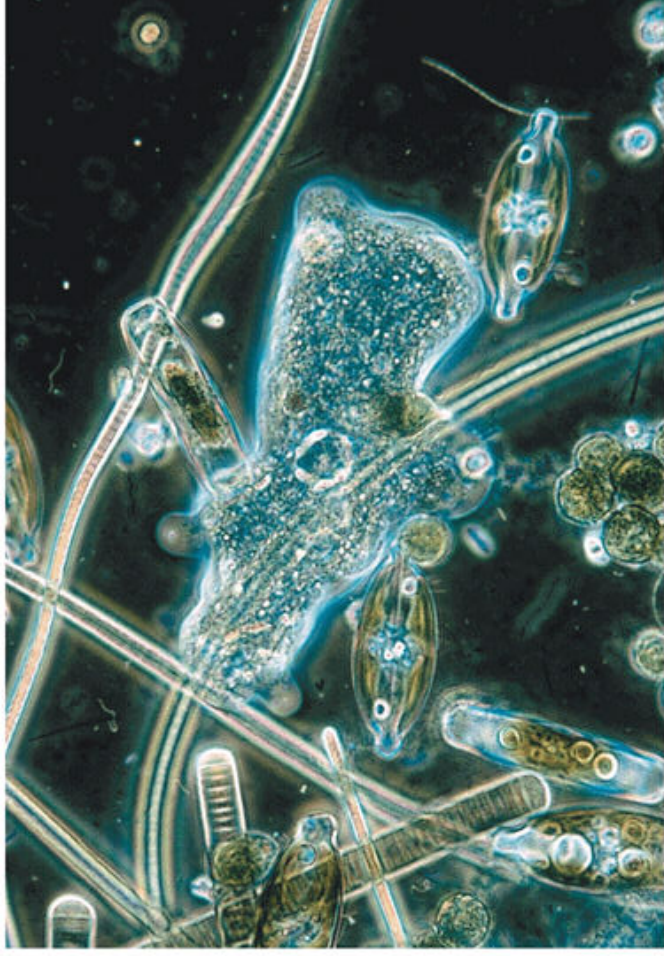


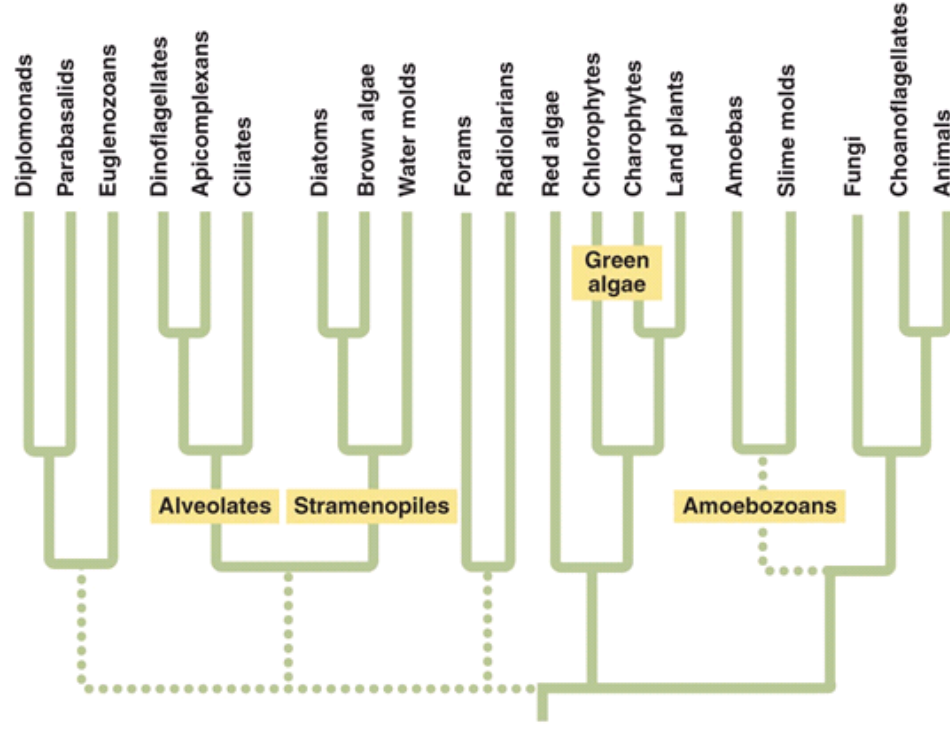
What is a Protist?

