

# To a Question About Orientation of Search Technological Disasters at Global Earth Observation

V.F. Prisniakov, L.M. Prisniakova

Institute of Geotechnical Mechanics, National Academy Science of Ukraine, Dnipropetrovsk

Technological activity of the human being, unreasonable consumption to the detriment of the nature have brought mankind to a point of bifurcation from which any evolution is possible, even to become extinct as biological species in connection with obvious loss of stability of biosphere and with an opportunity of its transition in a new condition which can appear unsuitable for a life. Global Earth Observation supposes passive recording a condition of the Earth's atmosphere, ocean and land surface with a view to improving the well-being of mankind. Active supervision are demanding the scientific substantiated knowledge of dangerous places on the Earth not only from point of view technological of pollution, but also in view of the humanistic relation of people living in these places to the Nature. The mathematical model which allows predict evolution of universum with consideration of intellectual world and an spiritual world of mankind is offered in the report. It threeunity has something in common with unity of three worlds – physical, mental and Plato's world of ideas which has presented Roger Penrose. Developing ideas of Roger Penrose, Ê. Popper, I. Ostrezov we have constructed model of the relation between the parameters describing these worlds: - **rational R**–the empirical information on the physical world, **irrational I** - the information received *by the intellectual world* from input medium, - **transcendental, mental, spiritual T**, including *creativity of the mental world* of the human communities, *new ideas, emotions, interest, ethics, morals, culture, soul, beauty* ( $\vartheta + \alpha y^2)(1/y - \beta) = \psi$ . Here  $\vartheta$  is dimensionless criterion of creativity (parameter of progress of mankind);  $y$  is dimension-less gross national product per capita,  $\psi$  is dimensionless criterion *of a spiritual*, moral component ( $\psi$  has more likely virtual character and  $\psi$  is shown itself through the Word, through actions of the person). Received equation of condition of universum is catastrophe cusp which allows to determine by methods of the theory of singularity the quantitative relationships between «the third nature», intellectual and spiritual components. Calculations with the suggested equation of condition of universum have shown, two extrema emerge during a curve  $\vartheta(y, \psi)$  under downturn of function of spirituality up to size **0.85**: the first – a maximum as the beginning of transition to a point of bifurcation and the second - a minimum as the end and approach of global terrestrial crisis. We have accepted  $\psi=0.85$  from a reason of necessity to take into account various world view of one of "gold billion», i.e. 15 % of the population of the Earth which live to the detriment of the nature, and other world. In this case we come to abscissa of point of a maximum of progress of mankind  $y_{max}=0.5$ , and point

of a minimum?  $y_{min}=1.5$ , i.e. the relation of coordinates of points of extrema which correspond to the beginnings and the end of the world accident, is equalled 3. And it means the gross national product should increase in 3 times for this period of change of attractor. If to accept the beginning of cataclysms as average between the first messages about possible accident in 1970 (K.Sagan, N.Moiseyev – nuclear winter) and 1990 (disintegration of the USSR) we come to 1980 as to a date of beginning of the world disaster. Let's accept as a first approximation V.Leontjev's script of change of gross national product for Northern America. Then the triple increase in gross national product 6104 \$ in 1980 up to 18312 \$ will be achieved in 2065. The numerical analysis confirms a conclusion, that the way out for mankind is in development of new rules of mutual relations of the human being with the Nature, having in the basis not only spirit of *humanism* (the statement of the blessing of the man as criterion of an estimation of public attitudes), but also spirit *ecological imperativeness* as border of allowable activity of the human being which he has no right to cross under no circumstances. And it demands decrease in consumption first of all energy of burning, nuclear energy of existing fundamental circuit of its production and expansion of use of energy from Space.