

SYMMETRY OF THE MODEL OF MULTILEVEL SYSTEMS

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The author has set out to elaborate the model in question to provide a justification for the hypothetic deductive principles of the hierarchy theory.

The model of multilevel systems (MMS) is characterized by the properties of division/integration which are dependent on the complexity (i.e. the number of levels) in its structural organization. Divisibility of the model is determined by the number of levels of organization and is consummated with the formation of components that are indivisible within the scope of the model referred to.

The symmetry of the MMS is characterized by the interaction of identical and different entities in the components/levels subject to division.

The process of division, in all its stages gives rise to centres of inversion which transform identical entities into different entities and the other way round.

The interconnection of the centres of inversion at different levels determines the spatial structure of MMS and the specific nature of the formation of the system from the components that indivisible within its boundaries.

The author has formulated a language to describe the spatial structure of the MMS and the processes of transforming identical entities into different ones and those of transforming different entities into identical ones.

The author draws the following conclusions:

1. The complication of the system (i.e. the increase in the number of its levels) gives rise to a disturbance of symmetry, and, ultimately, its degeneration. At the stage of higher organization, symmetry is regenerated, however, it is more deficient in the elements of classical symmetry.
2. The symmetry of division/integration of biochemical structures, such as nucleinic acids, amino acids etc. is formed by analogy with the symmetry of division/integration of the MMS.