

huddled together and entangled in the mesh of nerve fibres which connect them together and then divide off in bunches to form nerves. They make up a pulpy mass, of the consistency and appearance of the marrow we sometimes see in our mutton chop. These little star-shaped cells, are grouped off in the brain by nature, and each little group is assigned its special function. These groups are called brain centres. Though they are often interdependent and act in conjunction with one another, still each has a separate and allotted function. When it acts, that function is performing. When it idles, that function is neglected. When it dies, that function is impossible. These centres then might live or languish or die, and the duty they have to perform might be well done, badly done, or not done at all.

#### The Functions of the Centres

Every movement of every part of the body is presided over by a brain centre containing its nerve cells. The cells themselves are the individual workers, the originators, the commanders. The nerve fibres are simply the telegraphic wires that convey the message, the command, from the nerve centres to the parts of the body whose duty it is to obey. All the movements of the body depend upon the contraction and expansion of muscles, and a muscle can only move in obedience to an impulse conveyed from a nerve centre along the nerve to the muscle in which that nerve is imbedded.

These three primary elements are necessary to produce the phenomenon we know as movement:—First, a nerve cell or centre in which the impulse arises; second, a nerve fibre along which the impulse or message is sent; and third, a muscle by which that message is received. The chief home of the nerve cell is in the brain. The route of the nerve is through the limbs or body by the nearest convenient direction to the muscle which it supplies, and the sphere of action of the muscle is between two points to which its ends are attached. These points might be bones or other muscles. When the muscle contracts, that is shortens, it draws these two

bony points or muscular parts nearer to one another, and this approximation of points we call movement. Walking, eating, stitching, any movement that we perform is simply the result of all these muscle-fibre processes taking place in order or succession to one another.

Now these functions may be performed well or badly or not at all. If the nerve cell dies, or is killed, or is paralyzed, the movement of the muscle over which it presides is impossible. The nerve cell may be strong, active and willing, and may "function" vigorously, but if the nerve fibre, that is the telephone wire, is cut, crushed, or tied tightly or constricted or in any way has its power of transmission interfered with, the movement in the muscle is impossible.

But in addition to these accidental conditions, from which any part of the motion circuit might suffer, there are moods to which each part is liable. The muscle fibre might refuse to act from sheer fatigue. A message might come and be received, but from pure exhaustion there might be no response. The nerve cell also might suffer from exhaustion and refuse to generate an impulse, or some poison, such as chloroform, might temporarily paralyze the nerve cell and destroy its function during the time the effect of the poison remained, or injury or disease might destroy its life and function.

#### Ho. Alcohol Stimulates

There is one centre in the brain that comes very promptly under the paralyzing influence of alcohol. It is an exceedingly delicate and sensitive centre. As a matter of fact, it is a group of centres, and constitutes a little nervous system of its own. It is called the vaso-motor system. It holds a special jurisdiction over the blood-vessels and preserves their tone. When it is active it keeps the vessels contracted and resistant to the pressure of the blood within their walls, this pressure. Sometimes it is high, varying. The violent contraction of the heart impels the blood onward with great force, and the vessels have to resist the expanding influence of this pressure. Sometimes it is high

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