Matthias Jacob Schleiden Biography

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Biography

Matthias Schleiden was first to recognize the importance of cells as fundamental units of life. Schleiden made other accurate observations about plant cells and cell activity and his conclusions marked one of the important landmarks in the rise of modern cytology. In 1839, Theodor Schwann would expand Schleiden's cell theory to include the animal world, establishing cell theory as the fundamental concept in biology. Schwann (first to articulate that cells--one type of which are now known as Schwann cells--comprise the nerve sheath) and Schleiden published an 1839 text, Microscopical Researches, that proved a pivotal and influential argument for the advancement of cell theory.

Schleiden described Robert Brown's 1832 discovery of the cell nucleus (which he renamed cytoblast). Schleiden argued that the cell nucleus must somehow be connected with cell division, but he mistakenly asserted that new cells erupted from the nuclear surface like blisters.

Schleiden did not originally pursue his interest in botany; instead, he studied law at Heidelberg University from 1824 to 1827. After graduation, Schleiden became a barrister in Hamburg, Germany, but he soon grew dissatisfied with his legal practice.. He abandoned the profession altogether in 1831 and returned to college to pursue his real interests--botany and medicine. After graduation, Schleiden became professor of botany at Jena University. Instead of spending his time classifying plants, however, he preferred to observe their development using the microscope because he argued that was the only way plants could be studied. By 1838, his methods led him to propose the cell theory for plants.

Schleiden's approach to educating students was very different and his social, political, and philosophical views often put him at odds with other scientists. However, his great abilities and his introduction of improved techniques earned him the title "reformer of scientific botany."