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Opinion Article

New Opinion of Anthropocene Based on Astrobiophilosophy for the Post Corona Human Lifestyle: Earth can be regarded as a High Dimensional Environmental Giant Life. Era of Anthropocene Based on Astrobiophilosophy

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Abstract

The birth of human civilization arose through the discovery of the recording technology which produced great archives of scientific knowledge. Human beings enlarged their scientific knowledge through exchange between numerous civilizations, and finally accumulated superior systematic archives before being able to make a round trip to the moon. The activities of human beings against a backdrop of these technologies create unprecedented changes to the whole global environment introducing a new geologic epoch, the Anthropocene. Such a significant influence on the activity of human beings has been accomplished by the introduction of the concept of creating a recorded history originating about 10,000 years ago, therefore, at that time the Anthropocene began.

Astrobiophilosophy is a philosophy for every human being who lives with dignity based on his or her position and role in the universe as a member of the living organisms on Earth. All life phenomena on Earth should be able to be explained as chemical reactions, but only a part of them are achieved. There are still a wide range of frontiers (great possibility and challenges) in the realm of chemical reactions. The concept and the fundamental parts of this philosophy and a new human lifestyle after the COVID-19 Pandemic based on the concept of Astrobiophilosophy is proposed in this article. Era of Anthropocene based on Astrobiophilosophy will be discussed.

Keywords: Anthropocene; Astrobiophilosophy; Academic discipline; Chemical reaction; Post-coronavirus world; Human lifestyle; High dimensional environmental giant life; Human civilization; Recording technology; Spaceship earth; COVID-19 pandemic; Wonderful global citizen

Introduction

The COVID-19 pandemic caused by the new coronavirus SARS-CoV-2 brings to light the reality that modern human culture is so fragile. It looks like our common daily activities as human beings in the fields of politics, economics, culture, and science are in a very confused state.

We, as human beings, need a novel philosophy based on the innovative aspects of life science under the pandemic and the uncertain future. The new philosophy should be acceptable, understandable, and universal for a wide range of people from children to senior citizens living in countries all over the world.

When I was a lecturer at Kitasato University (in Japan), every year I would give an introductory lecture to first-year students regarding the natural sciences involving physics, chemistry, biology, psychology, and philosophy. With these in mind, I have developed a new philosophy that includes aspects of each of the above fields, and have named it astrobiophilosophy [1].

The fundamental parts of this philosophy are as follows:

- All living organisms are the products of rearrangement and connection of atoms, and molecules, and are always circulating in the limited global environment. The death of a person is not a fall into the deep and hopeless hell, instead, it is to be reborn as a new part of the environment on Earth.
- All life phenomena on Earth should be able to be explained as chemical reactions, but only a part of them are achieved. There are still a wide range of frontiers (great possibility and challenges) in the realm of chemical reactions.
- The total life phenomena on "Spaceship Earth" are collectively

considered to be a high dimensional environmental giant life which have been living from past to present and present to future.

- Understanding of the recycling of living organisms on Earth must be one of the best answers to the everlasting question: Where do we come from? Where are we now? Where are we going?
- Every human being must take responsibility for maintaining the safe and peaceful condition of Earth as the principle pilot for the "Spaceship Earth".
- Human life could be described as the endless practice of becoming a wonderful global citizen throughout our own life. The definition of "wonderful global citizen" would be different for each person. Some of the typical example of the behavior of wonderful global citizens are as follows:
  - Getting along well across a wall created by differences of culture, nationality, race, religion, sex, poverty, and wealth.
  - Respecting all human rights, racial variety, and biological diversity.
  - Always trying to bring up their universe of minds be wide, deep, and rich until the end of their lives.

In recent years, the energy consumption of human behavior has become enormous, and this has caused abnormality in the Earth's atmosphere. This substantial environmental change has induced many kinds of influences on Earth. A new geological epoch influenced by human behavior on the Earth's atmosphere in recent centuries was regarded and widely popularized as the Anthropocene by the atmospheric chemist Paul J. Crutzen [2]. The term Anthropocene comes from a combination of *anthropo-* from *anthropos* (Ancient Greek: ἄνθρωπος) meaning "human" and *-cene* from *kainos* (Ancient Greek: καινός) meaning "new" or recent.

