

During last decades mathematicians developed a big lots of new concepts and new theories, which treat these concepts. Unlike the mainstream mathematics of the beginning of the last 20th century today's mathematics, generally, does not try to deliberately avoid the appeal to spatio-temporal intuitions, which links its concepts to the human perception and to the human action in some possible (at least logically if not physically) environment. This does not mean however that today's mathematics returns to the old good Euclidean times of nearly perfect harmony between conceptions and perceptions as described by Immanuel Kant back in the 18th century. Instead, the modern mathematics along with inventing new concepts also brings about wholly new intuitions, which in their turn open a room for new modes of perception. Once popular idea that the true mathematical creativity, productivity and freedom is not possible but in the realm of pure conceptual abstractness, with the lapse of time appeared to be somewhat one-sided if not wholly wrong. At certain point this idea helped to relax the rigid anchoring of mathematical concepts to their traditional representations and thus helped one to make important conceptual inventions such as Cantor's (and later Zermelo's axiomatic) Set theory. However more recent developments in mathematics including Grothendieck's work in algebraic geometry showed once again that the representational leg of mathematics is more than just an auxiliary tool for its conceptual leg. The new concepts like that of Topos require new modes of representation for otherwise they cannot be properly treated (and in some cases even properly identified). The new modes of mathematical representation require us - but also allow us - to conceive, imagine and perceive things differently.

The revival of interest in representational issues in today's mathematics opens a large room for aesthetic exploration. From the history we know about different ways in which mathematics and arts may communicate. There are established models of such a communication where one thing serves the other. The classical harmony can be accounted for by arithmetical means and can be used, in its turn, as an audible representation of some simple arithmetical facts (like the fact that $\frac{2}{3} \times \frac{3}{4} = \frac{1}{2}$). However the modern mathematics and arts suggest a different and more liberal model of communication, which also turns to be more fruitful and more creative. The very fact that unlike the old good Euclidean circles and triangles most of today's mathematical concepts have no rigidly associated visible or

otherwise perceivable “bodies” serves as a strong motivation for an artistic work aiming at the aesthetic - and hence also material and technological - construction and a further rebranding of these abstract concepts. It goes without saying that such an artistic work, generally, cannot and is not supposed to serve to any technical mathematical purpose. However it may present a very original piece of art, a newly discovered aesthetic experience, which has been more or less directly motivated by today's mathematics.

The artistic work of Eric Frye perfectly demonstrates how it works in practice. Eric's music is not supposed to illustrate this or that particular mathematical idea or concept but it emerges as an artistic expression of the novelty and freedom, which, by Georg Cantor's popular word, is indeed the essence of mathematics.