Crystallosymetric Structure and Evolution of the Mineral World Nikolai P. Yushkin, Institute of Geology of Russian Academy of Sciences (Ural Branch 54 Pervomaiskaya St., Syktyvkar, 167982, Russia. E-mail: yushkin@geo.komisc.ru

The generalized theory of symmetry in application to mineralogy should certainly treat a mineral as an entire functional system, embracing its outer and inner environments, links, properties, external fields. In geological terms, the problem that seems most important is how to transfer symmetry investigations from the mineral individual to the entire mineral world. We are developing crystallosymmetric analysis of complex systems now (N. P. Yushkin "Crystallosymmetric Analysis of Complex Mineral Systems", Syktyvkar, 1985 which opens the possibility to study polymineral objects, such as rocks, ores, geospheres, etc., in terms of symmetry and provides principally new information for the understanding of their nature. To characterize the crystalline state of substances in polymineral systems, we introduced the concept of crystallosymmetric structure of systems.

Each geologic system composed of minerals is characterized by a strictly definite crystallosymmetric structure expressed by the constant parameters of the mineral species distribution within ranks of the symmetry system (categories, syngonies, point groups).

On the basis of obtained results a law of the geologic evolution of crystallosymmetric structure of mineral systems has been formulated. In the process of cosmic and geologic evolution the crystallosymmetric structure of mineral systems undergoes complication and qualitative changes; it's manifested in the increase of entropy of all symmetry characteristics, as well as in replacement of originally predominant cubic and orthorhombic minerals by monoclinic ones; decrease in the mineral substance symmetry occurs alongside with high and even increasing external morphology symmetry of the Earth and other mineral bodies.

Keywords: symmetry of minerals, crystallosymmetric structure, evolution of symmetry