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Scenarios of the Near Future: Sustainable Development, Retreat or Collapse and Regeneration?

Scenariusze na przyszłość: Zrównoważony rozwój, odwrót czy upadek i regeneracja?

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Abstract: The elementary "map of the near future" could consist of three basic scenarios: sustainable development; sustainable retreat; or collapse and regeneration. Sustainable development remains the most serious attempt at finding an answer to the question of how to allow all people and nations to develop and improve their quality of life, while preserving functional ecosystems and a healthy environment for humankind. James Lovelock was the first to articulate the idea that it is too late for sustainable development and that we should strive for sustainable retreat. For Lovelock, the deadliest issue is the ongoing climate change, as it is irreversible and only can be mitigated. Sustainable retreat is hard to enforce politically and difficult to absorb mentally. Collapse of a civilization is a decrease in population size or political, economic, and social complexity over a large area for a long time. The collapse of a society does not usually come in the form of a sudden and apocalyptic downfall. Whether a society collapses or not depends on the society´s response to its problems and its capacity to solve them. A collapse is usually followed by rebirth and regeneration. This is a pattern in nature. Human society has followed a similar trend. Regardless how big a crisis is, it always presents an opportunity for catharsis and hope for a new beginning. However, there is no guarantee of the results.

Keywords: scenarios of the future, sustainable development, civilization retreat, civilization collapse, civilization regeneration

Streszczenie: Można założyć, że "mapa najbliższej przyszłości" prezentuje trzy główne scenariusze: zrównoważonego rozwoju; zrównoważonego odwrotu; lub upadku i regeneracji. Zrównoważony rozwój nadal pozostaje najpoważniejszą odpowiedzią na wyzwania dotyczące możliwości zapewnienia wszystkim ludziom i narodom rozwoju i poprawy jakości życia, przy jednoczesnym zachowaniu funkcjonalnych ekosystemów i zdrowego środowiska dla ludzkości. James Lovelock jako pierwszy wyraził pogląd, że na zrównoważony rozwój jest już za późno i dlatego powinniśmy dążyć do zrównoważonego odwrotu. Dla Lovelocka najpoważniejszym problemem są zachodzące zmiany klimatyczne, ponieważ są one nieodwracalne i można je jedynie spowalniać. Zrównoważony odwrót jest trudny politycznie i problematyczny, jeśli chodzi o zmiany w mentalności ludzkiej. Upadek cywilizacji oznacza spadek liczebności populacji oraz stopnia złożoności systemów politycznych, gospodarczych i społecznych zachodzący na dużym obszarze oraz w długim okresie czasu. Społeczeństwa z reguły nie upadają w sposób nagły i gwałtowny. Upadek społeczeństwa zależy od jego reakcji na własne problemy oraz zdolności do ich rozwiązania. Po upadku zwykle następuje odrodzenie i regeneracja – według wzorca występującego w na-

turze. Społeczeństwa zachowują się podobnie. Niezależnie od tego, jak głęboki jest dany kryzys, zawsze stanowi on okazję do *katharsis* i daje nadzieję na nowy początek. Niestety, skutki końcowe tego procesu są nieprzewidywalne.

Słowa kluczowe: scenariusze na przyszłość, zrównoważony rozwój, odwrót cywilizacyjny, upadek cywilizacji, regeneracja cywilizacji

> "The deeper we delve into the spirit and mass, the more we realize they overlap, and that at the deepest level of conscience, this division dies, and the spirit and mass, the supernatural and the natural, are one."
>
> Bede Griffiths

Introduction

It has been over a hundred years since the disaster of the Titanic in April 1912, and today, more than ever before, the tragic fate of this ship should serve as a lesson and warning. Escalating global problems of humankind could exceed the ecosystem's capacity, and it would take entire biosphere to buffer and absorb these problems. We can ignore hazards and warning signs but that does not mean that the problems will go away.

