

# ENVIRONMENTAL EDUCATION RESEARCH AND SIGNIFICANCE OF EXPERIENCE: THE DEPTH OF LIFE HISTORY BROUGHT ABOUT BY MUTUAL RELATIONSHIPS

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## ABSTRACT

This paper describes the correlation between research and researcher and his/her own life history. How is the researcher's own experience understood, meaningful, and rebuilt? This paper shows that studying the subject using the life history approach itself makes the biography of the researcher vivid. It points out that the interaction between researchers and subjects is dynamic and suggests that the life history approach may enrich the stage of research in the environmental education area.

**Keywords:** Biography. Environmental education. Life history. Sustainable development.

## RESUMEN

### LA INVESTIGACIÓN EN EDUCACIÓN AMBIENTAL Y LA IMPORTANCIA DE LA EXPERIENCIA: LA PROFUNDIDAD DE LA HISTORIA DE LA VIDA PROVOCADA POR LAS RELACIONES MUTUAS

Este artículo describe la correlación entre la investigación con el investigador y la propia historia de vida del investigador. ¿Cómo la propia experiencia del investigador es comprendida, significativa, y reconstruida en su propia historia de vida? Este artículo mostrará que estudiar la cuestión utilizando el enfoque de la historia de vida torna la biografía del investigador en vivida. Muestra que la interacción entre investigadores y sujetos es dinámica y sugiere que abordaje de la historia de vida puede enriquecer la estancia de investigación en investigación de educación ambiental.

**Palabras-clave:** Biografía. Educación Ambiental. Historia de vida. Desarrollo sustentable.

## RESUMO **PESQUISA EM EDUCAÇÃO AMBIENTAL E SIGNIFICADO DA EXPERIÊNCIA: A PROFUNDIDADE DA HISTÓRIA DE VIDA PROVOCADA PELAS RELAÇÕES MÚTUAS**

Este artigo descreve a correlação entre a pesquisa e o pesquisador e a sua própria história de vida. Como a própria experiência do pesquisador é compreendida, significativa e reconstruída? Este artigo mostra que estudar o assunto usando a própria abordagem da história de vida torna a biografia do pesquisador vívida. Ele aponta que a interação entre pesquisadores e sujeitos é dinâmica e sugere que a abordagem de história de vida pode enriquecer o estágio de pesquisa na área de educação ambiental.

**Palavras-chave:** Biografia. Educação ambiental. História de vida. Desenvolvimento sustentável.

It has been a long time since the issue of realizing a sustainable society has been recognized in modern society. Environmental education, which has been expected to play an important role, has strong links with ESD (Education for Sustainable Development) and SDGs (Sustainable Development Goals) that appeared at the United Nations General Assembly in 2015 in the international trend.

In environmental education research in Japan, the Fukushima nuclear accident in 2011 and the official recognition of Minamata disease in 2016 have reached 60 years, and “[...] continuous and discontinuous problems [...]” (FURIHATA, 2010, p. 85) with pollution education and nature conservation education have been raised. In addition, the SDGs stipulate that the activities related to each individual goal and the other goals should be considered in a deeper way, so that they can break away from efforts that are specific to one goal issue and lead to other goal issues. From an integrated point of view (KITOH, 2017, p. 45), we need to work on the possibility. We are faced with a time when questions about environmental education are being reconsidered from

various angles in order to realize a sustainable society including ESD.

### **Critical review and definition of Education for Sustainable Development**

ESD is a “[...] social movement that seeks to address the unsustainability of society and requires the restructuring and transformation of modern education.” (SHIBAKAWA, 2017, p. 73) in recognition of the importance of education in addressing the sustainability issues of modern society. The issue of sustainability is to “[...] not simply overcome environmental and social crises as a simple premise for establishing science-based facts [...]” (SHIBAKAWA, 2017, p. 73). It is an education that aims to address global problems in their entirety as a problem of humanity that is not limited to environmental problems. At that time, Shibakawa stressed the importance of confronting modern education, and she understood that the critical perspective of ESD is likely to lead to some tension and difficulties in Japan, where a formal education system has been established while discuss-

