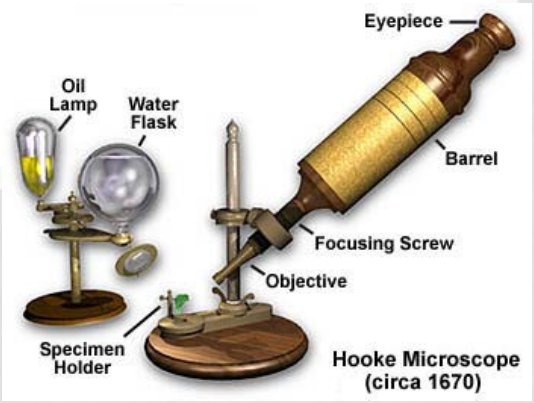
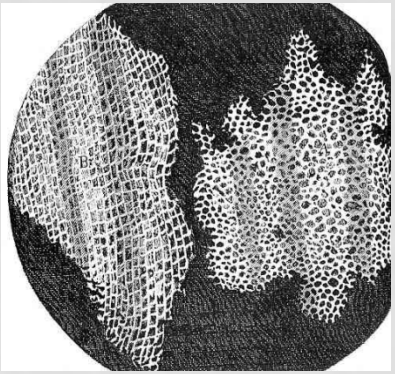
CELL THEORY

CH 3.1

DISCOVERY

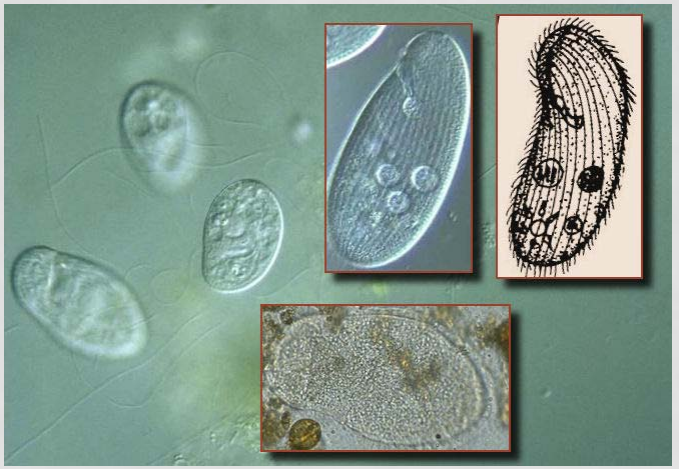


- **1665 – Robert Hooke**
  - Observed cork (bark) under simple compound microscope
  - Noticed small compartments
  - Hollow (bark made of dead cells)
  - Named compartments ‘cells’

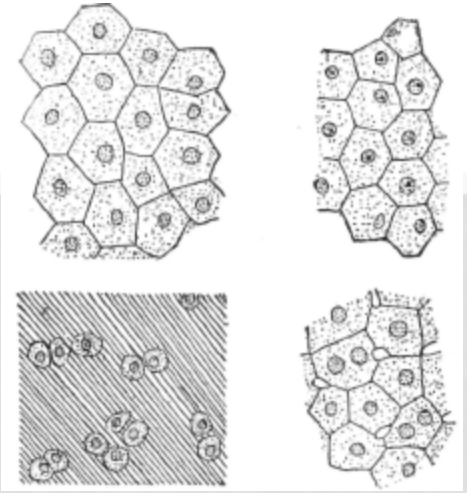


DISCOVERY

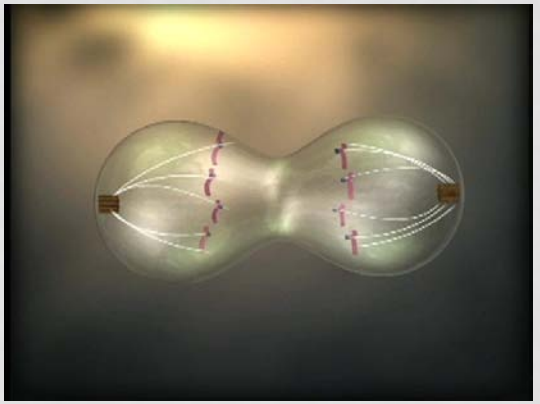
- **1674 – Anton van Leeuwenhoek**
  - More advanced light microscope
  - Observed pond water
  - Noticed small swimming organisms
    - Single-celled
    - Name ‘Animalicules’



