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“THE NATURE 2017”



“The digital scientific philosophical book”
The Executive Foreword by: Sir Prof Dr Roger B Haw
The guest author: Prof Emeritus Dr, Dr Matjaz Mulej
“The Nature 2017” is sponsored by HEYU Group of Companies, Xiamen, China.

Zg. Medosi, Korte, Slovenia, EU, January 2017



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»The Nature 2017«

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<http://glob-use.org/eng/use/sch/fnn.htm>

Editor: Drago Mislej Mef

Publishing: MESTNA KNJIŽNICA IZOLA, Ul. Osvobodilne fronte 15. SI –
6310 Izola – Isola, Slovenia, EU, CEO Marina Hrs

**CIP – A CIP Catalogue record for this book, National and University Library,
Ljubljana, Slovenia**

**316.7:502/504(0.034.2)
502.11(0.034.2)**

Ecimovic, Timi

**The Nature 2017 [Digital source] : the digital scientific book / Timi Ecimovic, guest
author Matjaz Mulej ; the executive foreword by Roger B. Haw. – Digital book. – Izola :
Mestna knjiznica, 2017**

Nacin dostopa (URL): <http://www.institut-climatechange.si> <http://www.izo.sik.si>

ISBN 978-961-94057-4-1 (pdf)

**1. Mulej, Matjaz
288741120**



“THE NATURE 2017”

By

Prof Dr, Dr h c Timi Ecimovic

The Science and the scientist without borders!



The ANSTED University Philosophical book on Nature!

Acknowledgment:

*To my family, to Ansted University family, to World Philosophical Forum –
WPF family and to global community of humankind!
To friends and colleagues: thank you for your selfless friendship and support.
To readers: thank you for your concern and interest.
To all humans: do not give up!*

Zg. Medosi, Korte, Slovenia, EU, January 2017



Preamble and Small record of the terms

We humans:

- **We have eyes to look: but many times we look and we see nothing.**
- **We humans have ears for hearing: but many times we hear but understand nothing.**
- **We humans have ability to speak: but many times we talk but say nothing.**
- **We humans have brain to process what we see, hear and communicate: but many times our brain offers us nothing.**
- **Learning how to learn for the whole life could be useful, but is not common with the present beyond 7.000.000.000 people.**
- **It could be fault of the nature, which I do not believe.**

What I do believe, is that learning how to learn is a part of our education from the baby ages to the final day of our life. The Mother is the first teacher and her child is mirroring manners and learning skills received from his or her Mother.

As a motto of this booklet, which is my contribution to the philosophy of the people, I am offering, to people, to establish, introduce and be founders, of:

- **“The Universal Upbringing, Education and Lifelong Learning” of our descendants, to whom I wish:**
- **Have a better tomorrow, prosperity, life and longevity in the Biosphere of the planet Earth with individual responsibility and responsibility to society (called social responsibility), peace, respect, reason, justice, morality, wisdom and sustainable future.**

Timi Ecimovic



Small record of the terms: in our text termed as follows:

- **The Nature in General** - it is entire Nature existing within The Universe or the Cosmos. In our text, it is termed: “**Nature**”.
- **The Universe or the Cosmos** - it is the environment within which Nature exists. In our text, it is termed: “**Universe**” or “**Cosmos**” or “**Basic Environment**”.
- **The nature** - it is the nature system of the requisitely holistic celestial body of matter, energy and information. In our text, it is term “**the nature**”. For example, it is “the nature of the requisitely holistic planet Earth”.
- **The Universe or The Cosmos – “Basic Environment”** – it is a large system, containing everything existing. It is the basic environment system, within which Nature exists. **Universe or Cosmos – basic environment** – is the largest system and with Nature: actually it is the largest existing symbiotic system. The Universe or Cosmos and Nature are systems with networked systemic operations (i.e. requisitely holistic) with ceaseless interconnectedness, interdependences, interaction, cooperation, synergies, networking and etc. operations, action, life, bigger and smaller bangs, energy and matter transformations, integrations and disintegrations etc.
- **Nature Continuum** – it is one of the pillars or reasons for Nature to exist. **Nature continuum**, consist of permanent systemic Nature operations.
- **The Environment Theory of Nature** – it is theory connecting Nature in general and the nature of requisitely holistic units of the nature into united operational system – Nature.
- **The Information Theory of Nature** – it is theory connecting ceaseless operations of Nature and the nature of the requisitely holistic unit – the planet Earth and offers systemic operations instructions for evolution.
- **The Requisite Holism** – it is a tool for humans to understand and learn about Nature and the nature of the requisitely holistic units. The principles of the requisitely holism are presented in guest author Prof Emeritus Dr, Dr Matjaz Mulej, University of Maribor and Institute for the development of Social Responsibility - IRDO, Maribor, Slovenia, EU.
- **The Evolution** – Nature force and system for evolvment or systemic operations at all levels, dimensions, the whole and parts of Nature.



1. Foreword and Executive Foreword

1.1 Foreword

“The Nature 2017” is a philosophical scientific book for people of the Global Community of Humankind, the World of Humans, Homo sapiens Civilization living under rules and conditions of humans.

Actually humans exist within the biosphere of the planet Earth, but the World of Humans is much disconnected from the nature of the requisitely holistic planet Earth.

At present (2017), bad impacts of beyond seven billion people on the living conditions, which are changing (not for better!), within the biosphere of the planet Earth, are known

I think people need to learn and understand the past and the present. This will allow humans to find a proper path for a better tomorrow of the Global Community of Humankind.

All my research, observations, recording, transferring knowledge, living and experiencing the life of humans has accumulated in promotions of the “Universal Upbringing, Education and Lifelong Learning”, “The Sustainable Future of Humankind”, “Individual Responsibility of Humans”, “Requisitely Holism”, “Eco Bio Centric Thinking”, “Truth and knowledge about basics of Nature” and “Global Governing” of the World of Humans by human leadership.

This is opening possibilities for longevity of humans within the biosphere of the planet Earth.

This book is about philosophy of the truth and knowledge of the basics of Nature. It is the third book¹ completing my research on the basics of Nature. It is my contribution to the philosophy of humanity. The Philosophy is the search for knowledge and understanding of Nature, and meaning of the Life and Universe.

¹ »The Three Applications of the System Thinking«, T. Ecimovic, 2009, in Slovene and English, soft cover, the usual paper book and digital as well, and »The Principia Nature – The Nature and Homo sapiens Global Community«, T. Ecimovic, 2011, the usual paper book and digital as well. The books are at: www.institut-climatechange.si . Welcome!



The Nature system, The Universe or Cosmos system, The Star Sun system, The Planet Earth system, origin of humans etc. are parts of the large content we call »Nature«.

The present humankind's understanding of the philosophy of Nature has been building up as long as the present civilization has been evolving and I hope it will continue so for many more generations of humans.

I wish to Humankind good philosophy, longevity, peace, reason, respect, justice, morality, wisdom and sustainable future!

Timi Ecimovic

1. 2. Executive foreword by Sir Prof Dr Roger B. Haw

I congratulate Prof. Dr. Timi Ecimovic for his valuable contribution that he has made in the arena of human knowledge by producing a series of books especially this book. Indeed this book will be an invaluable asset to the readers at large. The multidisciplinary approach taken by the author will help readers to understand the dynamics of contemporary development problems in proper perspective. The content of the book provides global and regional overview of the population trends and their interrelationship with economic development, sustainable development, poverty, education, health and food security and natural resources.

This book offers a review of existing literature and also has the authors own recommendations and suggestions regarding 'The Nature system, The Universe or Cosmos system, The Star Sun system, The Planet Earth system, origin of humans etc. are parts of the large content of Nature'.

I have witnessed Prof. Dr. Timi Ecimovic slogging his way to obtain relevant literature to put together in the various chapters of his series of books and I admire his ability to pursue his quest with such dynamism to produce and publish for posterity.

He pointed the economic necessities force a collision course with environmental sustainability, health and development which can only be countered through setting of clear goals in education, resource allocation and use, and participatory, decentralized decision-making and priority setting.



The author finds that overconsumption of natural resources deprivation and diseases in certain parts of the world prove a constant threat to global environment, society and civilization. Authors have suggested some measures and interventions for alleviation of “Universal Upbringing, Education and Lifelong learning” to bring equity in the society to further sustainable development. If these measures are taken the mother earth will be a pleasant place to live in.

Reading of this publication will surely create awareness about disastrous effects of destroying nature of life and universe, effects of population explosion and environmental degradation and provide plans of action for mitigation of menace induced by them policymakers, national planners and administrator of Ministries. Indeed readers can begin to learn the solutions for the multitude of factors that limit the human potential for achieving peace for all.

This manuscript is worth publication to create awareness among the global, regional and national community to the urgent needs to address Nature system needs and environment simultaneously. Suggestions given in the manuscript if adopted will surely help to mitigate the dangerous effects of overpopulation and environmental degradation.

1. 3. Introduction

“The Nature 2017” is my booklet for people to learn and understand Nature in general and the nature of the planet Earth.

The booklet is important for future possibilities for the humankind’s survival and longevity.

It is a result of my beyond 50 year of research, observation and recording of the nature and the Biosphere of the planet Earth, as well as the humankind.

It is my third booklet on Nature, the first and the second ones were:

- “The Three Applications of the System Thinking”, 2009, and
- “The Principia Nature – The Nature and Homo sapiens Global Community”, 2011.

Those booklets were reasons for my third and fourth nomination for the Nobel Prize (2010 and 2012).



The knowledge of Nature is a new chapter for humankind. Due to historical misunderstanding of Nature, the humankind, Homo sapiens civilization, The Human Project, The World of Humans, The Global Community of Humankind, people, leading philosophies, leading institutions, individuals and the present ruler of the humankind “Money Monster Master Leader”, are responsible for the present.

The present is summary of the past!

The evolvement and evolution of Homo sapiens species began around 202.000 year ago.

All beyond seven billion people of the present global community of humankind are descendants from the first evolved or appeared humans.

All beyond seven billion people are of one kind Homo sapiens and races do exist only in the mind of not well educated people.

The History of the humankind has the following eras:

- Nature’s evolution generated Homo sapiens sometime around 202000 year B. C.,
- The first prehistoric era was from 202.000 B. C., to around 70.000 B. C. This was time of human settlements as tribes, groups and individuals living their sustainable life within the biosphere of the nature of the planet Earth’s natural surroundings. The humankind was learning about living conditions, local and regional environments, flora and fauna, the natural happenings, social life and other relevant knowledge. It was time of the strongest male or female leaders and polytheistic gods became important, connecting the natural happenings and the humankind. It was a nomadic life of hunting and gathering people.

The Present Homo sapiens global community, World of Humans, Human Project, Human Eco Sphere is built in the biosphere of the requisitely holistic planet Earth system.

The present humankind with beyond 7 billion individual representatives, children, womankind and mankind are confronting new challenging changes of the living conditions within the biosphere of the planet Earth. The changes are result of the global humankind’s community’s existence without its understanding of Nature and the nature of the planet Earth.



Actually at present the global community of humankind is in very bad shape.

There are only one percent of rulers and 99 percent are the supporting population.

I think Homo sapiens may experience extinction during 21st Century. Important researchers and research institutions share this fear.

The reason is the wrong leadership of global community of humankind, lack of knowledge on basics of the Nature, poor upbringing, education and learning, poor understanding and explosive reproduction, with consequent pollution and destruction of the living conditions within the Biosphere of the planet Earth.

The humankind is experiencing lack of population management and ever increasing health issues, seen as genetic invalidity of body and mind. If humanity continues as usually, on present foundation, the end is predictable.

Present is as it is.

Unfortunately:²

- The monopolization of the entire humankind to the benefit of one percent must be added to the above discussion;
- So must the level of debts that is globally close to three times volume of the world's global GDP (400% in Japan, about 220% in USA and China, etc.);
- Only 15% of humans have more than six US\$ per day, while 85% have less;
- 85 persons own as much as three and half billion persons combined;
- Nature of the planet Earth is badly damaged and its natural resources are over-used;
- Humankind's living conditions in its biosphere are changing not for a better.

² As stated by Emeritus Professor Dr, Dr Matjaz Mulej from Maribor, Slovenia, EU. We shall use this statement again in the chapter about humanjind.



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3. Executive Summary

This book, I hope, will help you to learn and understand systems of Nature, Universe or Cosmos, the nature of the planet Earth and other celestial bodies, the biosphere, life within the biosphere of the planet Earth and Homo sapiens civilization.

The **universal upbringing, education and lifelong learning**, is a missing part for better learning, observation, understanding and living of humans.

The **individual responsibility** (to society, called social responsibility) is missing quality of present humans.

The **requisitely holism** is knowledge, which humans needs for understanding Nature and nature of the planet Earth.

When these **three points** will be a part of attributes of members of the global community of humankind the life of humans will reach new horizons.

The present human sciences, knowledge, research etc., need critical observation to establish the real value of countless synthetic chemical substances, the combustion engine, the planetary and extra planetary research facilities, the nuclear technologies, the human population management, the protection of humanity and nature of the planet Earth, the transport system, conflicts and wars, sport activities and permanent pollution of all three basic environments – land, water and air by life of the global community of humankind, etc.

The truth on the humankind mental quality 100 B.C. and 2017 A.D. has not evolved forward as the history and science are describing.

Romans 100 B.C. used social technique “Bread & Games” to keep their one percent of ruling people out of danger from other people. In 2017 A.D. there is similar approach of one percent of ruling people of present. The only difference lies in terminology: Roman gladiators and sportsman of today. Bread is as it is; I think it is lack of evolvement of the human brain quality, which results from the lack of knowledge and universal upbringing, education and lifelong learning.

Not to mention that in 100 B.C. and in 2017 A.D. the missing quality was same: lack of “Individual Responsibility toward society and Nature”.



The first record of the individual responsibility as a part of Nature was after 2010 connecting individual responsibility and Nature as inseparable. “The Individual Social Responsibility” is a part of the Nature and could be defined as: *The individual social responsibility from the natural sciences’ view-point is ability of living creatures to respond to the living environmental qualities and needs for continuum of the humans and other creatures and species.*³

The individual social responsibility is a forgotten quality of humans, lost after the industrial revolution in the 17th Century. At present the individual responsibility of humans is connected only with some humans.

The third point “Requisitely Holism” is of a recent origin. As first thinker was Ludwig von Bertalanffy (1901 – 1971).

What I am trying to present here is the truth about Nature and the nature of the planet Earth, Homo sapiens global community at present 2017 in terms of the requisitely holism.

We (the global community of humankind) are a part of the whole.

The whole from the point view of system thinking and requisitely holistic approach is the requisitely holistic planet Earth system, which is a part of the whole of the requisite holistic star Sun system, which is a part of the whole of the requisite holistic Milky Way Galaxy, which is a small part of the whole of the Universe,

The Universe includes all known and many larger parts, unknown to humanity, of the whole we may see as Nature.

The rules and techniques of Nature are not known to us for the whole of Nature. A small part of the knowledge of it is a treasure of the humanity, and we have to research and learn much more to be able to understand more about our existence, longevity and the sustainable future of our descendants.

³ T. Ecimovic et al, “C&ISR – the Individual Social Responsibility and the Sustainable Future of Humankind - a Basis for Societal Health”, November 2013, for 9th IRDO International Conference “Social Responsibility and Current Challenges 2014: Health – Personal and or Social Responsibility”, 6th and 7th March, 2014, Maribor, Slovenia, EU.



The epic song of the humanity has around 202 millennia long history. From commencement via prehistoric times and civilizations confrontations of Homo sapiens neanderthalensis and Homo sapiens sapiens, Stone ages, great civilizations of Antiquity and times of classic Greek philosophy, horrible times of medieval ages in Europe, industrialization, information, and innovations we have arrived to the globalization of today.

I hope the dark ages of humanity will end, and new era of the sustainable future of global community of humankind society will commence during the 3rd millennium of our times.

4. The Nature

- Nature is always **in present time** or **the time being**.
- Nature is always **here** or **in this place**.
- Nature does not have the dimension of **time**.
- Nature does not **repeat**.
- Nature does not have **numbers, numerology and mathematics**.
- Nature has unified **values**.
- Nature is in **ceaseless movement**.
- Nature is always in **constant, permanent systemic: interconnectedness, interdependence, inter-action, co-operation, synergies, permanent networking, etc.**,
- **Evolution and evolvments are always in direction multidimensional ahead. It never stops and never returns.**
- Nature as system is always in “**living mode**”. There is no dilemma “**living nature**” or “**not living nature**”.
- Nature is always **successful**.
- Nature basic reason is **continuum**.



-
- Nature has countless **forms of matter, energy and information or instructions system.**
 - Nature's main force is **evolution - evolving countless forms in size, looks, and reasons all with individual reason, responsibility and characteristics** a result of nature and environment qualities cooperation.
 - **Nature is always in harmony with environment.**
 - **Nature does not have more or less important contents.**
 - **The main happenings in Nature are integration and disintegration (Big bangs) of matter, energy and information, etc.⁴**

Etc., more researchers and research more knowledge!

4.1 Introduction

Nature is in the large meaning from the view points of the natural sciences, environmental sciences, system thinking, operational research, complex problem solving, a case study research, new sciences of networking, swarm research and holistic, or better: the requisitely holistic approach the *Universe or Cosmos*.

Universe⁵ has been described as “the totality of all the things that exist; creation; the cosmos” and “the world or the earth, as the scene of human activity” and “an area, province, or sphere, as of thought or activity, regarded as a distinct, comprehensive system”.

A part of the above description has something to do with our civilization's heritage – culture, religions and believes. It is particularly seen at mentioning the creation. I know it is hard to accept reality, but in science it has to be so.

My research is about systems, system thinking, requisitely holism, complex problem solving, case studies, new sciences of networking, swarm research and I would like to challenge you with small sentence about systems:

⁴ More researchers more answered questions or contents.

⁵ Universe at Webster 1986



The term system will here not mean mental picture about the considered part of reality, but rather mean a feature/event/process that is so complex in its components, relations and influences between them and their consequences that it is difficult to comprehend and even more difficult to control.⁶

To me the universe has many definitions and descriptions, of which more will come with future experiences and research. I would like to mention some:

- The Universe system is the most complex system humankind could research.
- The Universe system is environment for Nature.
- The Universe system is totality of all things that exist or of everything,
- The Universe system is so immense that it is hard for humans to understand its immensity. We need new standards of research work to comprehend the Universe.

The Universe system, as environment for the nature or the *basic environment*⁷ discussed for the nature from the quality and internal viewpoint, could have the following characteristics:

- The Universe system has no commencement and no end.
- The Universe system contains all matter, energy, information, dimensions, integrations, disintegrations, light, rays, powers and forces, particles, transformations and other contents not yet known to humankind.
- The Universe system functions are systemic: interconnectedness, interdependences, interactions, co-operation, synergies, networking and etc.
- The Universe system as the basic environment is environment for the *continuum*⁸ of the nature with all happenings, transformations, integrations, disintegrations, dimensions, systemic relations and ceaseless operations.
- The Universe system is ceaseless evolution of itself and Nature as it is an only content. The laws, rules, operations and living are unified and same for the whole of Universe/Cosmos as well as for the requisitely holistic the planet Earth.

⁶ It is teaching of Prof. Emeritus Dr., Dr. Matjaz Mulej from University of Maribor, Slovenia, EU.

⁷ The basic environment has been first discussed in »The Environment Theory of the Nature«, Ecimovic, 2009.

⁸ The *Continuum* is one of the pillars of Nature and one of its main reasons to exist.



The Universe system from the formal viewpoint could be seen as composition of the environments, larger and smaller *requisitely holistic units*⁹ - to us at present known as galaxies, star systems, and planets. There is large content of smaller energy, matter and information forms.

Of course, it is up to us to see then present dimension, which does not exclude other dimensions as at present not known.

The universe system is *basic environment*¹⁰ meaning that within it, the present nature is at home, and as such, it is precondition for the nature existence.