Various beginning dates for the Anthropocene have been proposed, id est. the Agricultural Revolution (12,000-15,000 years ago), the Industrial Revolution (approximately 250 years ago), or the first atomic bomb in 1945 [3].

Pollution from large quantities of plastic is one of the biggest environmental problems on Earth. Fission products (so-called nuclear garbage) from nuclear power plants which began as the peaceful use of nuclear energy after the development of the Atomic-bomb in World War II, is another serious problem.

There are a large number of metropolis and highly developed, complicated transportation systems which are widely distributed and available to people. Finally, human beings improved the quality of their lives to a super high level, unprecedented in history. In recent years, human beings are developing various rocket systems and extending feelers into the solar system. As a result, the natural environment has changed at a much faster rate than ever in the past.

In this article, I would like to propose a new human lifestyle after the COVID-19 Pandemic based on the concept of Astrobiophilosophy and Anthropocene.

The Origin of Human Civilization was caused by the Discovery of Information Techniques

Leading to the Concept of a Recorded History

The first human being was born in the jungle of East Africa about 6.5 million years ago. Human beings learned and attained the making and handling of fire about 1 million years ago, and developed cooking methods causing the quality of meals to advanced markedly [4]. They evolved to a new face (Homo sapiens: modern people) through an old man from a primitive man about 200,000 years ago. Homo sapiens widened their habitat to include the whole Earth. Human beings changed their lifestyles from hunting and gathering to farming about 12,000 years ago. This big change of lifestyle resulted in an increase of leisure time for human beings. They could now invent various languages and many kinds of tools. Through this reform, human beings were able to greatly improve the quality of their lives [4].

However, the use of words/or pulses and tools is not limited to only human beings, but also possible in many species of animals [5]. Various styles for group hunting of lions, dolphins, and whales are popular. Farming by some ants is also popular. Plants are widely exchanging information with each other so many ingenious ways [6].

Human beings built a civilization which produced an extremely high quality of life as compared to other living organisms during the last 10,000 years.

What was the opportunity for the birth of such a civilization? It's highly likely that it was all possible thanks to the careful recording and accumulation of human knowledge from about 10,000 years ago [7]. Human scientific archives have grown rapidly, and later generations continued the trend of accumulating information, and were able to easily think about their futures using these lessons and information from the past. When the accumulation of information was amplified, this library became a huge intellectual property of joint ownership among all humans. Many nations and races were born on Earth. While each group exchanged information, they created their own original civilization and cultures. Human beings enlarged scientific knowledge through the interchange between various civilizations, and finally accumulated superior systematic archives before eventually being able to make a round trip to the moon.

It is only human beings that developed this recording technology throughout the long history of living organisms. The origin of civilization should include preserving the information of many kinds of experiences, successful stories, dreams, hopes, admirations, natural phenomena, and human spiritual activities. We can imagine a civilization based on the hierarchy of scientific knowledge [1].

Even if an individual who lives in the present age creates a superior discovery and/or theory, you should think that the results were built on the hard work of past human beings. Modern civilization is supported by the accumulation of the experiences, accomplishments and records of past human beings.

Hierarchy of Academic Disciplines

We have usually categorized academic disciplines through vertical classification to the humanities and the natural sciences. But I disagree with this categorization. Academic knowledge should be stacked up progressively starting from ancient human culture and moving ultimately to philosophy. I would like to propose an arrangement of academic knowledge in a pyramidal structure to understand and illustrate the relationship between physics, chemistry, biology, and psychology (Figure 1) [1].

