



Look deep into nature, and then you will understand everything better.

Albert Einstein (German-American physicist, 1879–1955)

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Section 1

Earth, the Home to Life

What is the original state of all creation?

In all generations, trying to understand the environment and the world surrounding mankind has been a key purpose in various studies. Religion, which covers people's hearts and the invisible world, also examines in-depth about what exists in the world and how we should perceive them. Whether from an academic or religious point of view, gaining a good understanding of Earth, the home to life, and all the life within enables us to better understand humanity and peace.

The ancient books of East Asia have often dealt with the contents of heaven and earth, and all the creation within. Let's take a look at the beginning of the *Thousand Character Classic*, 1) and *Gyemongpyeon (Children Primer for Neo-Confucianism*) 2) that have been used as learning materials for children. The first one starts with "The sky was dark and the earth yellow. Space vast and limitless." The second one starts off by saying, "There is sky above, earth below, and in between, people and creation. The sun, moon, and stars

¹ Written by Zhou Xingsi from the Liang Dynasty of China, It was widely used as a primer for teaching Chinese characters

² Textbook made in Chosun Dynasty of Korea for pre-school children

are bound in the sky. Earth is laden with rivers, oceans, and mountains." The space here and sky and earth refer to the world that we live in. The reason children were taught about the world surrounding them is because they wanted foster children into those who create harmony with the world.

1. Earth where living organisms thrive



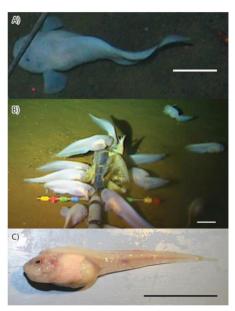


Figure 1-1 Trees that grow by penetrating rocks

Figure 1-2 Mariana snailfishes

There are countless stars and galaxies in the space. When you look at Earth from space, it is largely composed of the atmosphere (sky), land (earth), and water. On land and under water, myriad forms of life thrive. According to the Encyclopedia of Life,³⁾ the number of known living species are 1.99 million as of 2021. What is surprising is that even today, new forms of life are found every year, so the number continues to grow. Also, some species are equipped with the ability to live and survive even in a desolate environment.

³ An encyclopedia that has been produced since 2007 with the purpose of documenting all species of living things on Earth

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There is life in polar and equator regions, deserts, deep sea, and high up on mountains. Mariana snailfish, which was first discovered in 2014, lives at a depth of 8,000 meters in the deep sea where water pressure reaches 800 atmospheres. The fact that living species are living even in such a depth is amazing. This shows how Earth is a marvelous planet full of life.

2. Conditions for life: Water, Air, and Light

Have you ever observed Earth from space? When an American astronaut, Peggy Whitson, saw the atmosphere that continues to change over time, eruption of volcanoes, polar lights, night views of different countries, and cars and people that move endlessly from the space, she said she felt for the first time as if Earth is a living being. After seeing Earth from space, she expressed, "Just like I lived my whole life in semi dark room and somebody flipped on the lights."

To date, Earth is the only planet where forms of life have been confirmed among all the other planets. Carl Sagan, an American astronomer and the author of *Cosmos*, first proposed the term 'terraforming' in the thesis he published in 1961,⁴⁾ which meant creating ecosystem similar to that of Earth (Terra) on Venus. In the thesis submitted to ICARUS,⁵⁾ he proposed ideas to terraform Mars, which is more probable. Accepting this suggestion, the National Aeronautics and Space Administration (NASA) of the United States is examining ways to gradually terraform Mars. However, this research is about changing the environment on Mars to reflect that of Earth so that life can live on Mars, and does not mean that Mars was a place suitable for life from the beginning. (In March 2015,

⁴ Carl Sagan, The Planet Venus, Science, 24 Mar 1961: Vol. 133, Issue 3456, pp. 849–

⁵ Carl Sagan, Planetary engineering on Mars, Icarus, Volume 20, Issue 4, December 1973, Pages 513–514

NASA stated that there was primitive ocean on Mars billions of years ago and atmospheric layer similar to the Earth's atmospheric pressure, but due to the impact of solar wind, the ocean and the atmospheric layer disappeared, making it uninhabitable.)⁶⁾ The terraforming study proves that Earth is equipped with the optimal conditions for living organisms to exist. Then what are the conditions for life on Earth? They are water, air, and light.