ing the importance of a critical perspective of modern education that has created an unsustainable society. On the other hand, Sasagawa et al. asked the following question: “What is meant by sustainable development? sustainability, which is a problem of ESD, includes (1) the sustainability of the natural environment and (2) the sustainability of social relations, in this regard, (3) it is appropriate to include human sustainability and sustainable development and the maturity of human capacities [...]” (SASAGAWA, 2015, p. 9-10). There is a point that corresponds to Shibakawa’s critical vision of modern education. Makino also suggested rethinking individuals as “[...] relationships that are excessively generated in “between” others, not individuals [...]” (MAKINO, 2015, p. 12). By understanding sustainability as described above, sustainable development is not “[...] a concept based on the distribution of a given thing of development and development, but is always our new reciprocity that is constantly generated in relation to others and a concept that indicates the ideal path to freedom, that is, generation rather than development [...]” (MAKINO, 2015, p. 12). Shibakawa also stated that “[...] sustainable development is intrinsically a language deeply involved in human development and learning [...]” (SHIBAKAWA, 2017, p. 84,) and sustainable development (SD) is “[...] problems related to personality formation for all, i.e. issues related to education and learning [...]” (SHIBAKAWA, 2017, p. 84).

Some critical considerations in environmental education, which are said to be at the heart of ESD, challenge integrated learning in environmental education. Ninomiya (2015) and colleagues looked back on the impact of ESD in Japan and organized results and issues with the background of the indications that were not a few people involved in environmental education who passively considered ESD due to the sense of discomfort that Development

was translated as “development” or there is a “break” due to ESD being introduced to the site from the top down (HARADA, 2009, p. 3-13). Assessing the expansion of the concept of environmental education that ESD has given to environmental education, as well as the expansion of practical sites and content areas, and collaboration with other areas, on the other hand, Nagata highlights the current state of “reform (transformation) only”, referring to how education requires “transformation in a deep dimension” (NAGATA, 2015, p.17). Thus, it was stressed that the critical review of ESD is reviewed as “critical/reflexive” with a view to achieving a sustainable society. But it is recognized that this is not the case. Although collaboration with other fields and a holistic approach were considered important issues, field practice in these fields differs from the philosophy of ESD, and “the field that plays a central role is mainly school education, learning theory, capacity development theory” is a “good to partial element” ESD (NAGATA, 2015, p. 11-13). As a result, environmental education for ESD has been grouped into a division of labor called “natural environment” education, so the importance of critical review of ESD is clear.

The environmental education mentioned so far is environmental education which positions itself as a division of labor within ESD, which is based on an “instrumental mentality” (HARAKO, 2010, p. 93) and is mainly limited to natural environments with goal-oriented environmental education. It can also be found in the “Environmental Education (2012)” edition of the Japanese Society for Environmental Education, which can be considered as an environmental education manual. The beginning of the book describes the ideal form of environmental education. In fact, environmental education is an integral part of the educational function, i.e. the means of human resource development. The power relationship between teachers and

children also implicitly maintains a power structure. In addition, although expressed as “relational learning”, the subject is always set at “human”, and specific activities encouraged/created within “human” are not targeted.

## The Education for Sustainable Development in my own life history

I born in Kobe, Japan in 1985, spending until 26 years old with interests of wildlife and nature conservation. The interests which blessed even I was born in the large city now maintain deeply and strongly quest for inquiring life of a person related with nature. In 1995, when I was 10 years old, the Great Hanshin-Awaji Earthquake occurred. The Earthquake was killed more than 6000 people but fortunately, a young girl was safe with family, friends, and home, too. There was also an aspect of enjoying the extraordinary days. But for a long time, it had been difficult for me to talk about that experience. When did I start to be afraid to touch and talk about it? When did I start to become painful singing a song wishes for the reconstruction of Kobe? As time passed looking back as if the experience of the earthquake changed the color and weight. Exactly that experience of earthquake changed the shape an experience to ‘my original one’ with a lot of things connected in my daily life, belonging research of life-history.

This change supported by reconstruction through thinking about meaning of life and each experiences in relation with people who I have met.

What happened to me while continue inquiring about relationship between human and nature? This is a story about changing of Yuko MIKI as aspiring to research by drawing [EMAKIMONO] of a person who experienced air-pollution, earthquake, narrating his whole life.