The purpose of this article is to formulate three scenarios of potential future development and the ways in which we can challenge current global problems and trends. We can study the past and interpret it in different ways, but we cannot change it. On the contrary, we can never predict or know the future with any certainty, but through our current thoughts, words, and actions we can influence it to a certain extent. As the future can be influenced by our choices, it makes sense to study it. These visions of possible future scenarios may help to make our decisions more qualified and responsible.

In April 1912, twenty minutes to midnight, the "unsinkable" Titanic collided with an iceberg while on her maiden voyage from Europe to New York. The ice mass tore a 90 m gap in the starboard side, below the waterline but above the double bottom level. Five minutes to midnight, the captain ordered the crew to launch lifeboats. At half past midnight the boats began filling with women and children. Some boats remained nearly empty as men were not allowed to board and some families wished to stay together. Others were reluctant to board the boat and set off in the dark, leaving behind the only well-lit place in sight. Only the very last boat was crowded. On 15 April, 1912 at two twenty in the morning the Titanic sank. From among the 1,316 passengers and 855 members of the crew, only 706 people survived.

According to the Bible, four or five thousand years earlier, sometime in the third millennium BC, another story took place. The Lord saw that the wickedness of the human race was great on the Earth and decided to wipe the human race, animals, birds, and the creatures that move along the ground from the face of the Earth. But Noah found favor in the eyes of the Lord (Gen 6:5-8). God told Noah to build an ark – a wooden ship. It was only for him, his wife, their three sons with their wives, and two of all living creatures, male and female, to keep them alive (Gen 6:14-19).

It is irrelevant to what degree this legend is historically accurate. The point is that it is enlightening. Noah must have looked a fool, building a strange giant ship when there was no rain and because of a flood, the likes of which had not occurred for the entire known history of mankind. He, however, listened to his inner voice, presumably relying on a faith that might have involved an element of uncertainty as to whether it really had been God's voice. Thanks to this faith and his willingness to put his own name at risk, Noah saved humankind. Both

the Titanic story and the legend of Noah's Ark can also be inspiring in the 21st century, in which we will either manage to act with foresight as Noah did, or we will not, which will have painful consequences.

Human beings have always had a major impact on their environment. This process has accelerated significantly since the beginning of the Industrial Revolution when fossil fuels came into wide use. Thanks to the Industrial Revolution, developed countries boast standards of living that not even the nobility in medieval times could enjoy. We are well-nourished and have high quality hygiene available; life expectancy has doubled, we are all literate and free to improve our qualifications if we want. There are, however, two sides to everything.

Nobel Laureate and founder of ethology, Konrad Lorenz (1974) builds on the seven deadly sins as formulated around the year 600 by Pope Gregory I: pride, greed, envy, wrath, lust, gluttony, and sloth. Lorenz defines the following eight deadly sins for today, which could cause immediate hazard to human existence: overpopulation, devastation of environment, man's race against himself (exaggerated orientation on mutual competition and profit), emotional entropy, genetic decay, the break with tradition, indoctrinability, and nuclear weapons.

1. Problems Removed Both in Space and Time

Throughout its existence, Western civilization has been influenced and formed by the Ten Commandments, a law for Jews and Christians that describes how to approach God and other people. Like the Ten Commandments, Pope Gregory I's seven deadly sins are straightforward and categorical. If you steal, it is wrong. If you are proud or greedy, it is wrong. With new scientific findings and new opportunities generated by modern technologies, however, new, less straightforward problems emerge.

In 2008, Vatican Bishop Gianfranco Girotti, in the newspaper *L´Osservatore Romano*, strived to outline other vices associated with the modern times and the process of globalization which the Catholic Church could consider grave wrongdoings against God and fellow men and women in the 21st century.[1]

According to Girotti, these "new sins" include genetic manipulations, human experimentation, environmental pollution, causing social injustice and poverty, living in excessive wealth, drug dealing and drug abuse. Unlike the Ten Commandments, though, these "new" sins are less straightforward, less categorical. The boundary between good and evil is, at least for now, blurred. While genetic manipulations are controversial, not all of them can be unequivocally condemned across the board. Human experimentation is definitely wrong but it needs to be said that it is also very wrong to make redundant and unjustified experiments on animals and cause suffering where not absolutely necessary.

