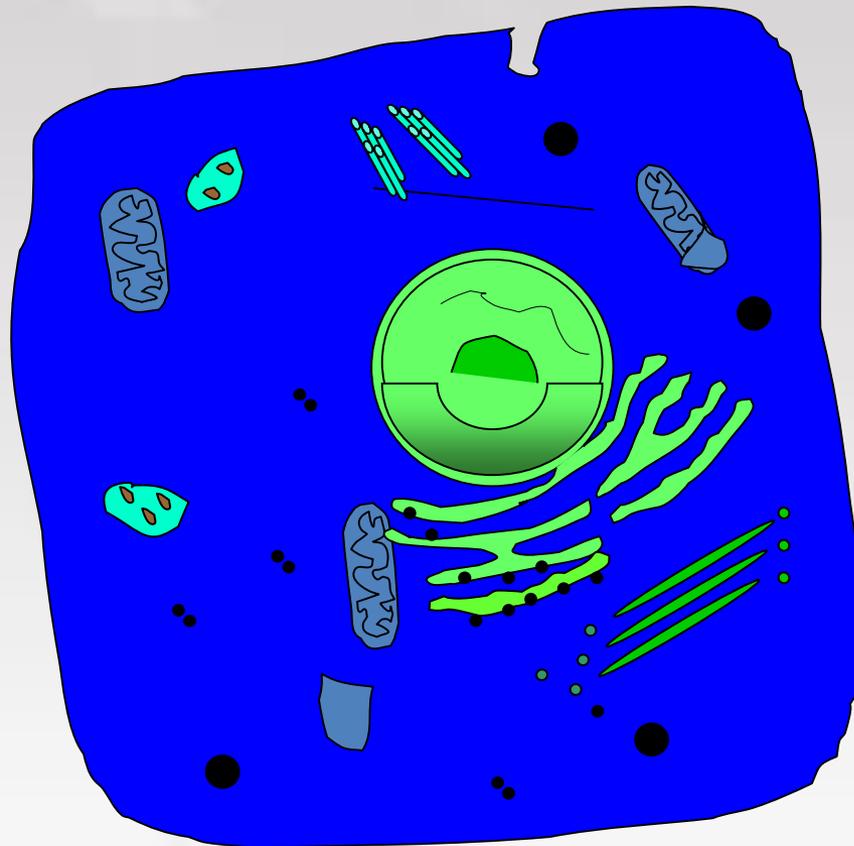


A VIEW OF THE CELL

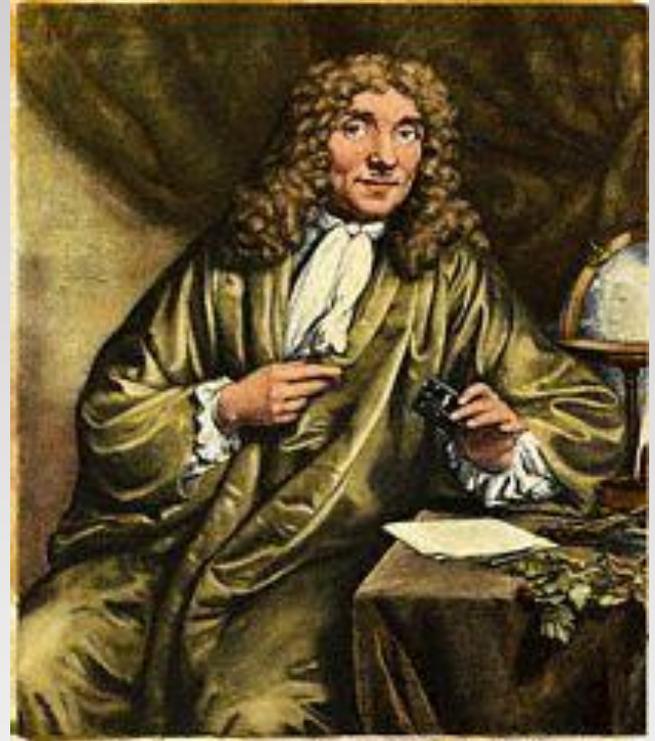


THE HISTORY OF THE CELL

- The Cell
 - The basic unit of an organism
 - Discovery made possible by the invention of the microscope

