristaltic waves always commence distally to the musculus sphincter antri. Gastroscopically these waves are seen as circular elevations moving towards the pylorus and accompanied by a shortening of the “antrum” until closure of the pylorus is complete. This is often accompanied by the formation of radial mucosal folds, giving the closed pylorus a stellate appearance.

Torgersen (1942) showed that the musculus sphincter antri consisted of a loop at the termination of the oblique fibres of the muscularis externa of the corpus. It was also called the lower segmental loop and formed the oral boundary of the sinus (Chap. 3). Consequently it did not take part in the contractions of the pyloric sphincteric cylinder.

Gastroscopically the pylorus is seen to be open most of the time, according to Johnson (1961). As a wave of peristalsis passes down the “antrum” and reaches the pylorus, the latter is seen to close. It remains closed for only a few seconds, then relaxes, remaining open until it is reached by the next peristaltic wave.

Rider et al. (1967) described the dynamic anatomy of the “antrum” and pylorus. Numerous combined fluroscopic and gastroscopic studies showed that peristaltic waves proceeded through the corpus and proximal part of the “antrum” towards the pylorus. Each wave caused a “pinch-off” in the antrum, creating the appearance of a rosette-like sphincter, called the proximal sphincter. The area beyond this sphincteric action was still part of the stomach and represented the “distal antrum” or “pyloric channel”. With relaxation of the proximal sphincter a small, circular distal opening became evident beyond it.
which was the pyloric aperture surrounded by the true pyloric ring. It was pointed out that the proximal sphincter could easily be mistaken for the pyloric ring, and in such cases it could erroneously be concluded that a gastroscope which had passed this area was in the duodenal bulb.

Comment: From the above description it is clear that contraction of the “proximal sphincter” is the same occurrence as contraction of the left pyloric loop as seen radiologically (Chap. 13). The dynamic anatomy seen at gastroscopy and radiology tallies with the morbid anatomy described by Cunningham (1906), Forssell (1913) and Torgersen (1942). The part of the stomach on the caudal side of the “proximal sphincter”, called the “distal antrum” or “pyloric channel”, is the pyloric sphincteric cylinder.

According to Code and Carlson (1968) each terminal antral contraction (TAC) seen at gastroscopy, produces a diaphragm across the stomach with a central orifice. The size of the orifice depends on the strength of the contraction. Retropelled contents are forced with varying degrees of vigor through this orifice in an oral direction.

Comment: The diaphragm across the stomach with a central orifice again corresponds, in our view, to contraction of the left pyloric loop (Chap. 13). Not only gastric contents, but at times also gastric mucosal folds, are retropelled through the contraction ring of the left loop, by powerful contractions of the pyloric sphincteric cylinder (Chaps. 13, 36).

At gastroscopy Edwards and Rowlands (1968) found that ripples of contraction sometimes moved down the gastric wall to a well-defined ring where the large bag of the stomach joined the commencement of the “antral funnel”. The ring often contracted to a narrow bore, at times obliterating the lumen, and could be mistaken for the pylorus. The true pylorus was situated at the end of the funnel. At times annular contraction waves with a frequency of 3/min moved long the “antrum” to the gastroduodenal junction, propelling mucus. Sometimes the mucus would be retropelled from the funnel in an oral direction. The findings were ascribed to intermittent and possibly haphazard activity of the stomach due to the conditions pertaining at gastroscopy, such as the distension of the stomach, the stress of the subject, and the administration of sedative drugs.

Comment: In our view the well-defined ring at the commencement of the “pyloric funnel”, which could be mistaken for the pylorus, again corresponds to the left pyloric loop, while the “pyloric funnel” corresponds to the sphincteric cylinder. The retropulsion of mucus through the ring is the result of normal contractile activity of the cylinder; normal retropulsion of barium occurs in the same way (Chap. 13).

Blackwood (1969) pointed out that the correct interpretation of a ring structure in the pyloric region could present problems at gastroscopy, especially when it had an unusually large diameter, when a second ring was seen beyond it, or when radiology revealed a gastric lesion obviously distal to the ring structure visualized. In such cases it could be difficult to determine if one was dealing with the pyloric ring or with a different ring. In an attempt to improve the endoscopic evaluation of the pyloric region, he localized the pylorus by electrical potential difference (PD) measurements under direct gastroscopic vision.