## *The encounter with Mr. A*

Of course, I had a lot of choice about topics to inquiry about relationship between human and nature. Example, Minamata disease which I have been visiting since 2010, the accident of nuclear power plant in Fukushima in 2011, a community composed by people who are holding difficulty with mental or body to alive in main stream society, but spending their life with own speed, located in mountainous areas and so on. I am interested in all of them. But my interests couldn’t leave my home-town Kobe. I can expect to academical and sociological reasons or international argues to inquiry them, but I want to know and think deeply about my home-town Kobe. Also I was suspicious of the implied trend that the city has no nature and it is not good to have little involvement with nature. There are mountains and seas in Kobe, and I am interested in nature. I think this was the biggest motivation. As I proceeded with the survey, I learned that history with people was embedded in the mountains and the sea of Kobe. Beyond mere historical knowledge, I was fascinated by the context of prosperity in modern times. And at the same time, it was to know that it was the “A Human History” that has created that dynamic context. The question, “What are the thoughts of those who are now involved in the Rokko Mountains?” was raised, and my interview have began.

While interviewing to people living in the mountains, living in the mountains, and working in the mountains, I learned that it was natural for them to go to the mountains in their childhood. It has become clear that the relationship between the life in the city and the mountains forms their own unique views of nature while having an interrelationship.

After that, in the story, I learned that the reason for playing in the mountains was air pollution in the 1970s. I still remember the trem-

bling of warriors the moment I became interested in pollution, including Minamata disease, which I was deeply caring about. I decided I had to think about pollution. It was a moment when I was prepared to face up to Minamata's thoughts that I had always wondered about.

Mr. A who worked for a company causing air pollution says he loves and is proud of the company he has worked for and is still involved in the anti-pollution movement. He is proud that his company has supported the development of the city of Kobe, and climbs a mountain overlooking the city. His seemingly contradictory narratives made me realize. They told me that they had their own "picture scrolls" and that there are various forms of pollution depicted in them. It is not depicted as a single event in the past, but is colored in various shades while having a multi-layered relationship.

### *ME as a hope*

Even some of my relative are working as reactor designer, I was clearly opposed to the nuclear power plant because of the accident at the Fukushima Daiichi Nuclear Power Station in 2011. I went to the site and heard the story. There was a voice of people who lived in a moment when history, tradition, life, family, town, everything was literally robbed. There are two episodes related to my life here.

First, let's talk about the nuclear accident and the Great Hanshin-Awaji Earthquake. When I was 10 years old at the time of the earthquake, I was told by adults that "You are the hope of Kobe". I spent the time feeling the pressure "excessive expectations" that I was not sure of. I don't know what to do with such a burden. So I just pretended to be good girl they expected with join (forced) volunteer activity. I started to hate the word of entrusting hope to children. I came to feel even adult irresponsibility.

In 2010, I met Minamata people, and I had known the existence of people who died in this world without being told about diseases, painful and suffering by friends and family. I have met people who have been hoping about being saved for over 60 years. Who has made this world? Still, adults say, 'for future children.,' we entrust the future to you'.

Another episode is about some member of my relatives. After the 2011 accident, I dared to ask to him, as a nuclear reactor designer: "what do you think of the Fukushima accident and the people of Fukushima?" He replied: "I will never say that until I died." He, like some people in Minamata, also die with a feeling that he can't exude to others? Do you want to say goodbye to the world with that thought alone? Will he someday open his heart to me? I hope the day when I can say to my father that I will carry your thoughts whatever you hold. Time has passed, in 2012, when I visited Fukushima, what I jumped into my eyes was the collapse of the house and the smell of debris, which I never wanted to see again or wanted to smell because remains me about Hanshin Awaji Earthquake. It was like a huge stone falling in my stomach. It feels like someone grabbing and squeezing stomach from back. Everything was deprived in an instant, and I saw adults who didn't know what to do and I couldn't notice their feelings when I was a child. Then I thought it might be called despair. I felt that if there was a little light in the darkness of darkness, people might have no choice but to cling to it. That, a little light, was "Children". Oh, I was...a hope. Such words boiled from the bottom of my heart.

It was the moment when I have been feeling that I didn't want to see it or touched it, and my experience of the disaster was given a new meaning, colored, and newly rooted in my `picture scroll`. I noticed that I misunderstood and was overconfident that I continued to pursue I own interests and my own will. I realized

that people who I've met pushed my back to truly face my own experience. Since then I have been [gifted]. At that time, I wanted to be hope for my father. I want to color my life as hope of those who despaired.

