INFORMATION PROCESSING BRAIN ASYMMETRY, AND SELF-ORGANIZATION IN THE SOCIO-CULTURAL SPHERE: DEDUCTIVE MODEL AND ITS EMPIRICAL VERIFICATION

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Every hierarchical multi-level system of information processing possesses two main types of activity:

- Information processing at a given level, organized according to definite rules (paradigm); small portions of the information received are processed in consecutive order; this type of activity is characterized by analytical, rational features, an important role for logic, etc.;
- Information transmittal from one level to a higher one; this activity is characterized by a change of paradigm; rather large amounts of information are processed parallel to each other; this activity may be described as synthetic, emotional, intuitive, etc.

In the case of a human being, these two types may be attributed respectively to the left- or right-hemispherical activity of the brain (L-or R-activity). So each subject is described by a certain degree either of L- or R-prevalence in his/her mental activity.

In the socio-cultural sphere of the society self-organizing processes take place resulting in the following phenomena:

- At every given moment, a society needs to have a definite degree of L- or R-prevalence in different branches; - this prevalence has to switch periodically to the opposite type, with a full period of 48 - 50 years (i.e. two changes of generations).

Both phenomena were measured using statistical data on the development of the socio-political "climate", music, painting, theatre, poetry, etc., both of Russia and West Europe during the XV-th - XX-th centuries. The above branches show synchronous oscillations, though against the background of different long-range monotonous trends. Fluctuations of the cycles observed permitted to calculate upper limits for possible personal impacts in the social and cultural evolution.

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