Chapter 12
Matrix Genetics and Culture

ABSTRACT
This chapter considers the topic of connections of the genetic code with various fields of culture and with inherited physiological properties which provide existence of these fields. Some examples of such physiological bases for branches of culture are described. These examples are related to linguistics, music, and physiology of color perception. Special attention is paid to connections between the genetic matrices and the system of the Ancient Chinese book “I Ching.” The conception and its arguments are put forward that the famous table of 64 hexagrams of “I Ching” reflects notions of Ancient Chinese about music quint harmony as a universal archetype.

INTRODUCTION AND BACKGROUND
Results of researches of the genetic code are important, first of all, for genetics and biotechnology. However, a high attention to structural properties of the genetic code system is shown by the most different fields of science and culture as well. Many experts think that the genetic code is the bearer of keys to a solution of the phenomenon of life. Many researchers develop the theories and creative designs with taking into account properties and mechanisms of transfer of the hereditary information. For instance, knowledge about inherited properties of physiological systems of perception is important for engineers in the field of ergonomics and mechatronics systems which provide effectiveness, reliability and noise immunity of created machines and tools. This chapter presents some examples of possible applications of the research results, which were described in the previous chapters, in various fields of culture. A connection of the genetic code with musical harmony has been already considered in Chapter 4.

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Traditionally experts in various fields of science and culture are interested in studying living matter. Modern computerized technical systems need in reliability and noise-immunity in high extent relevant to “patents” of living nature. First of all, patterns and symbols of the genetic code of the double helix of DNA are utilized widely in many design solutions, art, etc. Creators of many cultural works would like to know theoretical bases, which can provide a physiological increasing of attention from the public to their productions and which can lead them to new effective works on a scientific platform. They believe that the person is a measure of all things (see this topic in Teilhard de Chardin, 1959)). They need a deep understanding of connections of the genetic code with inherited physiological systems and phenomena.

Inherited physiological bases of linguistics, color perception, music perception, and others are studied in many interesting works (Andrews, 1990; Caglioti, Ramme, & Tscouvillea, 2006; Chomsky, 1980; Darvas, 2007; Hahn, 1989, 1998; Hargittai & Hargittai, 1994; He & Petoukhov, 2007; Jacob, 1974, 1977; Kappraff, 1990, 2000, 2002; Leyton, 1992; Loeb, 1971, 1993; Marcus, 1990, 2007; Nonnenmacher, Losa & Weibel, 1994; Petoukhov, 2001, 2008a; Shubnikov, & Koptsik, 1974; Smith, 1980; Teilhard de Chardin, 1959; Wehr, 1969). It has been known for a long time that various physiological systems have many structural analogies among them and that various branches of culture have many general structural features as well. For example, architecture was interpreted historically as non-movement music, and music was interpreted as dynamic architecture. Matrix genetics give new evidences that many inherited analogies among different physiological systems are based on the genetic code structures.

The possible relations of musical harmony with the genetic code and with the system of “I Ching” were suspected for decades already. Hungarian musician E. Tusa (1994) has paid attention to some structural analogies between the ancient Greek numerical table Lambdome, which was used by ancient Greek theorists of music, and symbolical table of 64 hexagrams of “I Ching”. In addition, Tusa has assumed that the musical table Lambdome has connections simultaneously with the genetic code. This assumption was based on hypotheses, which existed since 1969 after a publication of the book (Stent, 1969), about the possible interrelation between the table of 64 hexagrams and the set of 64 genetic triplets. The article ended with the following statement: “This summary is far from being complete. With my essay, I would like to stimulate everyone to search for further analogies and newer connections!” (Tusa, 1994, p. 310). Some results of matrix genetics, which are described in our book, discovery such newer connections.

THE GENETIC CODE AND LINGUISTICS

Impressive discoveries in the field of the genetic code have been described by its researchers using the terminology borrowed from linguistics and the theory of communications. As experts in molecular genetics remark, “the more we understand laws of coding of the genetic information, the more strongly we are surprised by their similarity to principles of linguistics of human and computer languages” (Ratner, 2002, p. 203). Linguistics is one of the significant examples of existence and importance of ensembles of binary oppositions in information physiology.

Leading experts on structural linguistics have believed for a long time that languages of human dialogue were formed not from an empty place, but they are continuation of genetic language or, somehow, are closely connected with it, confirming the idea of information commonality of organisms. Analogies between systems of genetic and linguistic information are contents of a wide and important scientific
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