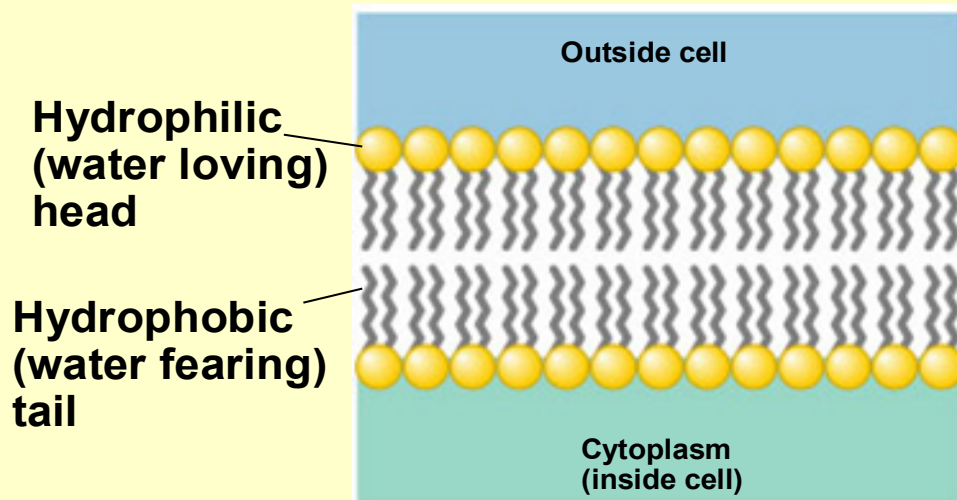
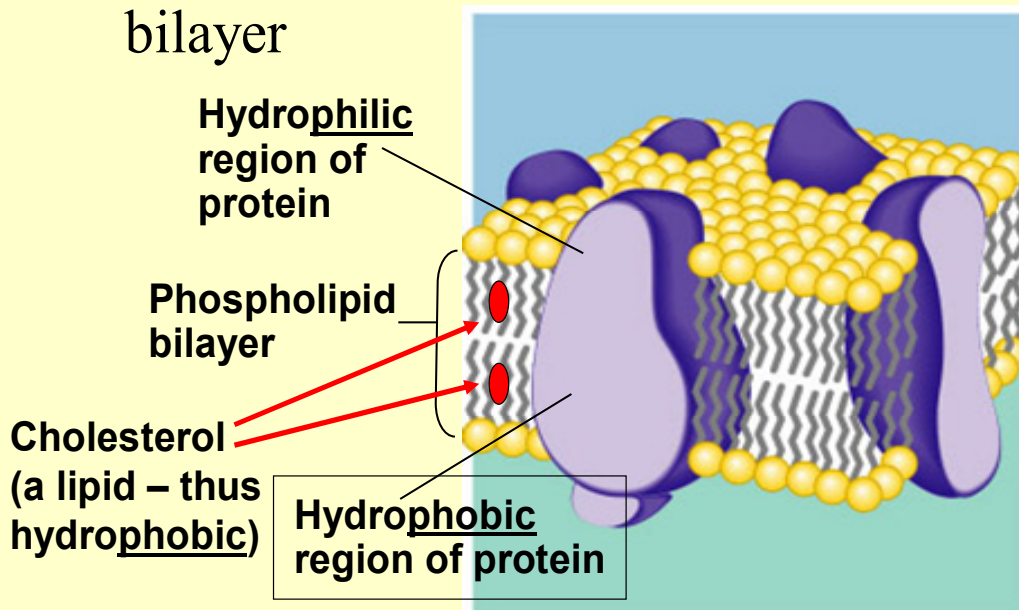


- Phospholipids form a two-layered membrane, the phospholipid bilayer



(a) Phospholipid bilayer of membrane Figure 4.7A

- Most membranes have specific proteins embedded in the phospholipid bilayer



(b) Fluid mosaic model of membrane

Figure 4.7B

From *Human Physiology*, Ninth Edition by Fox, pages 53-55.

“The plasma membrane (also called the cell membrane), and indeed all of the membranes surrounding organelles within the cell, are composed primarily of phospholipids and proteins. Phospholipids, described in chapter 2, are polar (and hydrophilic) in the region that contains the phosphate group and nonpolar (and hydrophobic) throughout the rest of the molecule. Since the environment on each side of the membrane is aqueous, the hydrophobic parts of the molecules “huddle together” in the center of the membrane, leaving the polar parts exposed to water on both surfaces. This results in the formation of a double layer of phospholipids in the cell membrane.

The hydrophobic middle of the membrane restricts the passage of water and water-soluble molecules and ions. Certain of these polar compounds, however, do pass through the membrane. The specialized functions and selective transport properties of the membrane are believed to be due to its protein content. Membrane proteins are described as peripheral or integral. Peripheral proteins are only partially embedded in one face of the membrane, whereas integral proteins span the membrane from one side to the other. Since the membrane is not solid – phospholipids and proteins are free to move laterally – the proteins within the phospholipids “sea” are not uniformly distributed. Rather, they present a constantly changing mosaic pattern, an arrangement known as the fluid-mosaic model of membrane structure (fig. 3.2, p. 54).”

Fig. 2.20

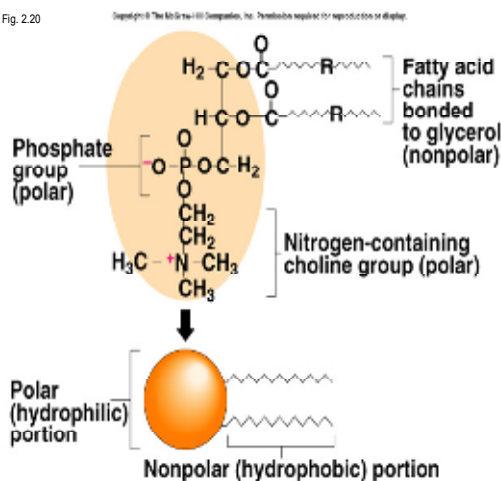
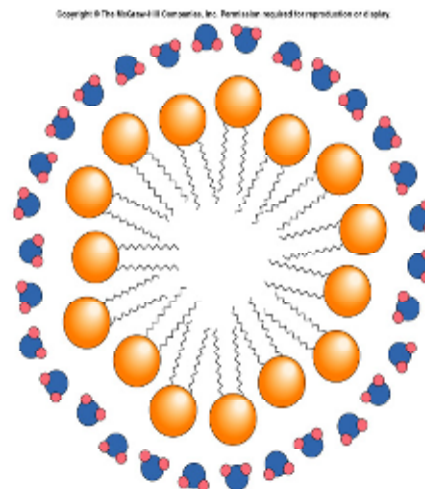


Fig. 2.21



Read “Steroids” pages 38-40