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CIVILIZATION IN DANGER. IS HUMANITY SUICIDAL?

Abstract: Civilization is in danger, according to Lester Brown (Plan B 4.0, 2009) of the Earth Policy Institute. Is humankind evolving towards to a global collapse? Not only global warming is an overarching threat, but the entire bio-sphere and eco-sphere are threatened with severe set backs, which are close to become irreversible. The human species is part of the entire biosphere and the millennium old civilizations face new ways of behavior for survival. The European civilization has allowed societies to exploit the earth resources – essentially through industrialization – and finally destroying its own living conditions. A new culture has to be formulated.

The phenomenal scientific and technological development in Europe from the Renaissance on has made outstanding achievements possible. The ‘rationality’ of the scientific method discovered the laws of nature and universe and stimulated technological progress in all domains of human activity. It was assumed, through beliefs and religious narratives, that the earth’s resources could be used indefinitely and for ‘free’. These assumptions appear now to be false. In spite of the cultural enrichment over centuries, world society has to search for a sustainable culture.

The anthropogenic origins of the European civilization have to adapt to a natural or bio-centric one. The human species is part of bio-sphere and is no longer – in fact has never been – a dominant species within the living world. The unsustainable way of acting by the human species, in particular due to the tremendous industrial and economic development of the last three centuries, questions now the exclusive anthropocentric character of the European civilization. Consequently, the value scale applied since centuries has to be adjusted to one in which the natural/biological limits of the planet are taken into account. The human value scale must become in ‘harmony’ with ‘nature’. According to the calculations of the Global Footprint Network, human activities are using already 1.5 planets, which is clearly unsustainable. With an increasing world demography, ~10 billion people, the situation will enhance and get closer to a general collapse. The transition from an anthropocentric world vision to eco-biocentric one is a tremendous challenge. It will take several decades eventually longer, but is an unavoidable step. The civilization has to be redefined as well as the present value scale. One can speak of second Copernican Revolution, a cultural one this time.

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FRAME

Civilization is in danger, according to *Lester Brown*^[1] of the Earth Policy Institute. Is humankind evolving towards a global collapse? In a recent interview with the newspaper *Le Monde*, *Dennis Meadows*^[2,3], co-author of the first report to the Club of Rome, declared that economic growth will stop in about the next quarter century and humankind will see larger changes than those of the past century.

Climate Change and in particular Global Warming are evolving at a rapid pace and threatening the stability of the climate, which has been stable for several hundreds of thousands of years, a period during which the human species appeared on earth. But, there is more than climate change that threatens the planet, the entire eco-bio-sphere is under pressure as well.

The bio-sphere has a very long history to get where it is today. According to the *Gaia theory* of *James Lovelock*^[4], the planet earth is characterized by a strong interaction between the atmosphere, the biosphere and the lithosphere. That interaction is a dynamic process which has been, still is, and will remain, favorable to the living planet, provided that the stability is not disturbed through human activities trespassing thresholds, leading to irreversible processes.

Over geological time scales, Gaia has been able to adapt to changing environment and cosmic events. Consequently it is realistic to assume that, in case of intense human activities transgressing the longtime stability of the planet's 'nature', Gaia will adapt again, but, perhaps, at the cost of the continuity of the human species, and other species as well. In an extreme extrapolation the biosphere could, due to persistent human action (over centuries) decay to what a 'life-less' planet would look like.

Thus, the vital question sounds: is the human species with its hyperbolic demographic evolution and its present way of living, auto-destructive? Is it possible that the civilizations created by humans, over thousands of years, end in a global collapse?

Which place for humans on earth?

The Western civilization, in particular since about twenty centuries, relies at least on two fundamental assumptions:

- first, the human species is *the* dominant species of the living world and stands above all other creatures, for it is a superior species created to the image of its creator;
- second, 'nature' or the eco-bio-sphere is at the disposition of humankind for 'free use'; nature may not be worshiped as was frequent the case among beliefs of tribes and local communities.

The first statement has led to the consequence that the human species has been an idealized species and entirely 'withdrawn' from its natural origin. The Western civilization was constructed on a geocentric perception of the universe inspired/created by a divine authority. The human species, created to the image and the glory of that creator, is perceived to be in the center of the known universe. The Western human value system, although largely borrowed from Greek philosophers as

Aristotle, has been transformed into religious premises. The cultural expressions of arts, philosophy and theology, the world order, all are impregnated by a central believe about a divine creator.

The second statement about the free use of the earth's resources has been a major guidance for exploring and exploiting these resources regardless the consequences on the natural environment. In a way 'natural resources' (capital) have no intrinsic value, neither economically nor existential for humans, they can be used 'ad libitum'. Indeed for many centuries the exploitation of the earth's resources was rather limited (compared to today) enabling the ecosystem to recover or 'digest' the damage done. It is only recently that the question has been raised about the lasting availability of these resources and of the impact on the earth's environmental.