Although pollution is certainly detrimental, zero contamination is unattainable. Even if we aimed for close to zero contamination, the economic costs of reaching such a condition would be nearly infinite. Contribution to the poverty of others is a sin that to a varying degree is committed by all of us. Life in excessive wealth is difficult to define. From the perspective of an average African, all people in the West are excessively wealthy. The goal is not, however, for everyone to be poor. It is difficult to define justified and adequate human needs, nor is it easy to define a tolerable capacity of ecosystems and the biosphere, that is, how much anthropogenous pressure it can take.

2. Three Scenarios of Development

It is not humanly possible to forecast which direction humankind will head in the 21st century. We can, however, try to describe the major threats and risks as well as opportunities that await us on our journey

1 It should be noted that this is not an official stand of the Catholic Church but only a deeper contemplation of an influential bishop from the Vatican.

through the 21st century. The elementary "map of the future" could, I believe, consist of three basic scenarios: sustainable development, sustainable retreat or chaos and anarchy followed by regeneration. Sustainable development is normative (desirable) scenario, sustainable retreat can be perceived as probable scenario, and chaos and anarchy as warning (undesirable) scenario.

2.1. Sustainable Development

Sustainable development was formulated by the World Commission on Environment and Development in the report *Our Common Future* in 1987 (WCED 1987). It is a development that meets the needs of the present without compromising the ability of future generations to meet their own needs. In its broadest sense, the strategy for sustainable development aims to promote harmony among human beings and between humanity and nature. This definition is quite vague though, and its biggest deficiency is the fact that it fails to define human needs.

More than 35 years later it transpires that it is one thing to formulate sustainable development but quite another to have the will to implement it. Sustainable development, nevertheless, remains perhaps the most serious attempt at finding an answer to the question of how to allow all people and nations to develop and improve their quality of life, while preserving functional ecosystems and a healthy environment for humankind.

Six years after *Our Common Future* report (WCED 1987), Czech environmentalist Josef Vavroušek came up with a more relevant definition of sustainable development: "Sustainable development, and more specifically a sustainable lifestyle, aims at the ideals of humanism and harmonious relationships between man and nature. It is a way of life that searches for a balance between the freedom and rights of each individual and his or her responsibility to other people and nature as a whole, including responsibility to future generations" (Vavroušek 1993).

Based on the above definitions we can now formulate four specific requirements that need to be gradually fulfilled in order for us to head toward long-term sustainable development:

1. The requirement that all the people on Earth are able to meet their (basic, at minimum) needs.
2. The requirement to respect the right of future generations to be able to meet their needs.
3. The requirement to respect an adequate level of rights for other living beings.[2]
4. The requirement to learn from the future (learning based on forecasting the potential consequences of our current activities) and respect the precautionary principle.[3]

Sustainable development may be feasible if:

- We gradually change our values to make them comply with the principles of sustainable development. The value sphere is quite permanent (and only changes very slowly, over decades and centuries), and despite being the most ground-breaking change of all, such a revolution in values takes place discreetly. The question is then whether there is enough time to change our values and create and enforce economic tools directing us towards sustainable development.
- We manage to create and enforce economical and more effective technologies. The aim is to imitate to the maximum possible extent the functioning of ecosystems that produce no waste, or ecosystems in which the waste from one process is the initial raw material

2 Peter Singer (1975) says: "We are equal, but equal does not mean the same." Czech philosopher Erazim Kohák (1998) adds: "We may have different needs, but we have the same right to satisfy them."

3 The precautionary principle is defined in Principle 15 of the Rio Declaration on Environment and Development (1992): "Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation."

of another process. Similarly, to nature's economy, human economy should also head towards the use of energy from renewable energy sources that build on the energy of the sun's rays.

