

protoplasm (as in Amoeba). Cytoskeletal elements like microfilaments are also involved in amoeboid movement.

Ciliary movement occurs in most of our internal tubular organs which are lined by ciliated epithelium. The coordinated movements of cilia in the trachea help us in removing dust particles and some of the foreign substances inhaled along with the atmospheric air. Passage of ova through the female reproductive tract is also facilitated by the ciliary movement. Movement of our limbs, jaws, tongue, etc, require muscular movement. The contractile property of muscles is effectively used for locomotion and other movements by human beings and majority of multicellular organisms. Locomotion requires a perfect coordinated activity of muscular, skeletal and neural systems.

MUSCLE:

The cilia and flagella are the outgrowths of the cell membrane. Flagellar movement helps in the swimming of spermatozoa, maintenance of water current in the canal system of sponges and in locomotion of Protozoans like Euglena. Muscle is a specialised tissue of mesodermal origin. About 40-50 per cent of the body weight of a human adult is contributed by muscles. They have special properties like excitability, contractility, extensibility and elasticity. Muscles have been classified using different criteria, namely location, appearance and nature of regulation of their activities. Based on their location, three types of muscles are identified: (i) Skeletal (ii) Visceral and (iii) Cardiac.

Skeletal muscles are closely associated with the skeletal components of the body. They have a striped appearance under the microscope and hence are called striated muscles. As their activities are under the voluntary control of the nervous system, they are known as