

celeration of the circulation. The quantity of air consumed varies, therefore, with the proportion of the blood which is sent to the lungs.

256. The proper temperature of an animal, or what is termed ANIMAL HEAT, depends on the combined activity of the respiratory and circulating systems, and is in direct proportion to it. In many animals the heat is maintained at a uniform temperature, whatever may be the variations of the surrounding medium. Thus, birds maintain a temperature of about 108° Fahrenheit; and in a large proportion of mammals it is generally from 95° to 105°. These bear the general designation of *warm-blooded animals*.

257. Reptiles, fishes, and most of the still lower animals, have not this power of maintaining a uniform temperature. The heat of their body is always as low as from 35° to 50°, but varies perceptibly with the surrounding medium, being often, however, a little above it when the external temperature is very low, though some may be frozen without the loss of life. For this reason, they are denominated *cold-blooded animals*; and all animals which have such a structure of the heart that only a part of the blood which enters it is sent to the respiratory organs, are among them, (243.)

258. The production of animal heat is obviously connected with the respiratory process. The oxygen of the respired air is diminished, and carbonic acid takes its place. The carbonic acid is formed in the body by the combination of the oxygen of the air with the carbon of the blood. The chemical combination attending this function is, therefore, essentially the same as that of combustion. It is thus easy to understand how the natural heat of an animal is greater, in proportion as respiration is more active. How far nutrition in general, and more particularly *assimilation*, by which the liquid parts are fixed and solidified, is connected with the maintenance of the proper temperature of animals, and the