

Heterogenous Symbiotic Space

An essay on Aki Nagasaka's Exhibition:

To the Kamuy-Wakka, To the Spring of Eukaryotes

As I step into the bare concrete exhibition space, a table topped with a markedly rusted iron plate stands still and a glass flask filled with greenish water and yellow stones are on the table, illuminated by spotlights. Behind them, a video is projected on the wall, showing the image of a frozen land with a narration in English. I presume that almost all the people, who stepped into this space, sensed strong messages the work emitted yet could not grasp the meanings and wandered around the exhibition space, trying to find a place to focus. I also repeatedly walk around the table, continuously searching for Nagasaka's aim. Perhaps after two or three minutes have passed, the narration is suddenly paused, and after a short silence, Nagasaka's voice starts to talk to a person named Angus. Her voice sounds as if it is also talking to me and, as I attentively listen to the monologue for a while, I start to see the intention of the work. I am not sure if this will be the overall interpretation of the work, but I would like to describe in this essay, how this work appears to my eyes, as an inhabitant of Hokkaido, where the work is set, as well as a geologist.

What the video projection on the wall shows is the scenery of Hokkaido in March. Moreover, it is a wintry, frozen landscape of Eastern Hokkaido. In these conditions, Nagasaka went deep into the Shiretoko Peninsula. The destination she headed for was the Kamuy-Wakka Waterfalls. It is known to be highly acidic, hot spring waterfalls, but the road to the waterfalls gets closed by snow in winter. Nagasaka traveled on foot on the snowy road, reached there,

and saw the waterfalls in the early morning on the next day. The video ends there. What I have described so far sounds just merely an exploration video, but, for most of the parts, the video shows sparks running sideways on a dark blue background, instead of showing the snowy landscapes of the Shiretoko Peninsula. At first glance, the image could look like a river, but the twinkling light spots make me think of a night sky or the universe. Also, while Japanese subtitles are added on the video, their contents do not sync with the English narration and the separation between the information I receive through my eyes and that in my ears make an impression of the time flow in my mind. As I gradually start to sense that this is the device to represent time and space, Nagasaka asks Angus questions about the histories of the earth and life. Thinking "Ah, I get it. She wants to tell us where we've come from.", I almost find myself being convinced by the thought, but that would be too hasty. Nagasaka seems to have overlaid more layers of messages on top of it.

As I return my eyes to the table, the glass flask and stones catch my attention after all. After having seen the video, I can imagine that the water in the flask was taken from the Kamuy-Wakka Waterfalls. A kind of algae, called *Cyanidium caldarium*, is living in this water. Then, what are the stones? They are fossils, called Stromatolite, and they are produced by a kind of algae, called cyanobacteria, which emerged in the sea about three billion years ago and have been thriving till now. It is said that cyanobacteria is the creature that increased the amount of oxygen in the atmosphere. In short, the flask and stones are both algae: one is cyanobacteria, which has created the present environment and the other is *Cyanidium caldarium*, which is quietly living in obscure spots on the earth. And, the rusted iron plate is a bridge between the two existences. At the moment I have realized the ingenuity of this arrangement, the mystery of the strong messages, which had been

drifting in the exhibition space, has been cleared.

About three billion years back in time. Cyanobacteria, which emerged in the seawater around that time, started photosynthesizing and releasing oxygen ions into the seawater. Iron ions in the seawater took in oxygen and maintained the oxygen level in the seawater for a while. However, once all the iron ions became iron hydroxide, the oxygen level in the seawater rapidly went up and oxygen finally started to be released into the atmosphere. Anaerobic bacteria, which likes the anaerobic condition, had flourished on the earth until then. However, taking advantage of this atmospheric pollution of the rapid increase of oxygen, aerobic bacteria, which had been living pitifully in boredom, took their turn and started expanding their habitat. The amount of oxygen in the atmosphere continued to increase after that, and this made it possible for animals with large bodies including humans to emerge.

In other words, cyanobacteria was the pioneer, who created the surface environment of the present earth, and *Cyanidium caldarium*, on the other hand, is an ephemeral existence, which can only live in the limited environments in present times. However, in this exhibition space, cyanobacteria is dead and *Cyanidium caldarium* is alive. I assume that this paradoxical arrangement also holds some kind of message. We humans sometimes have an illusion that we have completely reclaimed the earth and are ruling it. However, when we compare our times with the magnificent space and time scale of the earth and universe, it is only a moment of coexisting with the earth, just like the shooting sparks in Nagasaka's video. And, although we might feel that we have built something up, that might disappear in an instant. This suggestion is supported by Snowball Earth, which is talked about in the narration. Snowball Earth is the term that points out the times and phenomena, in

which the earth surface was completely covered by snow and ice. It is known that it has happened at least three times in the earth's history and many species became extinct every time it happened. Despite it, it never happened that all species were eradicated. This is thought to be because of the existence of hot springs. Although the earth surface was completely covered with snow and ice, the snow and ice in volcanic areas was melted by the heat from the volcanos. These quasi oasis hot springs collected sunlight and must have functioned like Noah's ark, passing down the life light. And back then, creatures, such as *Cyanidium caldarium*, which can tolerate highly acidic hot water, had the right strengths and they must have survived through these times in the obscure spots on the earth as mothers giving birth to the next generation creatures.

