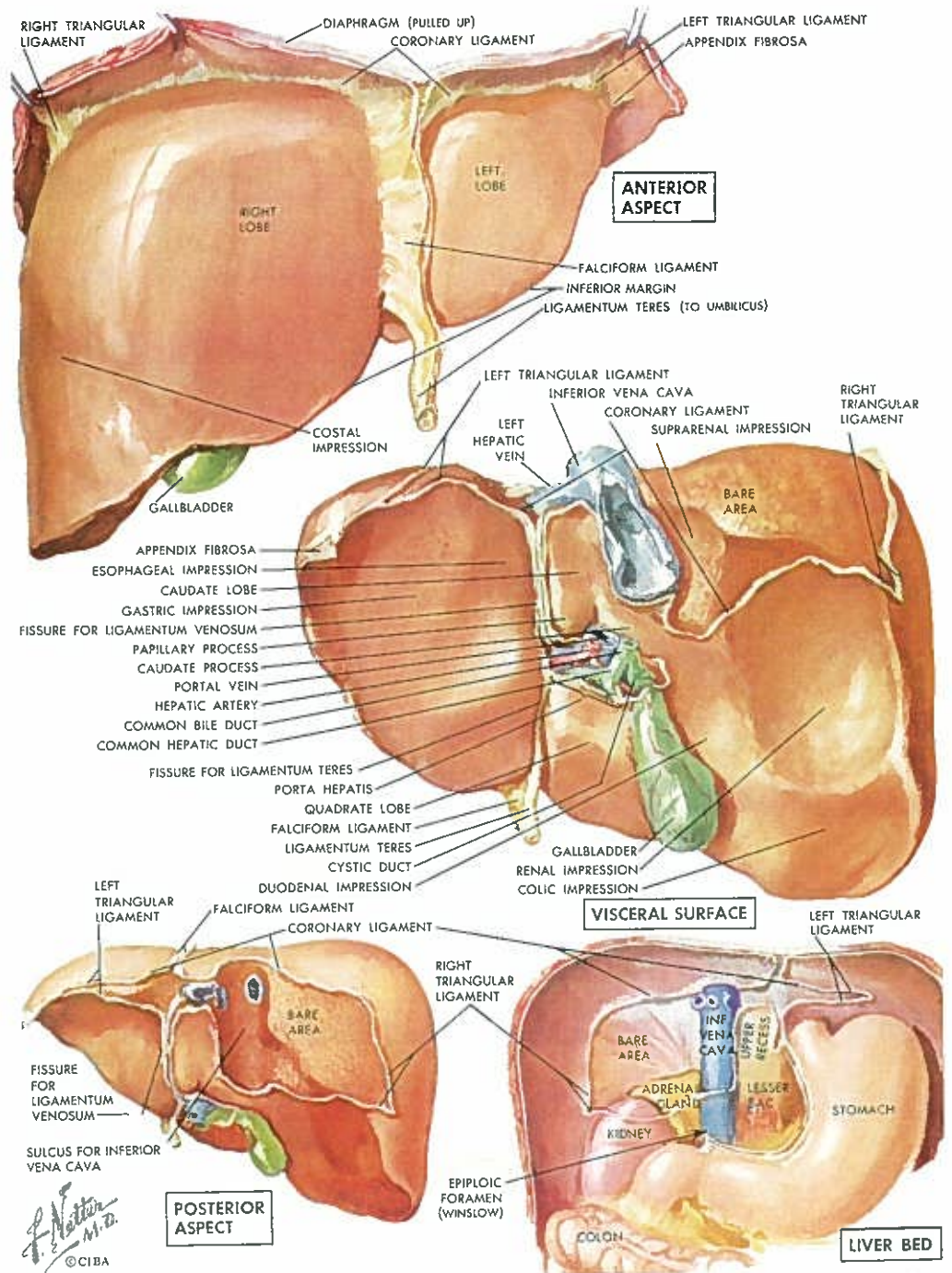


SURFACES AND  
BED OF LIVER

The liver is a large, wedge-shaped organ molded to the underside of the diaphragm and resting upon the upper abdominal viscera. Its *diaphragmatic surface* is divided into a *pars superior* (which includes the *cardiac impression*), a *pars anterior* (which extends beyond the diaphragm onto the anterior abdominal wall), a *pars dextra* and a *pars posterior* (attached to the diaphragm by the coronary ligament). The border between the *anterior aspect* and *visceral surface* is the *inferior margin*. Its consistency, sharpness of edge, smoothness of surface and movement upon respiration provide clinical information. On laparotomy the inferior margin and the anterior aspect are first exposed. Otherwise, the hepatic surfaces are not separated by distinct margins.

The liver is covered by peritoneum, except for the gallbladder bed, the porta, adjacent parts surrounding the inferior vena cava, and a space to the right of the vena cava inferior called "*bare area*", which is in contact with the right *suprarenal gland* (*suprarenal impression*) and the right kidney (*renal impression*). The peritoneal duplications, which extend from the anterior abdominal wall and from the diaphragm to the organ, form the ligaments of the liver, which, formerly, were thought to maintain the liver in its position but probably add little to its fixation. It is now held that the liver is kept in place by intra-abdominal pressure. The diaphragmatic peritoneal duplication is the *coronary ligament*, the upper layer of which is exposed if the liver is pulled away from the diaphragm. The right free lateral margin of the coronary ligament forms the *right triangular ligament*, whereas the *left triangular ligament* surrounds and merges with the left tip of the liver, the *appendix fibrosa hepatis*. Over the right lobe the space between the upper and lower layers of the coronary ligament is filled with areolar connective tissue. Below the insertion of



the lower layer of the right coronary ligament, the hepatorenal space extends behind the liver.

From the middle portion of the coronary ligament originates another peritoneal duplication, the *falciform ligament*, which extends from the liver to the anterior abdominal wall between the diaphragm and the umbilicus. Its insertion on the liver divides the organ into a *right* and *left lobe*. As the falciform ligament crosses the inferior margin of the liver it releases the *ligamentum teres* (the obliterated left umbilical vein) which then enters a fissure on the visceral surface of the liver. Inferiorly, this *fissure of the ligamentum teres* separates the *quadrate lobe* from the left lobe of the liver. Beyond the *porta hepatis* it is continued superiorly as the *fissure of the ligamentum venosum* (the *obliterated ductus venosus* of the fetus). The two fissures may be regarded as the left limb of an H-shaped pattern characteristic of the vis-

ceral surface of the liver. The right limb is formed by the *gallbladder fossa* and the *sulcus of the vena cava inferior*. The horizontal limb is marked by the *porta hepatis*, which contains the *common hepatic duct*, *hepatic artery*, *portal vein*, lymphatics and nerves. The *quadrate lobe*, between the gallbladder and the fissure for the umbilical vein, is in contact with the pylorus and the first portion of the duodenum (*duodenal impression*). Above the *porta hepatis* lies the *caudate lobe* between the fissure for the ligamentum venosum and the vena cava inferior, its caudal projection being the *papillary process*. The visceral surface of the liver reveals further impressions of the organs with which it is in contact: the *impressions for the colon and the right kidney*, and on the left lobe the *impressions for the esophagus and the stomach*. The superior surface is related to the diaphragm and forms the domes of the liver.