The first condition is water. 71% of Earth's surface is covered in water. Water can exist solid, liquid, and gaseous states on Earth and is the source of all life. As water is a basic component of living organisms, 50-70% of the human body is composed of water. The ratio is about 75% for newborns and about 50% for the elderly. Water circulates from air, land, and sea to evenly distribute the influx of solar energy. Also, water circulation is the engine and the means for all materials to circulate, and it creates the fundamental environment for all life to exist. As such, water is an essential resource for the generation and maintenance of life, so when looking for evidence of life on other planets, scientists first look for the existence of water.

The second condition is air. Oxygen, which accounts for about 21% of air, is absolutely needed for living organisms to breathe, but we seldomly recognize the importance of oxygen. However, as the altitude increases, the atmospheric pressure decreases, and amount of oxygen decreases. People living in the lowlands suffer from altitude sickness when they go to highlands above 2,500 meters due to the lack of oxygen. La Rinconada, a town in the Peruvian Andes that is the highest city in the world at 5,100 meters above sea level, has only half the oxygen concentration of that in the lowlands. Hence, most of the people residing in the town suffer from

⁶ https://www.nasa. gov/press/2015/ march/nasa-researchsuggests-mars-oncehad-more-waterthan-earth-s-arcticocean

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lung diseases. Nitrogen, which constitutes about 78% of air, is a key component for nucleic acids and protein and an essential element for the growth and function of all living things. Also, carbon dioxide is used for photosynthesis of plants. Furthermore, we are able to hear sound thanks to air. In a vacuum state, even if sounds are made, we cannot hear because we need air to be the medium that delivers sound to our ears.

The third condition is light. Earth is a closed system in which energy can be exchanged with outer space, while matter cannot be exchanged. The only thing that is supplied from outside is solar energy, which functions as the engine for Earth's ecosystem to be sustained. What would happen if the sun disappeared? First, it would become completely dark so no one will be able to see anything. After that, the circulation of water, air, and matter would cease and all life forms would lose their supply of energy.

3. Humans impact living organisms

Even if Earth is the optimal place for living organisms to thrive, not all organisms survived throughout the long history of Earth. There are extinct species and those on the verge of extinction today. In particular, since the 21st century began, rapid impacts of climate change are tipping ecosystem balances. Together with environmental problems such as reckless logging, marine debris, and exhaust pollution, climate change is worsening at an accelerated pace. We have come to the point where we worry about a time when organisms will not be able to live on Earth anymore. Environmental

destruction and climate change that threaten humanity's survival have been caused by the process where people indiscriminately used resources.

Humans are the factor that generates the biggest impact on Earth and all living things. For example, orangutans, which live only in tropical rainforests, are steadily declining in numbers as their habitats are lost due to deforestation and poaching. An international joint research group composed of 38 research institutes, including the Max Planck Institute for Evolutionary Anthropology, published that the number of orangutans in Borneo, Indonesia dropped by 148,500 from 1999 to 2015 7)



Figure 1-3 Orangutans on the verge of extinction

It is not an exaggeration to say that the future of Earth depends on the choices that we make. No matter how beautiful Earth is, what good would it be if it is destroyed by our own hands? Earth is home to all life including humanity, and life is of the highest value above all else. Peace is also needed in order to protect precious life.

Therefore, we have the responsibility to beautify and protect

⁷ Voigt et al., Global Demand for Natural Resources Eliminated More Than 100,000 Bornean Orangutans, Current Biology (2018)

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Earth and life within it. To fulfill this duty, we first need to have a broad understanding of nature. Without the knowledge of nature as the foundation, it is difficult to seek harmony between nature and humanity, especially when we only have human-centered perspective. Let's think about the direction we should head toward for us to protect the earth and life.



We become not a melting pot but a beautiful mosaic. Different people, different beliefs, different yearnings, different hopes, different dreams.

Jimmy Carter (39th United States president, 1924-present)

2. Unity of Life and Diversity



Section 2

Unity of Life and Diversity

Why do we need unity of life and diversity?

Unity of life and diversity are fundamental characteristics of all living organisms and the engine to maintaining life. Furthermore, when we apply such unity and diversity on human society, we can lay the foundation to establish peace and overcome all kinds of discrimination, inequality, and hatred.

1. Unity of life

There are millions of species living on Earth. According to research in biology, all forms of life on earth exhibit some key common factors, and this is referred to as the unity of life. Let us examine the unity of life and see how it relates to the peace that we pursue.

