respiration. First, at the lower part, or that which corresponds to the basis of the cone, the only side, indeed, which is not defended by bone, there is extended a thin expansion, partly muscular, and partly tendinous, forming a complete partition, and closing the cavity of the chest on the side next to the abdomen. This muscle is called the *Diaphragm:* it is perforated, close to its origin from the spine, by four tubes, namely, the œsophagus, the aorta, the vena cava, and the thoracic duct. Its surface is not flat, but convex above, or towards the chest; and the direction of its fibres is such, that, when they contract, they bring down the middle part, which is tendinous, and render it more flat than before, (the passage of the four tubes already mentioned, not interfering with this action,) and thus, the cavity of the thorax may be considerably enlarged. It is obvious that if, upon the descent of the diaphragm, the lungs were to remain in their original situation, an empty space would be left between them and the diaphragm. But no vacuum can take place in the body; the air cells of the lungs must always contain, even in their most compressed state, a certain quantity of air; and this air will tend, by its elasticity, to expand the cells: the lungs will, consequently, be dilated, and will continue to fill the chest; and the external air will rush in through the trachea in order to restore the equilibrium. This action is termed *inspiration*. The air is again thrown out when the diaphragm is relaxed, and pushed upwards, by the action of the large muscles of the trunk; the elasticity of the sides of the chest, concur in producing the same effect; and thus *expiration* is accomplished.

The muscles which move the ribs conspire also to produce dilatations and contractions of the cavity of the chest. Each rib is capable of a small degree of motion on that extremity by which it is attached to the spine; and this motion, assuming the chest to be in the erect position, as in man, is chiefly upwards and downwards. But, since the inclination of the ribs is such that their lower edges form acute angles with the spine, they bend downwards as they proceed towards the breast; and the uppermost rib being a fixed point,