Sergey Chebanov

**General concepts of the genetic code: Pythagorean, caused, superpositional**.

Currently, the triplet genetic code, which has some variability, is usually considered as a given, which has ideological neutrality. Much less often, some non-obvious meaning is attributed to it.

Since the 1970s, there has been a model for representing genetic triplets on the vertices of the icosahedron by Anri Volokhonsky. It reveals a lot of symmetry regularities, the stage-by-stage occurrence of which cannot be imagined. This gives grounds to speak of this model as a Pythagorean.

In the 1980s-90s. Oleg Davydov develops the idea of the co-nature of the surface organization of the synthesized peptides and the nucleotide sequences on which they are synthesized. Such a model can be called caused. It is quite possible to imagine that such correspondences were formed in many steps.

Currently, Suren Zolyan is developing the idea that the current genetic code is the result of the superposition of two or more codes, each of which has its own background. Such a view can be called superpositional.

It goes without saying that the authors of these concepts and their supporters each defend their point of view.

In such a situation, it would be interesting to discuss all three points of view (and maybe more if there are still equally common ones) and understand what opportunities the development of each of them opens up, and what is a priori excluded from consideration.

Sponsored by a grant 22-18-00383 (RSF).