Kingdom Protista is the most diverse of all the kingdoms.

Protists can be animal-like, plant-like, or fungus-like.
- Protists are eukaryotes that are not animals, plants, or fungi.

Animal-like protists consume other organisms.
- aka: protozoans
- heterotrophs
- single-celled
- Some examples include:
  - Pseudopods, flagellates, ciliates

Malaria: Infected mosquito bites
- Fever, vomiting, coma, death

Sleeping sickness: bite of tsetse flies
- Coma & death
19.1 Diversity of Protists

- Plant-like protists are photosynthetic.
  - Aka: Algae
  - no roots, stems, or leaves
  - Perform photosynthesis with chloroplasts (seaweed, kelp)
  - Example: Diatoms
    - Glasslike shells
    - Provide ~ ½ O₂ on Earth

- Fungus-like protists decompose dead organisms.
  - heterotrophs
  - can move, whereas fungi cannot (spores develop cilia)
  - Some examples include:
    - Slime molds: very large (~1m) single celled mass of cytoplasm.
    - Water molds: can be parasitic, like the Potato Blight (disease that caused the potato famine in Ireland)

- Protists are difficult to classify.
  - Protista is one kingdom in the domain Eukarya.
  - Protista classification will likely change.
    - Some protists are not closely related.
    - Molecular evidence supports reclassification.

19.1 Diversity of Protists

- Origins of Multicellularity

  Live in 3 arrangements
  - 1) Single-celled
  - 2) Multicellular colonies; independent acting cells
    - Over time, cells became somewhat specialized
  - 3) Multicellular colonies; specialized cells
    - Over time, cells dependent on others because of specialization
    - Beginning of multicellular life???