CHAPTER 7
HOLDING CELLS TOGETHER
THE CYTOSKELETON

CELL FRAMEWORK

- PLANTS, ANIMALS, FUNGI
- MICROTUBULES /LARGE
- MICROFILAMENTS/SMALL
- MADE FROM PROTEIN/TUBULIN
- PROTEIN EXTENSIONS/ 9+2
- CILIA, FLAGELLA, PILI
- CENTRIOLES/CELL DIVISION

Figure 7.20  The cytoskeleton
Figure 7.23 A comparison of the beating of flagella and cilia

(a) Motion of flagella

(b) Motion of cilia

Figure 7.22 Centrosome containing a pair of centrioles

Figure 7.26 A structural role of microfilaments
**PLANT CELL CONNECTION**

- PRIMARY CELL WALL/CELLULOSE AND HEMICELLULOSE
- DEVELOPS FIRST
- SECONDARY CELL WALL/CELLULOSE AND LIGNIN AND MADE UP OF 3 LAYERS
- PLASMODESMATA

**LINKS BETWEEN CELLS**

- DESMOSOMES/THOSE ARE PROTEIN CONNECTIONS
- HOLD CELL MEMBRANES TOGETHER
- VARIOUS KINDS OF JUNCTIONS
- HOLD CELL MEMBRANES TOGETHER/COMMUNICATION
Figure 7.30 Intercellular junctions in animal tissues

Figure 7.31 The emergence of cellular functions from the cooperation of many organelles