

Poster Presentation

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Structural similarity of sign systems as the basis of metalanguage of culture

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The problem of structural similarity of various sign systems is discussed. People`s creative works of art and models of chemical structures, genetic and linguistic codes are compared. Structural similarity (sometimes isomorphism) of sign systems, relating to various spheres of culture, is objective reason of possibility of universal metalanguage creation. What proofs are provided? Many ornaments on mausoleums and mosques in Islamic art precisely correspond to motives of structures of inorganic crystals in polyhedral representation, especially structures of silicates. An interesting example of structural isomorphism is the structure of architectural masterpieces with geode surfaces and fullerenes molecules structures. Fullerene structures and geodetic domes are also structurally similar to the forms of some biological organisms, for example, to the simple viruses and radiolyariyas. Structural analogy of inorganic substances with spiral structures and world art is highlighted. For example, according to a structural motive of a double spiral of a DNA molecule the sculpture «The Rape of the Sabines» (1583) by Giambologna is constructed. This sculpture is created 370 years prior to D. Watson and F. Crick great discovery. Studying of medieval Islamic decorative art showed that some geometrical ornaments were constructed on the principles which were close to models of quasicrystal geometry of alloys. The types of structural similarity of sign systems are classified into three groups: order structures; algebraic structures; topological structures. Various types of symmetry belong to order structures. Structural similarity of sign systems is described by different types of symmetry. In the author's opinion symmetry is one of the universal metalanguage of culture [1].

[1] Talanov V.M. *Is the universal metalanguage of culture possible?* Novocherkassk: South-Russian Polytechnic University (NPI), 2013. – 88 p.

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