uniform distribution of heat through the body, has not yet been satisfactorily ascertained.

259. Some of the higher warm-blooded animals do not maintain their elevated temperature during the whole year; but pass the winter in a sort of lethargy called HIBERNATION, or the *hibernating sleep*. The marmot, the bear, the bat, the crocodile, and most reptiles, furnish examples. During this state the animal takes no food; and as it respires only after very prolonged intervals, its heat is diminished, and its vital functions generally are much reduced. The structural cause of hibernation is not ascertained; but the phenomena attending it fully illustrate the laws already stated, (254–8.)

260. There is another point of view in which respiration should be considered, namely, with reference to the buoyancy of animals, or their power of rising in the atmosphere, and their ability to live at different depths in the water, under a diminished or increased pressure. The organs of respiration of birds and insects are remarkably adapted for the purpose of admitting at will a greater quantity of air into their body, the birds being provided with large pouches extending from the lungs into the abdominal cavity and into the bones of the wing. In insects the whole body is penetrated by air tubes, the ramifications of their tracheæ, which are enlarged at intervals into wider cells; whilst most of the aquatic animals are provided with minute, almost microscopic tubes, penetrating from the surface into the substance, or the cavities of the body, admitting water into the interior, by which they thus adapt their whole system to pressures which would otherwise crush them. These tubes may with propriety be called water-tubes. In fishes, they penetrate through the bones of the head and shoulder, through skin and scales, and communicate with the blood vessels and heart, into which they pour water; in mollusks they are more numerous in the fleshy parts, as, for example, in the