



Interaction and Force



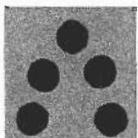
CHAPTER 5 **Interaction and Momentum**

When two billiard balls collide on a billiard table, we easily see that each influences the other. We often use the concept of momentum to describe the interaction. When one billiard ball bounces off the side of the table, however, it is hard to see just how the billiard ball influences the table. The interaction seems one-sided, so we shift points of view and talk about the force the table exerts on the ball. Momentum and force both describe interactions.



CHAPTER 6 **Interaction and Force**

But how, exactly, does one object influence another? Psychologists tell us that parents, friends, and acquaintances change our thoughts and lives in seemingly complex ways. Objects also seem to influence or act upon one another in complex ways. Physicists have been able to sort through much of this complexity and now identify just four fundamental types of interactions—gravitational, electromagnetic, strong nuclear, and weak nuclear. In the future lies the prospect that these four interactions can be unified into two, or perhaps a single theory of interactions.



CHAPTER 7 **Newton's Three Laws**



CHAPTER 8 **The Fundamental Interactions**