

Cell theory



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Cell Theory paper, 1838?, 1839? Nageli Kollikers In 1838, Matthias Jacob Schleiden (1804-1881), a German Botanist, observed nucleoli and said that cells are the units of structure in plants, thus formulating his famous cell theory.

In 1839, a German Zoologist Theodore Schwann (1810" 1882), extended this view of cell concept to animals, i. e., all organisms are composed of cells and cell products. This cell theory resulted from numerous investigations, i. e., of Mirbel (1802), Oken (1805), Lamarck (1809), Dutrochet (1824) and Turpin (1826) and finally by Schleiden (1838) and Schwann (1839). Although Schleiden and Schwann are universally recognised as the founders of cell theory, but its significance was earlier realized by Leeuwenhoek, Grew, Malpighi and others. Wolff (1759) clearly demonstrated the spheres™ and vesicles™ composing the various parts of body.

Later, Meyen, Von Mohl and Raspail clearly defined the cells and thus formulated the cell theory, which was developed by Schleiden and Schwann. The immediate followers of cell theory were Remak, Nageli and Kollikers, etc., who demonstrated the cell division as basis of genetic continuity. Virchow applied the cell theory to pathology and Kolliker extended it to embryology and he demonstrated that organism develops from the fusion of two cells" the sperm and the ovum. Brown (1831) established that the nucleus is a fundamental and constant component of the cell.

Dujardin, Schultze, Purkinje and Von Mohl concentrated on the description of the cell components, termed the protoplasm. Thus, the cell is a mass of protoplasm limited in space by a cell membrane and possessing a nucleus. Recently, organismal theory has been introduced, according to which an

organism is regarded as a protoplasmic unit which is incompletely divided (Z-44/C.

B.) into small centres, the cells, for the performance of various biological activities. It is just a modified interpretation of cell theory. Laurence Picken, in *The organization of cells* (1960), accepts cell as an organism.

At its own level of organization it is a unity, and it remains a unity, though without analytical mental-equipment we conceive it more easily as a plurality of discriminated organelles. paper? paper -X