"Gene tectonics" represents a remarkable step of progress in genetics. The study of the evolution of chromosomes involving few basic mechanisms such as mixing of genes within chromosome, fusion of chromosomes along their ends, the insertion of chromosome inside chromosome, and fusion followed by permutations of genes within the composite chromosome allows to study the evolution at the level of entire genome and to understand what the differentiation of lineages and species could correspond at the level of genome. It has been found that the mixing of genes occurs often and does not have drastic effects and one can speak of chromosome conservation whereas the mutations involving several chromosomes are rare.

These findings represent a challenge for the TGD point of view of genetics and together with the recent progress in the number theoretical vision about physics, inspire fresh questions and ideas about genes and chromosomes. In particular, the question of how genes could code for biological functions reduces to the level of space-time dynamics at the number-theoretical level.

In the number-theoretical vision about TGD, biological functions would correspond to polynomials and genes would correspond to composition of polynomials assignable to genes. In zero energy ontology (ZEO), a given polynomial would define a space-time region as an analog of deterministic classical computation and quantum computation would involve their superposition.