4.2 *The Environment Theory of Nature*¹¹

The environment theory of Nature takes environment as precondition for anything. »Basic environment« of Nature is the Universe or the Cosmos. Within it Nature exist in countless forms, dimensions and contents as **interconnectedness, interdependence, interaction, co-operation, synergies, networking etc., ceaseless systemic operations** of all matter, energy, information, dimensions, light, rays, powers, forces, particles and yet unknown contents of the Nature.

The beginning or end of the basic environment does not exist, but it is »**continuum**« of the Nature, which makes/holds/transforms etc., all contents.

The basic environment (the Universe or the Cosmos) should get proper description, which according to system thinking does not commence with beginning and end, but it exists as »**continuum**«.

The present thinking ability of humans could not accept reality of the immensity of the basic environment - the Universe or the Cosmos. For present researching techniques, the basic environment universe system is immeasurable.

At present, we have researching possibilities for exploring our neighborhood within the basic environment - the Universe or the Cosmos.

⁹ The term "requisitely holistic unit" term comes from the Mulej/Kaizer »Law of Requisite Holism« as its practical application within the natural sciences. As a description to help you, I may say; the requisitely holistic unit is the smallest but yet still understandable whole. In case of further reduction, the understanding is decreased.

¹⁰ Basic environment has been term introduced by the author in his book/work »Three Applications of the System Thinking«, Ecimovic, 2009.

¹¹ »The Environment Theory of the Nature« was presented in the book »Three Applications of the System Thinking«, Ecimovic, 2009, and was the basis for his the Nobel Prize nomination, 2010...



Our horizon is limited with our techniques and researching abilities/possibilities. For our understanding of the dimensions within the Universe, we are also limited by our scientific language – mathematics, which has not yet evolved for the needs of the Universe researching.

That is why humans have discovered the theory of relativity, the big-bang theory, black holes, unified theory, strings, and many more thoughts that are brilliant applications of the researchers, but could not properly describe the basic environment or the Universe.

Let me put on records some definitions of the environments:

1. The *basic environment* (the Universe or the Cosmos) it is environment within which Nature exists as **continuum** of all matter, energy, information, rays, particles, dimensions, powers and forces, and yet unknown contents of the Nature. The basic environment (the Universe or the Cosmos) does not have the beginning or the end, but has countless forms of matter, energy, and information transformations, dimensions, and systems. It is a continuum, and it is a system or Nature.
2. Second to the basic environment (the Universe or the Cosmos) are countless forms of matter, energy and information of larger and smaller dimensions as requisitely holistic units of the nature or: the requisitely holistic star systems, the requisitely holistic galaxy systems, and within them individual requisitely holistic star systems, such as our star Sun system with the requisitely holistic planets and the requisitely holistic planet Earth.
3. The basic environment (the Universe or the Cosmos) as system makes possible the **interconnectedness, interdependence, interaction, co-operation, synergies, networking etc.** of all matter, energy, information, rays, particles, dimensions, powers and forces and yet unknown contents of Nature. Consequently each and every system under observation, big and small bangs, visible or dark energy, black holes, galaxies, requisitely holistic star systems and all other forms of systems within it, have their contents and characteristics (individuality).
4. The requisitely holistic star system environment is a particular requisitely holistic star system with its internal and external environments and systems.
5. The requisitely holistic planetary system is a part of the requisitely holistic star system and it has its external and internal environments and systems.
6. The requisitely holistic star Sun system is a part of the requisitely holistic Milky Way Galaxy, which has beyond 100 billion of other requisitely



holistic star/planets systems and countless meteorites and other forms/systems of matter, information, and energy. All of them are moving like a top and in circular movement around each other. According to **interconnectedness, interdependences, interactions, co-operation, synergies, networking, etc.** The requisitely holistic star Sun system is moving like a top and with app 800 000 km/hour speed circling around the center of the Milky Way Galaxy system. The circular movement is the main physical characteristic of all larger and smaller forms of matter, energy and information within Nature.

7. The requisitely holistic planet Earth system is one of eight planets, but only one of them with environmental characteristics allowing “the living Nature”¹². The requisitely holistic planet Earth contains its three basic environments (the planet Earth basic environments): the Land, the Water, and the Air environments.
8. “The living Nature” at the requisitely holistic planet Earth’s natural system has countless living creatures/beings larger and smaller forms and systems, amongst which there it is the Homo sapiens’ civilization. All of them share the environment or the Biosphere, which is a tiny and thin part of the requisitely holistic planet Earth system’s surface, within the land, water, and air environments.
9. The Homo sapiens’ civilization has its own environment of different content and characteristics; but in the third millennium the urban environment prevails as its internal environment made by humans. Other forms include: rural or rustic areas; agriculture; forestry; transport means systems including roads, railways, airports and ports; industry; sports including sport facilities, etc.; military with barracks, armaments and other facilities; education with schools, universities, researching facilities, etc.; healthcare system with hospitals, researching and other facilities etc.; and etc. In 2008 in Europe (EU) 17 % of total area was sealed land or land taken from Nature and occupied by the Homo sapiens civilization.
10. The living creatures’ environment could be divided in internal and external environment. Typical internal environment (within the body) is cell liquid or blood as environment for blood cells etc., while the external one consist of family, local community, society, surrounding, water (bathing, drinking, etc.), air for breathing, etc. The living environment decides/allows whether any living creature/being is to be alive or not.¹³
11. Human made system has internal and external environment – for instance the car has its combustion engine as a part of its internal environment, and roads as part of its external environment. Homo sapiens civilization’s

¹² »Living nature« term is conditionally used, because people understanding are connected with living and nonliving nature. Actually it is only nature it is alive and ceaseless working system.

¹³ IN case of decrease of oxygen in breathing air below 8 %, all living creatures will cease to exist.



environment and natural environment are parts of the general natural environment within the biosphere of the requisitely holistic planet Earth.

12. Also a number of other social creatures/beings have their living environment to mention some: bees, ants, termites etc. and a number of parasitic creatures have living environment within host living environment to mention some: microbes, viruses, endo - and exo - parasites etc.
13. The living environment could have countless different forms. One of them is urban environment with Homo sapiens global community made of requisitely holistic units or environments – towns, cities and mega cities. Inhabitants could be described as Homo urbanus¹⁴ civilization and parallel Homo slumus¹⁵ civilization. Etc., more researchers and research more knowledge!

Please accept my discussion as initial recording and other characteristics, contents, and possibilities could be worked out by others research work.

4.3 The Information Theory of Nature

The novelty of the information theory of the nature is research of the term “information”, which has been researched in connection with the system thinking, and the philosophy. The “information” was understood as a system of the abilities, quantities, qualities, relationships, instructions of each and every matter, energy, light, rays, powers, forces, particles, dimensions and yet unknown contents of Nature under prerequisite of **interconnectedness, interdependence, interaction, co-operation, synergies, networking etc.**

Transformation of the matter and energy with their information is a simultaneous event according to the environmental qualities as major influence/co-player to the information. New transformation has its information in the same manner as the genetic code of living creatures/beings. It is precondition of their continuum, and it is formed at the moment of transformation. In living creatures it is according to prearranged (by the nature - evolution) genetic structure, and in the other parts of Nature the genetic structure is exchanged for abilities, qualities, quantities and other characteristics of the environment, within which the transformation of matter and energy takes place.

By the continuum, the systemic process is upgrading all characteristics of Nature.

¹⁴ Homo urbanus are people who live within reasonably organized urban environment.

¹⁵ Homo slumus are people who live within mega and poly cities slums.



Taken from the “living nature” and genetic science we have to accept changes which happen only with successful transformation of the genetic code. Unsuccessful creatures/beings do not exist (it is one of the basic characteristics of the evolution and evolvments).

The first living creatures/beings the one-cell protozoans evolved and appeared in the water environment - primordial oceans. They appeared, as result of the water environment content, the nature powers and assisted by evolution possibilities of the environment. That is why the biosphere had been operating for two billion year before the next generation of aerobic creatures/beings evolved.

In the meantime, other parts of the planet Earth were evolving environmental conditions suitable for more complex living creatures.

That is why complex creatures like the kingdom of animals and plants commenced only 700 million years ago. Moreover, Homo sapiens has “only” around 202000 year of history. That is why I am discussing the threat of the climate change system’s impact on the biosphere of the requisitely holistic planet Earth as a very dangerous option for extinction of the present living creatures/beings including global civilization of humankind, in case of significant changes within the quality of the environmental living conditions in the biosphere.

It happened before it may happen again!

It is important to discuss the system – as a complex entity, rather than mental picture in living creatures’ mind, from the viewpoint of the operational content. Any system is in stabile mode as long as all its internal systems are in stabile mode. Whenever external reasons or instability of internal system is moved/changed/impacted, or etc., the system as complex entity begins to move. It is not possible to predict the direction of the system’s movement.

For instance, after “Big bang” (Hawking) had happened, being responsible for our part of the Universe, the transformation of matter energy and information resulted in formation of the requisitely holistic Milky Way Galaxy, countless requisitely holistic star systems and our requisitely holistic star Sun system. From commencement of the Big bang the energy, matter and information transformation resulted in new transformed contents, and they have been simultaneously enriched with information of its abilities, and so on. I think a major part of the information is composed of characteristics of the environment within which various processes were and are going on. Of course, the environment characteristics have also been changing or transforming accordingly.



Finally, some 4.560.000.000 year ago the requisitely holistic star Sun system evolved its planetary systems including our planet Earth. Each part of the system has its own information according to which the evolvments are possible. In my research, I think this possibility is opening the door for researching further contents of the Nature.

The question then arises as to what this “The Information Theory of the Nature” is. It is a system subsumed under a holistic unit of the natural system, including the requisitely holistic planet Earth. Nature exists as a system, whether we choose to interact with its mechanism or not.

Our civilization has assumed the prerogative to interpret it. There is thus, a dual interpretation of nature. Science understands it as it is, more or less, as a mechanism. Civilization sees nature in a different way. Both these interpretations do influence each other but not in the requisitely holistic manner. Let me put a case of nanotechnologies. Nano researchers from Feynman onward and recently with improved microscope facilities have been researching the atoms. The conclusion is that atoms have self-organization ability. They do not see the nature properly, because they do not see the environmental influences. To know abilities of any atom the research should include temperature and some other characteristics of environment as important part of the information and transformation. Also the nuclear technologies have same characteristics.

If this thinking is applied to our environment then the Universe, and the Earth are holistic units and the biosphere is the living environment/sphere of the requisitely holistic planet Earth. The basic relations and operations amongst the nature of the requisitely holistic planet Earth content are interconnected, interdependent, interacting, co-operating, networking and having synergies, etc.

The Information theory of Nature was devised as the basic quality of Nature of a matter, energy, and information where the information is an integral part of the nature as are matter and energy. Evolution of matter and energy interconnects with evolution of information. All this should be within an *environment* and under the practice of interconnectedness, interdependence, interaction, cooperation, synergies, networking etc.

The information theory of nature is a case study of system theory/thinking implementation, as contribution towards humankind’s better understanding of the nature. Information should not be misconstrued. It does not mean the process of communication or transmission of messages or a collection of data, its storage/retrieval, or any other use of the word. “Information” as used in the Information Theory of the Nature deals with:



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- Information as an integral part of basic environment;
 - Information as an integral part of matter and energy;
 - Information is not only as a part of the existing energy and matter, but also of the evolving ones, whether energy, whether matter whether requisitely holistic unites or contents of them;
 - Information, matter, and energy do not exist if they are not integral parts of the system, environment, basic environment, Nature, universe, cosmos in any dimension;
 - Information, energy and matter evolve within the interconnectedness, interdependences, interaction, co-operation, synergies, networking etc. as ceaseless systemic operation practices of all levels of systems within the basic environment, and make evolution of Nature in case (requisitely holistic unit);
 - Information as a part of »Information Theory of Nature« is the ability/quality of environment, matter, energy, information, dimensions, particles, rays or any form of matter, energy or natural powers and forces, and yet unknown contents within the Universe, to make impact. This theory is a theoretical approach addressing the basic problems in understanding the Nature. It matches in the need for a holistic presentation of the nature.

The Information Theory of the Nature can explain any whole, part, unit, mezzo, micro or macro dimensions in an infinite cosmos. One can understand the evolved environment, evolution within environment, energy, matter, dimensions, rays, particles, natural powers, forces and not yet known contents of Nature regulated by interconnectedness, interdependencies, interaction, co-operation, synergies, networking etc. as ceaseless systemic practices.

The rules do not exist but are the result of a particular case content. I may mention environmental characteristics of the case deciding on the rules – like liquid methane rivers and lakes on the planet Saturn moon – Titan.

Using this theory one can understand any processes like transformation of matter, energy and information within environment under interconnectedness, interdependencies, interaction, co-operation, synergies, networking etc. systemic principles up to the present.



The solution for a sustainable (development) future of humankind is in maintaining harmony between the nature, biosphere of the requisite holistic planet Earth and all users of it.

This is the answer to the future of our civilization existence. Systems theory, especially the dialectical system theory (Mulej) as a science of interconnectedness, interdependence methodology through interdisciplinary co-operation is the core of the future.

The Information Theory of Nature is a commencing point of Environmental Sciences to become a chapter at the beginning of the Book of Physics. It is seen and known when heard and understood, but not yet used in the scientific and research work as well as practice or applied research due to need for evolvement of new part of the Mathematics as scientific language of our civilization. The characteristics of the environment make evolvement within Nature possible.

Big bang theory provides answers to almost 99 % of theoretical approach to the beginning of Universe. Figuratively expressed the environment changes our Universe into many other requisitely holistic Universes or one Universe of which our Universe is just a part.

Many more explanations could be elaborated from simple systems, such as combustion engine, human society, satellite, etc. to finally largest to us known system The Universe, which could be explained by using system theory, system thinking, analysis and synthesis. The requisitely holistic planet Earth as a part of Universe, requisitely holistic Milky Way Galaxy system, and the requisitely holistic Solar system presents requisitely holistic unit to hold living nature as it is in the case of Earth and the Universe of which we are a part. Understanding its reality is a treasure of Nature given to humanity as path for continuum, survival, existence, longevity and the sustainable future of the humanity.

The Information Theory of the Nature is a missing part needed for the new frontiers of science movement towards sustainable future of humankind. By evolvement of other contents, human society may have an option of sustainable future and large explorations within the Nature. It incorporates the past and present knowledge and opens an option for its confirmation and reintegration.

All big achievements such as: Theory of Relativity, Big Bang Theory, Unified Field Theory, Strings Theory, Theory of Everything, Particles research, Nano research, dimensions research, use of geometry and algebraic operations,



reconfirmations of the present knowledge, and many more possibilities will be, hopefully, achievements in the future of humankind.

4.4 System operations of Nature

Therefore, we have now: the basic environment; the basic requisitely holistic units; our home the biosphere of the requisitely holistic planet Earth, which is one of the countless celestial bodies in the Universe.

The system operations of the nature of the planet Earth are mirroring the system operations of the Nature in general or the Universe or Cosmos. With knowledge on the system operations on the Earth humanity is accumulating knowledge on the system operation in Universe. It is like “One in all and all in One”, which was always as application to humankind and I am sure, it is the same with nature (the swarm research).

System operations are result of many different happenings in different requisitely holistic environments. In my research the operations are result of **interconnectedness, interdependence, interaction, co-operation, synergies, networking, swarm research, etc.**, of all matter, energy, information, light, rays, powers, forces, particles, dimensions and yet unknown contents of the Nature.

Interconnectedness – link between numerous subjects, contents etc., to form pattern of the whole. It is the principle for connecting whatsoever. The systemic meaning is to link/connect two or more systems to one large system. For instance – The Universe is interconnectedness of countless larger and smaller systems linked to one.

Interdependence¹⁶ - dependence on each other or one another; mutual dependence – the nature and the universe system are interdependent or mutually dependent; the universe system and Milky Way Galaxy are interdependent; the star Sun system and Milky Way Galaxy are interdependent; star Sun system and planet Earth are interdependent, living nature and three basic environments on the Earth – land, air and water – are interdependent; human body and mind are interdependent; in my opinion, everything is interdependent.

Interaction – action on each other; reciprocal action or effect – in the nature everything is reciprocal and affect environment, life and other nature, the universe system, etc. Within the requisitely holistic unit, everything is in interaction and the system as a whole interacts with major system within which they are placed.

¹⁶ From Webster 1986 / meaning.



Co-operation - the act of co-operating; joint effort or operation; Ecology is an interaction between organisms that is largely beneficial to all those participating – in the nature co-operation is integral part of a complex relationship or integral part of system operations. According to my research co-operation is closely connected with information, as described in the information theory of Nature.

Synergies and anti-synergies - are included to add to for richness of the system working operations.

New sciences of networking – allow understanding of ceaseless action, movement works and operations of Nature evolution.

Swarm research - is very useful tool for research of countless members and actions of Nature.

Evolution and evolvments within the nature are the result of all matter, energy, and information's permanent interconnectedness, interdependence, interaction, co-operation, synergies, networking etc. The nature is always in - "**present**", **now** and **here**.

All interconnectedness, interdependence, interaction, co-operation, synergies, networking etc., should be understood as part of system operations. The present understanding of Nature has been evolving on as long as the present Homo sapiens civilization has been a part of the biosphere. I think it is the time for a step forward, and understanding of the nature will follow. The differentiation of the nature to the living nature and other parts, conditionally described as non-living nature, are heritage of the humankind's thinking pattern, and need to be revised in the future.

4.5 Evolution and Evolvments

The evolution was introduced to humankind in the XIX Century by Charles Robert Darwin (1809 – 1882), a British scientist. Even today due to lingual, cultural, children upbringing, humankind educational and religious reasons evolution has not been accepted by majority of people.

It is due to manipulation of few on account of all others.

The philosophy of life is in very short sentence: "All living beings are successful".



In my research, the evolution is universal principle, main power, pillar and leader of Nature operations. Evolution and evolvments is Nature's power allowing for continuum of Nature.

The **evolution** is a ceaseless working system making evolvments for better tomorrow of Nature and the nature of the requisitely holistic unit under observation.

The evolution with evolvments is the only system of the nature of the planet Earth responsible for needed adjustments within the continuum of the planet Earth existence.

The evolution uses interconnectedness, interdependences, interaction, cooperation, synergies, networking etc., of existing contents on the planet Earth to make possible continuum existence of the planet.

The evolution is provider, maker, holder and guardian, allowing for harmony in the biosphere environments

The evolution and evolvments is one of pillars of Nature.

Due to immeasurability of the basic environment, the universe system as whole, humankind at present has no possibility to follow the evolution and evolvment of the universe system as a whole or its distant parts.

Proper observations, thinking and researching of the evolution and evolvments on the requisitely holistic planet Earth could open new horizons for discovering universal knowledge.

There is the same evolution and evolvments in the nature of the planet Earth as in the Universe.

People of the global community of humankind can research evolution and evolvment of parts of the universe system known to us, and of course the star Sun system including the planet Earth system.

One of thinking problems, have been a culture, heritage, beliefs and religions of the past and present that is predicting the future that should be handled properly.

The evolution and evolvment of the nature could be described as “**evolution and evolvments is always multidimensional from smallest to largest part of Nature under research and has only one direction – ahead**”.



Nature and the nature of the requisitely holistic planet Earth is always now and here.

All operations of Nature in general are as operations present within the nature of the requisitely holistic planet Earth.

The nature is always in “present” and has only one direction to evolve – multidimensional evolvment ahead. It could not be repeated¹⁷ whatsoever.

The nature of the requisitely holistic planet Earth and star Sun systems is mirroring the nature of the entire Universe or Cosmos – Nature as general.

The biosphere of the planet Earth is a small living part and system of Nature in general evolved within the planet Earth: land, water and air environments.

The present generations of humans has to work on the universal upbringing, education and lifelong learning of coming generation. It is the only way to serve the coming generations with ability to learn and understand evolution and evolvments or other knowledge needed for longevity and survival.

