RESPIRATION.

The process of respiration is really one of combustion, though unaccompanied by flame. Our food is rich in carbon and hydrogen. Starch and sugar, fats and albuminoids, of which our food consists, all contain large amounts of these elements. The blood which receives the digested food from the alimentary track is pumped from the right side of the heart into the lungs, where it is passed through countless small capillary tubes, with extremly thin membranous walls. It is here that it comes into close contact with the inspired air, the oxygen of which it absorbs in large quantities. From the lungs it is then passed through the left side of the heart, and forced into the general circulation of the body. During its circulation, the absorbed or dissolved oxygen burns up the food material in the blood, forming carbonic acid and water, which are discharged chiefly on the reflow of the blood to the lungs though small quantities escape by way of the skin. The heat generated in the combustion of this food in the body to carbonic acid and aqueous vapor, is precisely equal to the amount that would have been produced if the food material had been burnt in the air; and it is the heat so generated that maintains our body temperature.

DECAY AND PUTREFACTION.

Decay and putrefaction have been mentioned as the third source of carbonic acid gas in the atmosphere. These processes of the disintegration and dissipation of organic matter, are really of the nature of slow combustion, usually brought about by the agency of microscopic plants, known as bacteria. Their products are much the same as those resulting from the combustion of fuel and of food.

ORGANIC MATTER.

Having now discussed the sources of the carbonic acid in the air, we must now speak of the organic matter, which is more especially present as the result of deficient ventilation.

It has already been mentioned that the deleterious character of badly ventilated rooms is due rather to the organic matter than to the carbonic acid. It is therefore of great importance that we should learn somewhat of its origin and effects upon health. Organic matter, and