1) All living things are family, in a broad sense

Humans, dogs, trees, deep-sea fish found in Mariana Trench, and even bacteria share the commonality of using DNA composed of four nucleobases (cytosine, guanine, adenine, cytosine, and thymine) as their genetic material. In addition, the gene expression process where the information stored in DNA is used in the synthesis of protein is the same. As DNA cannot express the genetic information stored within itself, it receives the help of RNA. Messenger RNA (mRNA) copy the genetic information stored in the DNA and transfer it to ribosomes. Transfer RNA (tRNA) deliver amino acids matching the genetic information carried by mRNA to ribosomes. Then, ribosomes receive the help of ribosomal RNA (rRNA) to interpret the various genetic information received and combines amino acids to produce different proteins that match the genetic information. Hence, DNA is referred to as the blueprint, RNA the engineer, and ribosomes the protein factory. All living things express genetic information stored in DNA through this process and share the commonality of creating individual organisms.

Also, all living things on earth are carbon-based life forms. Therefore, various carbon compounds are needed for life to exist. (Composed of oxygen (O) and hydrogen (H), water in its liquid state chemically reacts with carbon (C) to produce various types of carbon compounds. Water is called the "source of life" because it is almost impossible to create carbon compounds without water.

In additions, carbohydrates are the main source of energy for all living things. Carbohydrates that are broken down in the body are converted into the final form of ATP (adenosine triphosphate) in the mitochondria of cells. ATP is the energy

⁸ Carbon compounds are also called organic matter. Inorganic matter refers to all compounds that does not include carbon.

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currency that is used in all types of cells. All cells in the human body use ATP as an energy source, and this is the same for trees and bacteria. All living things on Earth use the same biochemical process to generate and use ATP as an energy source.

The above research results on the unity of life prove that all living things underwent the same evolutionary process. Therefore, modern biology proposes the hypothesis that all organisms evolved from a Last Universal Common Ancestor (LUCA). Hence, in a broad sense, it can be said that all living things are part of a large family that shares common genetic characteristics

2) All humans are family, in a broad sense

Since the Human Genome Project¹⁰⁾ was first completed in 2003, the human genome map continues to be detailed with more precision. Analyzing the genome map showed that all human genes are 99-99.9% identical. Biologically, there is no gene that separates races such as Caucasians and African-Americans. Skin color is a mere difference in the amount of melanin cells, and all humanity has the genetic difference of just 0.1-1%. This shows that from a genetic perspective, everyone is like a close or far relative. As we share genetic similarities, we cannot set superiority, and we are biologically equal. We should not forcibly claim someone has genetic superiority and assign different values to people. No person is born more special than others. As biological equals, everyone must be guaranteed social and human rights on an equal basis. The Universal Declaration of Human Rights (UDHR) adopted in the UN General Assembly in 1948 well-explains the value and human rights everyone deserves. "Article 1: All

⁹ Some advocates of creationism use the above facts as the basis for "all living things being created from one creator."

¹⁰ Human Genome Project: A project that aims to sequence the approximately 3.2 billion nucleotide base pairs in the human genome.

human beings are born free and equal in dignity and rights. They are endowed with reason and conscience and should act towards one another in a spirit of brotherhood." "Article 2: Everyone is entitled to all the rights and freedoms set forth in this Declaration, without distinction of any kind, such as race, color, sex, language, religion, political or other opinions..." All human beings are genetically a family and have equal rights and value as precious people. Once this is clearly recognized, we can minimize discrimination and inequality.

2. Diversity

1) Biodiversity and cultural diversity

Biologists estimate that there are more than 10 million species of living organisms on Earth, with about 1.99 million species that have been identified and the rest that have yet to be discovered. Such biodiversity is characteristic of the Earth's ecosystems. Thanks to biodiversity, organisms on Earth flexibly adapt to changes in their environment and live abundantly in interdependence. The biological classification system continues to be refined, step by step. Initially starting with a two-kingdom classification system of the animal and plant kingdoms, a three-kingdom classification system of the animal, plant, and protist kingdoms came about with the discovery of microorganisms through the development of the microscope. After the later development of a five-kingdom classification system, a three-domain and six-kingdom classification system is typically utilized today. The classification of living things has become more subdivided because organisms are now being classified by their evolutionary relationships as well,

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rather than their morphological similarity like in the past. In addition, new life forms are constantly being discovered. Little is known about marine life in the deep sea, and even a handful of soil contains thousands of unclassified microorganisms like bacteria and fungi. In Antarctica, research is underway on microorganisms that have survived for tens of thousands of years without sunlight in hundreds of lakes that exist one to three kilometers below the Antarctic ice sheet. Among archaea, organisms that can survive in extreme anaerobic, high-temperature, and high-pressure conditions, such as in deep-sea volcanic vents, have also been discovered. The research on archaea is preliminary. Earth is filled with organisms that humans are still not aware of.

