

- Half the DNA of other prokaryotes
 - Less than 500 proteins encoded

Archaea

- Cell wall other than peptidoglycan
- Non-fatty acid membrane
- No chlorophyll
 - No photosynthesis
- Some generate methane
 - Gas
- Won't be killed by streptomycin
- May contain introns
- Many are **extremophiles**
 - Live in extreme environments
 - Where they were first discovered
 - Hot, salty, or acidic environments
 - Some
 - Live in moderate environments
 - Resistance to UV radiation
 - Degrade nuclear waste
 - Residential hot water heaters
 - Break down oil reservoirs to live off of
 - 170+ degrees Fahrenheit
- Extremely diverse
 - Essential in geochemical cycles on land and water
 - Just beginning to print phylums.

Human Bacteria and Archaea

- Harmless prokaryotes in our bodies help crowd out pathogenic bacteria
 - Antibiotics kill some of our harmless resident microbes
 - Can cause secondary infections
 - Diarrhea
 - Yeast infection
- Scalp
 - Moist oily skin
 - Many aerobic microbes
- Eyes
 - Sparse microbial population because:
 - Blinking, tears, enzymes
- Nose and throat
 - Microbes colonize warm, moist, nutrient rich mucus membranes
- Mouth
 - 200 species of microbes
- Armpit
 - Warm, moist for abundant microbes