- A collection of metabolically and structurally diverse (mostly) unicellular eukaryotes
- Generally...any eukaryote which is NOT a plant, animal, or fungus will be classified as a protist



Copyright © 2008 Pearson Education, Inc.

Because of their diversity...Protists have been difficult to classify...this is becoming less difficult with the use of molecular (DNA) comparisons



Copyright © 2009 Pearson Education, Inc.

In general...

They can be grouped by mode of nutrition and mode of mobility

They can be "plant-like" (algae), "animal-like" (protozoans), or "fungus-like" (slime molds)

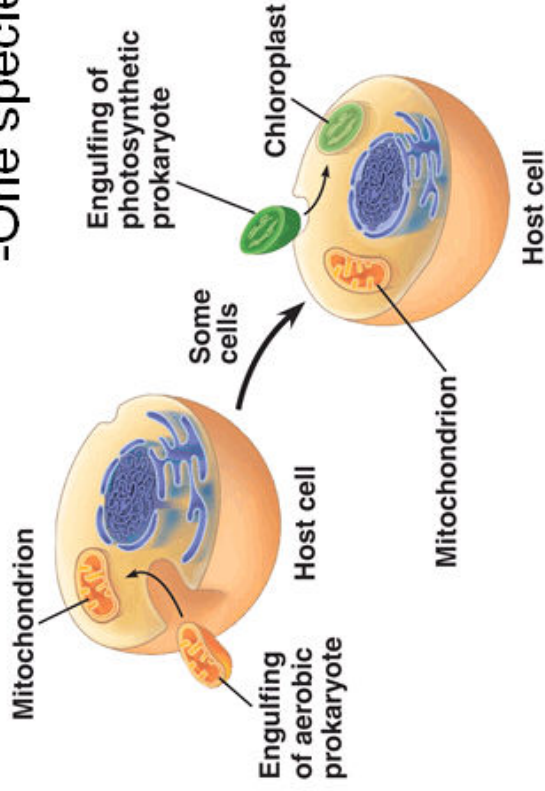
They can be heterotrophs or autotrophs and can move via cilia, flagella, or pseudopodia

Much of protist diversity can be explained via the hypothesis of Endosymbiosis

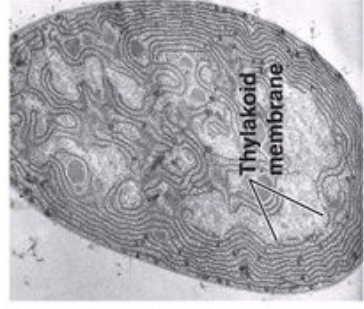
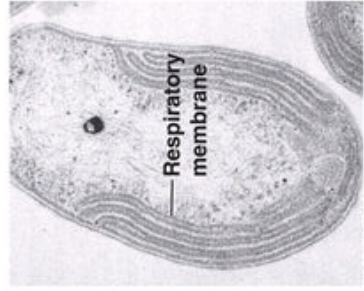
-One species "within" another

Primary endosymbiosis:

Eukaryotic cells are thought to be the result of one prokaryote establishing residence inside of another, larger prokaryote (or later on in a eukaryote)...modern mitochondria and chloroplasts (which are very structurally similar to prokaryotes) thought to have evolved this way



Copyright © 2005 Pearson Education, Inc.



