Rudolph Albert von Kölliker Biography

Rudolph Albert von Kölliker

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Biography

Rudolph Albert von Kölliker was born in Zurich, Switzerland, on July 6, 1817, the son of a bank officer. After graduating from the Zurich gymnasium, he studied science and medicine at the University of Zurich. He earned his Ph.D. from Zurich in 1841 and his medical degree from Heidelberg a year later. For his Ph.D. thesis, Kölliker studied the origin of spermatozoa and first demonstrated that they are cells. Some years later, he was also able to demonstrate the cellular nature of ova.

Kölliker was a prolific worker and writer, publishing about 300 research papers in his lifetime on such diverse topics as histology, embryology, comparative anatomy, physiology, zoology, and evolution. In addition, he wrote the first modern textbook on histology and one of the earliest embryology texts. One of Kölliker's most important contributions was the development of cell theory. He helped to confirm the view that cells arise only from other cells and cannot be generated from non-cellular material. He also advocated the view that tissue should be studied and understood as a mass of individual cells.

During the 1840s, Kölliker carried out extensive research on the nervous system. Probably his most important accomplishment was documenting the connection between nerve fibers and the cell bodies to which they are attached. This research formed the groundwork of the neuron theory, developed to its highest degree some years later by Santiago Ramón y Cajal.

In other research, Kölliker studied the effects of poisons such as curare and strychnine on the nervous and muscular systems. He also worked to advance Charles Darwin's newly announced theory of evolution. He disagreed with Darwin, however, as to the mechanism by which evolutionary change occurs. He argued that rather than being a slow, regular process, evolutionary change is more likely to occur in short, dramatic spurts. This view presaged the discovery of mutations by Hugo de Vries a half century later.

Kölliker's first academic appointment was as Associate Professor of Physiology and Comparative Anatomy at Zurich in 1844. Three years later he took a similar position at the University of Würzburg in Bavaria, a post he held for the next 53 years. In addition to his teaching, Kölliker also founded in 1848 the zoological journal *Zeitschrift für Wissenschaftliche Zoologie*, which is still published today. Kölliker died in Würzburg on November 2, 1905.