Looking under the table by chance, I see a heater. This is likely the device to keep the content of the flask warm. It can also be called life supporting equipment for *Cyanidium caldarium*. If this heater broke, the *Cyanidium caldarium* in the flask must die out soon. Although looking so weak, they adapted to the environments in the times when most other species died out and passed the life onto present times. If the creatures that lived back then did not have diversity to allow these kinds of creatures to exist, then the creatures that are living now would not have emerged. And, if the creatures that are living now do not have diversity, we would not be able to overcome the crises, which will surely happen someday. I see. Is it that Nagasaka is alarming the lack of acceptability in the present society? I also teach at a university and often feel the homogeneity among students. The primary cause for this is clear: universities select students according to their test scores, which mainly focus on students' ability to memorize, and as a result, the students, whose characters are adoptable to this examination system, end up enrolling in universities. And, because many of them have been

mastering the skill to memorize the past cases rather than the ability to discover and solve new problems, they might get left behind in the changing society. Although it has been called out everywhere to build a sustainable developing society, there is no sustainable environment on the earth as this work clearly indicates. We need to make efforts to create society, which allows diverse senses of value to exist, in order for us to adapt to the changing world and overcome crises.

Nagasaka is conveying the importance of the environments, where heterogeneous existences coexist without completely being mixed. I might be reading too much into it, but isn't it because she felt that Hokkaido is an appropriate model for inclusive society, she chose Hokkaido to present the work? The Ainu people have long been developing their own culture on this land of Hokkaido. I do not consider that I deeply understand the Ainu culture, but as I have been in contact with people who are blood-descendants of the Ainu people, I have come to know their view of valuing the way of living with nature. In contrast to them, people, who migrated later on from the mainland, worked hard to reclaim and to change nature, and as a result, places for the cultures to coexist with nature have decreased. Looking at Nagasaka's work, it starts to look as if the Ainu culture is *Cyanidium caldarium*. Although it is forced to be cutback in this present society, the lifestyle, in which we coexist with nature, might come back someday when the environment changes again. Well actually, taking it into account the fact we are pressed by the environmental changes, which surpass artificial disturbances, and social issues these days, it might be that the time is slowly approaching for the present majority existences to decline. And, if that is the case, will we start anew again?

Junji Yamamoto



Hiroyuki Hattori

Independent Curator

Born in 1978. Hiroyuki Hattori graduated from Waseda University with a Master's in Architecture. Through working as curator at Aomori Contemporary Art Centre [ACAC], he has been working as associate professor for the Graduate School of Transdisciplinary Arts at Akita University of Art since 2017. He has been developing various activities, including exhibitions, projects, and research, mainly in Asia. Recent projects he was involved in curating include: *Towada Oirase Art Festival–SURVIVE: Time Hoppers on the Earth* (Towada Art Center and Oirase Area, 2013), *Media/Art Kitchen* (Jakarta, Kuala Lumpur, Manila, Bangkok, and Aomori, 2013-2014), *Aichi Triennale 2016–Homo Faber: A Rainbow Caravan* (Aichi Arts Center and other locations, 2016), *ESCAPE from the SEA* (National Art Gallery, Malaysia and Art Printing Works [APW], 2017), and *Going Away Closer* (Centro de Arte Contemporáneo Wifredo Lam, 2018). He was also curator of *Cosmo-Eggs* in the Japan Pavilion at the 58th International Art Exhibition–La Biennale di Venezia in 2019.

Junji Yamamoto

Earth Science, Education, and Museology

Born in Shiga Prefecture in 1973. Junji Yamamoto completed his graduate studies at Tokyo University with a Doctorate in Science in 2001. He promoted the "Four-dimensional Exploration of the Earth" project, aiming to dissect the earth spatiotemporally. In 2003, he became assistant professor at Graduate School of Science, Kyoto University. He promoted the "Galaxy in a Stone" project to search for the formative process of the solar system, where the universe and the earth come in contact. He devoted himself to search residual materials from the early stage of the earth's formation, which are buried deep within the earth. Upon experiencing the Aftermath of the 2011 Tohoku Earthquake and Tsunami, he keenly felt the importance of educational activities and aspired to education and museology. In 2012, he became associate professor at the Hokkaido University Museum. He started the "Sensory Tool for the Earth" project. Since then, he has been committing to improve scientific literacy through introducing the teaching aids he developed in science events and lectures and publishing their effects on educational and museological academic journals. Since 2015, aiming to create a place where society and academia intersect, he has been doing the "Intellectual-Hub" project to turn university museums into intellectual hubs. He is currently an associate professor at Hokkaido University and working with the goal to create an ultimate universal museum, where everyone can casually visit.

Tsuyoshi Abe

Phycology

Born in Tokyo Prefecture in 1968 and moved to Saitama Prefecture during his childhood. Tsuyoshi Abe completed his graduate studies at Hokkaido University with a Doctorate in Science in 1998. Using the red algal genus *Laurencia* as his research specimen, he theorized their differentiation process in the seas near Japan by applying the conventional taxonomical methodologies as well as the cross experiment and chemotaxonomy by using cultivated strains. In 1998, he became an instructor at Graduate School of Science, Hokkaido University. He was involved in the foundation of the Hokkaido University Museum. In 1999, following the inauguration of the museum, he transferred his position to be instructor in the Section of Informatics and Media Studies. In 2000, he received the Best Paper Award of the Japanese Society of Phycology. In 2006, he joined the first algae survey of the coast of the Shiretoko Peninsula after almost forty years, and, since then, he has been participating in the shallow sea biological monitoring survey of the Shiretoko World Natural Heritage site, as the person in charge of seaweeds. In 2012, he took charge of making a summer exhibition *Algae Save the Future of Humankind* at the museum. In 2012, he became a lecturer in the Section of Fundamental Studies. In 2013, he took charge of loaning the exhibition *Algae for Humankind* to the National Science Museum, Thailand [NSM]. Since 2019, he has been an associate professor in the Section of Fundamental Studies at the Hokkaido University Museum.