Human society is culturally diverse. There are currently 193 member states in the United Nations (UN) and 206 member states in the International Olympic Committee (IOC). With a world population of 7.8 billion and 7,117 languages, ¹²⁾ cultural diversity is a source of innovation and creativity. Also, each culture has its own language, clothing, food, and lifestyle. Culture is a heritage with intrinsic value that cannot be judged as superior or inferior because it reflects the environment and history in which the people lived. Just as biodiversity is an evolutionary strategy to respond to the environment, cultural diversity is also mankind's survival strategy that reflects climate and vegetation, so it is well worth preserving it.

2) Diversity crisis and recovery

Currently, the global village is facing a crisis in both biodiversity and cultural diversity. The Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) under the United Nations emphasized the

¹¹ ASM Journals,
Applied and
Environmental
Microbiology, Vol. 72,
No. 2, Biodiversity
of Methanogenic
and Other Archaea
in the Permanently
Frozen Lake Fryxell,
Antarctica

¹² https://www. ethnologue.com/ guides/how-manylanguages

crisis of biodiversity, stating that about 1 million species of living organisms are at risk of extinction due to the destruction of ecosystems by humans. Reckless extraction and development of resources due to industrialization, environmental pollution, and rapid climate change are problems facing the global village. Ecological damage has led to disasters beyond human control, such as abnormally high temperatures and rising sea levels.

Accordingly, the international community has been making great effort to restore biodiversity. The United Nations Conference on Environment and Development (UNCED) held in 1992 in Rio de Janeiro, Brazil was a groundbreaking turning point in improving the international community's awareness of the biodiversity crisis. A speech by then 12-year-old Canadian girl Severn Suzuki, who attended the conference, raised awareness on environmental pollution for many people. "I'm only a child and I don't have all the solutions, but I want you to realize, neither do you! You don't know how to fix the holes in our ozone layer. You don't know how to bring salmon back up a dead stream. You don't know how to bring back an animal now extinct. And you can't bring back forests that once grew where there is now desert. If you don't know how to fix it, please stop breaking it!"

Humanity's cultural diversity was in crisis from the Age of Exploration to the early 20th century due to imperialism and colonial policies that spread like trends and two world wars. Do you know why most African countries' borders are straight? This is because European imperialist countries drew their borders in straight lines arbitrarily without considering the cultural diversity of the African peoples for the convenience of colony management, and these borders have remained up until

¹³ https://ipbes.net/ news/how-didipbes-estimate-1million-speciesrisk-extinctionglobalassessmentreport

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now. As a result, many African countries and ethnic groups continue to experience political and social difficulties, even today. In addition, many regions threatened by conflict and war, such as Israel-Palestine, Syria, Kurdistan Region, Tibet, Myanmar, and Afghanistan, are at risk of a cultural diversity crisis.

The 21st century is an era of globalization and diversity. You can watch the other side of the world in real time on YouTube, and you can easily access the Internet from your mobile phone. We are already living as global citizens in the flow of globalization. There are more multi-ethnic countries than mono-ethnic countries on the planet, and the number of immigrants and displaced peoples is steadily increasing. Therefore, the restoration of cultural diversity is very closely related to the peace of mankind. The largest agreement for the restoration of cultural diversity is the UNESCO Universal Declaration on Cultural Diversity, adopted by 185 UNESCO member states in 2001. There are two key messages in the UNESCO Declaration on Cultural Diversity. The first is an attitude that recognizes diversity. The second is an effort to promote diversity. In order to restore cultural diversity, policy support from governments and joint cooperation from the international community are required. However, what is more important is improved awareness and changed behavior of each individual global citizen.



Coming together is a beginning; keeping together is progress, working together is success.

Henry Ford (American businessman, 1863–1947)



Section 3

Harmony, Balance, and Cooperation

Why do we need harmony, balance and cooperation?

Ecosystems are in harmony and balance, and in a broad sense, they maintain interdependent and cooperative relationships. But what does human society look like today? Wars, terrorism, and conflicts are constantly occurring due to conflicts among countries, peoples, and organizations. The harmony, balance, and cooperation seen in nature are essential values for achieving peace in human society.

1. Harmony

Harmony refers to a state in which two or more various elements are evenly matched without conflicting or colliding. In other words, it is a peaceful state without conflict. Nature has harmony based on diversity.