4.6 Continuum

Putting the “continuum” in the centre of the Nature makes a huge difference in possibilities for research.

The continuum is a result of the environment and its content, i.e. Nature systemic relations and operations.

It is making understandable Nature, living part more as other part, which is a less known to us. Continuum is the reason and force of the nature.

¹⁷ With commencement of the »Information society« after 1990 and due to the use of the modern information technologies human has got wrong habit of pushing button and delete. In the nature, it does not exist. For instance in case of catastrophic accident with nuclear power production facility anywhere on the Earth, the present planet Earth could be changed into an unrecognizable form. In addition, this principle could be applied to synthetic chemical compounds, which never before have been there in the nature. The researchers, who have invented synthetic chemical compounds (today there are millions of them), did not know what such compound could cause within the natural environment. Proof of it is CFC's, whose free chlorine ion was destroying the ozone protection band around the planet Earth. In case of our civilization not noticing the destroying effect of CFC's in time, our today civilization and other living creatures would not be present. I think it is question of individual social responsibility of each and every one human within the global community of humankind.



The commencement of the “living nature” at any requisitely holistic unit of the nature, usually on planets with the adequate environment, is result of the local environment.

The sooner the life appears and has its continuum it is acting as new system and quality of the planet under observation.

In the case of the planet Earth, because of its speed of evolution and evolvement, from appearance of the first anaerobic primordial protozoan – being 3.8 billion year ago, it took the nature approximately 2 billion year for evolvement of the next generation of aerobic one cell being. To humankind civilisation, which is approximately 202,000 years old it looks incompatible.

The reality is that continuum from commencement to the present was and is the only possible way.

The second case is about Big-bang.

When analysing happenings in the known star system, intergalactic space, and galactic spaces, it is where major catastrophic (to human thinking) events are transformation of the matter and energy. They are exceptionally fast happenings. It is hard to understand their reason as continuum. But they are.

However, it is continuum, because any transformation of the energy and matter is somehow the birth of a new commencement of the new system whatsoever.

With a philosophic approach, it is understandable because any system has its commencement, childhood, adult ages, old ages and end in whatever way.

Adding to it the continuum as reason and purpose, it makes difference from present thinking and makes big-bang as continuum of Nature.

Of course, a major novelty is the requisitely holistic approach¹⁸, which makes us able to understand reduction to units, which are capable of certain happenings.

I am suggesting requisitely holistic units at all levels of the universe system as whole and as separate parts from smallest to largest.

¹⁸ »Requisite Holism« has been part of the Law of requisite holism (Mulej/Kajzer, University of Maribor, Slovenia) from the world of economics.



Reductionism to the level of understand-ability has been known for a long time. In addition Einstein confirmed usefulness of reduction to the level of keeping the topic understandable. That is also the corner stone of the requisitely holistic approach: understandable, but not oversimplified.

In this way we may describe the basic environment as the universe system as the whole.

As requisitely, holistic units are parts of the universe system within which the galaxies, star systems, and planets are requisitely holistic units.

It is not a law on universe system but a step toward understanding of Nature.

Let us see a contemporary explanation on Big-bangs.

Big – bang is a natural evolutionary systemic process of matter, energy and information transformation. It is end of a part of the Universe and new commencement of transformed part of the Universe. The big – bang of some 14 billion years ago is responsible for establishment of the star Sun requisitely holistic system. Some 4.6 billion years ago the star Sun evolved its planetary system. It was one of countless Nature's matter, energy and information transformation or disintegration and integration as Nature's systemic processes happening.

Integration – in Webster (1986) - integration is an integrating or being integrated.

In our research integration is the process of integrating different smaller or larger systems to equal and united system, which could be integrated to a higher level system or systems.

For instance Big-Bang is a local integration of energy, matter and information, which is the opposite situation. It is a slow process when beginning, or fast being end of the opposite integration and disintegration

For instance the integration of the human body is a long process or a whole life process, from birth to one's end of life.

For instance – the planet is integration of many large and small different systems into a requisitely holistic unit – the planet and it is a whole life process.



And finally one more possibility - for instance – Nature in general is integration and is a permanent continuity. Integration is always a slow process of putting together new systems.

Disintegration – in Webster (1986) - disintegration is to separate into the parts or fragments; break up; disunite; or to undergo or cause to undergo a nuclear transformation as a result of radioactive decay or a nuclear reaction.

Classical case of disintegration is Big-Bang (Hawking), the energy disintegrates and the matter integrates. Disintegration is Big-Bang and integration is building new systems. Whole disintegration and integration are spontaneous happenings, which follows Nature's evolutions, principles and are smaller or larger end and commencement of old and new systems. It includes energy, matter and information as part of the continuum.

In our research **integration and disintegration** are permanent processes within Nature in general and the nature of the planet Earth.

5. The Nature of the Planet Earth

Everything that was born may look like many different or similar things, but it is individual characteristics that make difference. At present the global community of humankind has beyond 7 billion members and all of them are Homo sapiens. It is important to know that each and one has his/her own characteristics.

Therefore our civilization has beyond 7 billion individuals. This is important because we have to accept reality that within the basic environment - the universe system - there are countless planets, but the planet Earth with its global community of humankind, is only one requisitely holistic planet, which we know and live on.

The nature of the planet Earth mirrors Nature of the rest of the Universe.

Second to that, the planet Earth is a requisitely holistic unit or planet, a member of the planets of the requisitely holistic star Sun system.

The planet Earth is orbiting the Sun within the distance, which allows for the environmental conditions needed for life to appear and continue, as long as the conditions are all right.

It is within the so called living belt of Solar system.



Actually the biosphere environment has got conditions suitable for life. The evolution of the planet Earth started some 4.6 billion year ago and latter evolved also primordial the first being.

The first life-being evolved and appeared on the Earth around 3.8 billion years ago within primordial oceanic waters. The anaerobic one cell protozoans were the first creatures, which evolved because of suitable environment's systemic conditions and happenings.

5.1 The Planet Earth System

The requisitely holistic planet Earth system is very robust. The planetary body at present has got an inner core of 1.500 miles in diameter composed of iron and heavy metals, an outer core of 1.400 miles, a lower mantle of 1.400 miles, upper mantle of 400 miles and the crust of 2 – 45 miles in diameter.

On the top of the crust, there are permanent dynamic changes caused by the natural powers by which the Earth's surface has been and is shaped. The atmosphere covers, protects and completes the biosphere of the planet up to 650 miles or 1.000 kilometers, where the Exosphere is ending into the outer space. The main subsystems of the Earth are: its planetary body, its Moon, and its atmosphere. Its planetary body has 8.000 miles or 13.000 kilometers in diameter. The Earth is the fifth planet by diameter in the requisitely holistic star Sun planetary system. The largest one is Jupiter with an eleven times longer diameter, and the smallest one is Pluto¹⁹ with around one fifth of the Earth's diameter.

The surface of the Earth's planetary body together with its atmosphere makes it's requisitely holistic biosphere, where we live and where the life has been a part of its system for more than 3.8 billion years. At that time in history the first appearance of the protozoan, one cell life could be placed.

Among the life supporting components of the Earth, oxygen is the most important element. It forms:

- Two inorganic oxides - water and carbon dioxide, which are the life-supporting molecules,
- Atmosphere with oxygen molecules in the air we breathe, and

¹⁹ Data about the new 2 outer celestial bodies are not yet known to me; one missing planet might also have a questionable content within the present status of the Solar system. Pluto has been re-classified and is no longer recognized as a planet.



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- The ozone layer as the protection against UV rays.

After the nature of the requisitely holistic planet Earth had generated such a support within the requisitely holistic biosphere system, the appearance of life on Earth was just a matter of time.

The external support from the star Sun to the Earth is the flow of gravitation, magnetism²⁰, light, warmth, particles and energy. It is an important support, because due to adequate distance of the planet Earth from the Sun, the Sun actually supports life on Earth.

The flow of light and warmth from the Sun has different effect here as on other planets.

The unique composition of the planet Earth and its distance from the Sun are two major qualities that evolved with evolvement of the Solar system, and make the basic possibility for life to appear on the Earth.

The Earth crust surface is at present made of a terrestrial part, which covers around 30 percent of the surface, and ocean/sea waters cover, which takes the remaining 70 percent of the surface.

The ratio between oceans and lands was changing with dynamic changes of the planet Earth's surface evolutionary evolvments. The first appearance of the water on the Earth was the deciding factor for the formation of its surface and atmosphere.

After cooling down the atmosphere was thick and much lower than now. The primordial atmosphere was oxygen-free. A big change came from the appearance of the first life forms. These were the anaerobic protozoan one cell beings living without oxygen. They were gaining the necessary hydrogen for their synthesis from different organic carbon compounds and from dissolved inorganic compounds of carbon. Change of the primordial Earth from its anaerobic to its aerobic stage took billions of years. Bacterial life's significant contribution was the sink of carbon dioxide, when their dead cells settled as sediment on the bottom of the oceans. There they were transformed into numerous carbon compounds that we see today as fossil fuels. It was the time of the first energy transformation; actually, anaerobic protozoans transformed sugar molecules to gain two units of energy per molecule.

²⁰ Magnetism as systems quality is not yet undestod, Humankind knowledge on magnetism is awaiting enlargement of the magnetism knowledge in the Universe.



In the next generation, microbes were able to split water molecules by using the light from the Sun, and used the released hydrogen to reduce the carbon dioxide molecules. By this photo-synthesis, a rich biomass was produced.

The product of this reaction was the molecular oxygen, but its appearance was poisonous for the existing living creatures. It changed the life critically: the new generation of microbes was able to use oxygen in its oxidation of biomass by respiration. It was the second energy transition on the Earth, because with such a transformation of the sugar molecule they gained 36 energy units or eighteen times more than the anaerobic microbes.

The carbon dioxide was a part of water due to its solubility, while oxygen that was not solvable in water, became an integral part of the atmosphere. The concentration of the oxygen in the atmosphere was increasing and changing, and settled by the end of 19th century at 21 %, with 78 % of nitrogen, and the remaining 1 % was made of carbon dioxide, methane, and some other gaseous elements. The changes are result of evolution.

With appearance of oxygen in the atmosphere, with influence from the Sun radiation the oxygen molecules were split down to the elementary oxygen, which in the upper layers of atmosphere made the three-valence oxygen molecule ozone. With time, the ozone formed an UV-impermeable screen or ozone protection-layer against those rays from the Sun, which was responsible for decomposition of the dioxide molecules – the UV rays. The biosphere on the Earth responded with evolution of life, its intensification, and transition from water to the Earth's terrestrial and air parts.

The bacterial life moved to the terrestrial part of the surface, forming on it crust top a carbon-rich layer, which eventually became what we today call soil. The Earth system evolved to the stage when complex life forms were able to appear. It was some 2 billion to 700 million years ago. Land mammals appeared some 350 million years ago. The human predecessors are dated some 8 million years ago, and Homo sapiens, our predecessor, evolved some 202.000 years ago.

So here we are – after the big-bang and evolutionary evolvment of our requisitely holistic part of the Universe, we have the Universe, the requisitely holistic Milky Way Galaxy, the requisitely holistic star Sun system, the requisitely holistic planet Earth system, and the requisitely holistic Biosphere system with the life on the surface of its terrestrial and aquatic part as well as within its atmosphere. With the existing input/output effects from superior systems, especially the Solar system, with evolutionary evolved parts of the



Earth system, etc., the climate change system became the provider, maker, holder, and guardian of living conditions within the biosphere.

The climate change system is the internal system of the requisitely holistic planet Earth system biosphere, within the surface of the planet Earth and atmosphere. The climate change system is **provider, maker, holder and guardian** of the living conditions within the biosphere of the planet Earth.

5.2 The nature system and the planet Earth system.

Movement is a major characteristic of the Universe or Nature. It is easy to observe when researching the Universe, Galaxies, star systems and planets, and world of atoms and particles. Many different forms or systems of matter, energy, and information could be observed. The Universe is a grand scene, very fascinating and less understandable than I would wish. Humankind top understanding was for long time or millennia limited to observing the positions of the stars and to working out horoscope with purpose of predicting the future or something else. The humankind of course, did not accept the truth - the future is unpredictable.

Actually, I think the continuum of movement is there, from the smallest particle to the largest galaxy and beyond. Circular movement, movement like top, large parts of the universe moving together or apart, particles inter-universe movement and the inter-universe particles movements within requisite holistic units; looking at the world of atoms shows the movement is there, within the atoms, and in the inter-atoms space as well.

Looking at the Homo sapiens bodies, there is more or less movement, which is less active when we are asleep. Our body system has many different possibilities for movement, if looking from the exterior viewpoint. However, most humans do not perceive the internal movement, which commences when successful movement of spermatozoa makes it reach ovum inside the mother's body.

From this point of successful movement and conception on, new life has its own internal movement. After birth, the internal movement is the main characteristic of living being and when it stops, it is end of a life. The whole humankind life consists of very complex internal and external movements.

Moving means living!

It is so not only in the living nature but also in the whole Nature and in any requisitely holistic parts under observation.



The nature of the requisitely holistic planet Earth has its internal movement within the planet environments and external movement as a part of the star Sun system's both internal and external movements, and the universe movements (Milky Way Galaxy, etc.). So here we are with the requisitely holistic planet Earth system.

The planet Earth system is a requisitely holistic part of the star Sun system, Milky Way Galaxy system, and the Universe system. The planet Earth system is a very small part of the Universe. However, as a planet with environment suitable for living nature, it is home of humankind and countless forms of flora, fauna and one cell beings of "living nature". There are one-cell creatures: viruses, microorganisms, protozoan, zoo and phytoplankton, and others to plants and animals, and on the top of living creatures kingdom the Homo sapiens is placed.

The planet Earth system – planetary body, atmosphere, and moon - appeared around 4.5 billion years ago (4.500.000.000). At that time the planet was something like a ball of energy and gases with temperature around 7.000 degrees Celsius. Within millions of years, the planet was cooling down, and the firm matter was formed within two hundred million years. The oldest rocks on the Earth have been dated at 4.3 billion years ago (4.300.000.000).

The Moon system has been formed as result of catastrophic happenings after collision of the planet Earth with another cosmic body of the size of the planet Mars. As result, a large mass of matter was put into the orbit of the planet Earth. After a certain time Nature has evolved the Moon. The planet Earth system is an inferior system to the Solar System, the Milky Way, and the Universe.

5.3 The Star Sun System

Our Solar system contains nine (eight by new classification) major planets (one planet missing) and along with the tenth and eleventh as newcomers to the family (now asteroids together with Pluto, which used to be a planet), and countless number of meteorites, comets and minor planets called asteroids. It also contains the star Sun system, the star around which the rest of its system is moving, circling and revolving etc.

The content of the planet Earth and other planets inside of the Solar System are "unique" because of the information, matter, and energy content at their birth.

All forms existing at the moment of evolvement are included within our Earth system, and so are many more other forms of the Universe such as light, particles, rays and matter that over the time from the appearance until now have collided



with the planet Earth system. The large part of the planet Earth waters has origin from colliding meteorites with content of the frozen waters.

Major influences on the Earth dynamics come from the permanent magnetic, energy and light flux from the Sun, and from collisions with asteroids, which arrive from the outer space.

5.4 The Climate Change System

The climate change system is internal system of the biosphere and of the nature of the planet Earth. It is responsible for biosphere environmental qualities and conditions for the life to continue. Countless number of other celestial bodies has the climate change systems which are requisitely holistic sub-systems.

All of them are interconnected, interdependent, interacting, cooperating, networking, etc. with internal and external systemic operations of the system under observation and according to Nature.

The climate change system is **provider, maker, holder and guardian** of the living conditions within the biosphere of the planet Earth. With ceaseless systemic operations it allows the present to be as it is.

The climate change system as principle is present all over Nature and the Universe. Together with the evolution, evolvments and other contents of Nature's systemic operations it is a part of continuum.

Interconnectedness, interdependences, interactions, co-operations, synergies, networking etc., within the planet Earth system of the life, climate change system and biosphere, are dynamic factors for the evolution and evolvments of the life forms, and the resulting environmental conditions.

The primordial Earth, some 4.5 billion years ago, was lifeless and unrecognizable by our civilization standards. The air was oxygen-free and many subsystems of the climate change system known today did not exist. The climate change system itself was evolving according to the components and relations of the system as it does even today.

The living nature is moderator of living conditions and is interconnected, interdependent, interacting, cooperating, and networking, etc., with the climate change system.



The rise of the life on the Earth reacted to conditions of the primordial surface water environment, and its physical and other contents. It took the nature, evolution and evolvments of the planet Earth some 0.7 billion years to evolve the life. The first evidence of the life is dated 3.8 billion years ago. From protozoan life of primordial time to evolution and evolvments of the complex biosphere around 1.2 billion years ago there was the time within which the biosphere evolved. First complex living creatures on the terrestrial environment could be placed around 700 million years ago.

The first and second biosphere energy's transition from the anaerobic to the aerobic energy production by protozoan life was responsible for the change of the atmosphere from the oxygen-free to the oxygen-reach one.

The oxygen-content was around 40 % and with time it has been diminishing to 21 % as it was at the end of the 19th century.

The oxygen-content in the air was the major improvement of life conditions, which made the difference from the primordial time to the time of biosphere, from 1.2 billion years ago until the present time.

The concentration of the oxygen in the air for living creatures to breathe should not fall below 8 % that is somehow a minimum needed for survival.

At present in some heavily populated areas of big cities, the concentration of the oxygen could fall just beyond 10 %. I am recommending monitoring of oxygen concentration as a precondition for survival of humans in the fragile and heavy polluted environments (big/mega/poly cities).

Our civilization's first settlements were built some 14000 years ago, because of social life evolution and evolvments of pre-antiquity humans.

First settlements on European area were built on swampy areas, for security reason, and population was up to 10.000 people. It was a result of the changed conditions within the biosphere that happened after the last ice period, which ended some 60.000 – 16.000 years ago. Since then the climate change system conditions on the Earth were almost at the quality of the present time. Of course, changes have existed but not as extreme ones, as the ones coming up now.

The difference between today and 200 years ago is due to the extreme input of our civilization's output into biosphere, such as: all sort of waste, side-effects of nuclear etc. technologies, synthetic chemicals, human population explosion and its consequences; destruction of biosphere resulted from covering the current needs of



humans. In short, and I will work out the above-mentioned later on, those are reasons/impacts, which cause the triggering effects and other changes of our civilization on the climate change system, as consequences.

The climate change system is a natural complex entity/system. It consists of several subsystems and is a subsystem, too, of systems such as the planet Earth system, the Solar system, the Milky Way and the Universe. It is very old and has been changing all the time, offering rather stable conditions to the life forms.

At present much more extreme changes have been taking place, over the centuries of industrialization and post-industrialization than ever before since the end of last ice age. We humans are not the only cause of these dangerous processes, although an essential one, especially if our decisions and actions are based on a lack of systemic/holistic thinking/behaviour and Eco bio centric philosophy.

The climate change system as an integral part of the planet Earth biosphere system is somehow between its inferior and superior systems; all of them together with the climate change system itself have a number of mutual interconnectedness, interdependences, interactions, co-operations, synergies, networking and etc.

As I have mentioned before, the Universe contains all matter and energy, information, dimensions, powers, forces, lights, rays, atoms, particles and yet unknown contents.

The Universe may have a dramatic influence on the Earth's climate change system, in the case of catastrophic changes affecting the Solar system, and in the case of the Earth's collisions with space body/bodies influencing the Earth's existence.

It happened and may/can happen again. There is e.g. the hypothesis that a collision of the Earth with a cosmic meteorite some 65 million years ago caused Dinosaurs to get extinct.

The largest and most superior system of the Nature is the Universe. The probability of a destructive interaction of the Earth with the Universe system is very small. It is so because of vastness and countless number of celestial bodies: galaxies, stars, planets systems and other forms of mater, energy and information within the Universe. The Earth has a little chance to experience major destruction caused by the Universe system activities. The Earth system is namely just a very small part of it.