The drive for territorial expansion of European Societies, from the fifteenth century on, implanted the Western world vision. A real dialog among other civilizations with the Western world vision did not take place. An exchange of views between philosophies, religious beliefs, traditional practices and the related value scales remains still a mission for future generations. To be mentioned here are Asian^[5] cultures/civilizations like Buddhism (India, 6th–4th centuries BCE), Taoism (China, late 4th century BCE), Hinduism (India, ~1500–500 BCE), Shintoism (Japan, 500 BCE), a. o. The dominant Western world made the coexistence with other high-cultures^[6] (Hoch-Kulturen) almost impossible; even more, some civilizations have been simply destroyed e. g. indigenous civilizations of North, Mid and South America (Aztecs, Maya, Incas etc.).

The phenomenal scientific and technological development in Europe from the Renaissance on has made outstanding achievements possible. The 'rationality' of the scientific method discovered the laws of nature and universe and stimulated technological progress in all domains of human activity. It was assumed, through beliefs and religious narratives, that the earth's resources could be used indefinitely for 'free'; these assumptions appear now to be unsustainable.

The *Copernican revolution* (Copernicus, 1473–1543) is at the origin of an immense shift in thinking about the universe: from a geocentric to a heliocentric world vision. The importance of this shift has, perhaps, not been valued to its full dimension. In fact it represents a diametrically turn around of the world perception as it was proclaimed for so many centuries. With it the self-perception of humankind changed entirely. In more general terms: with the Enlightenment period in Europe (ca 1500–1800) a new world vision started to emerge based on philosophical and scientific analysis and observation. According to *Immanuel Kant*, The Enlightenment was: "*Mankind's final coming of age, the emancipation of the human consciousness from an immature state of ignorance and error.*"

In the nineteenth century followed another major insight with the *Darwinian revolution* (Darwin, 1809–1882), namely, the living world, the human species included, is the result of biologic process and evolution. In particular humans evolved from other higher mammal species, but are not the result of a specific act of a creator.

These two discoveries have fundamentally revolutionized the Western world vision about the earth's position in the universe and the place of human species in the living world. With it, the own perception of the human being was entirely modified.

However this is not the end, more recent scientific understandings have been accumulated, especially during the last half century, they all contribute significantly to a better insight of the universe and the planet earth on which human-kind evolves. A few remarkable scientific discoveries consolidated the transition to a new world vision: the DNA structure (1953) and the surprising similarities throughout the living world from very small species up to the human one; the space research and observation, for example the Hubble telescope; and many other, have greatly contributed to complete a better perception of the universe and the position of the human species in the bio-sphere.

Additionally, but not the least, the technological development, essentially due to the miniaturization of objects, like ICT has strongly contributed to the present world perception. These developments lead to another discourse, introducing the relation of technology with economy and the activities thereof. The latter raises questions about the sustainable character of the inter-relationship technology-economy: is there an increasing need for a generalized technology assessment? For what purpose and with which side-effects on the environment are technological innovations developed? Indeed the concept of economical growth, based on market-economical assumptions, has to be revisited entirely.

In any case the concept of free use of Gaia's resources, being put forward as a 'dogma', can no longer be maintained, irreversible and non-linear impacts on the planet's condition, prove the necessity for a different concept than the one inherited for centuries.

THE NEW WORLD VISION; ANCIENT ROOTS REDISCOVERED

The acceptance of the consequences of the inherited world vision has still a long way to go, in the business the community inclusive the teaching establishments, in national and international political bodies as well as in the larger public. Obviously, formulating solutions requires a world vision which corresponds to reality and is no longer built on religious believes and narratives, which has been the case for centuries in the Western culture. Therefore the discussion on these assumptions are utmost important for designing the limits of human activities

The anthropogenic origins of the European civilization has to adapt to a natural or eco-bio-centric one. The human species is part of eco-bio-sphere and is no longer – in fact has never been – a dominant species within the living world. The unsustainable way of acting by the human species, in particular due to the tremendous industrial and economic development of the last three centuries, questions now the exclusive anthropocentric character of the European civilization.

Consequently, the value scale applied since then has to be adjusted to one in which the natural/biological limits of the planet are taken into account. The human

value scale must become in 'harmony' with 'nature'. According to the calculations of the *Global Footprint Network*^[7], human activities are using already 1,5 planets, which is clearly unsustainable. With an increasing world demography^[8], ~10 billion people, the situation will enhance and get closer to a general collapse.

