Brandt, P.: **Evolution der eukaryotischen Zelle**. - Georg Thieme Verlag, Stuttgart - New York 1991. 157 pp. DEM 48.00. [In German]

The aim of the book was to give an up-to-date overview on the evolution of the eukaruotic cell based on molecular biology. The text of the book is divided into 14 chapters. After an introduction on the origin of life on Earth - a scheme of the evolution of individual macromolecules and ancient forms of cellular organization - the structure of the prokaryotic and eukaryotic cells is described. Hypotheses on the origin of eukaryotic cells are presented including the evolution of compartmentation and examples of recent endosymbioses. Phylogenetic relationships in eukaryotes are demonstrated. Comparative analyses of protein or nucleic acid sequences are and have to be completed by analyses of secondary structure of higher order. Further gene transfer, mixed DNA of chloroplastic and mitochondrial DNA, their origin and organization, usage of codons and RNA-editing, origin and function of introns, origin and coding of isoenzymes, evolution of ATPases, of mechanisms of protein transport and the possibilities of regulation of all these processes are treated. A list of literature and a combined plant and subject index are added.

Condensed text, economic arrangement and illustrations (57 Figures, 11 Tables) enable the wide distribution of this not expensive book. It is a special monograph of evolution of eukaryotic cells.

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