The Solar system is a very large system, from our civilization's point of view, but a very small one from the galactic point of view, and even much smaller from the Universe point of view. The Sun and its eight planets make one small sub-system of the Milky Way Galaxy. Actually, the Milky Way Galaxy has almost countless star systems, and our Solar system is just one of them.

The Sun is the central star of the Solar System, and has 99.8 percent of the Solar system's matter. It is the center of its system, and source of all energy, matter, power, and information within it. Of course, it is an inferior system to the Milky Way Galaxy, which is over 100.000 billion times bigger in mass as the Solar system.

The Solar system revolves around the center of the Milky Way Galaxy at a speed of around 250 kilometers per second.

For our Earth planetary system the Sun is the source of everything from birth of the planet onward, and we exist because the Sun provides us energy, warmth, light, and all other important inputs – physical and other components and interconnected, interdependent, interacting, cooperating, networking etc. - matter, energy and information. Our planet system is completely dependent on the star Sun system. Our present time experience is mirroring physical, geographical, and biological etc. statuses at which the planet Earth system is at this very moment.

Of course, the influence from the Solar system is not caused only by the Sun, but also is by a number of interconnected, interdependent, interacting, cooperating, relations, synergies, networking and etc., with neighboring planets, planet-like bodies of different size, Moon and other forms of energy, matter, information, and natural powers. The planet Venus is the closest to Sun, and the outer planet is Mars. Together with Mercury, they present terrestrial planets of the Solar system.

The other four planets Jupiter, Saturn, Uranus, and Neptune are gaseous gigantic planets on the outer part of our Solar system. The last planet (not any more a planet but an asteroid) is Pluto, but it is not always the last one, because of its oval-shaped orbit, which places it sometimes before Neptune, but most of the time it is the most distant one from the Sun. Recently two new celestial bodies have been discovered in line from the Sun and after Neptune/Pluto.

The Solar system is stable, and changes in its system qualities are reflected in/influence its entire system. The most important parts of the Solar system are the energy flows from the Sun to the planets, and the quality of each planetary



system. Not only each planet's composition, but also its distance from the Sun is a deciding factor for the quality of the Solar system. The life stream of light and warmth from the Sun enables life on Earth.

Both the quality of the star Sun system and unique Earth's composition/distance from Sun make interconnected, interdependent, interacting, and co-operating parts of the life-support system on the Earth.

Understanding of many powers and forces of nature is important. They include gravitational, magnetic, energy, matter, and information transformations, rays, and particles etc., dynamics/movements (like the top, orbital, galactic, and of the Universe), the Solar system, the Sun and planets including our planet the Earth. Synergistically, they are making systemic characteristics, interconnectedness, interdependences, interactions, cooperation's, networking and synergies etc. of the whole system.

The Sun has a diameter that is 109 times bigger than the one of the Earth, and 400 times larger than the one of our Moon. All eight planets and all other forms within the Solar system are orbiting around the Sun. The Sun and all planets move like a top and all together orbit within the Milky Way Galaxy. All this movement should be more researched to allow us to understand the basic powers resulting from interconnectedness, interdependences, interactions, cooperation, synergies, networking and etc. among parts of the Solar system.

The Solar system as well as all other systems is functioning according to their given systems²¹/entities of systemic operations parameters. Our civilization has its chance to research and understand the Nature and our existence.

The open question is whether global community of humankind interferes with operations of the climate change system and the nature or not. The answer is **yes**. Our present life style is not in harmony with the nature systemic operational practices.

In many fields of activities, we are endangering our existence with opening the possibility of a planetary catastrophe. The nuclear technologies are the most dangerous activity. I discussed it many times and on many occasions. My recommendation was "The nuclear research should not come out of research

²¹ We say »system« rather than »set«, because in the systems theory a system consists of two sets, mathematically: the set of its elements and the set of relations between them (and with its environment) resulting in synergetic attributes that the entire system has, but its elements alone do not. Hence, speaking of a set would mean the traditional oversight of relations and their crucial importance. . A case of a system as a synergy: water is a synergy of two gases, not liquids; edible salt is synergy of two poisons; etc. Attributes change by synergy.



laboratory doors”. It is number one possibility for global community of humankind to experience its own extinction.

The impact of the climate change system is number two. On several occasions I stated the following; “The climate change system impact on the biosphere could change geography, biology, and chemistry so much that our planet Earth will not be recognizable for the present humankind”. The climate change system did it in the past and caused extinction of many species and practically changed living nature of the Earth. Explosive reproduction of humankind is the third most dangerous activity. Intensification of the climate change system impact is result of high increase of the global community of humankind due to energy consummation, transport activities, urban life, a total consummation and consequent pollution of basic environments – land, water and air.

Synthetic chemical compounds, particles research, Nano technologies, genetic manipulations etc., in practical use could be next in line. It is most dangerous because the long-term impact of them to the nature is completely unknown.

6. The Global Community of Humankind

The global community of humankind has beyond 7 billion humans: babies, children, youth, mankind and womankind including old people. I am now 75 years old and I remember, what I thought, when I was 20. I did not think that I would reach 75.

This part of the book was prepared from the books published after 2002 onwards. Please see at www.institut-climatechange.si Due to change of the home page www.institut-climatechange.si at the end of 2015, when it got the status of the history home page, the publications in 2016 are in bibliography of this book.

It is a case of “The New Approach”²² to the challenging questions of the global community of humankind survival. It presents hypothetical and real issues of the philosophy and search for the knowledge and understanding of the nature and meaning of the life and the Universe.

The vision of the sustainable future of humankind has a magic power, because it presents that the Nature and humankind are not separate issues, systems, and a requisitely holistic approach, but it lets us know how we have come to the present, what the present is, and how shall we be in the future.

²² »The New Approach« is result of the research work of Prof Emeritus Dr Slavko Kulic, Zagreb, Croatia, which is still a part of a unapplied reseach.



Do not forget, we may research and learn about past, we may understand present, but future is not predictable.

Calling the global community of humankind a system is appropriate in my opinion. The global community of humankind system is interconnecting, interdepending, interacting, co-operating, networking etc. with countless number of living beings within the biosphere system of the planet Earth and Universe.

According to system theory, operational research, system thinking and complex problem solving, understanding and/or controlling of the system per parts is not very helpful, because as a whole a system has attributes that differ essentially from attributes of each one of its parts alone.

Synergies emerging from their attributes provide to the new whole/system new attributes. Therefore, the truth will be easier to discover, and difficulties and evolvments easier to control, if the feature/event/process is considered as holistically as possible rather than per single parts. This is called systemic or systems thinking. A total holism of human behavior, i.e. monitoring, perception, thinking, emotional and spiritual life, decision making, acting, and a total wholeness of insights and outcomes, is usually impossible to attain, but a single specialization – a single viewpoint of a single profession – limits humans to fictitious holism providing for fictitious wholeness (Mulej 2009).

This fact makes us apply the Mulej/Kajzer (1998) law of requisite holism as the suitable one. In the case of the global community of humankind system this would mean the understanding that synergies of insights from physics, chemistry, biology, history, technology, economy and several more disciplines and practices are needed. One would chose and collect professions and viewpoints that one would consider essential and interdependent for mutual completing up by differences.

Following the ancient Greek philosophy, one would link them based on their interdependence or – in the Greek wording – dialectics. A dialectical system would show up (Mulej, 1974, see Mulej 2013). In this case, a system is not meant to be a complex feature, but a mental picture about it, which we introduce in order to attain the requisite holism of human behavior and requisite wholeness of its outcomes.

A systemic approach to the global community of humankind system must consider “The Age of Globalization”.



The present status of our civilization, unnatural life of humans in poly/mega and similar urban centers, management of technologies without sustainability, lack of individual and corporate social responsibility²³, uncontrollable explosion of human population, short- and often medium- and even long-term ('side'-)effects of synthetic chemicals, modern technologies, weapons, combustion engines, transport system, nuclear technologies, industrial and agricultural production, national and international political distribution of power and administration, and their influences on the scientific global, national and local communities.

They cause a gap between needs and results of the cohabitation of Homo sapiens civilization with the nature within the biosphere of the planet Earth. This gap threatens this civilization to disappear.

This gap surfaces as the climate change system and global community of humankind impacts, and consequences are: strong winds, large droughts and floods, tsunamis, earthquakes, large air pollutions by industrial facilities, city life and transport system emissions, changes in local climatic patterns, global warming, depletion of the ozone layer, pollution of all three basic environments of the biosphere: land, water and air and etc.

They are due to huge misunderstanding of the nature and the climate change system by the population in local communities around the Globe.

Simple language for simple people and understandable explanations are needed for sustainable future of humankind or coexistence and harmony of global civilization of humankind with the nature of the planet Earth.

It is as it is; I am merely trying to present the contemporary scientific approach to the present most important issue of humankind coexistence with the nature of the planet Earth, the Universe and etc.

Whether we shall understand the climate change system or not has a crucial importance for the local community life.

²³ Social responsibility is an attribute of humans and their organizations. It prevents or diminishes, at least, the danger of humans' abuse of their influence leading to damage experienced by their co-workers, other business or personal partners, broader society or nature on which the human existence or quality of life, at least, depend. This is a short summary of definitions in international official documents. Other references see in social responsibility an upgrading of the innovation effort/support called improvement or total quality management or business excellence. Further references see it closely linked with systemic behaviour; yet further ones link it with efforts aimed at peace in the world (Hrast et al., ed., 2006 - 2016, etc.). The current dangerous state of climate change system results to an essential extent from a lack of responsible behaviour of humans over centuries of industrialization and all times until today.



It gives questionable chances to the long-term survival of humankind, which requires sustainable future. Sustainability of local communities leads to the sustainable future of global human civilization²⁴.

The present status at the Biosphere of the planet Earth, living conditions and daily events or living of Homo Sapiens present civilization and the rest of the living creatures are showing signs of stress and adaptation to the changing living conditions resulting from changes in the planet Earth's Biosphere environment.

After 1960s the visible changes have become more than just cyclic events within the Solar system and the planet Earth system. The most acute issues have been changes within the weather patterns and the most significant change was commencement of the ozone layer destruction because of the CFC's (chlorofluorocarbons) introduced to the atmosphere by our civilization.

Humankind's local communities include variety of many different contents of the human life styles, etc. A major part of it has connections with origin of the people living within the local community, and with the natural characteristics of their environment, within which the local community lies. Geography, biology, physics, chemistry, and history cover in general the main deciding contents.

Common thinking and understanding are day-by-day life issues, local events and communal life stories. All of us live in a local community, but very seldom, we understand individuality of the local community. Countless local communities of the humans on the planet Earth are countless individual approaches of the humans to make their living. Beside the family, the local community is the basic unit of the present human civilization.

It is very difficult not to see similarity with star systems, planets, galaxies and other celestial bodies of energy, matter and information within the known Universe.

As we seldom have opportunities to see the individuality of the local community of humankind on the planet Earth, it is therefore more difficult or even impossible to understand individuality of other planets and the planet Earth. To the countless number of the planets within the Milky Way Galaxy we have to add another even more countless number of the planets within the rest of the Universe. The Universe vastness is very difficult to understand.

²⁴ For details please see our books and publications after 2002, which are in bibliography and are displayed at history home page: www.institut-climatechange.si



To make it more complex, I have to say, that what we understand of the Universe is a very small part of it, and even less do we know how small part it is, is our Universe in reality.

The Nature, the origin of the planet Earth, the origin of humans, etc., are parts of large content we call »Nature«. It is hard to answer to all questions of Nature. However some of them need to be answered for the sake of philosophy and understanding of the life and other issues connected with it.

The present science has to undergo future evolvement to be able to answer the basic questions about the Nature. That is why I have put my recent research in this book in order to put on records new theories and possibilities for tomorrow. Tomorrow, of course, I expect better environment for humankind and sustainable future²⁵ for our descendants.

6.1 Discussion about Time

Here we have to rethink/discuss our human achievement called the TIME. We humans have a long history of use of the time as practiced. At present, the time is a very important dimension of our living. Practically it is very difficult to imagine our living without the time practically in use.

When looking from the Nature's viewpoint, we may see it does not use the time. **The Nature is always in the present.** We may discuss it as the Nature is taking as much time as needed for a certain process or systemic operation. Moreover, due to its systemic abilities the Nature evolves in only one direction – **“the multidimensional evolvement ahead”**. Direction of the evolvement is not known, but it is result of interconnectedness, interdependences, interaction, cooperation, synergies, networking etc.

I think the TIME is our civilization imaginative dimension, which is very useful to our living, thinking, discussing, researching, etc., but the Nature does not have the time as its dimension. Processes in the nature are having their evolvement according to the direction of the evolvement and the information, which is assisting it, and it exist only at present.

Due to its systemic quality and human understanding of it by the requisitely holism principle of the human approach (Mulej, M., Kajzer, S., 1998), based on the concept of the “dialectical system” as a network of all essential viewpoints by Mulej, M. (1974), the system qualities, and environment within which the

²⁵ The sustainable future of humankind is harmony of our civilization with the nature of the planet Earth.



requisitely holism and wholeness of the nature exist THE PRESENT is viable (to our understanding) or not as a continuum, but it has a constant continuum be it understandable or not.

6.2 *Sustainable Development*²⁶

The thinking theory, system thinking, system analysis and synthesis, complex problem solving, new science of networking, swarm research, and etc., offer new thinking techniques to assist scientific, common, and whatsoever thinking patterns of our civilization, to restore natural thinking and acting towards a noble and a prestigious target of *sustainable future*²⁷ of humankind.

After two world wars in the 20th Century the humanity was facing difficult times. Rebirth of the United Nations, evolution with innovations, research and development resulted into present Globalization Age. A part of this is a social methodology titled “Sustainable Development”, which was born as an outcome of the “Our Common Future” report 1987.

Among the first researchers of the modern era in 1957 the British scientist **James Lovelock** in his work and later in the book “Gaja – A New Look at Life on Earth” (1979) opened new frontiers for environmental thinking and understanding of life and nature. The result of his research on the planet Earth as some living form has influenced humanity, and has been a commencement of the environmentalism. The James Lovelock work inspired **Rachel Carson**, to write the book “Silent Spring” 1962, and the establishment of the NGOs of environment protection as Greenpeace and others followed.

Let us continue with “**The Club of Rome**”, which is a non-profit, independent organization founded in Rome, Italy, after its April 1968 gathering initiated by Hon. Aurelio Peccei, Italian industrialist and Scottish scientist Alexander King. The membership includes up to 100 members from the science, politics, economics and culture individuals recognized for their work.

The first and the most known report “The Limits to Growth” was published in 1972. Actually it is dealing with global studies, system thinking, and holistic approach to the global problems of global community of humankind and the Nature.

²⁶ It is prepared from trilogy »Sustainable Future of Humankind«, Ecimovic and co-authors, 2007 – 2010.

²⁷ Sustainable Future is harmony of our civilization with the Nature (Ecimovic numerous statements).



With the dawn of the third millennium their activities followed the global problems of humankind and with a reconstructed organization they became an important international club working for a better tomorrow of humanity. Their activities are coordinated by: International Centre of the Club of Rome at Winterthur, Switzerland, and European Support Centre in Vienna, Austria.

“**Stockholm – 72**” was the first UN conference on the Environment held in Stockholm, Sweden, in 1972. The Stockholm Declaration and the Stockholm Action Plan have been adopted. The main result of the Stockholm – 72 was establishment of the UN Environment Program – UNEP.

The UN World Commission on Environment and Development submitted the report “**Our Common Future**” or “**G. H. Brundtland Report**” to the UN General Assembly in 1987, maybe the best report whatsoever presented at the highest international political institution of the present humankind. The term - “**Sustainable Development**” - was introduced by this report. “Our Common Future” report had strong impact onto the global society.

The “Common Concerns” report stated: “Those who are poor and hungry will often destroy their immediate environment in order to survive: They will cut down forest; their livestock will overgraze grassland; they will overuse marginal land; and in growing numbers they will crowd into congested cities. The cumulative effect of these changes is so far-reaching as to make poverty itself a major global scourge”.

“Failure to manage the environment and sustain development threatens to overwhelm all countries. Environment and development challenges are not separate challenges; they are inexorably linked. Development cannot subsist in a deteriorating resource base; the environment cannot be protected when growth leaves out of account the costs of environmental destruction. These problems cannot be treated separately by fragmented institutions and policies. They are linked in a complex system of causes, and effects.”

Those statements have been overlooked by the coming generations. The spirit of complexity was just talks, reality of issues was neglected. Environmental quality of the planet Earth Biosphere was and is (2017) neglected. Interconnectedness, interdependences, interaction, cooperation, synergies, networking etc. of all matter, energy, information, particles, rays, powers and forces and yet not known contents of Nature were overpowered by needs of individuals, national elites, security needs, money reproduction, bureaucracies, military needs, wars, riots, genocides etc. up till now (2017).



In “Towards Sustainable Development” in Our Common Future Report the definition of it was stated as: **“Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs”**. It is a very noble, humanitarian, cosmopolitan, global goal, which after it had been invented was generally misused by countless politicians, bureaucrats and people of individual feelings and not humanitarian quality, knowledge or morality and wisdom.

In “Our Common Future” a nice statement said: “Many of us live beyond the world’s ecological means, for instance in our patterns of energy use. Perceived needs are socially and culturally determined, and sustainable development requires the promotion of values that encourage consumption standards that are within the bounds of the ecologically possible and to which all can reasonably aspire”.

“The world must quickly design strategies that will allow nations to move from their present, often destructive, processes of growth and development onto sustainable development paths”. This content was also completely neglected!

“Critical objectives for environment and development policies that follow from concept of sustainable development include:

- Reviving growth;
- Changing the quality of growth;
- Meeting the essential needs for jobs, food, energy, water, and sanitation;
- Ensuring a sustainable level of population;
- Conserving and enhancing the resource base;
- Reorienting technology and managing risk; and
- Merging environment and economics in decision making”.

Objectives stand even today criteria, and have not been ever taken into consideration of politicians, bureaucracies and nations agendas.

Most significant was the statement on “The Urban Challenge”

– “In 1940, only one person in eight lived in an urban center, while about one in 100 lived in city with a million or more inhabitants (a “million city”)

- “By 1960, more than one in five persons lived in an urban center, and one in 16 in a “million city”. By 1980, nearly one in three persons was an urban dweller and one in 10 a “million city” resident”.



Hon. Tom McMillan, Minister of Environment, stated at WCED Public Hearing, Ottawa, on 26-27 May 1986: “The challenge ahead is for us to transcend the self-interest of our respective nation-states so to embrace a broader self-interest the survival of the human species in a threatened world”.

Dr. Gro Harlem Brundtland talking on report stated: “This commission’s report, Our Common Future, contains a message of hope and opportunity”.

The representatives of 179 countries attended the 2nd The UN Conference on the Environment and Development CED-2, Rio de Janeiro 1992 or Rio Summit (the second after Stockholm 1972). A huge document was approved; Agenda for Change and Agenda 21 were adopted. A number of documents were approved, but never implemented.

10 years after Rio at World Summit on Sustainable Development, August – September 2002, Johannesburg, South Africa, was international gathering without visible positive result of co-habitation of the global community of humankind and the Biosphere of the planet Earth.

Somehow it is how we have come to 2013 after announcement of “The World Thinkers’ Panel on the Sustainable Future of Humankind” or “The Xiamen Declaration”.

20 years after Rio – Rio + 20 international gathering in Rio de Janeiro, 2012, was just continuity of talks directed by 1% and unclear in terms of consequences for remaining 99% of global community of humankind.

In **2009 the conference in Copenhagen**, which was announced to produce the follow up of the Kyoto Protocol of 1997, agreed upon by the UN Framework Convention on Climate Change (UNFCCC), appeared to be total flop. Moreover, the failure was total disruption of many years of efforts and has not yet been overcome by international political institutions.

The reason in my opinion was in wrong handling of Our Common Future report and its possible global impact on society. Especially the ones with the smallest social responsibility blocked it in order to preserve their monopolies and profits.