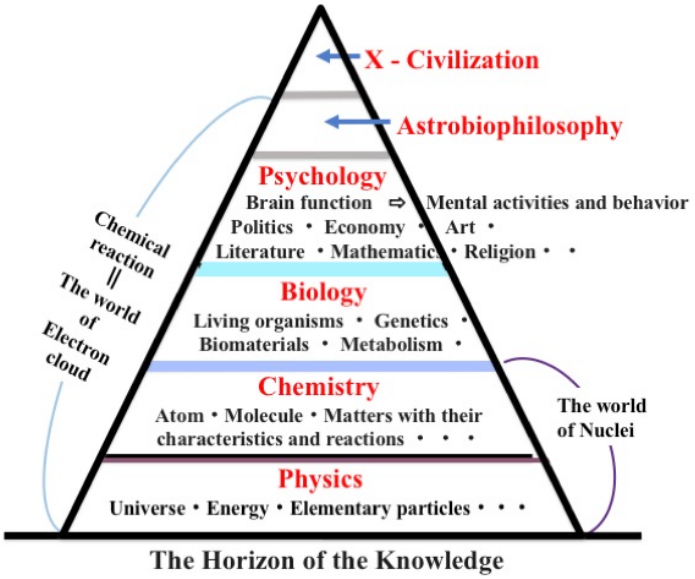

Figure 1: Hierarchy of academic disciplines

Physics covers investigation of the universe including topics such as the beginning of the universe that is the Big Bang as well as the composition, laws, and evolution of the universe. It also examines the energy, elementary particles, atoms, molecules, and the principle of natural phenomena, and therefore, physics is placed at the base layer of the proposed pyramidal structure of academic disciplines.

Chemistry is the study of structure, function and the reactions of substances composed of atoms and molecules. The atoms, molecules, and substances are supported by elementary particles, and therefore, chemistry can be explained on the basis of physics. Consequently, it is placed in the layer above physics in the proposed pyramidal structure.

Biology is the study of living organisms that are composed of molecules such as proteins, nucleic acids, sugars, lipids, and so on. As genetic materials, nucleic acids (DNA and RNA) play a central role in the development of life. Proteins play important roles in the formation of the structure of living organisms as well as the process of metabolism through the action of enzymes. The cell, the structural unit of living organisms, separates self from non-self with membranes which are made of mainly lipids, proteins, and sugars [8]. Lipids and sugars constitute the source of energy for living organisms and all of these chemicals are biomolecules. Heredity, metabolism, birth, growth, and death account for a majority of life phenomena and are principally biochemical reactions. Furthermore, it goes without saying that the working of living organism is based on a physical law. Therefore, biology, constituting a limited special domain of chemistry, is placed in the layer above chemistry.

The discipline of study related to the mind and behavior of humans controlled by the brain functions is called as psychology. As the brain is one of the organs of living organisms, psychology comes under the domain of biology. Therefore, psychology is placed in the layer above biology. The domain of psychology covers various fields such as literature, music, art, politics, economy, sociology, mathematics, and religion, all of which belong to the fields of humanity. The mind and feelings of humans play an important role in these fields. As mathematics is a study that is theorized by the human brain, it is placed in the domain of psychology. The boundary between physics and chemistry, chemistry and biology, biology and psychology, and so on is blurred in reality because of the complicated relationships between these disciplines. In this case, a straight line is drawn between the disciplines in (Figure 1) for the convenience of presenting this information.

Life Phenomena are Chemical Reactions

The mental activity of a person is a life phenomenon, and it should be finally understood as sum of chemical reactions. A chemical reaction is a change in the energy level of the electron cloud occurring between multiple atoms. The existence of the electron cloud was discovered about 100 years ago, which then introduced the quantum-mechanical world and realized innovative bio scientific development [9]. The nucleus of an atom is located in the center, surrounded by the electron cloud. The volume of the electron cloud with the atomic nucleus is in the range of 1 trillion times to 1 quadrillion times that of the nucleus. When a chemical reaction occurs, the nuclei remain essentially unchanged, while the electron clouds are sure to change. All life phenomena observed on Earth are developed in the vast space of those electron clouds compared with the nuclei (Figure 2).