MICROSCOPES AND CELLS

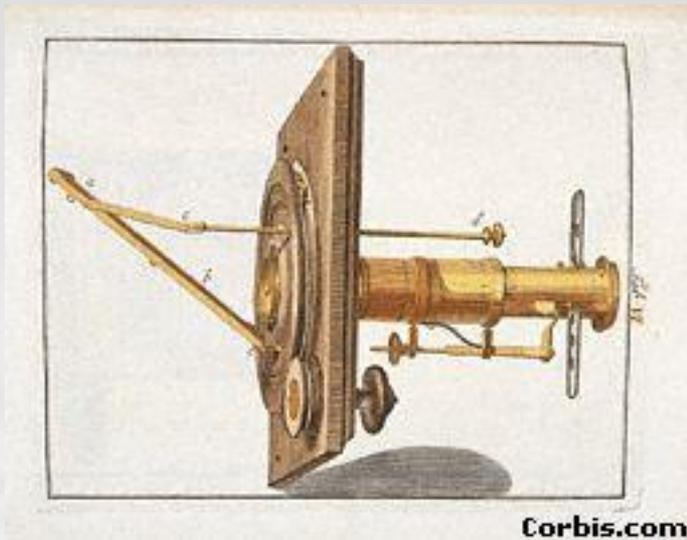
- 1600's.
 - Anton van Leeuwenhoek first described living cells as seen through a simple microscope.



ANTONI VAN LEEUWENHOEK Corbis.com

MICROSCOPES AND CELLS

– Robert Hooke used the first compound microscope to view thinly sliced cork cells.



- Compound scopes use a series of lenses to magnify in steps.
- Hooke was the first to use the term “cell”.

MICROSCOPES AND CELLS

- 1830's.
 - Mathias Schleiden identified the first plant cells and concluded that all plants are made of cells.