UN at that time did a wrong babysitting of the report, and it became agenda from UN to people, instead of agenda from UN to its **member states**. Member states never put in action sustainable development agenda due to national priorities (wealth of national elite and other national state priorities).



In the meantime United Nations due to poor leadership and political mishap of member nations on one hand and global human society on the other hand were not ready for sustainable development. The role of UN was not adjusted to needs for challenges of time - end of second millennia and beginning of third one.

Restructuring of UN under leadership of that time was impossible. Common practice was and is for individuals: politicians, bureaucrats, national elites, governments, media, show people, religious leaders, local community leaders etc., to meet their needs and needs of their family for wealth and employment, and after that, to look for humanitarian purposes.

On top of it due to election practices, there has never been time for humanitarian results. In practice, they never took care of building a new profile of human for the third millennium, and with new education, ethics and profile with humanitarian values to be able to meet challenges of nature, as they are per now.

Homo urbanus took over civilization and did not take over long-term responsibility but only short individual needs. There is a nice saying: “We are the only reason our ancestors existed”.

Our children are hope for touching the future. Let our children’s children be the reason we act”.²⁸

At present the sustainable development and more sustainability has become a popular term for politicians and politicians-like²⁹ people, who wish to make impression on listeners and public. It is a habit to mention sustainable development, global warming, and climate change as important contents of present time, but without understanding them in reality.

When, the hurricane Katrina destroyed New Orleans etc., the president G. Bush acted without understanding of happening³⁰.

He as president of USA should have prevented tragedies occurring there after his taking over, and should not have supported/initiated national and international tragedies from natural ones to political, wars and riots.

²⁸ Prof. Dr. Warren Flint stated in his Five E's Unlimited, rwflint@eeeeee.net, and www.eeeee.net .

²⁹ Politicians like are politicians, bureaucrats, individual leaders from industry and commerce, educators, researchers, military leaders, religious leaders etc., people of influence but without humanitarian values, education, and ethics needed for global leadership.

³⁰ It was a known threat for New Orleans – see 2001 Scientific American. Also Prof. Dr. Timi Ecimovic stated in 1998 at UN SD conference »New Orleans area should not be inhabited at all. Let it be Historical city and nothing else«. »Katrina« was one of disasters and the future of New Orleans does not look nice!



The action for mitigating New Orleans “Katrina” tragedy should have been taken well in advance. After tragedy – the large New Orleans region should have been declared unfit for humans to live there, because it had been unfit before and still was after “Katrina”.

After “Katrina” happenings USA Government should have declared and made clear statement on unfitness of the region for humans to live there.

Scientists understand and are familiar with risks and hazards of the lands such as New Orleans and alike. Society should take over positive issues, and government should prevent events that could be prevented.

Sustainable development as the leading global society’s policy is questionable from many contents of present practices.

At time of awakening, it was excellent, but did not change with challenges of present and past short-term time values.

The problems of sustainability of humankind and Earth are much more complex as it was understood during the end of the 20th century.

The first part of the sustainable development – “sustainability” is much more important and has value for future of humankind. The second part “development” is misused term from industrial revolution and economics, and has nothing to do with the nature of the planet Earth.

Development could tackle product, construction, operating human made systems, repairs, machines, armaments, etc., and it is a part of human society of post-industrial era.

The nature has no development what so ever and nature system works on contents and interdependences, interactions, and co-operation relations.³¹

2015 the conference in Paris was another confirmation of misunderstanding of the present, nature, biosphere, planet Earth and the global community of humankind by the world of humans top representatives.

³¹ Discussed in the book System [Thinking and Climate Change System – Against a big »Tragedy of Commons« of all of us], 2002, Ecimovic. Majur, Mulej, The Information Theory of Nature, and, 2006, Ecimovic, and The Three Applications of the System Thinking , Ecimovic, 2009 with the Environment Theory of the Nature are opening discussions for understanding present by our civilization, and this book.



Instead of concluding destructing ability of humans, conference was concluded with “We saved planet”.³²

6.3 The Sustainable Future of Humankind

With introduction of modern tools for thinking and researching of complex issues as human society is and many natural contents of the nature of the planet Earth are, the contemporary research reported:

- Information and Environment Theories of the Nature;
- System thinking, analysis, synthesis and system theory;
- The requisitely holism.
- The integration and disintegration.
- The new sciences of networking.
- The swarm research and etc. on top of many excellent tools used up till now, humanity has more possibilities for better tomorrow.

What is needed is New Approach³³ as introduction of global society system relations, values, ethics, contents and mechanisms, which should assist transcendence to sustainable future of Earth’s global society.

What we find necessary for survival of humankind, is to introduce sustainable future of humankind, individual responsibility of humans, universal upbringing, education and lifelong learning.

They will facilitate building up conditions for new evolutionary evolvement of humans as per challenges of the third millennium, to ensure survival of Homo sapiens within the biosphere of the planet Earth, to prepare new approach for our descendants to live in prosperity and etc.

The goal of sustainable future is most complex issue, which could be undertaken with consent of all humankind and dedication for fulfillment of its content.

Let us see what sustainable future concept is.

³² The present humankind do not has knowledge, technology or means to save planet Earth. The present humankind has ability, knowledge, technology and means to end existence of the humans on the planet Earth.

³³ New Approach and addresses needs for restructuring of global society: it was introduced by Prof. Dr. Slavko Kulic, IOM, from Zagreb, Croatia, but it is still within science and is waiting for better time to be understood and used.



At Xiamen, China, on 25th September 2011 at gala event a declaration “**The World Thinkers’ Panel on the Sustainable Future of Humankind**” “**WTP-SFH**” was announced as a next possible step forward after the sustainable development social technique, which has not got well accepted around the global community of humankind.

The Sustainable Future of Humankind is a societal methodology, concept, technique and technology for the needed change of global community of humankind survival under challenging condition at the Nature of the planet Earth in and after the 21st century.

It is an alternative, whose short description could be:

»**The Sustainable Future of Humankind is a Harmonious and Complementary Coexistence of Global Community of Humankind and the nature of the planet Earth**»³⁴; by transcendence from the sustainable development to sustainable future it is a new approach for a better tomorrow of humanity.

I expect that humanity will achieve abilities, knowledge, and understanding and needed opportunity for next step in evolution needed for longevity and survival.

This will open new horizons for evolution of humanoid.

The new initiative for long-term project “Next Europe” of The European Academy of Sciences & Arts – EASA could demonstrate new approach.

It is a short description of a very complicated and complex content of the present global human society and its environment – the biosphere of the requisitely holistic planet Earth system.

I think, a good work of many humans towards sustainable development, should be transferred to more complex sustainable future concept.

Let me present the declaration for implementation of the sustainable future concept.

³⁴ »The Sustainable Future of Humankind is Harmonious and a Complementary Coexistence of Global Community of Humankind and the nature of the planet Earth«, and it is short definition of very large, global, and complex societal methodology, technique, technology or qualitative change in the human society towards peace, respect, justice, morality, wisdom and sustainability needed for long-term existence of humans on the planet Earth.



**»The World Thinkers' Panel on the Sustainable Future of
Humankind«**

DECLARATION



Zg. Medosi, Korte, Slovenia, 12th September 2011



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The Declaration

»The World thinkers' Panel on the Sustainable Future of Humankind«

Digital presentation at www.institut-climatechange.si

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The Declaration for sustainable future of global humankind community 2011.

**CIP – Kataložni zapis o publikaciji
Narodna in univerzitetna knjižnica, Ljubljana**

502.131.1 (0.054.2)

**The World Thinkers' Panel on the Sustainable Future of Humankind (Elektronski vir):
declaration/ Timi Ecimovic ... (Et. Al l.) – El. knjiga. – Korte: SEM Institute for Climate
Change. 2011**

Način dostopa (URL): [http:// www.institut-climatechange.si](http://www.institut-climatechange.si)

ISBN 978-961-93136-1-5 (pdf)

**1. Ecimovic, Timi
257658112**



DECLARATION

Of

“The World Thinkers’ Panel on the Sustainable Future of Humankind”

People throughout the world are against the culture of violence and war. They are for a culture of friendship, solidarity, tolerance and peace. (By a decision of 52/13, the decade 2001 to 2010 was unanimously proclaimed “International Decade for a Culture of Peace and non-violence to all children of the world” by the General Assembly of the United Nations.)

By: Prof. Dr. Timi Ecimovic

On 15th August 2011 the World Thinkers’ Forum, Ansted University, Sir Prof. Dr. Major Roger Haw Boon Hong, Penang, Malaysia, SEM Institute for Climate Change, Prof. Dr. Timi Ecimovic, Zg. Medosi, Korte, Slovenia, Prof. Dr. Dana Marie Barry (USA) and Organization for Protection of Children Rights, Hon. Ricaardoe Di Done, Montreal, Canada, Ambassador Dato’ Dr. Ang Ban Siong (Malaysia), Professor Tang Shui Yuan, Chairman of the “1st International Conference on Protect the Earth and Ocean” in Xiamen, China, and Dr. Garfield Brown, South Africa, proposed founding the panel as follows:

Within the World Thinkers’ Forum is an open and new working panel named: “The World Thinkers’ Panel on the Sustainable Future of Humankind.” For short it is represented by the following acronym “WTP-SFH” and has the sign displayed below.



The address for it is at Korte 124, SI 6310 Izola – Isola, Slovenia.



A long list of people of good will, academicians, scientists, politicians, workers, administration and government officials, and many others are supporting this Declaration. Among them are members of the SEM Institute for Climate Change, the Ansted University family, and honorable and other members of the World Thinkers' Forum, etc.

The theoretic and practical background for this Declaration can be found in many works about "Sustainable Development" and "Sustainable Future of Humankind." The trilogy, "Sustainable Future of Humankind," Ecimovic, and many more scientists' work during the first decade of the 21st century could serve as theoretical background. It can be seen at the following link. www.institut-climatechange.si

Members and supporters of the Declaration are free of charge members. The UN, national governments, international corporations, international institutions, national institutions, education institutions and others, are invited to co-operate on the work for the sustainable future of humankind.

The Declaration is giving rights, and is asking for individual social responsibility from members of the human global community: (7000000000+ individuals). The goal is to reach global sustainability of the global humankind community. The global sustainability is a transition from sustainable development societal technique to the sustainable future societal technique. The UN and agencies, especially the UNEP and UNESCO, are welcome to co-operate for the common goal of sustaining the future of humankind.

Our individual lives are very short, and their value and meaning are found substantially in fact that we are integral parts of the "human project". We must support the continuum of humankind because what we are fundamentally is human beings who are inseparable from the continuum, a continuum that includes our descendents and future generations. As human beings we are responsible for each other and for future generations.

"The World Thinkers' Panel on the Sustainable Future of Humankind" provides a platform for people (interested in the arts, scientific & cultural activities and peace mission projects) to meet and to work together. The primary goal of the said platform is to create a level of understanding and tolerance between the various peoples of the world and to contribute to the promotion and maintenance of world peace. We welcome all individuals and groups of the world irrespective of race, sex, language and religion. The work of "The World Thinkers' Panel on the Sustainable Future of Humankind" is based on the respect of human rights



and basic liberties of all peoples of the world. This relates directly to the active participation of UNESCO's project "Culture of Peace"

The task of "The World Thinkers' Panel on the Sustainable Future of Humankind" is a forum for all non-governmental institutions, ministries, public offices, scientific and cultural organizations as well as institutes, diverse organizations, museums, universities, foundations, unions, associations, business organizations and other establishments. It is also for individuals who are practically, organizationally and scientifically engaged in promoting cultural activities, folk art, culture heritage and scientific activities.

Besides the working order and the activities of our world-wide organization for the practical, organizational, and above all scientific work for culture, we also have to meet a very important, social, humanistic, and cultural-political order. Many of us have learned and grown from being a new member of "**The World Thinkers' Panel on the Sustainable Future of Humankind**".

The Declaration is giving rights, and is asking for individual social responsibility of members of the human global community: 7 billion individuals. The goal is to reach global sustainability of the human global community. The global sustainability is a transition from sustainable development societal technique to the sustainable future societal technique. The UN and agencies, especially the UNEP and UNESCO, are welcome to cooperate for the common goal of sustaining the future of humankind. This declaration will go on to other parts of the world.

We think all members of global humankind community have the responsibility to help when needed. Many grant foundations of Culture, Arts, and Scientific institutions (from local and international levels) will give support to the development of common interests.

We believe that "The World Thinkers' Panel on the Sustainable Future of Humankind" not only contributes to the attainment and exercise of these rights, but that multiculturalism plays a role in solving some of the problems in modern society.

The founding group of "The World Thinkers' Panel on the Sustainable Future of Humankind" has established the following categories for making "The World Thinker's Panel on the Sustainable Future of Humankind." These categories (that are listed and described below) are important for the panel to achieve its recognition at the international level.



Categories

1. Characteristics of traditional culture
2. Virtues of traditional culture in a modern society
3. Traditional culture and cultural diversity
4. Traditional culture and rights to culture
5. Traditional culture and multiculturalism
6. Plans for the promotion of traditional culture through systematic continuing study of traditional culture, systematization of exchange of traditional culture and regional cooperation, regular conduct of a traditional culture-related forum and development of cultural industry based on traditional culture.

1. Characteristics of traditional culture

A traditional culture is a way and system of life that is practiced by a people for generations, and features an eco-friendly culture where humans coexist with nature, where an individual is relatively less alienated from the others, and when the spiritual culture is pursued more than the material ones.

2. Virtues of traditional culture in a modern society

Since the advent of modernization and industrialization, our modern society has faced a number of obstacles and problems such as the breakdown of ecosystems due to the indiscriminate conquests of nature, severe natural disasters, cut throat competition in the world markets, unbalanced distribution of wealth, widespread human alienation, attachment to material values at the expense of spiritual values, making it so difficult to lead a humane life. In this context, the traditional culture is of great use for solving such problems in a modern society. In particular, the Confucian cultures in East Asia think highly of ‘filial piety’ and ‘respect’ that are core values, and which are of great worth and merit to remove distrust and enmity between generations and help recover the dignity in human beings.

3. Traditional culture and cultural diversity



The traditional culture is the result of communication and interactions between human beings who have individually adapted themselves to geographical and ecological environments, best representing the individual identity and uniqueness of nations and regions. It can be therefore said that the traditional culture underlies the diversity of world and regional cultures.

4. Traditional culture and rights to culture

The constituents of a nation are entitled to have a political and social life, as well as a culture life. They should have the rights to exercise the freedom to accept the past as well as the present culture. In current times, traditional culture as identified with the past does not belong to the mainstream, therefore, making it difficult for people to appreciate it. In order to satisfy their cultural needs, cultural policies should be set and practiced so that they may have access to traditional culture anywhere and anytime.

5. Traditional culture and multiculturalism

Our contacts and interactions with cultures can make us have a better understanding of other cultures. Therefore, we get to have a better understanding of the different regions and its peoples, further aiding in attaining made and preferentially based on traditional culture. More emphasis on traditional culture and arts is especially needed so that it retains the indigenous ethos of a region.

6. Plans for the promotion of traditional culture

The traditional culture has a meaningful importance as shown above, and for its conservation and promotion, some plans are proposed below. It is so recommended that governments, private groups and communities make active co-operating efforts in realizing this.

- (I) **Systematization of exchange of traditional culture and regional cooperation.**



The exchange of traditional culture has value in promoting multiculturalism. Until today, the exchanges have been made unsystematically and at random, not probably enabling people to gain easy access to other traditional cultures. In order for a community to exercise their equally cultural rights and enjoy any other traditional cultures, more exchanges and regional co-operation should be ensured institutionally. Governments, private groups and communities should give attention to this.

(II) Regular conduct of a traditional culture-related forum.

The forum should be held regularly for enhancing understanding of traditional cultures in areas, for contribution to the peace of mankind and the world at large, and for maintaining diversity of cultures worldwide, thus accepting multiculturalism, and allowing the nation and community to awake to the importance of traditional culture.

(III) Development of a cultural industry based on traditional culture.

For a traditional culture to be sustainable and alive in modern living, its advantaged competitiveness should be ensured and closely adhered to the life of a community. It is also required that the cultural industry such as folk art and craft art should be developed with traditional cultural assets. The cultural industry affects modern living, and so the traditional culture, uniquely separate from other modern cultural assets, should be made to contribute to satisfying the cultural demands of community.

This Declaration is more fundamental than a mere professional production. It reflects the present endangered status of our global community of humankind, and the absolute need for a better tomorrow characterized by global environmental sustainability and knowledge. The Declaration should be the beginning of the road toward a truly sustainable future of humankind, and harmony of humankind living within the biosphere realities of the planet Earth. This should be our contribution toward the lives of our descendants. The UN and national governments have to transcend from the present, and co-operate for needed changes to sustain the future of humankind. We need a planetary perspective, planetary leadership, and planetary values.

Our present time period should be enriched with active work towards a sustainable future. Also we need skillfull, global, humankind community



leadership, under preconditions of individual and collective social responsibility. We must support the accurate scientific knowledge of Nature and humanistic sciences, as well as support and promote respect, peace, morality, and wisdom.

I wish to see the global promotion of ideas from this Declaration and a sustainable future of humankind.

Prof. Dr. Timi Ecimovic

The WTP – SFH declaration is translated by volunteers in beyond 30 languages.

The declaration is a panel for mutual work of people on implementation of the sustainable future of humankind. The sustainable future concept includes:

- Redirection of scientific work towards researching systems of the nature of the planet Earth, Solar system, Milky Way, stars and galaxies of the Cosmos/Universe and/or the basic environment Cosmos/Universe as stated after introduction of the Information and Environment Theories of the Nature.³⁵
- Redirection of the climate change system research towards researching of the climate change system as a part of the planet Earth biosphere, and interconnectedness, interdependences, interaction, co-operation, synergies, networking and etc. within system itself and other systems of the nature of the planet Earth.
- Transcend of the present education system towards education for understanding and use of human abilities, thinking processes as major tool for better work and future. “The Universal Upbringing, Education and Lifelong Learning” should allow for a better knowledge and understanding of the present humankind’s descendants. Ethics, human values, respect, past and present achievements, knowing heritage, and many more should become a part of education system. Not to mention lifelong education, long distance learning and new methods of knowledge transfer enabled by new communication means/techniques.
- Transcend from Homo urbanus³⁶ and Homo Slumus to Homo of sustainable future with the new approach to life on the long-term values and holistic system thinking foundations.

³⁵ The Information Theory of Nature, Ecimovic, 2006, and the Environment Theory of the Nature, Ecimovic, 2009 at The book The Three Applications of the System Thinking, please see at www.institut-climatechange.si

³⁶ Homo Urbanus introduced during 2006 and Homo Slumus introduced during 2009 are terms that describe people living within urban centres or slums of the towns, mega, poly and large cities, where the environment has most fragile effects on the humankind.



-
- Establishment of global community of humankind or society with direct democracy, World parliament, Constitution of the Earth, and World government.
 - Transcend of United Nations towards their integration with global community of humankind's needs for problem solving in co-operation with its global governing institutions.
 - Decommission of national governments and bureaucracies towards meeting the needs for new global human system/civilization/society.
 - Rethinking of military and security the needs and establishment of individual responsibility of humans within the global human society.
 - Rethinking of present living style practice, techniques, and technologies in use towards the sustainable ones. Wars, transport, use of nuclear power and technologies, construction, land use, water use, air use, communications, energy, conservation practices, long-term impacts of the present on the future possibilities, and many more should be looked at and the proposed solutions reviewed.
 - Rethinking of the present research³⁷ and industrial production practices of producing without knowing the long term impacts over the biosphere of the planet Earth.
 - Mitigation of the climate change system impact and its consequences in the biosphere as risk due to the present practices of humans on Earth, and present short and long term living practices 'changes.
 - Building up the new Homo sapiens (Homo of Sustainable Future) for the third millennium with the upbringing, education and lifelong learning and knowledge needed for common performances under challenges of the present and possible future evolvments.
 - Stop wars and riots. Stop practices that harm human society and its chances for survival. Build up respect, peace, morality and wisdom philosophy, transcend from the present financial and money system, which have become our civilization *Monster*, to the new more equitable system, transcend present media and free time practices and their influences on the global human society, and research the long term impact of those on humans.
 - And many more changes, which should be worked out in co-operation of humans with abilities for it; etc.