MAJOR THREATS

Human civilizations have their roots in the geosphere and biosphere. Could it be different? The limits, or the carrying capacity, of the biosphere has only recently been addressed. This is in part due to the fact of the demographic expansion of the human species, but also to the 'economic' behavior of industrialized societies. Demographic growth is an excellent example of a non-linear behavior, in fact a hyperbolic one. There is no surprise: in a few decades, human society became confronted with a much larger population than usually perceived, although the mathematical formalisms for calculating the trends have been known for a long time. It means also that for thousands of years the population issue and the effects of human activities were not 'visible', then, 'nature' was able to assimilate the use and misuse of resources and to redress the situation ante.

The overarching eco-bio-sphere is endangered simultaneously on several fundamental components, they are known for some time through: scientific observations, manifold actions of civil society organizations (NGOs), international conferences and world summits. The 'green' movement, initiated by the publication of *Silent Spring* of Rachel Carson^[9], denounced the danger of persistent pollution due to industrial activities, the introduction of chemicals for pest control and the like. The phenomenon of Climate Change and the creation of the IPCC have accelerated the awareness of the impact of human activities on the planet, but specific actions (political) have not yet followed. The planetary environment has a limited carrying capacity and consequently human impact has to be kept under control at risk of transgressing 'natural' borders or tipping points and landing in irreversible damage.

The threats are well known, a short enumeration to focus on the global challenge of an endangered civilization:

- the *biodiversity* – from the bacteria up to mammals; from plankton up to marine life; soil quality; boreal and tropical forests. All the links of the living chain are important for the keeping the biosphere stable as it has been for millenniums. Human activities intervene in the stability, at risk of creating irreversible situations within the eco-bio-sphere;
- *deforestation* of large areas in Tropical and the Boreal Forests. Deforestation is a serious threat to biodiversity in these regions and in general. It enhances soil degradation, which is frequently an irreversible process; unsustainable timber exploitation resulting mostly in irreversible destruction of forests; decreasing Carbon Capture and Storage (CCS) for eliminating GHG concentrations.
- *ocean* and fishing attitudes; pH and temperature of the surface waters; food for human populations; the rise of water sea levels endangers vast populations

- living at the borders of seas and oceans, which tends to rise up ~80% of the world population;
- *deserts and desertification* the extension of deserts has not only an effect on the loss of biodiversity but threatens large amounts of populations up to around one billion people;
 - *fresh water balance* is perhaps the most critical for entire regions on the planet. It is related to the melting of ice masses in high mountain chains, the pollution and exploitation of ground water reserves, which are extremely slow to be restored;
 - *weather changes*, the impact on regional weather conditions in particular related to food production;

The cumulative impact of some of the above described phenomena will unavoidably result in massive human migration. The migration of hundreds of millions of people, within national borders and beyond, represents a major challenge. Massive migration is the expression of large social instabilities and disruptions. The demographic increase together with massive migration requires full attention by world leaders and institutions.

ANSWERING THESE CHALLENGES: HOW?

The origin of the European civilization has its roots in the frame of religious premises which have lead to a world vision in which 'nature' is absent. The earth's resources as such were proclaimed to be for free of use by the supreme position of the human species. These two premises are wrong and the combination is stronger than its elements separately. Essentially this world vision started as a theo-centric vision to evolve to an anthropo-centric world vision but still strongly rooted in religious beliefs and narratives. It contains its own contradiction: the vital condition for life is to be embedded in 'earth's nature' and not to dominate or exploit it on a 'for-free' basis.

A slow change started with emergence of exact sciences in the Enlightened period followed by the industrialization era – at an accelerated pace. The so called 'side-effects' of the industrialization process have been ignored. The recognition of the limits of the earth's resources and carrying capacity is only a few decades old, however the anthropocentric world vision is still considered as correct and immovable.

If so, the question arises if humankind is suicidal or is humankind auto-destructive? Meaning that the civilization (s) built through millenniums would be condemned to collapse resp. to disappear. Such outcomes be considered as realistic, and take place in a couple centuries or even faster. It would not be first time in history that major civilizations disappear. In any case the carrying capacity of the planet is already trespassed, according to the *Footprint* approach.

CONCLUSION

The anthropocentric civilization (s) based on internal contradictions are at risk and unsustainable. The manifold proposals for changing the economic system, the

increased control and regulations for mastering persistent pollution, the restrictions on deforestation which are barely respected in some regions, and many others, are all good as such, however unable to change course for avoiding global or partial collapse of civilizations.

The way forward lies in an eco-bio-centric world view. In fact a second Copernican revolution 10 appears to be good image for the challenge ahead. The transition to an eco-bio-centric one is a tremendous challenge: new economic system, other socio-ethical behavior system for societies, businesses, political agendas and priorities, etc. It will take several decades eventually longer, but is an unavoidable step. The civilizations have to be redefined and with it a new value scales to be constructed; the earth's natural environment must be part of the new value, it is existential for the survival of the human species 11. Consequently the new world vision will, at the same time, evolve to essentially secular civilizations, leaving religious narratives behind.

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