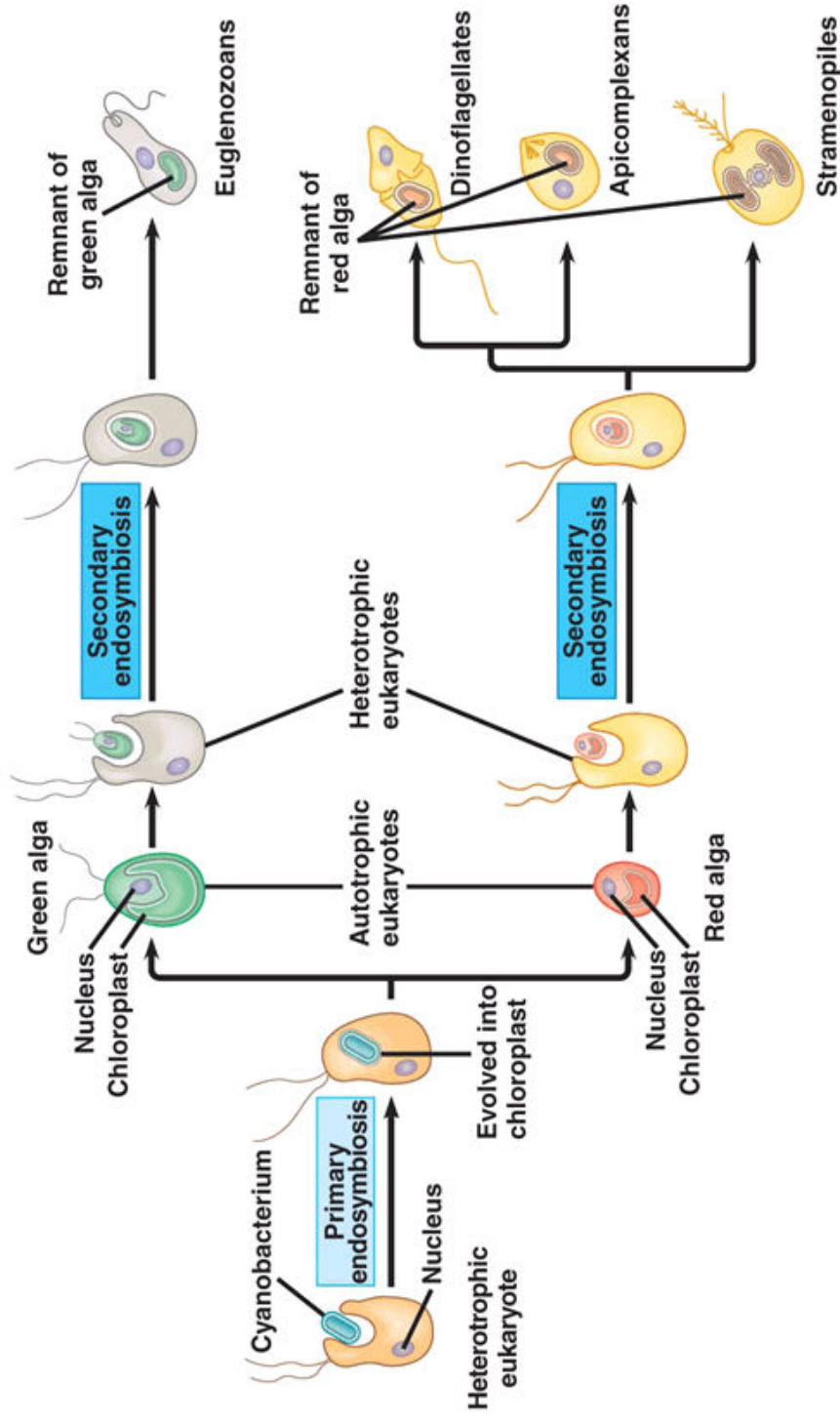
Prokaryote 1 + Prokaryote 2 = Newly evolved eukaryote

In fact...some prokaryotes have some internal membrane structures and can perform aerobic respiration/photosynthesis

Secondary Endosymbiosis:

-autotrophic protists (red/green algae) became endosymbionts within heterotrophic host cells

-Eukaryote "A" + Eukaryote "B" = New Eukaryote



Endosymbiosis....It's kind of like...

"Bag Lady Barbie"



Each "pick-up" provides a new feature, structure, or ability not present before...

That would provide an evolutionary advantage!