

Cell theory

The opinion on the **definition of a cell** has evolved over many years. To this day, the most recognized is the so-called *cell theory*, which originated in the 19th century. The first person to state its foundations was J.E. Purkyně in 1837. But his theory was not perfect, so he is not considered the author of the cell theory. Purkyně thought that cells arise de novo (from non-living matter). In 1838-9 Schleiden and Schwann confirmed that cells are the basic unit of all plants and animals. Finally, in 1855, R. Virchow supplemented this theory with an important point: *Omnis cellula e cellula* (cells arising only from cells).

Cell theory can be simply summarized in the following points:

- **all living systems are made up of cells' and their products,**
- **the chemical composition of the** cells is similar – it points to the origin of life from "one cell",
- new cells are created **only by cell division,**
- the activity of the organism is the result of the activities of cells and their interactions.

Therefore, the cell is the basic **functional and morphological unit** of living organisms. It cannot be further divided (here is a terminological with *division* in the sense of reproduction).

Rickettsia and *Chlamydia* stand on the border of independence.

viruses, virions, transposons and **prions** are considered as non-cellular and non living

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- ws: Buněčná teorie
- NEČAS, Oldřich. *Obecná biologie pro lékařské fakulty*. 3. edition. Jinočany : H+H, 2000. ISBN 80-86022-46-3.