- We manage to build functional and effective states and self-governing municipalities and regions, while becoming able to agree on the basic principles of international or global management. We need an effective tool to solve global problems, namely global management – which does not mean a "global government", but a set of jointly adopted, respected, and enforceable rules.

2.2. Sustainable Retreat

If we admit that we will never make sustainable development a reality, that there is not enough will or time for its implementation, then it is wise to explore other options. In 2006, in his book The *Revenge of Gaia*[4], British physicist James Lovelock was probably the first to articulate the idea that it is too late for sustainable development and that we should strive for sustainable retreat.

For Lovelock, the deadliest issue is the ongoing climate change, as it is irreversible and can only be mitigated. James Lovelock is aware that so far, we have not been able to adopt effective preventive measures. It is alarming that at a time of crisis, those who should be leading and adopting responsible, if unpopular, measures are instead striving to preserve and maintain the current state of affairs.

Lovelock believes that we will not be able to avoid the painful consequences of our universal dependency on fossil fuels, the burning of which produces the greenhouse gas carbon dioxide. Today human society depends on fossil fuel energy like addicts depend on drugs. While treatment is possible, it is painful and requires determination on the addict´s side, not resignation: "We as a civilization are all too much like someone addicted to a drug that will kill if continued and kill if suddenly withdrawn" (Lovelock 2006).

What we now need is to change the way we think and become aware of the mortal danger. Only then will we have a chance of accepting sacrifice and hardship. Since the first report to the Club of Rome think tank, *The Limits to Growth*, was published in 1972 (Meadows et al. 1972), we have been warned that the exponential growth of population, energy, raw materials, and pollution is not viable in the long run in our space-limited biosphere.

Since 1987, we could and should have been promoting and cultivating the concept of sustainable development, but instead, we have failed to take any effective action. Now is the time to begin devising ways to minimize the damage. The sustainable retreat is hard to enforce politically and difficult to absorb mentally. We may thus trifle away our most precious, finite, and non-renewable source – time. Acting in line with the precautionary principle will turn out to have been too difficult a task for humans.

2.3. Collapse – Period of Anarchy and Chaos

Whole civilizations and empires have collapsed in the past. Such a decline may take place over dozens or even hundreds of years. Why some societies perish while others survive is the theme of the book *Collapse* by the biologist and cultural anthropologist Jared Diamond (2005). He defines the collapse of a civilization as a decrease in population size or political, economic, and social complexity over a large area for a long time. This definition implies that the collapse

4 Nearly forty years ago, Lovelock came up with the "Gaia" hypothesis, based on which the Earth behaves as a unified self-regulatory system composed of physical, chemical, biological, and human elements. Interactions and feedback between individual components are complex, exhibiting time and space variability on multiple levels. It is a dynamic physiologic system that has been preserving conditions for life for more than three billion years. The "Gaia" hypothesis views biosphere as an active adaptive system capable of keeping the Earth in homeostasis.

of a society does not necessarily, not even usually, come in the form of a sudden and apocalyptic, action movie-like downfall.

The collapse of these ancient societies was caused at least partly by environmental problems that Diamond places into eight categories:

- deforestation and habitat destruction,
- soil problems (erosion, salinization, and fertility losses),
- water management problems,
- overhunting,
- overfishing,
- effects of introduced species on native species,
- human population growth,
- increased per-capita impact of people.

Nowadays we are facing four more environmental factors that pose a threat to societies:

- anthropogenic climate change,
- accumulation of toxic chemicals in the environment,
- energy shortages,
- near-full use of the Earth's photosynthetic capacity for human needs.

Whether a society collapses or not depends on this society's response to its problems and its capacity to solve them.

2.4. Regeneration of Civilizations

All major societies, empires, and civilizations, in a similar way to humans, go through the stages of youth, adulthood, and old age. The duration of the stages varies. Unlike in humans, they need not decline ("die") but can instead transform into a new form.