1) Nature in harmony

In terms of natural beauty and biodiversity conservation, UNESCO designates and maintains sites of outstanding natural heritage on the planet as World Heritage Sites. If you look at the photos of UNESCO World Heritage Sites, you will automatically experience admiration for the beautiful sights. Why do we feel the beauty of nature when we see it? The reason is because the diverse landscapes and life forms are in harmony.

Looking into a forest, you can see the way that nature is in harmony. Forests are a treasure trove of wildlife, including trees, fungi, insects, birds, herbivores, and carnivores. In addition, many organisms live inside the unseen earth. Although invisible to the naked eye, there are as many microorganisms as there are people in the world in a handful of soil. Fertile soil is important for organisms to survive. The roots of trees hold the soil firmly so that it is not lost, and tree crowns regulate the amount of light that enters the forest, creating a suitable humidity and soil condition for organisms to live in. Earthworms and insects create sufficient space in



Figure 3-1 Pamukkale, Turkiye



Figure 3-2 Zhangjiajie, China

the ground to help tree roots breathe and spread easily. Fungi, which cannot obtain nutrients by photosynthesis, envelop tree roots and receive sugar and nutrients from trees, and in turn, fight against various bacteria that attack tree roots. Fungi also protect trees by absorbing heavy metals from the soil that can have a fatal effect on trees. How do trees dispose of waste? Fallen leaves are waste storage. The leaves fully synthesize nutrients through photosynthesis in the summer, collect unnecessary wastes, and drop as fallen leaves in the fall. Although fallen leaves are waste for trees, they are excellent food for forest creatures. Mites and springtails eat the leaves and soil, and their waste contains various organic matter and minerals to fertilize the soil. In this way, all organisms living in a forest are invisibly connected to each other and are in harmony.

2) Switzerland's endeavors for harmonious life

Switzerland ranked first for four consecutive years from 2017 to 2020 in the U.S. News and World Report Best Countries, evaluated by 65 detailed items in 9 categories, including

quality of life, national power, corporate openness, and cultural heritage. 14) Switzerland is geographically located between Austria, France, Italy, Germany and Liechtenstein. German, French, Italian, and Romansh are the four official languages. According to the statistics of the Swiss Tourism Board, the distribution of religion is 38% Catholic, 27% Protestant, 5% Muslim, 0.5% Buddhist, and 21.4% non-religious. 15) In this way, Switzerland is very diverse in language, religion, and demographics. What did Switzerland do to create a society with harmonious diversity? The preamble to the Swiss Constitution includes the "[determination] to live together with mutual consideration and respect for diversity" ("im Willen, in gegenseitiger Rücksichtnahme und Achtung ihre Vielfalt in der Einheit zu leben"), so harmony based on diversity is the foundation of all laws. A multilingual environment like Switzerland is prone to conflict. However, Switzerland has made effort to maintain peace among language groups with an effective language policy. The Constitution guarantees the right of the people to use the language of their choosing, and broadcasts and newspapers are produced and distributed in four languages. In particular, to protect the minority language of Romansh, the federal government does not cut back on policy or financial support. As a result of its efforts to recognize and promote diversity, as stated in the UNESCO Universal Declaration on Cultural Diversity, Switzerland has been evaluated as the most livable country in the world. The case of Switzerland can be a good example of conflict resolution and national unity in a multi-ethnic and multilingual country.

¹⁴ https://www. usnews.com/news/ best-countries/ overall-rankings

¹⁵ https://www. myswitzerland.com/ en/planning/aboutswitzerland/generalfacts/facts-aboutswitzerland/religion/

2. Balance

In nature, balance refers to the state of equilibrium between living things such as humans, plants, and animals and the natural environment. Harmony reflects this desirable ecological balance. Just because various entities are gathered does not necessarily mean that they are in harmony. Harmony is created when various entities are organically connected and balanced.

