

A muscle is a bundle of fibres inclosed in a thin cellular membrane and attached at the head to a superior bone. It is large in the middle, tapering down toward the tail, where it changes its red color to white, forming a tendon which is inserted into an inferior bone below the joint. The fibres or threads of a muscle are made up of a series of rings extending from one end to the other. When we desire to contract a muscle and thereby move a limb or a member of our body, the organ of firmness in the cerebrum, located near the crown of the head, applies a current of electricity to the nerve which is connected to the muscle inserted into the part to be moved. The electricity flowing upon the rings of the fibres expands their circumference, thereby rendering them thinner longitudinally, and consequently shorter, causing the point of insertion to move toward the point of attachment. Thus we raise our arm, shut our hand and move our limbs. Great electric shocks in our systems are from the cerebral battery.

When the blood flows to the brain in uniform healthy quantities, the electric governor has complete control of his battery, but when, from cardiac or arterial debility, or other cause, the brain is emptied of blood, the person faints or falls down with an epileptic fit. A horizontal position will restore the equilibrium in case of syncope, and relieve the symptom. But in epilepsy greater effort is required. The whole charge of the cerebral battery is thrown upon the motor nerves, simultaneously causing every muscle of voluntary motion to contract at the same time. The stronger muscles, to a great extent, predominate over the weaker. The head and shoulders are drawn back, the arms and hands forward and inward, the legs backward, with a winding, twisting, vermicular movement, producing the contortions and clonic spasms manifested in the falling sickness. The tension produced upon the muscular system by such a shock of electric energy appears to be nature's own method of forcing the