Garri Davydyan\* (garri.davydyan@gmail.com). Coquaternion as a metafunctional structure of a genome. Preliminary report.

Stability of cell renewal cycles, which include apoptosis and cells divisions is an essential feature of biologic objects determining advantages in survival. It implies additional structural features of encoding and releasing genetic information from chromosomes. Positive, negative and reciprocal (PNR) feedback mechanisms are considered as a functional basis to form biologic systems as structures with stable functional organization. All three feedback mechanisms are realized by synthesizing signalling compounds which must be in the affinity to the receptors of other systems in order to activate or inhibit their functions. Elements of non-coding DNA may be responsible for regulation of syntheses of specific proteins serving as linking substances for feedback regulatory loops. Matrices of PNR correspond to imaginary part of coquaternion and as elements of a non-commutative ring may represent metafunctional regulatory structures for cell renewal cycles encoded in chromosomes. (Received September 10, 2020)