1) Need for balance

Yellowstone National Park in the United States covers an area of about 9,000 square kilometers, more than three times the area of Grand Canyon National Park. Yellowstone National Park is a treasure trove of natural features such as rivers, lakes, mountains, canyons, geysers, 169 waterfalls, and unique rock formations and wildlife such as deer, water buffalo, and birds. In the early 20th century, wolf hunting was initiated in Yellowstone for the protection of livestock. By 1926, wolves had completely disappeared from Yellowstone. However, after the wolves disappeared, the park gradually began to become desolate. First, the population of herbivores like elk and deer increased rapidly, and herbivores devoured the young trees and grass in the park. In particular, as the number of trees along rivers decreased, the rivers overflowed more frequently, the soil around rivers were lost, and the habitat of beavers that lived along the rivers also disappeared. As the balance of the ecosystem steadily deteriorated, many scholars started advocating for the restoration of wolves, which were apex predators, in Yellowstone from the 1960s onwards. Eventually in 1995, the United States government captured wolves in Canada and released them in Yellowstone. 17) As the

¹⁶ A hot spring that periodically erupts hot water, steam, and other gases at regular intervals.

¹⁷ https://www.nps. gov/yell/learn/ nature/wolves.htm

wolf population gradually increased afterwards, the herbivore population decreased and rivers, trees and forests gradually returned to their original state. Beaver colonies increased from one in 1995 to nine in 2021. Scholars are still studying the impact of wolf re-introduction on the Yellowstone ecosystem, and this research is slowly revealing how ecosystems are interconnected and balanced.

The state of balance and harmony can also be found in our lives. An orchestra is one form of music in which 25 instruments come together and are played. Every instrument makes a different sound. Even the same instrument sounds slightly different depending on the material it is made of and the space it is played in. So, tuning is usually done prior to playing. Strings, mouthpieces, reeds, and valves are adjusted to match the sound of each other, typically according to the A chord of an oboe. One's own voice is important, but so is focusing on the voices of others and balancing each other out. We feel harmony and beauty while listening to the united song played with 25 instruments that have been tuned in this way.

2) Disrupted balance

Conversely, what happens when balance is disrupted? The Vietnam Association for Victims of Agent Orange (VAVA) announced that during the Vietnam War (1955-1975), American troops had sprayed about 80 million liters of the defoliant Agent Orange into Vietnam to clear the jungle, which had been a hiding place for the Viet Cong. Originally, Agent Orange was an herbicide for clearing forests, but the dioxin contained in the defoliant is currently designated as a chemical weapon by the United Nations. According to the Ministry of Foreign Affairs of Vietnam, 4.8 million Vietnamese were exposed to

¹⁸ https://www. yellowstonepark. com/things-to-do/ wildlife/wolfreintroductionchanges-ecosystem/

¹⁹ http://vava.org.vn/ an-over-view-ofvietnam-asociationfor-victims-ofagent-orangedioxin-vava-89.html

the defoliant, leaving 400,000 dead or disabled.²⁰⁾ In addition, about 10 million hectares of farmland in Vietnam were polluted by the defoliant. Also, the incidence of birth defects increased ten times compared to before. In 2018, the American broadcasting station WNCN (CBS17) reported that the effects of Agent Orange were even genetically passed down to the grandchildren of Vietnam War veterans, leading to difficulties in life.²¹⁾

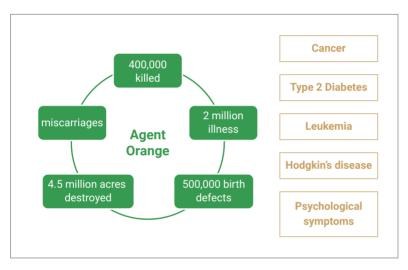


Figure 3-3 Damage of Agent Orange in Vietnam

3. Cooperation

1) Cooperation of trees

Suzanne Simard, a forest ecologist and professor at the University of British Columbia, Canada, has studied trees in Canadian forests for 30 years and has published surprising results. She said that trees exchange information with each other underground and communicate with trees from great distances. According to "Talking Trees" published in *National Geographic* (June 2018), the largest tree in the group becomes a hub, providing information and nutrients to about 47 trees.

²⁰ York, Geoffrey; Mick, Hayley; Last Ghost of the Vietnam War, The Globe and Mail, July 12, 2008

²¹ https://www.cbs17. com/news/south/ agent-orangeeffects-being-seenin-grandchildrenof-vietnam-warveterans

This network benefits survival by sharing emergencies like fires and floods and allowing a response to attacks by herbivores. The information network used by trees to share information is the fungus that inhabits tree roots and feeds on nutrients. The mycorrhizal network, in which numerous fungi are connected, is like an internet connection network and allows trees to exchange information and cooperate. For example, acacia, which is abundant in the African savannah, transmits danger signals through mycorrhizal networks when attacked by herbivores. Then, starting from the tree that transmitted this signal, the trees within 50 yards emit ethylene gas end up leaving after staying at the tree for about ten minutes. In this way, trees protect each other through mutual dialogue and cooperation.