Of course it is an optimistic scenario, which I am supporting and initiating its enhancement and long-term implementation.

³⁷ Any scientific research activities should be reviewed for their long-term effect on the nature and the sustainable future of humankind.



The path is to work with local communities and with sustainable future of local communities to enhance global society's sustainable future or harmony with nature. The basis lies in Our Common Future, Rio Summit as Agenda for Change and Agenda 21 processes etc., New Approach, Our Common Enemy – The Climate Change System Threat, The Universal Upbringing, Education, Lifelong Learning, The Individual responsibility and many more achievements of present and the past humans that should anchor the new approach for global sustainable human society. A major goal is education for new profile of humankind's individual-knowledgeable, respectable, responsible and thinking persons. It covers needs for transfer from the present to future generations.

Of course, people should not put heads into sand and dismiss gender equality and major role of mother as the first and most important educator of babies and children. Our prime target should be education of women and men for meeting demands of new challenges for better upbringing for ethics and knowledge of our children. It is a full employment for them and many of present complex issues are result of needs for financial, food, cloth, medical, shelter, and education securities of the present society. It is important to recognize contents needed for transcending to the future human of the third millennium.

Many excellent achievements from the past and present as heritage of humanity should be rethought and put into new frame of needs for the third millennium and present challenges coming from the difference between the global human society and nature. Our construction practice is not meant for the present disastrous conditions. Wind could reach a speed of 500 kilometers and more. The power of wind could increase much more, with lifting soil particles due to our practice in agriculture etc. Floods and droughts will reduce food production possibilities and new techniques should be invented for covering the demands for food and other fundamental needs to be secured. Earthquakes, volcano eruptions, tsunamis and larger floods will increase damages over human achievements and the nature of the planet Earth (as it happened in Japan in 2011, and could happen anywhere and at any time again). People may learn from the nature, and other planets in our Solar system on environment or living conditions needed for life of human and other living creatures' societies. Learning from research of the nature could be a short cut to new solutions for sustainable future of humankind.

Seeking sustainable (development) future or harmony with the Nature is a path for survival of humankind. The present achievements have to be re-examined with the aim of possible evolvments of the present society towards sustainable future society. The target is very complex and far from being achieved by present practice of our society, with narrow thinking and acting for benefits of national elites, top sportsmen, artists and showmen.



Our mega cities have reached the peak of non-human environment in which humans live in a humane (good citizens and elite) style and there is a non-humane style for unlucky ones that live in slums (at present there are beyond 2.000.000.000 people living in slums). Our civilization has reached the status where the lands are no more abundant, water is restricted, and the air is exceedingly polluted.

Our living environment is rapidly changing, and the climate change system is threatening to change it from a manageable one to an unmanageable one.

Our top international governing body The United Nations have been transformed from human society assistant to assistant of “money” democracies of “big” nations the USA³⁸, G7/25, etc. At present the UN in New York is mega millions dollars business for the USA. The present leadership has put the UN in the role of obedient servant of the “developed world”, multinational corporations and globalization, with no rights for other nations and peoples of under-developed world.

The UN Council for Human Rights is missing a basic understanding of what is what. The UN should establish the Council for the planet Earth’s nature rights for protection against destruction due to lack of knowledge and understanding of human society (what 17 % of sealed land area in Europe is absolute proof of that).

To provide solutions, one has to re-examine the relevant system. Research is being conducted on a massive scale to understand systems operating within our biosphere. The “climate change system” has been introduced. This leads to studies of the system operating in the environment. Consequently, the Information and Environment Theories of Nature have been invented.

To explain the systemic background of nature of the planet Earth new operative but “non-scientific” words are needed, such as – interconnectedness, interdependences, interactions, cooperation, synergies, networking, etc.³⁹.

If this thinking is applied to our environment then the Universe, and the Earth are requisitely holistic units and the biosphere is also requisitely holistic internal system within the living environment/sphere of the planet Earth.

³⁸ Please see complementary book “Our Common Enemy – The Climate Change System Threat”, Ecimovic at all., 2006 displayed in the coming chapters or in www.institut-climatechange.si

³⁹ Interdependences, interaction, and cooperation as part of the Nature have been introduced by Ecimovic/Mayur/Mulej at “The System Thinking and the Climate Change System”, 2002, displayed at www.institut-climatechange.si



The basic relations amongst the earth-nature factors are interconnectedness, interdependences, interactions, co-operations, synergies, networking, etc.

Redirection of scientific research, applied research, and theoretical work is hardly possible, as long as the one-sided businesspersons, (their) politicians and bureaucracies are handling resources: they learned how to rule, but not how to make a holistic rather than narrow-minded progress in sciences and technologies of the planet Earth systems.

How can one explain the tremendous, but biased, development of armaments, chemical synthetic products, 1000000000+ and more combustion engine motor vehicles, and many more combustion engines, used in aircrafts, ships, boats and agricultural machines, marketing and profit-making oriented products, GMO/GMP, transport system, promotion of “globalization” as a tool for making money, while scientists are not paid to do their basic research work, and must neglect the research needed for understanding issues of the biosphere system, which is threatening our civilization with reactions of the climate change system and the whole Biosphere to human actions?

The pending big “tragedy of the commons” of all of us looks overseen, that is how. It results from human lack of requisitely holistic behavior.

It is also a question of the present humankind leadership. We humans have been accustomed to great leaders and their leadership. Whether good or bad it is another “kettle or fish”. However at present we are experiencing novelty of leadership without human leader, because we entrusted leadership to the money.

6.4 The Money Monster Master Leadership

Money (Ecimovic et al, 2003) as a Homo sapiens’ invention/innovation has its origin in the ancient history. People needed system of money for payment of goods and services, and to replace bartering. The eastern cultures were more advanced than the western. Chinese developed coins and coins-like money during the second millennium before Christ, and India followed.

The first paper money was invented in China during the first millennium after Christ. Marco Polo, 1254 – 1324, reported about the use of paper money after visiting China.



The first coins known in the Western world were produced well before the Christ age in Lydia, a kingdom in the western Turkey; its king guaranteed its uniform value.

Paper money was invented in the Western world much later; we know today, it was developed in the 18th century (The Bank of England was established in 1694, and the first paper money in the 18th century, Bank of England's 50.00 pounds note), and was commonly in use by the end of the 19th century and in the 20th century.

At the beginning of the 20th century, the money system was a nice and very helpful servant/assistant to humankind.

From a nice assistant/servant to the master – the money system needed only half a century. By the end of the Second World War in 1945, and within the following five years assisted by the USA administration, Marshal Plan and development of society – the money evolved from servant/assistant to the master of our civilization.

From master to monster – at the beginning of the third millennium our civilization adopted a secondary role in society after “the master money”, which transformed itself from master to “monster”.

Today the “monster money” is deciding on right or wrong, dependence or independence, war or peace, values of services and commodities, people, nature, environment, and, sadly, even the scientific achievements. In the last hundred years an intensive knowledge gain of our civilization was driven by development of better and more effective armaments for Homo sapiens' destruction/killing/protection – FROM WHOM?

The present wars always result in financial gain of the nation who wins the war.

6.5 Requisitely Holistic/Systemic Thinking/Behavior – Basic Principles Applied to the issues of the Global Community⁴⁰ of Humankind

⁴⁰ Statement is according to teachings of Prof. Emeritus Dr. Dr. Matjaz Mulej, University of Maribor, Slovenia, and EU.



This presentation is prepared and updated in 2017 by my friend and the guest author Prof Emeritus Dr, Dr Matjaz Mulej from Maribor, Slovenia.

System thinking, synthesis, analysis, complex problem solving, case study approach, as well as the traditional science and research and learning, are prerequisites for opening of the Nature's knowledge box.

This is a crucial goal for research and success of our civilization.

Preconditions for sustainable future are directly related to the human ability to support supra, multi, and interdisciplinary research applied toward this purpose.

History and status of the system could be known, the near future also, in case of continuity, but predicting the future could be done only in the case of a stable status of the system.

The plane Earth system had over 10000 years of stability, but no more now, due to destabilization of the climate change system.

It has been triggered by impact of our civilization and natural responses to that effect: once the system is destabilized, it is quite impossible to predict any relevant information on future evolvments, and this is the current situation with our Biosphere.

Requisite holism – basics^{41,42}

Reduction is mathematical process to reduce any needed process, but reduction is possible only to the level of understanding of the content - it is requisitely holism.

Existence of any planet is not understandable for humans, without knowing the requisite holism, which is humans pillar within Nature for understanding planet system and other systems as requisitely holistic units of Nature.

In the Universe, which is environment within which Nature is at home, requisitely holistic units are of most importance for understanding reasons for their existence.

Systems thinking as the practice of holistic rather than one-sided thinking had been many millennia old practice of the successful humans, before systems theory as its theoretical generalization was created.

⁴¹ From the book »The Nature and the Requisitely Holism«, Ecimovic and Mulej, ISBN 978-961-92378-3-0 (pdf), 2014.

⁴² The requisitely holism knowledge is a pillar of Nature for people to know and understand basics of Nature and the requisitely holistic nature of the planet Earth, Ecimovic 2016.



Like most other human capabilities, the practice of systems thinking was informal, first, and then received the form of theory for transfer of good practice through teaching to be easier to make. (Mulej et al, 1998; Mulej et al, 2003; Mulej, N., (ed), 2004; Potočan, Mulej, Kajzer, 2002; Mulej, 2013).

See Table 1 for our definition of holistic thinking (Mulej, in Mulej et al, 1992, reworked here).

Inside an authors' (usually tacitly!) selected viewpoint, one tends to consider the object dealt with on the basis of limitation to one part of the really existing attributes only.

When specialists of any profession use the word system to call something a system inside their own selected viewpoint – it makes a system fictitiously holistic.

It does not include all existing attributes that could be seen from all viewpoints and all their synergies. See Table 2 (Mulej, 2007).

A brief summary of the law of requisite holism may thus read:

The law of requisite holism says that one needs always to try and do, what many, but not all have the habit to do in their behavior – do one's best toward avoiding the exaggeration of both types:

- 1) The fictitious holism, which observers cause by limiting themselves to one single viewpoint in consideration of complex features and processes;
- 2) The total holism, which observers cause by trying to include totally all attributes with no limitation to any selection of a system of viewpoints in consideration of complex features and processes.

Instead, the middle ground between both exaggerations should be covered, which can be achieved by using a “dialectical system”, made by the author/s as a system (i.e. network) as an entity or network of all essential and only essential viewpoints.



Interdependent actual general groups of real features' attributes	Interdependent attributes of the requisitely holistic consideration of real features	Considered attributes of thinking about real features	Attributes of participants of consideration at stake	Surfacing of all these attributes in a given case
Complexity	Systemic	Consideration of the whole's attributes that no part of it has alone	Interdisciplinary team	The final shared model resulting from research as a dialectical system of partial models
Complicatedness	Systematic	Consideration of the single parts' attributes that the whole does not have	One-discipline team /group or individual	Partial models resulting from one-viewpoint based investigation
Relations - basis for complexity	Dialectical	Consideration of interdependences of parts that make parts unite into the new whole – emerging (in process) into synergy (in its outcome)	Ethics and practice of interdependence – path from one-discipline approach to the interdisciplinary teamwork	Shared attributes and complementarily different attributes, which interact to make new synergetic attributes, i.e. from systematic to systemic ones
Essence - basis for	All essential	Consideration that selection of	Capability of researchers to	Findings applicable in



requisite realism and holism of consideration		the systems of viewpoints must consider reality in line with the law of requisite holism for results of consideration to be applicable – by reduced reductionism	deviate from reality as little as possible in order to understand reality, including systemic, systematic and dialectical attributes of it	practice, due to/ although resulting from theoretical considerations
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Table 1: Dialectical system⁴³ of the basic attributes of requisite holism/realism of thinking, decision making, and action

For the requisite holism to be achieved three preconditions, at least, matter:

- 1) Both specialists and generalists are needed, working in teams that feel ethics of interdependence and co-operate.
- 2) They include professionals from all and only essential professions and disciplines.
- 3) Their values are expressed in their ethics of interdependence and practiced in a creative teamwork, task force, session(s) based on an equal-footed cooperation rather than top-down one-way commanding.

←-----→		
Fictitious holism/realism (inside a single viewpoint)	Requisite holism/realism (a dialectical system of all essential viewpoints)	Total = real holism/realism (a system of all viewpoints)

Table 2: The selected level of holism and realism of consideration of the selected topic between the fictitious, requisite, and total holism and realism

⁴³ A dialectical system comprises in a network/system all crucial viewpoints in order to help the observer attain a requisite holism, once a total, i.e. real holism with all viewpoints, synergies and attributes reaches beyond the human capacity. See T. 2 for definition of requisite holism. We will come back to some details in Ch. 10 and 12.



Requisitely holistic thinking cannot include the global attributes only, because they make a part of the really existing attributes only, although they matter very much and tend to be subject to oversight by specialists. Neither can requisitely holistic thinking include the parts' attributes only, although they matter very much and tend to be focused by specialists of single disciplines and professions.

Oversight of relations, especially interdependences causing influences of parts over each other, may not be forgotten about in (requisitely) holistic thinking; especially specialists, who have not developed the habit to consider specialists different from themselves, tend to make crucial oversights in this respect. This experience means that they are not realistic enough. See Tables 1 and 17.

Take a look at experience around you and discover (again): Success has always resulted from absence of oversights with crucial impact. And failure has always resulted from crucial oversights, be it in business, scientific experiments, education, medical care, environmental care, invention-to-innovation-to-diffusion processes, etc., or wars, all way to World Wars of the 20th century, or the world-wide economic crises.

Holism of thinking is aimed at avoiding crucial oversights. Systems thinking should better be called requisitely holistic thinking and be the worldview and methodology of holism, or better and more realistic: requisite holism. Systemic, i.e. (requisitely) holistic, thinking matters due to scientific reasons, for individual success in whatever activity, and for economic reasons, too.

See Tables 3 and 4 for a quick look at the historic and recent changes requiring (requisitely) holistic thinking more and more today e.g. in relation to humans' natural environment, on which humankind's survival depends, but humankind threatens it by one-sided behavior, which causes its destruction. (See: www.climatecrisis.net; Ecimovic, Mulej, Mayur, 2002; Stuhler, Vezjak, Mulej, eds, 1995; Ecimovic et al, 2007; Božičnik et al, 2008; Brown, 2009; Taylor, 2008; etc.).

Poor Understanding of Requisite Holism – Background

Why are facts in Tables 1 - 4 so alien to so many contemporary people?

For most time of the recent 10.000 years of its history, humankind has lived in self-sustained economy with a random market, e.g. in the form of fairs. Innovation did not matter; requisite holism was reduced to local and family relations, mostly, so was ethics of interdependence.



In producers' market innovation and holism and/or sustainable development did not matter either, because competition was negligible; cases may include medieval guilds, strong trade unions, or market monopolists of other types. Once their power had been broken, after 1870s (Rosenberg, Birdzell, 1986) innovation and hence requisite holism and VCEN of interdependence gradually became crucial – in the emerging customers' and state supported customers' market. Hence, in a very short period of time people have become supposed to change millennia old habits – add innovation to routine, and requisite holism to growing narrow specialization, as well as interdisciplinary co-operation to self-sufficiency of specialists. Narrow specialization that is unavoidable today, must add to it VCEN ethics of interdependence rather than self-sufficiency; the latter makes specialization dangerous, not only beneficial.

Viewpoints Type of Market	Basic Relation/s Between Production and Consumption	Impact of Humans on Natural Environment	Humankind's Interdependence with Natural Environment
RANDOM MARKET	Producers' own consumption and occasional exchange of random surpluses	Minimal impact, growing as humankind grows in number and needs / requirements	Intuitive human consideration of nature based on experience in agriculture, gathering, hunting, wood cutting, fishing and mining
SELLERS' / PRODUCERS' PREVAILING POWER = PRODUCERS' MARKET	Growing production for poorly considered, known or unknown, customers, who lack impact over suppliers (supply smaller than demand)	Specialization and narrow thinking grow and so does the humans' detrimental impact over nature (especially by industrialized production)	Nature is subordinated to profit, jobs depend less on nature, more on growing urbanization and manufacturing as well as industrialized agriculture



<p>BUYERS' / CUSTOMERS' PREVAILING POWER = BUYERS' MARKET</p>	<p>Growing impact of customers requiring satisfaction / total quality of products and services, and conditions of life (supply bigger than demand)</p>	<p>Specialization and its bad one-sided impact over nature keep growing, so does biased application of science, causing need for inter-disciplinary cooperation</p>	<p>Nature is still subordinated to profit, but nature is thought of more due to cost, caused by backlash of oversights caused for profit; inter-disciplinary insight grows</p>
<p>STATE / GOVERNMENT SUPPORTED BUYERS' MARKET</p>	<p>Increasingly organized / legalized impact of customers demanding total quality of products, services and conditions of life (supply much bigger than demand)</p>	<p>Growing awareness about the terrible impact of humankind's one-sided impact over nature & its dramatic consequences for humans' survival</p>	<p>Same as before, but world-wide official documents and actions urge governments and businesses as well as humans to be more holistic; so does a part of market (e.g. by requiring social responsibility)</p>
<p>GOVERNANCE AND MARKET USING SOCIAL RESPONSIBILITY / REQUISITE HOLISM AND WHOLENESS</p>	<p>Further increase in customers' impact introduces more and more honesty and requisite holism because</p>	<p>Application of awareness of bad consequences of one-sidedness for economic action and investment to innovate the natural preconditions for</p>	<p>Humans' poor care for the natural preconditions of their survival is old history: replaced by requisite holism in both businesses' and government's behavior, based on</p>



	monopolistic abuse becomes too expensive	humans to survive	VCEN of interdependence
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Table 3: Development of market relations and environmental care quality – a case of growing awareness of the requisite holism as a precondition of humankind’s survival

Prescribed standards, such as ISO 9000 (quality), ISO 14000 (environment), are cases of this change in the customers’ market situation.

In addition, in recent decades market changes became much quicker (Table 4). People of today are overwhelmed by market demands for change, which they must match with innovation and hence requisite holism and hence VCEN of interdependence, like never before.

The change has happened in one-generation time, rather than as slowly as people were used to changing earlier, and is keeping this speed.

Over the decades after the 2nd World War, market requirements have been changing more quickly than the human capacity to unlearn the old and accept the new VCEN. In every next decade, rather than a two-generation cycle of about 70 years⁴⁴ new attributes preconditioned success in addition to the previous ones.

Every phase after 1960, in the West (and Japan, Taiwan, South Korea, Hong Kong, Singapore, Australia and New Zealand) with their 20% of population of the world, expresses the customers’ and state supported buyers’ market (in Table 3).

Competition keeps causing lower cost, including a lack of care for natural environment, if short-term and one-sided views prevail. A need results for costly eco-remediation, health care, organizational, managerial, business and technological innovation concerning e.g. emissions in air and water and their prevention under ISO 14000 standards family.

⁴⁴ Historical data about how much time has passed between critical historic events, such as from the liberation of USA from United Kingdom and USA becoming a country of its own until USA civil war, and then to the great depression, and to the current role of USA as the only superpower in the world, including the world-wide crisis beginning to show in USA in 2008, demonstrate that the critical modernization of the prevailing VCEN has tended to last for two generations in the transition from the pre-industrial to the modern society. This can be seen in other areas too (M. Mulej, in Mulej et al, 2000, pp. 108-116). We call this the law of two-generation cycles (Mulej, 1994; we first used the term in 1989).



