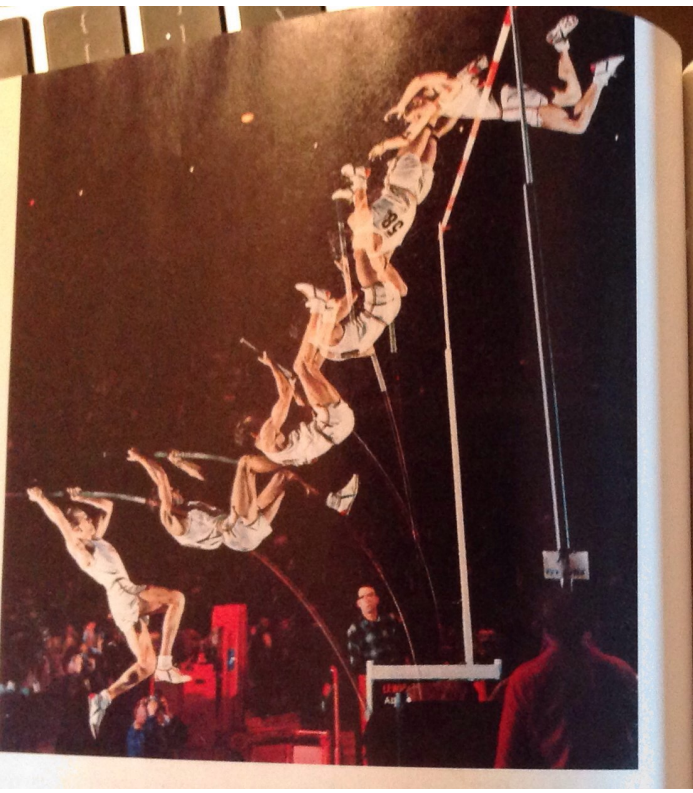

gravitational potential energy because it is higher than the bottom of the falls. But as the water falls, its height decreases and so it loses potential energy. At the same time, its kinetic energy increases because its velocity increases. Thus potential energy is converted into kinetic energy.

Energy Conversion in a Pole Vault As a pole vaulter runs, he has kinetic energy because he is moving. When he plants his pole to jump, the pole bends. His kinetic energy is converted to elastic potential energy in the pole. As the pole straightens out, the vaulter is lifted high into the air. The elastic potential energy of the pole is converted to the gravitational potential energy of the pole vaulter. Once over the bar, the vaulter's gravitational potential energy is converted into kinetic energy as he falls to the safety cushion below.

Energy Conversion in a Pendulum A continuous conversion between kinetic energy and potential energy takes place in a pendulum. At the highest point in its swing, the pendulum in Figure 11 has only gravitational potential energy. As the pendu-