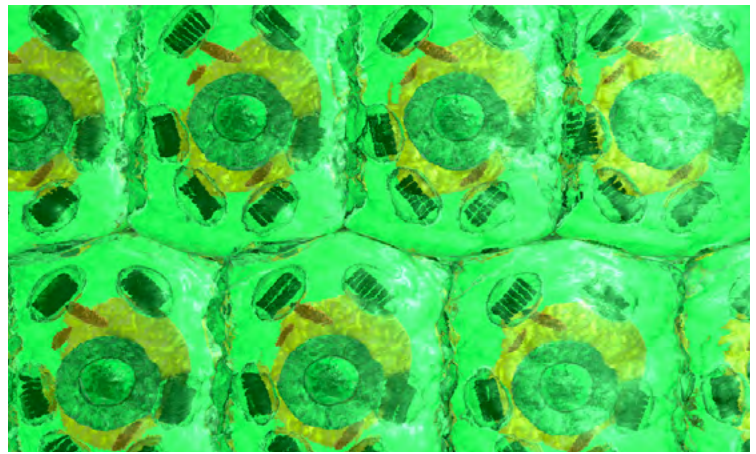


# The Cell

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## 3.2 Cell Theory

Cell theory is the idea that the cell is the basic unit of life. This theory was several centuries in the making. It started in 1665, when Robert Hooke, an English scientist, coined the term *cell* and published the first description of cells in his book *Micrographia*. Hooke examined a piece of cork under a microscope and saw a series of small boxlike chambers (Figure 3.4). He called these chambers “cells” because they reminded him of monks’ cells, which were small chambers where each monk could worship alone. We now know that the chambers Hooke saw were the dead cell walls that remain in dried plant matter.

It was not until the 1800s that the central importance of the cell was established. In 1838, studies of plants led German scientist Matthias Schleiden to conclude that all plants are made of cells. The following year, another German scientist, Theodor Schwann, came to the same conclusion about animals. The cell theory was finally completed in 1855, when German scientist Rudolph Virchow observed that all living cells come from other living cells.

In summary, the cell theory says:

1. All living things are made up of one or more cells.
2. All cells come from other cells.

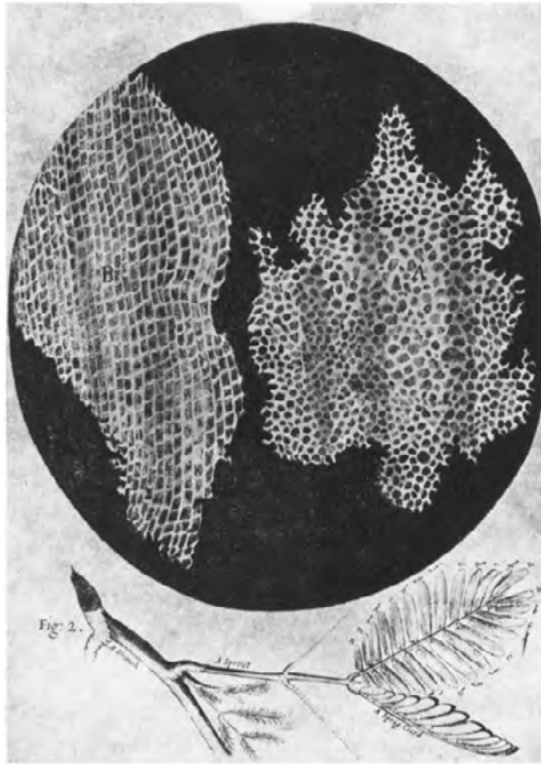
### READING CHECK

**Rather than “cell theory”, why not use the phrase “cell hypothesis”?**

### CHECK YOUR ANSWER

As discussed earlier in Chapter 1, a hypothesis is an educated guess at what might be true. Also, a hypothesis can be likened to the phrase “let us suppose.” A theory, by contrast, is an overarching idea that explains much about the natural world. That all living organisms are made of cells is quite the generalization, which elevates this idea to a “theory”.





**FIGURE 3.4**

Robert Hooke examined cork under a microscope and called the small chambers he saw "cells." This is Hooke's original drawing of what he saw.

To learn more about the history of cell theory, check out this TED-Ed video:

<https://www.youtube.com/watch?v=4OpBylwH9DU>