Concretely, we can find:

Too one-sided considerations in past times caused oversight that the technological progress causes along with beneficial also detrimental consequences. One-sided estimations find them to be side-effects, while they are often essential in their long-term consequences. Data say, among others, that the growth of richness of the West over the recent good half a century, at least, has been much bigger in one-sided book-keeping than in long-term economics, since the West has been only postponing rather than covering the cost of saving humankind's natural environment, which makes these cost accumulate to sums showing the growth of richness is fictitious (Božičnik, 2007).

Economic consequences of such short-term abuse of the law of external economics are calculated as enormous (Stern, interview: Stein, 2007, 14-15): if humankind does not tackle the climate change very quickly and radically, they will cause humankind's cost as high as 5.500 (five thousand five hundred) billion Euros, which is more than the cost of both World Wars combined.

Without measures to reduce greenhouse gases the world-wide GDP will fall for 5%, possibly for 20%. Sustainable enterprises are needed and must develop to socially responsible ones for the current civilization of humankind to survive; the industrial VCEN must be replaced (Table 4).

Decade	Market & Social Requirements	Enterprise's Ways To Meet Requirements	Type of Enterprise
1945-	Covering of post-war conditions of scarcity, rebuilding, etc.	Supply of anything; supply does not yet exceed demand	Supplying Enterprise
1960-	Suitable price (as judged by customers)	Internal efficiency, i.e. cost management	Efficient Enterprise
1970-	Suitable price X quality (as judged by customers)	Efficiency X technical & commercial quality management	Quality Enterprise
1980-	Suitable price X quality X range (as judged by customers)	Efficiency X technical & commercial quality X flexibility management	Flexible Enterprise



1990-	Suitable price X quality X range X uniqueness (as judged by customers)	Efficiency X technical & commercial quality X flexibility X innovativeness management	Innovative Enterprise
2000-	Suitable price X quality X range X uniqueness X contribution to SD (as judged by customers)	Efficiency X technical & commercial quality X flexibility X innovativeness X SD	Sustainable Enterprise
2010-	Suitable price X quality X range X uniqueness X contribution to SD (as judged by customers) X social responsibility	Efficiency X technical & commercial quality X flexibility X innovativeness X SD X honesty reaching requisite holism and wholeness beyond legal demands	Socially responsible requisitely holistic enterprise

Table 4: From a supplying to a socially responsible requisitely holistic enterprise – and a new definition of the concrete contents of requisite holism

Sustainability and Social Responsibility – a Way of Requisite Holism

Consequently, with full right, humankind needs the development level of sustainable and socially responsible enterprises (in Table 4: ‘decades of 2000- and 2010-’). It requires requisitely holistic understanding of the current reality and of the role and importance of all humans in that reality, especially of the critical entities such as enterprises.

This means that humans must use requisitely holistic thinking (Tables 1, 2 and 8) in their behavior for humankind to survive; they hardly can use it without ethics of interdependence (For details see: Knez-Riedl, 2000a; Knez-Riedl, Mulej, Ženko, 2001; Mulej, 1979; Mulej et al, 2000; Mulej, Kajzer, 1998 and 1998a; Potočan, 2000; and Potočan, Mulej, Kajzer, 2005; Potočan, Mulej, 2007a, b).

How can enterprises and other organizations of so far become sustainable and then socially responsible requisitely holistic enterprises?



According to data in Tables 1-4, especially Table 4 - ‘decades of 2000- and 2010-’, humans, as consumers, buyers, citizens, and competitors need and require enterprises to take a new, more/requisitely holistic and future-anticipatory, criterion of their own long-term viability.

Consequences of one-sidedness in enterprises’ decisions are clear: the economic and other crises of recent decades and 2008-, which include high cost of sustainable development that has become unavoidable.

It is much easier to make decisions than to think requisitely holistically (Table 12). More attention must be paid to a requisitely holistic preparation, definition and realization of goals including long-term SD in order for humankind to overcome its permanent and costly economic crises and to survive. Bosses and other members of modern enterprises are, hence, facing a basic question: How should they define their new development and future business?

By sustainable development and sustainable future principles (Potočan, Mulej, 2006, Mulej, Ecimovic 2011, 2012, 2013.) and by social responsibility principles (EU, 2001; and later; Hrast et al, 2006, 2007, 2008; Mulej, Ecimovic, 2014, etc.): the most probable alternative of requisite holism is one-sidedness including crucial oversights and hence new crises due to which very few new firms live more than a few years (Gerber, 2004).

Enterprises exist and develop best if their actions are requisitely holistic. However, in both theory and practice, we detected no holistic model of business that provides a requisitely holistic, harmonized, and goal-oriented development. The sustainable development concept offers a (possible) solution, at least, to achieve a sustainable orientation of human activities (Potočan, Mulej, Kajzer, 2005). An even more holistic approach is enabled by social responsibility principles.

On the basis of theoretical cognitions and our own experiences in business practice, one can define sustainable enterprise, in the most general sense, as an enterprise attaining a synergetic whole of economic, ecological, social, and ethical dimensions (e.g. goals) of its business, along with the requirements listed in Tables 4 - ‘decade of 2000’, 5 and 6 (Ackoff, Rovin, 2003; Brandon, Lombardi, 2005; Breu, Hemingway, 2005; Drucker, 1985; EU, 2005; Goerner, 2004; Lunati, 1997; Potočan, 2002; Schermerhorn, Chappell, 2000; WBCSD, 2004; WCED, 1987). Socially responsible enterprises attain these goals beyond legal requirements – Table 4, decade of 2010.



Table 5 shows the basic aspects and resulting criteria of what are sustainable enterprises, and possible means of implementing market and social requirements as imperatives in and beyond the decade of 2000.

A sustainable enterprise tries to conceive and run its working and behavior in a way that meets both human and environmental needs and requirements (For details concerning each aspect and its criteria, see also: Ackoff, Rovin, 2003; Brandon, Lombardi, 2005; Cooper, Vargas, 2004; Daft, 2000; Dees, Emerson, 2002; Drucker, 1985; Ecimovic, et al, 2002; Edwards, Orr, 2005; EU, 2005; Florida, 2002; Goerner, 2004; Koch, 1998; Lunati, 1997; McIntryre, 2005; Mulej et al., 2002; Potočan, Mulej, 2003, 2005; Rhimesmith, 1999; SIC, 2001; Schermerhorn, Chappell, 2000; UNESCO, 2000; WBCSD, 2004, 2005; and WCED, 1987).

Humans namely live on four basic levels to be considered in sustainable development, therefore by sustainable ethics: Individual level; Enterprise (e.g. corporate) level; Closer environment (e.g. natural, social, and ethical) level; and broader (i.e. global) environmental level.

On all four of them four main criteria make the dialectical system to be considered as in Table 5.

Aspect	General Criteria
Economic imperative	Competitiveness
Ecological imperative	Habitability
Social imperative	Community
Ethical imperative	Legitimacy
All aspects	Combined criteria

Table 5: Sustainable enterprise's basic aspects and main criteria of its quality level

These needs require sustainable enterprises to conceive, formulate, and use requisitely holistic criteria, and to evaluate their business critically.

Table 6 summarizes some basic criteria to evaluate sustainable enterprises' business from some critical viewpoints.



Criteria Aspects	Individual Performance Criterion	Corporate Performance Criterion	Societal Performance Criterion	Global Performance Criterion
Economic Imperative	Individual prosperity	Corporate profitability	Societal wealth	Global wealth
Ecological Imperative	Individual eco-efficiency	Corporate eco-efficiency	Societal eco-efficiency	Global eco-efficiency
Social Imperative	Individual quality of life	Corporate reputation	Societal quality of life	Global quality of life
Ethical Imperative	Individual values	Corporate values	Societal values	Humankind values
All aspects in synergy	Individual sustainable life index	Corporate sustainable behavior index	Societal sustainable development index	Global sustainable development index

Table 6: Basic criteria for evaluation of sustainable enterprise – a suggestion

Hence, a sustainable enterprise attains the highest level of requisite holism and destroys the human condition for survival the least of all enterprises. A sustainable enterprise does not only command with the most modern and comprehensive knowledge, but uses VCEN that allow sustainable enterprises to do no / to do the least harm, such as sustainable VCEN resulting from sustainable development principles.

Social responsibility adds the VCEN of interest of enterprises to do more than the law requires officially because it helps them outcompete the others by more requisite holism of their approach and wholeness of their outcomes.

The Essence of Social Responsibility (SR)

We are viewing SR here in perspective of systems theory as a science on attainment of requisitely holistic (RH) behavior aimed at requisite wholeness of insights and outcomes.



We use the latter also to deal with innovation and we see a practical connecting point of them and SR in the daily experience – VCEN need innovation toward more holism meaning less selfishness for selfish reasons.

Namely: a narrow selfishness does not protect us from envy and protests all way to terrorism on part of those who feel that the decision makers do not decide with SR, but with a narrow and short-term, if any responsibility except a fictitious one, etc.

SR does not ask whether or not there are e.g. entrepreneurs and more or less high and even questionable awards for managers, but it ask about criteria that should be felt among people as, at the same time:

- Requisitely honest and based on real achievements, hence acceptable without envy, i.e. as ethically correct;
- Achievements enabling economic and social advancement including a RH quality of a requisitely big majority; and
- Attained by methods/products that do not ruin natural conditions for life of humans and other living beings without which humans cannot live, such as bees etc.

People, times and conditions define differently what is a socially acceptable, i.e. SR behavior. Criteria have always depended on VCEN of the most influential ones, the power holders.

Their values became culture, ethic, and norms, when attracting people as followers by appeal or force (Potočan, Mulej, 2007). Their VCEN were expressed in ideologies, e.g. religions and similar tools of power providing ownership and joy to the most influential ones. These VCEN, according to official definition of SR tackle manners of the influential ones in treatment of (EU, 2001, 2006 a, b):

- Their co-workers;
- Their other business partners;
- Their government, non-governmental organizations etc., i.e. broader social environments; and
- Their natural environment as the natural precondition of survival.

In all four aspects the influential ones must attain more RH behavior than earlier, i.e. innovate their practice.



Thus, SR is a process of social innovation and its objective for humankind to find its way out of the current blind alley. Success of this process depends on humans, of course, especially on the influential ones.

Influential people can use their influence to define criteria of what is wrong on right, sometimes with a too narrow and short-sighted egoism.

Then, they do not prove their SR, and they lose their power, ownership and joy, gradually at least. During the latter process, the SR and legal responsibility tend to mix up, but they can differ: the power-holders are influential enough to be able to adapt legal rules to their interests, including narrow, one-sided, biased, and short-term interests. They often do so more easily than accept VCEN with SR based on broader defined and perceived RH. This may bring them in trouble.

Thus, the famous Friedman's definition that SR is unacceptable is wrong: companies must care for their profit and benefit of their owners, but not with narrow and short-sighted criteria only (Goerner et al. 2008; Toth, 2008; etc.). Friedman won his Nobel Prize for economy in 1970 for his theory of conservative neo-liberalism, which now proves to be out-dated and detrimental for enterprises and society at large (besides, he has never presented any empirical proves for his idea that competition is more fruitful than cooperation, neither have the other authors from the same school; see: Felber, 2010 and 2012).

It does not match the old proverb that 'The first profit does not go in the pocket' – a short-term benefit based on narrow and short-sighted criteria often costs much in a longer term.

For millennia, people also used many religions to foster SR, and they do so today. There has always been a mixing, networking, and fighting of the concepts of more narrow and short-term interests on one hand (read: interests concerning now and here) and of the more long-term and broader interests, on the other hand, reaching beyond now and here (Rudel, 2008; Wu, 2004).

Slave-owning and feudal societies clearly enforced narrow and short-term interests, as their opponents said. This practice led both long periods of human history in a life that in criteria of quality of life of today has experienced a poor economic efficiency and quality of life of a big majority of people, and in extreme differences between the rulers and subordinates, around the world.



Before the Western Industrial revolution China and India supplied 80% of all global production, but today they are coming close to 10 % (Bošković, 2006).

The industrial and post-industrial/entrepreneurial society differs from the previous ones by its principle of equal chance of everybody to expose their skills and interests and to contribute to the quality of life of them-selves and others. Practice shows that in terms of book-keeping data the entrepreneurial society seems successful in raising the standard of living, but the differences in quality of life are again very similar to those in feudal times: if only good two hundred richest individuals donated less than five percent of their properties, four million children a year would not die for hunger and illness (Crowther idr., 2004b). Similar are other data (Nixon, 2004; Toth, 2008; etc.).

Private owners enforce their interests, so do governmental ones, although formally legally there are no owners. Ownership is no problem, but the short-sighted and narrow definition of interests of the influential ones, who forget about SR's longer-term and broader effects, or failure of using SR concepts.

Thus the crucial issue of SR reads: do the influential ones abuse/misuse rather than use with RH behavior their chances hidden behind legal responsibility and protection; abuse/misuse fails to lead to SR, but to its opposite.

Hence, in our perception, the essence of SR in practice is the prevention of misuses/abuses of legal, economic, and natural laws, and enforcement of replacement of the narrow and short-sighted criteria of right and wrong for broader or even RH criteria. Actually, this is what A. Smith has been speaking for, although today they ascribe him the opposite opinion.

Rare authors (such as Walker, 1978) say that Adam Smith and Karl Marx have aimed in their research at a way to preserve the village-solidarity of earlier times after transition from the village to the entrepreneurial society. They did not succeed. Nobody did.

Therefore the effort called SR is showing up today to help influential people think in longer-terms and broader criteria. No wonder, SR has hard times to become a general VCEN.

The short-term and narrow views of decision-makers make obstacles all the time, and there is neither a theory to replace the current economics, although this leads humankind to a blind alley.



People who abuse the label of liberalism to cover the huge modern differences in richness, health, famine, etc. and destruction of the humans' natural environment – preconditions of humankind's survival, fail to see that A. Smith does not favor narrow and short-term interests.

The invisible hand expresses the logic of economic interdependence: you must delight your customer to have him/her return and make you happy as a supplier. The fact is that people enforce under the label of A.

Smith economic thoughts and interests opposing his ideas, is visible in conditions concerning the human care for natural preconditions of life and survival of the current civilization: this care is worrying even in global official data.

These data express abuse of the law of external economics. This law can often be beneficial, but has been applied to nature with expensive consequences. They will obviously damage generations to come soon – our children and grandchildren already.

The influential ones act like if they hated their off-springs, when they act on a narrow basis and with no SR, (See: Mulej et al., editors, 2016; Mulej, Dyck, ed., 2014, and references in these books; Mulej et al., ed., 2013, 2014; Lebe, Mulej, ed., 2014).

Thus, SR enforces own benefits/interests of people, but not merely the narrow and short-term ones, but also or even first of all the long-term and broad ones.

People need to reinforce them in the form of national and international legislation and VCEN of their enterprises and other organizations for the human civilization of today to survive.

Market – as an institution aimed at reinforcing the invisible hand – needs support. Not all private or governmental owners should be off, but the ones without SR. They make too much damage to the coming and their own generations

Let us hence be less selfish for selfish reasons. We are not independent, but interdependent part of nature on the planet Earth. The development of the basis of competitiveness tends to go the same direction.



Four or Five Phases of Development of the Basis of Competitiveness

There is an interesting view of economic development phases, in terms of the changing basis of competitiveness that stresses the notions that are summarized in Tables 1-6.

It sees four phases: (1) the factors phase means that a nation or region lives on natural resources and cheap labor, providing for a rather poor life for millennia; (2) the investment phase means that a nation or region lives on foreign investment into its economic development and can hardly compete; (3) the innovation phase means that a nation or region lives on its own progress and attains a better and better standard of living; (4) the affluence phase means that people have finally become rich, which makes them happy, but also lose ambition.

Thus, the phase 4 is not the highest development phase only, but also the phase of growing problems of employment, supporting everybody etc. (Porter, quoted in Mulej, 2006).

Conclusion: one must attain and keep capacity of requisitely holistic approach in order to enter the innovation phase quickly and remain in it as long as possible, or may return to it from phase 4, probably via phases 1 and 2, like history has already shown e.g. in the case of Roman Empire as well as other societies that have attained affluence and complacency. What offers a solution?

We can talk about companies (Collins, 2001; Collins, Porras, 1997; Gerber, 2004; etc.), individuals, countries, or regions. Florida (2005) found in his field research about the reasons of differences in economic prosperity between regions of United States two basic causes of them:

In USA, the creative class is rising from 5 (five) percent a century ago to +30 % in 1999, with 12% in its super creative core, while the working class is dropping from 40% at its peak several decades ago to 25% now.

The largest social group is the service class, but it does not earn much, because it only provides preconditions for the creative class to create most of all (Florida, 2005, pp. 90-99).⁴⁵(2) In USA, the most prosperous regions have the highest 3T indicator: tolerance for difference between neighbors all way from traditional

⁴⁵ In addition, the creativity of the rather poorly paid people is overseen in this definition,. But they must be very creative, although with another contents of creativity, to survive.



families to gays etc.; talents that are attracted by tolerance and chances to be creative; technology invested (Florida, 2005, pp. 257-273).⁴⁶

Tolerance is a relation making room for differences between humans to complement each other, thus to help them to avoid oversights and to attain more holism.

Talents make the basis for creativity, including innovation, which in turn can best result from co-operation of specialists different from each other (as this book will show later briefly).

Investment in technology supports them, and receives support from them: if various and different talents work hand in hand, results of their creativity have more chance to attain requisite wholeness and therefore to succeed

Conclusions

Tables 4 – 6 may lead us to an additional finding: the decade of 2010 is here. It may well be marked by new efforts for informal systems thinking aimed at requisite holism in order to solve the current problems of humankind. These efforts may be seen in the concepts of (corporate) social responsibility (Hrast et al, editors, 2006 - 2016; Mulej, Prosenak, 2007; Prosenak, Mulej, 2008; Prosenak, Mulej, Snoj, 2008; etc.) and in total responsibility management (Waddock, Bodwell, 2007; Gorenak, 2008; reference cited above)

In other words: (informal) systems thinking is the background of the creative class and creative society/regions. But it causes difference, obviously, because not all people are equally capable of holistic thinking.

What makes people incapable of requisitely holistic thinking?

FROM SYSTEMS THINKING TO SYSTEMS THEORY IN THE TURBULENT 20th CENTURY

For millennia, the division of labor has been growing for people to become more productive and rational in their effort to meet their needs. After 1820s (Bošković, 2006) the industrial revolution became a new tool in this effort.

⁴⁶ Tolerance to failures in business risk-taking is much bigger in USA than e.g. in Europe. This makes USA much more innovative. USA is a product of the most entrepreneurial Europeans, who left Europe to take their risk more freely. The routine-lovers remained in Europe and their culture keeps prevailing in it. (See: Mulej, 2006a, and some notes later in this book.)



After 1870s (Rosenberg, Birdzell, 1986) abolishment of monopolies of guilds over economy and of church over thinking was the next one. It made room for entrepreneurship and hence innovation and hence narrow specialization both in practice and science. Efficiency was growing, but results of narrow, un-holistic, thinking included terrible effects such as World Wars and the world-wide economic crisis in 1914-1945.

In such circumstances, Ludwig von Bertalanffy is the father of the General Systems Theory, the officially oldest one among systems theories, which are many now. He lived from 1901 to 1972, which made him live through both World Wars and the world-wide economic crisis between them in 1914-1945. He was a philosopher, art historian and theoretical biologist.

This multidisciplinary capacity led him to a big interdisciplinary result – the General Systems Theory.

He namely experienced, that the human way of fighting our problems is also the cause of our problems.

Humankind has developed, millennia ago, the one-sided attitude that the human being is the master over the other nature, rather than a part of nature and adapting to its natural environment.

This is how agriculture and handicrafts started replacing hunting, gathering, and nomadic economy and life.

Later on manufacturing industries followed, now services do. All these evolutionary results of human creativity are called progress.

It was able to feed more people, but it required more and more knowledge, which made room for more and more one-sided specialization, including oversights along with deep insights.

