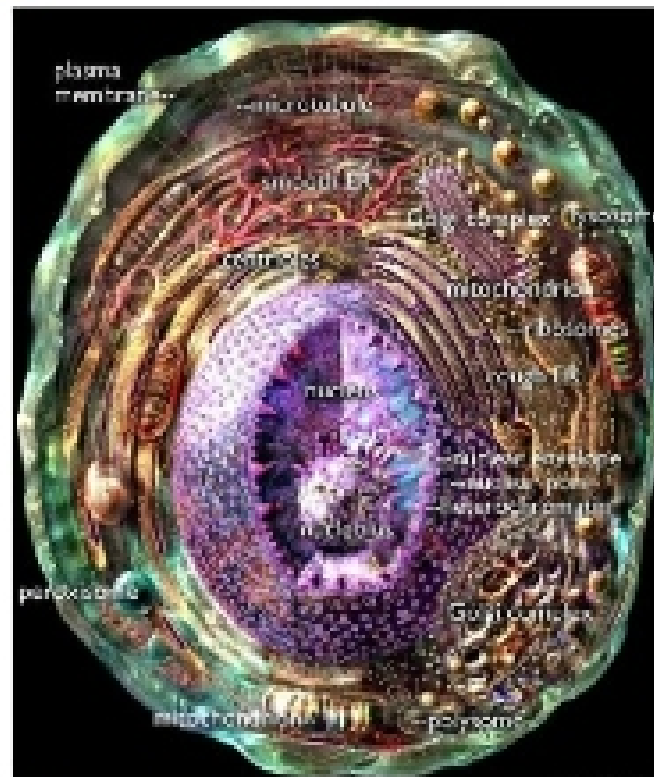


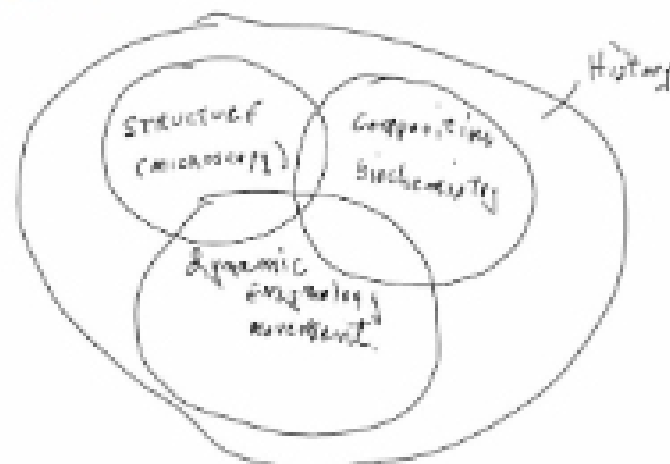
## Cell Structure & Function 3096

Lecture 1 - August 24, 2015

- Dr. Sheffield
  - o Office: 311 BioLife
  - o Lab. 306
  - o Microscopy Lab: 348

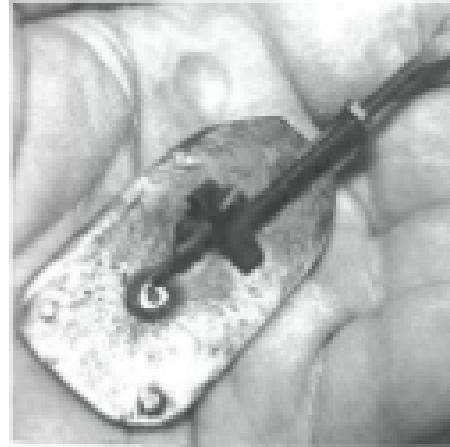


- - o Start by pointing out some things about cells
  - o Image of a cell
  - o We're going to stress the different structures of the cells, what makes each structure unique
- Venn Diagram



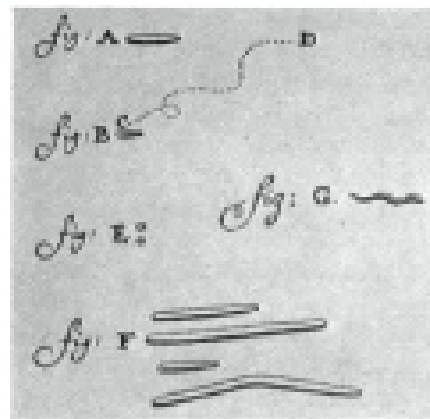
- o
- o Structure - what are the elements of cells and basic structure of them
  - Based on Microscopy
- o Composition - what make these structure not just unique in what they look like but also what they are made out of
  - Leads into biochemistry
- o Dynamic aspect of this process
  - Links into biochemistry such as enzymology, physical things like movement
- o Over all this is the idea of history

- The intellectual process of making discovery, how did we find out about these things, learn about these things?
  - Question: How did we even begin to think that we were made out of cells?
    - Part of it came about from sandwich of two sheets of metal and a dimple in the middle



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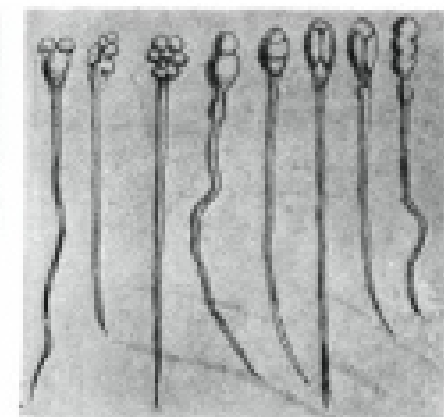
- in the dimple, there is a small glass sphere (small magnifying glass lens)
  - invented by Antoni van Leeuwenhoek (1650-1655)
- In spare time, made these lenses and couldn't hold it up to his eye, so he made this holder
- What did he see?



63. Bacteria from the human mouth; Leeuwenhoek 1681



64. Fish's erythrocyter with nuclei; Leeuwenhoek 1682.



65. Spermatozoa of man and of dog; Leeuwenhoek 1678.

- First looked at pond water, then found little things crawling around there
      - Then scraping of cheek cells and found bacteria
      - Got blood from fish and saw a dark center
        - Nuclei in the cell except for fish and bird
      - Then he observed sperm