DISCOVERY

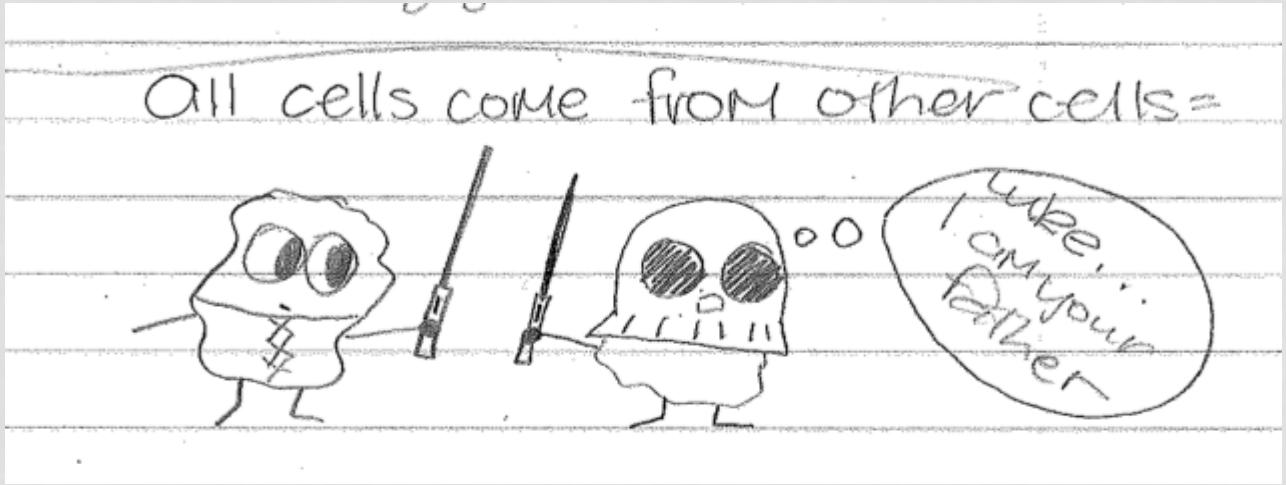


- **1838 – Schleiden**
  - Studied plant tissues
  - Proposed all plants made of cells
- **1839 – Schwann**
  - Noticed similarities between plants and animals
  - Proposed all animals & plants made of cells
  - Form spontaneously
- **1855 – Virchow**
  - Observed cell division
  - Cells come from other cells



CELL THEORY

- Three Major Principles
  1. all living organisms made of cells
  2. all living cells come from other living cells
  3. cells are the basic unit of life

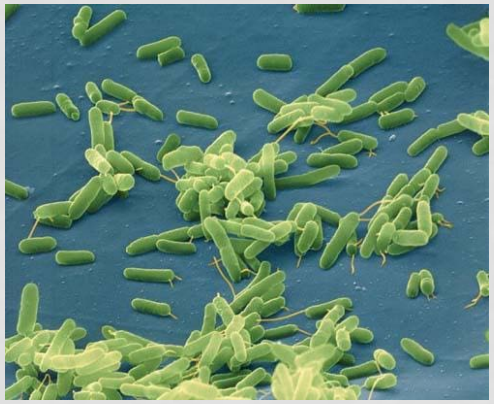


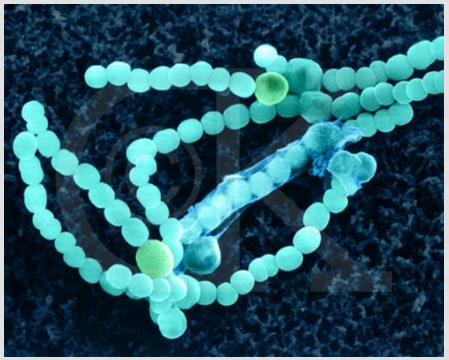
BASIC PARTS OF CELLS

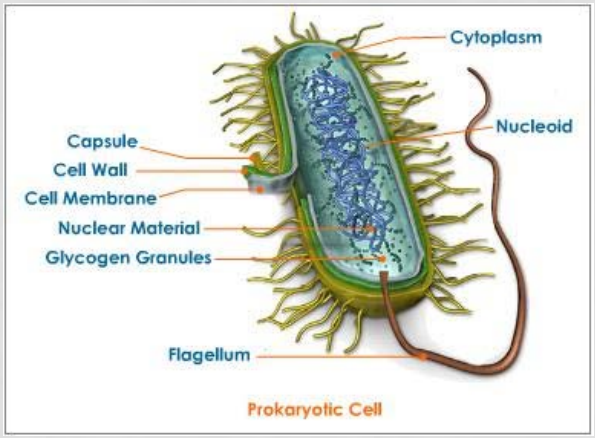
- **Cytoplasm** – interior fluid
- **Cell membrane** – external layer
- **Organelles** – membrane bound structures with specific functions
- **Nucleus** – DNA containing organelle
- **Ribosomes** – small organelles that make proteins

TYPES OF CELLS

- **Prokaryotic cells (prokaryotes)**
  - No nucleus (circular, free DNA)
  - No membrane bound organelles
  - Ribosomes free in cytoplasm
  - Single celled organisms







TYPES OF CELLS

- **Eukaryotic cells (eukaryotes)**
  - Nucleus contains DNA
  - Several membrane bound organelles
  - Ribosomes free in cytoplasm and attached to organelles
  - Single-celled and multi-celled organisms