Since then, and especially in the 20th century, we have – as humankind – developed huge lots of insights into the laws of nature, including society, and the methods / technologies and techniques of using them, due to specialization and resulting concentration of specialists in small parts of reality. In general terms it is a human science.



We benefit from them; we have never lived a better life, in our own criteria⁴⁷. .

But we can no longer really understand and master our lives, because we – as humankind – know so much, that we – as individuals – must be narrowly specialized. What is the consequence?

This narrow specialization to single professions, life in single areas and in poor tolerance and VCEN of independence rather than interdependence, consideration of reality from a man's or woman's single perspective or from child's or adults' viewpoints alone, only, etc., causes oversights.

Nature does not exist along with physical, chemical, biological, etc. laws in separation, but in their interaction resulting from interdependence of parts and attributes of nature, including humans. And we do not live as humankind, only, but as individuals and groups, first of all.

The whole world is not fragmented into parts, which may no longer be able to become a whole, but we humans see it in parts rather than as one whole. The resulting oversights cause crucial problems, because we humans make our decisions on the basis of our perceptions.

6.6 The Globalization

The present Globalization could be described as follows: **»Globalization is amalgamation of national economies into united world system based on rapid capital movement, new informational openness of the world, technological revolution, adherence of the developed industrialized countries to liberalization of the movement of goods and capital, communicational integration, planetary scientific revolution, international social movements, new means of transportation, telecommunication technologies and internationalized education«.**⁴⁸ I know there are many more definitions but I do agree with presented one.⁴⁹

Globalization has opened new ages of global humankind community as set up of Homo sapiens social beings on the planet Earth. The biosphere, which is a small part of the planet Earth system, and is a system itself, has limited capacities.

⁴⁷ Other parts of nature have different criteria, and this difference between humans and other nature is causing climate change problems, other environmental problems, diseases, etc.

⁴⁸ Please see page 220 of »Global Studies Encyclopaedia« ISBN 5-05-005719-1, 2003.

⁴⁹ This definition, though, does not mention nature and humans, but technology and market only; this is too bad.



It has purpose of being environment for living nature of countless beings or creatures, All of them share basic environments: land, water and air and there is no room for exclusivity of any kind.

The history of humankind is experiencing a sort of special role of humankind as “only” intelligent being on the planet Earth, etc. Actually, I think it is wrong impression in the present interpretation of the history, which should be corrected and put humankind into the frame of the biosphere system, the planet Earth system, and the nature as requisitely holistically as possible.

7.0 Before the Conclusions and Recommendations

After approximately 202.000 years of humankind life at the biosphere, food was still abundant (in 1960s), and water was abundant (in 1960s), and the air is abundant (at the beginning of the third millennium), and space looks like being abundant. However at the end of the second millennium, the food was no more abundant, the water was no more abundant, the air was no more abundant and only space still looked like abundant, which in fact is neither the case anymore. Is the end of our civilization approaching?

From the natural sciences point of view: yes, it is. However, any culture in the biology of Nature and the nature of the planet Earth in the biosphere has its time of birth, childhood, adulthood, old ages, and history (if), anyway. Looking to the humankind individuals, it is same. It is one in all and all in one.

It was a too pessimistic statement, but the question is how truthful it was.

From the holistic viewpoint I may discuss it as follows:

The novelty to be attained – and to be made innovation – could be the ability of the current Homo sapiens to think, understand, and learn, how to *requisitely holistically* govern and leads Homo sapiens civilization affairs, e.g. provide to all humans shelter, food, water, air, and space for living. This task can be done better, if the system thinking is used, but rather the Dialectical Systems Theory addressing the human attribute and interdisciplinary cooperation than those systems theories that focus on precise description of a feature from a single viewpoint.

Due to an exaggerated growth of the needs of our civilization (drinking water, industrial consumption of water, etc.), and demand for agriculture and food production, the water sources in the nature are becoming insufficient.



Many innovations were used for solving this problem, of which many have had an impact on the biosphere systems. Let us mention here the exaggerated use of fresh river/lakes waters, resulting in the destruction of underground deposits and lakes of water, and combined with a lack of understanding the physics of the underground water deposits systems, etc.

At present, we face large deficit of fresh water sources, and quality of present sources is questionable, due to pollution by synthetic chemical compounds and their long-term effect. Recently, the influence of female hormones and hormone-like substances has also become more and more important. Today we do not have clean fresh water supply, but fresh water supply, of water quality within the limits of allowed level of intoxication by synthetic chemical compounds and other pollutants. From water supply viewpoint our future does not look nice.

Our civilization's settlements of near past and present (over-concentration of people and self-creation of the fragile environment – mega/poly-cities etc.) has caused the pollution of all waters in such regions, including areas as far as such polluted waters travel. Actually, the pollution has been a combined effect of pollution from city life (countless toxic substances – natural and synthetic chemical products, etc.) ending in the waters from individual kitchen outflows and sinks, toilets and sewage systems, and from the “natural” river flows. Secondly, the common agriculture intoxicates lands, and underground waters, and further waters connected with intoxicated lands and underground waters. Finally, all this is ending into the coastal sea and ocean waters, which are in different stages of pollution/intoxication.

Our civilization has used/uses rivers as row sewage and all sorts of pollution as transport system.

To achieve the combined effects of the protection of human settlements, citizens' properties, and civilizations achievements against the natural river water floods, huge hydro constructions were introduced.

Actually, by our civilization's standards, we have straightened the natural river flows, and by doing this, we destroyed the natural/biological river waters “filtering” systems. We achieved a fast running of the river waters, and only this, because we did not protect civilization settlements and achievements against floods. In the long-term the floods are still there, but with a much more damaging effect. A majority of the rivers need eco-remediation of their natural abilities to host life and other qualities destroyed by our civilization.



A further topic with a comparable destiny tackles estuaries and coastal waters, which in many cases were reconstructed into businesses, settlements, and tourist resorts with poor natural biosphere characteristics. They are opening new frontiers for pollution of coastal waters and therefore the ocean/sea waters are getting more and more pollution by synthetic chemical compounds and other pollutants.

At present majority of human population of our civilization has settlement at coastal lands. The pollution of coastal waters is taking place, and soon we shall be able to read results of our continuous action damaging the quality of sea and ocean waters. They will be unpleasant.

With our civilization constructions and developments, more and more land is changing natural characteristics. At present in Europe land use distribution is 47 percent agriculture, 36 percent forestry and 17 percent constructions and developments or sealed⁵⁰ land, taken from the nature or biosphere.

The data briefed here make us conclude that many individuals and organizations need to learn and apply system/holistic, actually a requisitely holistic thinking/behavior. Both the past and present experiences of our civilization's impact on a large number of natural systems are calling for nature that is more effective, nature, space, and environment protection from members of our civilization. In reality, we need diffusion of the requisitely holistic thinking for a broader impact towards better and more suitable behavior, in order to attain our civilization's long-term responsibility and preserve the nature of the planet Earth/Biosphere rather than to suffer a global tragedy of our commons.

The climate change system operates under preconditions given by the dynamic evolvement of physics, geography, and biology of the Biosphere and its environment. The humans, with their life practice over the last 300 years of industrial and post-industrial civilization, have been proving their ability to influence constructively and destructively their natural environment, and are going beyond the border of a sustainable life and its long-term influence on the biosphere of the planet Earth. Our findings exposed in our book "System Thinking and Climate Change System" (2002) demonstrate that the human impacts on the planet Earth's biosphere system are both individual and organizational, and their consequences are individual, local, organizational, regional, national, international, continental, global, and perhaps even universal.

⁵⁰ Sealing of lands is process of putting human eco-sphere in human rather than natural order, or constructing and building living environments for humans and livestock, constructing infrastructure, industry and other facilities, churches and religious centres, education and sport facilities etc.



Therefore, the selected problem is how to attain a better and systemic long-term responsibility of humans to humans, including the one towards the nature.

The selected viewpoint considers the potential political measures toward this responsibility.

It would be proper to think that the Age of Globalization is asking for a new approach⁵¹.

The climate change system as an integral part of the Earth biosphere is not its creator, but its provider, maker, holder and guardian of the living conditions.

Humans have to find a new path towards sustainability or sustainable future, which will provide for more holistic mutual relationship of this civilization and the planet Earth in the newly evolved conditions.

The sustainable future of humankind could be defined by “harmony of the present civilization with the nature of the planet Earth”⁵².

Philosophy, knowledge and its users, sciences, basic and applied research professionals, development specialists, society, and all governing, economic, national, international institutions/subjects, etc. need to accept a broader – requisitely holistic – view at the given evolvments in our biosphere, and to respond adequately to their new challenges.

The present pollution on the global scale (synthetic chemicals, nuclear etc. technologies, CFCs and similar substances, pesticides, genetic modifications, female hormone-like substances from our civilization’s synthetic chemical production and medication, technologies impact – combustion engines and others, transport equipment, armaments and other war equipment’s, PCBs with impact on gene structure, etc.) reflects samples of our civilization’s short-term and narrow-minded behavior.

What we need for our sustainable future is our long-term social responsibility together with individual social responsibility of each and every one, for our civilization’s impact within the biosphere - it affects us via nature.

⁵¹ New approach has been researched by Prof. Dr. Slavko Kulic, IOM, from Zagreb, Croatia, and his research has been done many years ago, but it is still waiting for its implementation.

⁵² Taken from the book “The Sustainable (Development) Future of Mankind”, Ecimovic at al., ISBN 978-961-91826-2-8, 2007, displayed at www.institut-climatechange.si



Here we have to distinguish the impacts of the ruler of our civilization – money monster master or profit motive – from the understanding of it and the actual damages done by by-products caused by the lack of knowledge, understanding and holism.

In many cases of global pollution the profit motive of our civilization was the main reason for large pollution – PCBs, CFCs, pesticides, combustion engine, plastics, etc. – which were and are produced, promoted, and marketed as improvements, but have resulted in damages in our own living space or environment.

Cases include the population's explosive reproduction, and pollution of the atmosphere.

We need research, knowledge, understanding and values/culture/ethic/norms supporting the long-term responsibility of our civilization in order to stop the irresponsible behavior of the present rulers in economies and societies, the humans.

Our civilization's products such as the one-sided profit system, which causes a failure of knowledge and understanding of the long-term responsibility, and hence causes irresponsibility, are detrimental to our-selves, at least in a longer term.

The present status of the biosphere, nature, space and the environment, as well as the scientific and research knowledge and understanding available to humankind, but not applied on a requisitely holistic basis of behaviour, and our social system, are driving our civilization into a dead alley - the short-term and narrow-minded views are favoured too much. Individual, regional, national and international interests do not permit humankind to take a new – requisitely holistic – approach to survival by their social, financial, political, and bureaucratic pressures, war/redistribution rather than evolution-oriented philosophy, eco-bio centric and lack of respect between people.

We, the people of the Earth, have to recognize the need for action towards the establishment of an honest and requisitely holistic world constitution, world parliament, and world government as a possibility for our survival, with responsibility to co-ordinate social issues, and to harmonize the needs of the entire humankind, and the nature, space, and environment capabilities, needs, and possibilities.



Age of globalization is asking for new – requisitely holistic – approaches and behaviour.

Co-ordination of important issues for the Earth/Biosphere by a united single government could respond to research results by practical application of them and requisitely holistic, truthful and honest rather than one-sided and biased relationship between our civilization and the Biosphere.

At least we may have proper management of important issues with more or less good possibility for success.

Global direct democracy (but not money monster master democracy) could be a proper recommendation for entering the age of globalization with a sustainable future of humankind by global governance.

The present practice on the Earth such as:

- The destruction of nearly all waters with synthetic chemicals, bio and air (rain-induced) pollution,
- The destruction of air by the land, sea, and air traffic,
- The destruction by the results of war actions,
- The destruction of the ozone layer,
- Destruction of the soil fertility by the agriculture practice, including erosion and desertification,
- Global warming and other impacts from the climate change system,
- The explosive reproduction of humankind,
- Diminishing motives for hard work and creation on the part of the affluent minority of population, because affluence has always caused the cult of laziness and hence destruction, and
- Others, not mentioned, but not less important practices of global community of humankind under present leadership.

All of these and similar attributes should be parts, which have to undergo transition, changes, researching, learning, understanding and requisitely holistic approaches for a better tomorrow of all and survival of the current civilization.

The given practice cannot be dealt with by simply taking narrow-minded and short-term oriented individual, local or national interests into account and meet them in mutual isolation.

The crucial ones should be a major responsibility of the world government.



The climate change system, which **provides, makes, holds, and guards** the living conditions in our biosphere, needs special scientific research, and world governing action. The people, nature, space, and environment need protection by and from members of our civilization, which should take care of the biosphere, and need special scientific research, understanding and world governing action, too.

Both groups of topics are two global systems reacting to the human one-sidedness by causing global entropy tendencies, which require a global level of the requisite holism in humankind's dealing with them.

The necessary scientific and applied research for humans to cope with the above issues cannot be provided based on our civilization's current scientific and research practice and capacities, due to the engagement of scientists with armaments/war and other misuse/abuse efficiency development, and the demands of bureaucracy.

Therefore, a new approach is needed for a redirection of scientific work towards the needed knowledge and values capable of saving the nature, science, and the environment including the climate change system – for humankind to survive.

Scientific work, as a basic source of knowledge, understanding - needs special coordination at the world-wide level and should be an integral part of the world governance, but a requisitely holistic rather than a biased one. We need independent scientists, who work because of their scientific thinking/acting and practicing ability, and not because of their need for daily/monthly/annual salary given to them by bureaucracy (democratic profit-based/dependent societal system), or narrow-minded and short-term focused marketing/profit oriented economy. The money system today has become a master of its own, a monster which rules the entire civilization. It would be nice to put it back, in the frame where it belongs – the servant of humankind. Now, profit is killing profit by causing side effects having crucial impacts, including humankind's cost covered by company taxes or piled up to be covered in near future in huge sums and tough consequences.

It is obvious that corporate social responsibility and individual social responsibility of each and every one are not a part of present humankind ethics, but declarations for promotion purposes only, mostly. When and if the corporate social responsibility and the individual social responsibility of humans will be a part of each and every one representative of our global community of humankind, the sustainable future of humankind will have better chances to prevail.



To be able to understand the need for the world governance, humans should understand the systems within which we exist, and systems that we consist of and that we innovated. It is important due to the known fact that any system in nature will remain as it is, as long as all systems and relations within it are in a similar mode. Together they make a living system that is trying to be a viable system. When any major or minor part of the system moves, changes, and the whole system will commence to move, change. It is not possible to predict in which direction the system will move, change. This is what is happening in the climate change system. It is maybe the answer to what human society is facing now.

Otherwise, the climate change system ultimately will change living conditions within the biosphere and nature of the planet Earth so much that our civilization will cease to exist.

The global community of humankind needs to understand the message given by John Bunzl from London, UK: “It is impossible to buy survival of humankind with a financial approach however great.”⁵³

The discussion presents a contemporary sciences approach to the present *crisis of biosphere and consequent possibility for extinction of humankind*. The present civilization or our global community of humankind is facing the largest complex societal crisis, which is also closely inter-related with the impact of the climate change system or evolving planet Earth Biosphere »crisis«.

The individual social responsibility (ISR) is a part of our society with much more importance as we are thinking at present. The possibility for survival is closely connected with social technology/technique of the »Sustainable Future of Humankind« or harmony of our civilization with the Nature of the planet Earth⁵⁴. The individual social responsibility will have to play a more important part in future, for new great achievement of our civilization to overcome the crisis of living conditions within the biosphere of the planet Earth and present credit, energy, drinking water, food, and credit crisis of our global community.

The sustainable future of humankind or harmony of our civilization with the nature of the planet Earth is an option for humankind to survive the approaching impact of the climate change system on the biosphere of the planet Earth.

⁵³ The message was written in our book »The Sustainable (Development) Future of Mankind« 2007, page 5.

⁵⁴ Please see: Ecimovic et al: The Sustainable (Development) Future of Mankind, 2007, displayed at www.institut-climatechange.si; and Bozicnik, Ecimovic, Mulej et al: Sustainable Future, Requisite Holism, and Social Responsibility, 2008, available at IRDO.



The question, which we are putting forward, is the sustainable future of global community of humankind. The integrated complex system thinking style is needed for analyzing it. Globalization age has its complex issues as they are, regardless humankind does see them or not. Otherwise, very complex issue of the humankind problems of 2008 - 2017 should be put into the frame of the living space/environment of humans – the biosphere, taking into account the simultaneous problems evolving within the biosphere, plus their synergies.

To be ready for changes, and mitigations due to the climate change system impact, all of us single representatives of humankind must learn more about the basics of the biosphere and Nature.

Life, even survival of us, the modern civilization, depends on conditions provided by **Nature** and the nature of the planet Earth in which we human all live, and by the climate change system as an integral part of it.

The Nature, Cosmos/Universe, Milky Way, Solar System, Earth, Biosphere, climate and climate change systems, terrestrial, water and air environments are *no simple systems* (features, entities, and processes), but very complex and complicated ones.

The sustainable future or harmony of global humankind society with the Nature of the planet Earth, and its coexistence with other creatures in nature as a part of the Earth's biosphere is the solution, to the best of our knowledge, which should be adopted as the vision for our survival.

We need a society wide global approach, and not the dilution of scarce financial means, for *it is impossible to buy the survival of humankind with a financial approach however great.*⁵⁵

People, values and knowledge have been making an epic song of our civilization, which has been going on since humans have existed.

And so has the other nature, including the *whole* Universe; Milky Way; The Solar System; The planet Earth; Biosphere; etc. down to fundamental particles – quarks, protons, neutrons, electrons, relativity theory, and other theories of the Nature, quantum mechanics, atom structural understandings, and discovery of expected “divine particle”.

⁵⁵ Please see footnote 52 and 53.



We people are a part of biosphere, the nature of the planet Earth, although this has been admitted less over the last three centuries than ever before.

The climate change system would ultimately change living conditions within the biosphere and geography of the Earth so much that our civilization will cease to exist.

Therefore, I am presenting the climate change system as a common enemy of our civilization, and sustainable future concept as a path for survival and longevity or future of our humankind civilization.

7.1. The Conclusions and the Recommendations

***One planet, one humankind civilization and one government* are my first recommendation.**

The secondly recommendation is a new approach⁵⁶ to the *social order*:

- **Which has to reflect the past and the present experience,**
- **Which has to establish a *new contract for humankind* living on the planet Earth,**
- **Whit the goal to prevent explosion of humankind reproduction,**
- **To enforce ethics and respect amongst peoples of the Earth,**
- **To enforces (a globally holistic!) law and order, and**
- **To allow with skilful governing, the coming generations to live and have sustainable future⁵⁷ on the planet Earth.**

The third recommendation is *redirections of scientific activities from*:

- ***The work* for innovations of war armaments techniques and technologies for destruction,**
- **Too narrowly market and money-oriented synthetic chemicals technologies,**
- **Too narrowly market and money-oriented energy technologies,**
- **Too narrowly market and money-oriented genetic manipulation techniques,**
- **Too narrowly market and money oriented societal management,**

⁵⁶ Ass introduced good 20 year ago by Prof Emeritus Dr Slavko Kulic, Zagreb, Croatia.

⁵⁷ Sustainable future is harmony of humankind and the Nature/Biosphere of planet Earth.



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- **To rethink money monster - the master practices,**

Toward fostering:

- **The discovering of viable systems of the requisitely holistic the nature of the planet Earth,**
- **The research for the protection of people, nature, space and environment of the Earth as to stop destruction of them by humankind,**
- **The research of the Universe or Cosmos, as essential knowledge needed for survival and sustainable future of global community of humankind or harmony of our civilization with the nature of the planet Earth.**
- **The rebirth of “Individual Social Responsibility“ of humans,**
- **The Sustainable Future or Sustainability of Humankind, and**
- **The Universal Upbringing, Education and Lifelong Learning of humans.**
- **The evolution and evolving of Homo sustainability**

In conclusion: “Be the change you want to see in the world” (Gandhi).

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