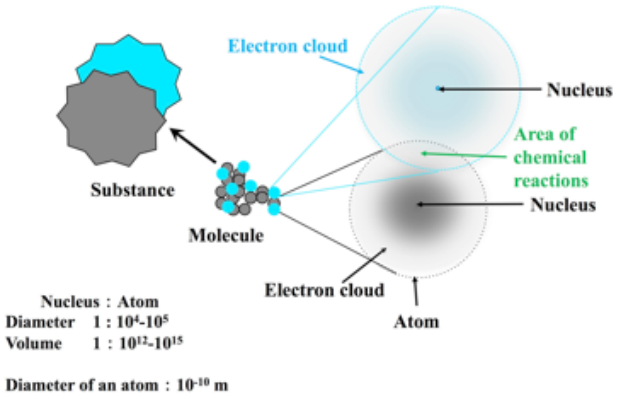

Figure 2: Chemical reaction between the electron clouds of multiple atoms.

Furthermore, through the discovery of semiconductor technology, civilization is now evolving from an information revolution and converging to the world of the Artificial Intelligence (AI). Yuval Noah Harari sounded the alarm bell that human society will be taken over in near future by its own AI [10]. Stephen W. Hawking predicted that due to uncontrolled industrial production and consumer activities that soon the human race will need to emigrate to other planets to ensure its own survival [11]. Such a negative outlook regarding the future of Earth has been increasingly adopted in recent years, however I doubt that the future of Earth will be as grave as has been predicted. We have not yet discovered the significance of the world of the electron cloud which has hidden limitless possibilities. The solutions of difficult and urgent problems of modern society such as issues relating to energy which include nuclear energy, conservation of the environment, inadequate food supply and medical care, human rights issues, discriminations, religious conflict, and populism can be derived from the electron cloud. On the other hand, it is also important to note that nuclear fission for atomic power generation is very dangerous to all living organisms on Earth.

The Nobel Prize Regarding the Academic Disciplines

Alfred Nobel had a highly developed scientific foresight. His will for the establishment of the Nobel Prize might be explained via his history: a chemist, engineer, and industrialist. Nobel was also interested in literature and poetry throughout his life. The Nobel Prize was published in 1901 and awarded in the following categories: Nobel Prize in Physics, Chemistry, Physiology and Medicine (a category in biology), Literature (a part of psychology), and Peace (a prize related to human civilization, i.e., related to all disciplines). These five domains represent the hierarchy of the disciplines stated in this study (Figure 1). The Nobel Prize in Economic Sciences was established in 1968 via a donation from Sveriges Riksbank (Sweden's central bank) to the Nobel Foundation in memory of Alfred Nobel on the occasion of the bank's 300th anniversary.

Education and Understanding of the Implications of Hierarchy for Young Generation and Official Members of Government and Parliament

It is not necessary to understand chemistry and physics in detail, but all experts related to psychology have to understand the hierarchical structure of fundamental science. At the very least, in the compulsory education of elementary school and junior high school, we should educate individuals under the wide perspective with this hierarchy in mind. Of course, the official members of the national government and politicians associated with educational administration should understand the hierarchy, too.

I would like to set Astrobiophilosophy above psychology in the hierarchy of academic disciplines, because Astrobiophilosophy should be a central axis through the center of physics, chemistry, biology, and psychology. The highest-part of the hierarchy of science is X civilization which will be the post-corona human being's civilization based on Astrobiophilosophy.

The Anthropocene Began with the Beginning of Human Civilization about 10,000 Years Ago

When information is accumulated, the development of technical capability evolves. When various systems were developed, the lifestyle of human beings developed. Production engineering evolved through records accumulation and the succession of farming and livestock technologies. Many techniques were improved through the accumulated record of metallurgy technology. Industrial techniques evolved, and the Industrial Revolution began. Modern science was developed, and quantum mechanics was discovered afterwards. Areas of study such as atomic nucleus physics, organic synthetic chemistry, life sciences, and semiconductor science (information science) flowed into human society like a surging tide afterwards. All of these technologies belong to the hierarchy of academic disciplines [1]. This pyramidal structure of academic discipline looks like a living organism aged 10,000.