A crisis is usually followed by rebirth and regeneration. This is a pattern in nature. Human society has followed a similar trend. For example, after the Second World War, European countries enjoyed a baby boom with an extraordinarily increased birth rate. Likewise, the 1950s and 1960s were a time of blossoming and prosperity for European economies.

The Thirty Years' War between Catholics and Protestants ended in Europe with the signing of the Peace of Westphalia in 1648. Among other benefits, the treaty brought about a giant shift in relations between individual countries. The principle of national sovereignty was adopted. The Civil War that broke out in North America eventually claimed 970,000 lives. On the other hand, it led to the abolishment of slavery in 1865, when the 13th Amendment to the U.S. Constitution was adopted.

After the First World War, which came as a shock to the world and was responsible for the death of 15 million people, a Parisian peace conference gave rise to the League of Nations – the first global attempt at joint management of international and global issues. The Allies were already preparing the post-war arrangement during the Second World War, and in July 1944, forty-four countries adopted the Bretton Woods System that regulated international monetary relations. After the war, in April 1948, the U.S. Congress approved the European Recovery Program (the Marshall Plan), which proved to be one of the most successful projects in history. The Marshall Plan is also unique in that the winner of World War II included its principal enemy in the war – Germany – in the project.

Reaching further into history, a great source of inspiration is the Renaissance (rebirth), which took place roughly from the 14th to the 17th century. It was a period of an "explosion of creative genius," the flourishing of art and science. The defunct Western Roman Empire thus found its heir and successor, even though it had taken nearly a thousand years.

Clearly, regardless how big a crisis is, it always presents an opportunity for catharsis and hope for a new beginning. However, there is no physical law stating that a crisis must be followed by restoration and prosperity, there is no guarantee of the results. After a crisis, a window of opportunity usually opens for a while, a chance for a new beginning. This window is nevertheless open for a limited time only. Knowing what we do not want is not enough, we also need to know what we want and how to acquire it.

Based on our current knowledge, 3.85 billion years ago, abiotic evolution (evolution of the inanimate universe) developed into biological evolution, and the first "transgression" take place. About forty thousand years ago, biological evolution transformed into cultural evolution. The second transgression happens through man, giving rise to, as Josef Svoboda (1997; 2006) put it, the homosphere.[5]

Humans quickly learn to make, use and improve tools, make use of fire, and domesticate animals. Agriculture, architecture, writing, and philosophy flourish. Lately, the world has seen an incredibly rapid advance of science and technologies, information processing, and communication. According to Josef Svoboda (who was inspired by Pierre Teilhard de Chardin), we are approaching the third transgression, where the homosphere will perhaps transform into the Teilhard's omegasphere.

Humans are learning to manage and control the biosphere; they will develop their biological-sociological self-organization from the local level all the way up to the global level, they will increasingly interfere with and control the process of evolution. In other words, the entire physical universe, first formed and then subsequently endowed with life, will become spiritualized through man.

Josef Svoboda and, with slight variations, other scientists, believe that this is the point and final purpose of the long process of transformations from the mineral (inorganic) Alpha sphere (sphere of the inanimate physical world) through the biosphere (animate world) to the sphere of spiritualization and the pure spirit of Omega. For Teilhard de Chardin, reaching the Omega Point was the ultimate goal of universal evolution.

Conclusion

The future ahead of us is open. The path to the Omega Point is full of obstacles, the strength of which depends largely on us. We still have two roads before us: evolution or revolution, transformation or a series of disasters of possibly apocalyptic dimensions. Science looks to the future with optimism. The rational, scientific view historically tends to focus more on opportunities and less on dangers. Religion is more careful, because it knows well human nature and hearts.

Religion (Christianity and Judaism) is more optimistic in terms of how the human story will unravel in the end, since those who find salvation will be offered entry to a new dimension, a new quality of life, a direct and personal encounter with the Creator. Science cannot respond similarly, because it would no longer be science but faith.