2) Cooperation to protect nature

The Great Pacific Garbage Patch (GPGP), also called the Plastic Vortex, is a plastic waste island located in the North Pacific Ocean. According to the environmental group The Ocean Cleanup (TOC), the GPGP covers an area of 1.6 million square kilometers. This is about three times the size of France. According to a paper published in the journal *Science*, ²²⁾ up to 12.7 million metric tons of plastic waste flow into the world's oceans every year. The problem is that this plastic waste threatens the survival of various sea creatures. Sea creatures such as turtles, dolphins, and seals mistake plastic debris for food and eat it. According to UNESCO's Rio+20 Conference, 100,000 sea creatures die each year from plastic.²³⁾

The GPGP problem is particularly difficult to solve because the GPGP is located in international waters, so a specific

²² Jenna R. Jambeck, Plastic waste inputs from land into the ocean, Science, 13 Feb 2015: Vol. 347, Issue 6223, pp. 768– 771

²³ http://www.unesco. org/new/en/ natural-sciences/ ioc-oceans/focusareas/rio-20-ocean/ blueprint-for-thefuture-we-want/ marine-pollution/ facts-and-figureson-marine-pollution/

country is not responsible for it. However, many environmental protection groups and individuals are working to resolve this problem. Among them, The Ocean Cleanup (TOC), a non-profit organization drawing attention in solving the GPGP problem, has made and is using a tool that directly collects sea plastic. In addition, after it was found that most of the garbage flowing into the sea starts in rivers, the organization is working with the goal to clean up 1,000 of the world's most polluted rivers. It is clear that cooperation to protect nature is not easy, but it is something we must do with hope.

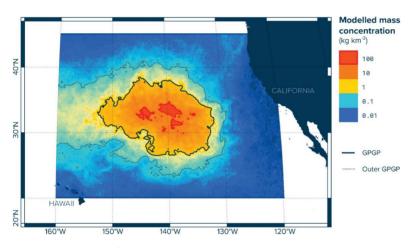


Figure 3-4 Damage of Agent Orange in Vietnam

3) Cooperation of global communities for peace

After World War I, the first intergovernmental organization called the League of Nations was established in 1920. The founding purpose of the League of Nations was to prevent wars through mediation and cooperation. The League's efforts were successful in the first few years, resolving small-scale disputes. However, being that it was the first intergovernmental organization, it lacked understanding of balance and cooperation between countries and failed to

maintain peace, eventually leading to World War II. But the efforts to achieve peace did not stop there. The United Nations (UN), which was launched after World War II, continues to maintain peace in the international community. Currently, 193 countries are members of the UN, and leaders from each country gather every September for the UN General Assembly to discuss important issues in the international community. However, at present, the UN is also affected by the interests of major powers, and there are various problems such as the veto power of the permanent members of the Security Council and limitations surrounding large capital. The UN should learn from the League of Nations and prioritize its founding purpose: "security and peace in the international community." In addition, it should strive to achieve balance and cooperation among countries.

²⁴ Jean Ziegler, Chemins d'esperance: ces combats gagnes, parfois perdus mais que nous remporterons ensemble (2016)

memo





If one truly loves nature, one finds beauty everywhere

Vincent van Gogh (Dutch painter, 1853–1890)



Section 4

Disputes About the Original State of All Creation and Peace

What is the relationship between the original state of all creation and peace?

This section involves a sketch of the peace that mankind should seek, based on the form seen in nature. However, the question may be asked, "Can the state of nature be called peaceful?" In response to such a question, French philosopher Jean-Jacques Rousseau expressed the primitive state of man as being peaceful in Discourse on the Origin and Basis of Inequality Among Men (Discours sur l'origine et les fondements de l'inégalité parmi les hommes). Conversely, British philosopher Thomas Hobbes defined the state of nature as 'the war of all against all' in Leviathan. Various creatures coexist harmoniously on Earth, but on the other hand, nature also shows a destructive side. Many cities and villages have been destroyed and many people have lost their lives due to volcanoes, earthquakes, tsunamis, and floods. Also, as seen in nature documentaries, there is death and killing in the food chain of the natural world, and conspecific killing is often found as well. Chimpanzees killing the offspring of other

alpha males and birds dropping the eggs from the nests of competitors onto cliffs have been observed.