Now, human beings are looking for the direction that they should move ahead through challenges while suffering the hardship of information overload. The activities of human beings against a backdrop of these technologies create unprecedented changes to the whole global environment assuming a new geologic epoch, the "Anthropocene". Such a big influence on the activity of human beings is the recording technology originating about 10,000 years ago. Therefore, the starting point of Anthropocene should be 10,000 years ago.

Never-Ending Cycle of Life and a High Dimensional Environmental Giant Life

If we view Earth from space, it is easy to understand that Earth is a planet comprised primarily of water and living organisms. All the living organisms on Earth ingest nutrients such as sugars which are the products of photosynthesis. Photosynthesis

is the process through which carbon dioxide, water and certain inorganic salts are converted into carbohydrates such as sugar and starch by plants, algae, and certain bacteria by using solar energy. During this process, oxygen is released from these plants and solar energy is converted into chemical energy that is ultimately used for the activities of all organisms on Earth. Animal has no activities of photosynthesis and cannot produce any nutrients from inorganic compounds, like carbon dioxide and water. So, animals obtain necessary nutrients from the plants which are produced in the global environment. The nutrients produced from these plants move from small animals to large animals, commonly known as the food chain. Human beings stand on the top of the food chain and eat a wide variety of foods obtained from many kinds of animals, plants, and microorganisms. Animal containing human being looks like some kinds of parasite on plant. After the death of living organisms, their bodies are destroyed by chemical and biochemical degradation and transformed into small molecules like water, carbon dioxide and so on, becoming a part of environmental components: atmosphere, ocean, and land. Subsequently, the atoms of the degraded organisms would be revived among the components of the next new generation of living organisms. All living organism on Earth cannot live any more without global environment. Other word, living organism looks like a parasite on the global environment. The cycle of life on Earth is dependent on the biogeochemical cycles of atoms and molecule. We can understand that the life phenomena on the Earth are a magnificent, illustrated scroll in the history of the cycle of life (Figure 3). Lifetime of each living organisms is so short, only and instant on Earth. This miraculous life phenomenon can be explained by changes in the energy level of the electrons among the electron clouds of all substances. The death of a person is not a fall into the deep and hopeless hell, instead, it is to be reborn as a new part of the environment on Earth. An understanding of the recycling of living organisms on Earth must be one of the best answers of the everlasting question: Where do we come from? Where are we now? Where are we going?

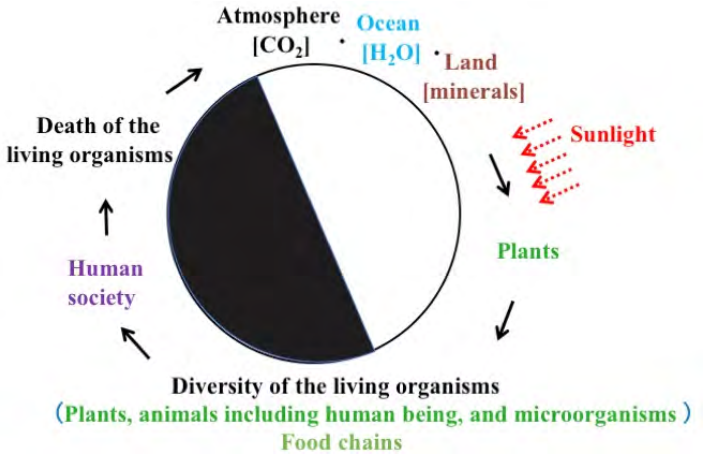

Figure 3: Cycle of life on Earth.

Viewing Earth from space, Earth can be described as a high dimensional environmental giant life that includes all living organism, atmosphere, ocean, and land across the space and time [12]. This environmental giant life has survived for 3.8 billion years, and it has become a blue planet, floating in the true black space (Figure 4). The pyramidal shape of academic discipline (Figure 1) looks like the brain of high dimensional environmental giant life.

Figure 4: The blue planet of the high dimensional environmental giant life ("Earthrise" by Bill Anders from the Apollo spacecraft, Dec. 24, 1968).