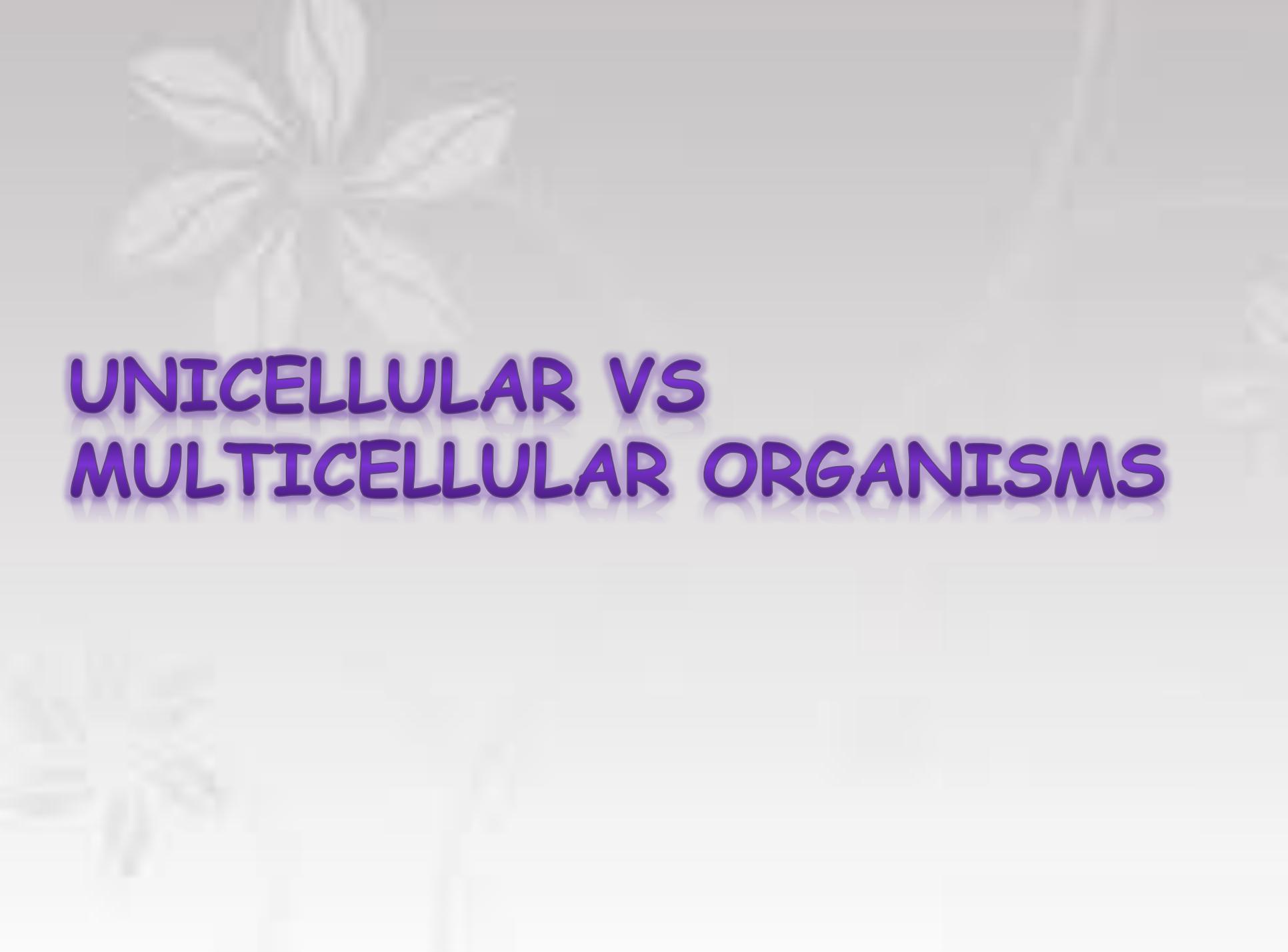


- Thomas Schwann made the same conclusion about animal cells.

CELL THEORY

- All organisms are made up of one or more cells.
- The cell is the basic unit of organization of all organisms.
- All cells come from other cells already in existence.

[http://www.youtube.com/watch?v=zT
a4j6eRV0s](http://www.youtube.com/watch?v=zTa4j6eRV0s)

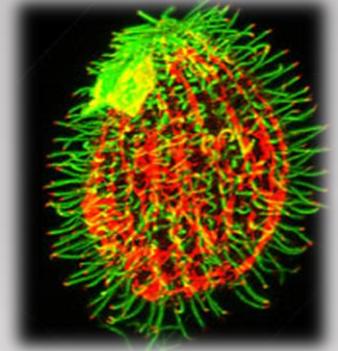
The background features a faint, light-colored illustration of a palm tree on the left and a person on the right, both rendered in a sketchy, artistic style. The overall background is a light, neutral tone.

UNICELLULAR VS MULTICELLULAR ORGANISMS

LET'S THINK

- Why do you think cells are so small?
- How many cells are in a typical fourth grader?
- Is an ant a multicellular or unicellular organism? How do you know?
- Why are we made up of lots of little cells instead of one large one?
- What are some advantages of being multicellular?

- The composition, distribution and the number of cells that are present in an organism determine where they lie in the multicellular vs unicellular spectrum. Cells in the human body play a vital role in the sustenance of life.



In simple terms the difference between unicellular and multicellular organisms arises from the number of cells that are present in them.



- As the name suggests, *unicellular organisms contain one single cell*, while *multicellular organisms contain more than one cell within them*.
- All the differences between multicellular vs unicellular organisms are direct results of the number of cells that are present within their bodies.

An Introduction to unicellular and multicellular organisms:

- <http://www.youtube.com/watch?v=qEHQbjido9I>



Unicellular organisms



Due to the presence of only one cell in them, unicellular organisms are much smaller in size and are very simple in structure. All unicellular organisms fall

under the category of 'prokaryotes', or 'prokaryotic entities', because their composition and structure is not complex at all.

Owing to this reason, their sizes are very small.



- They do not have internal organs, this means that the membranes which are organic coats around the organs are also absent.



Due to their highly simplistic life form, unicellular organisms can exist in areas that are perceived to be hazardous for human life and are highly acidic or radioactive in nature

- Examples of unicellular organisms: All forms of bacteria, amoeba, yeast and paramecium.



Multicellular Organisms

- On the other hand, multicellular organisms are those forms of life that have more than one cell present in them. In fact they have millions of cells present in them.



The larger number of cells means that these organisms are much bigger in and are very complex and intricate in their composition and structure.

Human beings are the best example of multicellular organisms, and the large number of cells leads to the birth of many different organs for carrying out different functions.



- These are also known as 'eukaryotes' or 'eukaryotic entities'. The cell nuclei are present in these organisms and the DNA of the organisms are separately placed, unlike the case of unicellular organisms.



All these cells work in tandem with each other to keep the life form alive, and this leads to a variety of complex functions working simultaneously. Read more about the similarities between prokaryotic and eukaryotic cells.



- Examples of multicellular organisms: Human beings, animals, plants, myxozoa and all kinds of fungi.

Difference between Unicellular and Multicellular Organisms

<i>Unicellular organisms</i>	<i>Multicellular organisms</i>
<i>Simple body construction (are formed by just one cell)</i>	<i>Complex organization (are formed by many cells)</i>
<i>All functions controlled by single cell</i>	<i>Contains specific organ (specific function)</i>
<i>Prokaryotic in nature</i>	<i>Eukaryotic in nature.</i>
<i>Microscopic in nature</i>	<i>Macroscopic in nature</i>