Owing to his foresight, Noah ensured humankind continues to live on the Earth. The Titanic is more of a picture of teenaged humanity. Using science and technology, we want to build a new beautiful world, a "paradise on Earth", where there will be no need for God anymore, actually, he will be in the way, worrying us with his ethical demands. We simply want to establish rules ourselves.

Human community can grow into adulthood and responsibility, or our pride and fascination with "freedom without limits" will lead us to one trouble after another. We need to behave and act with foresight, with regard to our future and the future of our children, so that we leave behind a habitable world in which they can live their story.

There is no guarantee of a happy ending, but the chances are good. Perhaps major changes will come sooner than we think. It took the Cro-Magnon 30,000 years to think of the first plough. Then, less than 200 years after the invention of the steam engine, Apollo 11 landed a human crew on the Moon.[6] It seems that through humans, evolution has seen an unbelievable acceleration (Svoboda 1997; 2006).

5 Homosphere is defined by the presence of humans and the scope of their influence.

6 Another fundamental change (and challenge) is maybe coming now, with artificial intelligence.

The whole universe as we know it was born "out of nowhere". Both science and religion are in agreement on it. In the middle of 2012, scientists reported that they had probably discovered a particle called the Higgs Boson. They believe that these particles exist in a field that penetrates the universe, and their interaction provides all the other particles with mass. Although it is hard to believe or imagine, the "magisterium of religion" and the "magisterium of science" appear to be in a much closer agreement on the origin of the universe (Gould 1999)[7].

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References

Diamond, Jared. 2005. *Collapse: How Societies Choose to Fail or Succeed*. New York: Viking Books.

Gould, Stephen. 1999. *Rocks of Ages: Science and Religion in the Fullness of Life.* New York: Ballantine Books.

Kohák, Erazim. 1998. *Zelená svatozář [Green halo].* Praha: Sociologické nakladatelství.

Lorenz, Konrad. 1974. *Civilized Man's Eight Deadly Sins*. London: Methuen.

Lovelock, James. 2006. *The Revenge of Gaia*. New York: Basic Books.

Meadows, Donella, Denis Meadows, Jorgen Randers, and William Behrens. 1972. *The Limits to Growth. A Report for the Club of Rome´s Project on the Predicament of Mankind.* New York: Universe Books.

Moldan, Bedřich, 1993. *Konference OSN o* životním *prostředí a rozvoji. Dokumenty a komentáře [United Nations Conference on Environment and Development. Documents and comments].* Praha: Management Press.

Nováček, Pavel. 2011. *Sustainable Development.* Olomouc: Palacký University Press.

Singer, Peter. 1975. *Animal Liberation*. New York: Avon Books.

Svoboda, Josef. 1997. *Na prahu třetí transgrese. Úvaha o směru a smyslu evoluce. 3. výroční přednáška k poctě J.L. Fischera [On the threshold of the third transgression. Reflection on the direction and meaning of evolution. 3rd Annual J.L. Fischer Honors Lecture].* Olomouc: Vydavatelství Univerzity Palackého.

Svoboda, Josef. 2006. "Life as an Unfolding Biocosmos." In *Life as We Know It*, edited by Joseph Seckbach, 431-444. New York: Springer.

WCED (World Commission on Environment and Development). 1987. *Our Common Future.* Oxford: Oxford University Press.

Vavroušek, Josef. 1993. "Perspektivy lidských hodnot slučitelných s trvale udržitelným způsobem života [Perspectives of human values compatible with a sustainable way of life]." In *Lidské hodnoty a trvale udržitelný způsob života. Sborník přednášek*, edited by Pavel Nováček, and Josef Vavroušek, 91–100. Olomouc: Vydavatelství Univerzity Palackého.

7 According to Stephen Jay Gould, there is "magisterium of science" and a "magisterium of religion." Science is rational, "objective," seeking to understand the functioning of the world. On the other hand, faith is subjective, more intuitive, searching for the purpose of this world and the place humans hold in it. As science is threatened by the pride of intellect and the enduring mechanistic view of the world, faith faces the perils of extreme fundamentalism.