Becoming a Wonderful Global Citizen

As we are the member of the high dimensional environmental giant life, it is important to consider whether we should continue the endless practice of becoming wonderful global citizens throughout our lives. This is because the practice of attempting to become global citizens might lead to failure. When people face failure, they should apply the different way and sometimes past experiences gained from the failed attempt might be useful to their new attempt of achieving their objective. We might become more evolved and wonderful global citizens after engaging more in practices, that assist our development, and when we die, we will be the most wonderful global citizens during our lives.

Life on Earth has existed depend on its favorable environment and based on scientific evidence, we can assume that Earth has harbored life from the past 3.8 billion years. Every human being should share the responsibility of safeguarding Earth's future. I really hope that the top leaders of each field notice that he/she should always stay alert and become active participants in the changes occurring in the post-coronavirus world.

Human beings should work hard to acquire knowledge, interact with others, and experience various troubles and hardships to know the purpose of their lives. I would like to propose that the definition of the term "wonderful global citizen" would be envisioned differently by each person. In my case, my imagination regarding the wonderful global citizens is as follows: all humans get along well together despite the differences of culture, nation,

race, religion, sex, and wealth, have respect for racial variety, guarantee fundamental human rights for everyone, and there is rich biological diversity in the world. The wonderful global citizens should hate war, respect all living organisms, protect water and air from pollution, and lead fulfilling lives. I consider wonderful global citizens as humans who are always trying to broaden their mind, enlarge their hearts, and cultivate spirituality.

Wonderful global citizens can make Earth a peaceful planet (Figure 5).

Figure 5: Wonderful global citizens coexisting peacefully with other living organisms.

Conclusion

All living organisms on Earth have slowly been evolving in reaction to the change of the environment for 3.8 billion years. The birth of civilization caused the massive alterations in human lifestyle, and strongly influenced the global environment. Astrobiophilosophy and Anthropocene are closely related each other.

The very phenomenon of life is caused by changes of the electron cloud. All phenomena should be theoretically described as chemical reactions. The reason why so many life's phenomena have not been understood as chemical reactions yet is that science is still immature. Human beings still have a lot of things to do for growing future. The main intent to consider about the relationship of Astrobiophilosophy and Anthropocene is the search for the final meaning of the human life based on the scientific knowledge.

References

1. Itoh T (2021)" Prospect of Astrobiophilosophy for the next generation and the future. Where do we come from? Wherre are we now? Endless practices before becoming a wonderful global citizen." Oleo science 21: 37-41..
2. Crutzen PJ (2002) Geology of mankind. Nature 415: 23.
3. Ellis E.C (2018) "Anthropocene: A very short introduction". Oxford University Press, 24: 612-614.
4. Krebs J (2013) "Food: A very short introduction". Oxford University Press.
5. Abe K (2020) "Animal Languages: The secret conversations of the living world" by Meijer, E., (translated into Japanese), Kashiwa shobo Inc.
6. Kubo K (2015) "Verde Brillante: Sensibilita e intelligenza Del mondo vegetable" by Mancuso S, and Viola A, (translated into Japanese) NHK Publishing Inc.
7. Oguchi Y, Nakada I (2008) "How writing came about" by Denise Schmandt-Besserat, (translated into Japanese) Iwanami syoten Inc.
8. Itoh YH, Itoh T (2004) "The evolution of lipids in prokaryotes". In: Seckbaccch J (Ed) From Origins, Kluver Academic Publishers.
9. Schrödinger E (1944) "What is life?" Cambridge University Press.
10. Shibata H (2016) Sapiens: A Brief History of Humankind by Yuval Noah Harari (2011) (translated into Japanese) Kawade Shobo Shinsha.
11. Aoki K (2019) "Big Question: Brief Answers to the Big Questions by Stephen W. Hawking (2018)" (translated into Japanese), NHK Publishing Inc.
12. Itoh T, Itoh YH (2019) "The Earth looks like A High Dimensional Environmental Giant Life". Thermophiles 2019 Book of Abstracts: 90.