

Chapter 18

Epilogue, Terra incognita (*)

..."no vestige of a beginning, no prospect of an end... "(**)

Science is imperfect; it is a continuous quest, an attempt to explain the phenomena. It tries to describe and understand the facts, the true quality of things, and this is what its beauty is all about. Science has covered a long distance till today and it seems that it will go much further in the future if it keeps on the same upward course, although nothing in nature evolves steadily upwards and linear, neither does it continuously increase. It is the science itself and its history that show the acceleration, but also the deceleration of its development, the "leaps", but also the 'middle ages", the progress, but also the steadiness. In any case, science has forced us into another world with no return. Since the 19th century, particularly from the early 20th century, it has radically changed the scientific and consequently the human thought, bringing thus social consequences with it. The model, the universe idol for nature, our world and man's role has changed and is continuously changing. The before mentioned change in the sphere of ideas as well as on the social life level has not managed to gain acceptance and be conceived to its whole extension and in its whole intensity until today. The scientific ideas are radical and revolutionary on their own.

Science has already made clear to us that we swim in the ocean of variability and complexity and it is only now that we are starting to understand it. All natural systems we perceive and study are complicated; particularly the terrestrial one as well as its derivatives: the animal cells and the organisms that they compose are among the most complicated ones, as far as what we know today. It is only now that we are starting to approach and understand the complexity of the organisms and the terrestrial system that gave birth to them and feeds them. There is still a long way to go until we understand everything to a satisfactory degree and an even longer way until our society gains consciousness of all

these. The study of geology is a contact with the past: the most distant, but also the recent past. Geologists who use the modern methods and the current level of knowledge can understand and recompose the great events of the earth's and life's evolution where the rocks' archives are available – without great or significant omissions – or where important information has not been lost or deleted.

The quantity and wealth of the knowledge produced over the last two centuries is amazing. All this stock of knowledge has contributed and continues to contribute to the small but even the big scientific revolutions, which build our thought today in order to gain a better understanding of the earth's and life's evolution, the operation of the geo-environments and ecosystems, the role of microbes, the cohesion of nature, and to participate to the happiness of knowledge, the mental pleasure, according to Epicurus. Still, this knowledge is yet imperfect as far as the level of those interventions is concerned, which have already been done and will continue to happen in nature. It seems now that our interventions are more important than our knowledge and handling allows them to be.

There is no doubt that some aspects of earth's structure, operation and evolution will escape us forever. Our best geological maps and our tomographies for the earth's interior will always be deficient. We will never study some animal and plant species which lived in the past, because they did not leave fossils; so, we will never be able to acknowledge some links of the evolution chain and thus we may not understand some significant details about the earth's and life's evolution. We will not be able to connect some of the evolution chains, while some evolution branches will remain abstracted forever. Many rocks which were created and destroyed in the past– in other words, rocks that have been recycled – without leaving vestiges, will never give us the information we need to identify many missing pieces of the terrestrial evolution puzzle. Many of our calculations and assessments will continue to include big uncertainties. Our knowledge of the operation of many subsystems of our planet will be deficient and thus we will not

be able to forecast their future behavior yet, for a long time. However, what we will know with certainty and will constantly realize, is that we live on a very old planet with a long and multifarious history and a huge “experience”. Much more time is needed in order for us to draw this experience, at least a big part of it. Until that time, we better be more careful.

Our planet has many times changed its “face” during its long history and it will continue to do so in the future, making thus us also change. It constantly recycles its materials and struggles to maintain a fine balance in its operation. When the terrestrial system loses its stability due to various internal or external malfunction reasons, earth activates its automatic balance mechanisms, which are nevertheless very slow as they act over a time span of thousands or even millions of years. These unstable periods are usually connected with significant environmental changes, gradual population decreases, extinction of species, that give though the chance to other populations and species to evolve even better. The climate changes and generally the environmental changes are not always considered as drawbacks. Sometimes, they can become the “vehicle” for further development and be considered thus as a benefit. This is something that happened many times during the evolution and particularly during the natural history of man. What happened in the past in the course of the natural adaption process and the process of converting adversities into benefits constitutes a great challenge for the modern intelligent man of knowledge, science, technology and social organization. Not the opposite. Man is the one who should prepare himself to adapt to the new climate conditions of our planet.

As science does not have a visible end, this book should not have an end either; this is moreover the case with many other cosmological, scientific and philosophy books, which do not have a substantial end. The more we learn, the more we get puzzled with nature. “Nature loves to hide”; nature loves to hide its secrets, according to Heraclitus. The points raised in this book are “open chapters”; not only because they can be complemented and enhanced with

today's level of knowledge, but also because they will be complemented and amended with the future scientific acquisitions and discoveries. The concepts of "Nature's holism", "ceaseless motion", "dynamic change of our world", "our planet's geo-biological unity" will though be enriched and strengthened.

(*) *Unknown land*

(**) «...no vestige of a beginning, no prospect of an end...» J. Hutton (1789), this expression refers to geological time. Here, it is used for human thought.