Then, is it a misguided attempt to find the answer to peace within nature? This is not the case. Despite the destructive appearance of nature at times, Earth is the only planet where life has been discovered so far. For a long period of about 4.6 billion years, Earth has maintained an optimal environment for life to exist. As a result, millions of species of living things currently live on Earth. In other words, putting aside the debate about the existence of life on exoplanets, it is clear that Earth has the answer to life. Also, we live on Earth. Then where can we find the answer to life? The answer to life can be found on Earth. Furthermore, when we consider that peace is meant to protect life from the destruction and death caused by war, the answer to peace can also be found in the form of nature.

Hitler and the Nazis justified war by arguing that war was a biological struggle according to the principles of nature. Can the destructive form of nature justify human warfare? This is not the case. There is a clear difference between human warfare and animal conflict in terms of purpose and scale. First, let's examine the purpose of conflict. Fighting among animals is about survival, such as hunting for food, territory, or in cases among males, possession of females. Most power struggles between males stop as soon as one side admits defeat, and they usually do not fight to the death. When hunting for food, the same species is not primarily considered prey. There are some species that engage in cannibalism, but conspecific killing is a rare phenomenon in nature. Conversely, survival is not the goal of human warfare like in animal conflict. Most wars are initiated by a few leaders for political, religious, and economic purposes, and the youth are almost always forced to



Figure 4-1 Underwater nuclear test

fight against their will. Furthermore, the lives of many youths are sacrificed in war. If survival itself is the goal, it would be better not to go to war. There are countless ways to get food needed for survival without engaging in war. Also, unlike animal conflict, human warfare only targets the same species for killing.

Human warfare is also different from animal conflict in terms of scale. Animals use the parts of their body, such as teeth, claws, and stingers, as weapons. Because fighting takes so much energy, they also try not to readily fight unless it is for survival. When hunting prey, they do not hunt more than necessary. However, humans make weapons with the purpose of causing casualties and use them in war. The brutality is beyond imagination, with weapons that can kill multiple people at the same time, weapons that can kill someone from a distance without seeing them die, and biochemical weapons that use bacteria and viruses. Currently, the nuclear weapons currently in possession of mankind are enough to

destroy the Earth dozens of times. Human warfare not only threatens human life, but also threatens to disrupt the balance of the entire natural world. Because of this great difference in purpose and scale, it should not be said that human wars are justified because there are conflicts in the natural world as well. Rather, it should be argued that the horrific wars waged only by humans should be stopped.

Brilliant Spanish architect Antoni Gaudí, who built seven buildings listed as UNESCO World Heritage Sites, confessed that his work was inspired by nature. The answer to the peace we want can also be found within the design of nature. The various natural disasters or conflicts occurring in the natural world should not be used as the logic to justify human warfare. Just as all living things struggle to protect their own lives. mankind must also strive to preserve life and live in peace. Peace cannot be achieved with guns and swords. Force begets force, and hatred begets hatred. Ever since history began to be recorded, humans have been constantly fighting. Knowing this, should we pass war on to the future generations? In order to end war and achieve peace, we must find the answer to peace, not guns and swords. Let's create a world of peace by finding the answer to peace within the beautiful original form of creation and Earth, the home of abundant life.

memo



Conclusion

"That since wars begin in the minds of men, it is in the minds of men that the defences of peace must be constructed." As seen in the Preamble to the Constitution of UNESCO, true peace cannot be achieved through politics, power, or force, as war begins within the human mind. Peace education is necessary for building the protection of peace in the human heart. And the first step in peace education begins with understanding the original form of all creation. This is because the answer to the peace that mankind seeks is contained within the design of nature. We must find the answer to life and peace within nature and make the sole life we have been given a beautiful and happy one.

The values of unity, diversity, harmony, balance, and cooperation found in nature are the answer to peace that can bring peace to the human world. However, humans had excessive greed and waged terrible wars in every era, killing their own kind. Furthermore, they competed fiercely for the development of terrifying lethal weapons. Some even emphasized the struggles of the natural world and argued for the natural right of war. Even experts with specialized knowledge can be a threat to Earth and the human world if they do not have basic values of peace. Before proclaiming

for peace simply with our mouths, we must check whether the above values are truly in our hearts. Humans have a greater impact on the planet than any other living thing, so the role of humans is more important than ever. From now on, let's cease wars that destroy the earth and humans and create a world of peace by building the protection of peace in the hearts of all people through peace education.

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5th floor 20, Nambusunhwan-ro 347-gil, Seocho-gu, Seoul, South-Korea Tel.02-514-1963 Fax.02-514-1961 http://www.hwpl.kr hwpl@hwpl.kr

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