### *Life in Ukraine*

In 2013, I moved to Ukraine for half of year. It was just the war with Russia. I didn't get a direct fire, but I felt war every day. The feeling of slowly breaking deeply from the roots of people's peaceful daily life was terrifying. A friend muttered "We don't even know what we are fighting for anymore." I will never ever forget his face seen from the site. This is how the war breaks people's hearts. This is the how the war takes people's life. War is to take away from the roots of living as a human being. We have taught that war should not be done since an early age. But I couldn't tell in my own words why war shouldn't be occurred. However, I can now say that "because the war snatches away people's life, dignity, and the life of a given precious existence are rooted up". This is not only about war. Minamata, Fukushima, and other pollution, discrimination, and social issues have taken away what humans should be wealthy and diverse at any angle and phase. People I met in Kobe taught me that. That people who taught me that there is pollution that is drawn in individual and specific colors in a multi-layered mutual influence. A friend murmured "We don't even know what we are fighting for anymore." was actually from Chernobyl. He said he couldn't confess that until just before I returned to Japan. I knew that there was a person who was still hiding here. He introduced me to his friend who still works in Chernobyl. His friend said to me with tears, "the people of Fukushima may no longer step on the land of their hometown. I will live here, carrying that weight and pain."

### *Some biographic synthesis for my research*

Let's look back on my interests so far. The interest in wildlife protection that I have had since childhood has become a concern for environmental issues. While learning about environmental problems, I realized that it was a social structure problem and a political problem. We have asked how we should correct the problem. In that, I found a "picture scroll". A colorful picture scroll depicting the life of a person. Darkness, suffering, pain, joy and pleasure are depicted. Why do we resist social problems, why is a critical perspective on society important? That is because there is a society that roots the existence of only one person. Outer issues always affect one's inner life, the way of life. This is because we are alive in relation to the reason why the sustainability of the natural environment is important, the correction of social injustice, and the reason why the sustainability of human rich activities is important. The picture scroll taught me that. By showing me a piece of the scroll, I knew and learned that I had my own one. The picture scroll depicts many of the events described so far and the relationships with many people. After all I am "gifted". The picture scrolls are hiding behind what happened to me, reflecting their meaning, and restructuring. In other words, it shows the trajectory that fellowship with others has transformed itself. It was "environmental education research" that taught me this. Exploring what environmental education is a journey for me to explore where and how to live. While I was going to do my research, it was actually a journey to get to know myself. It was an activity that kept asking myself, and this journey is nothing but the encouragement of people I have met. In the past, I was doing research for research, and the subject was not out of the "tool for what I wanted to demonstrate".

Shamefully, I was doing that way unconsciously. What rectified it was the question of what I wanted, what is my deepen truly hope, and what I was investing in research. I was able to continue asking this question because there were entrusted words and thoughts that were not faded and pierced vividly from people I had met. At the same time, I think I had a wish in my deepen heart strongly to “be true life” and “become an artist colors my picture scroll”. I think that’s probably because I wanted to be with them who taught me that there is an individual life as <state of relationship> (MAKINO, 2015, p. 12) means everyone is “gifted”.

I would like to devote myself to environmental education again and again to deepen my questions about environmental education from this origin point.

### The biographic and life history approach in my PHD research

Next, I will touch on the life history approach in this study. The main methods in this study are literature survey, participant observation, and interview survey. The literature survey is mainly a reference material for discussions about the history and landscape of the Rokko mountain development. First, focus on the relationship with the natural environment of the Rokko Mountains. There are “activity” and “life” in relation to the Rokko mountain that is assumed when capturing the lives of people living in Kobe. First of all, it was divided roughly into these two, and the target was selected.

### The fieldwork of the research: residents of house on the summit of Mt. Rokko

From the viewpoint of “life”, I selected residents of the share house on the summit of Mt. Rokko and conducted participation observation. In

addition, residents in Kobe City who chose to live in a place where they can visually recognize Mt. Rokko in their daily lives were selected. I interviewed residents who set up their houses in a visually recognizable place, starting with the impression of Mt. Rokko, which is a daily sight, and exploring how they are positioned in their lives. Interviews are also conducted with the residents of the share house, which is the subject of participation observation. For the residents of the share house, what kind of daily life they have given in Mt. Rokko and how they have built a relationship with physicality and listened about what kind of life is return to origin from that relationship. From the perspective of “activity”, residents are set up their life at the foot of Mt. Rokko and residents who are active in the Mt. Rokko are selected. I started ask when did he start and what was the reason start the activities, the personal experiences and ideas behind the activities, the contents of the activities and their practices, and the daily life outside of Mt. Rokko, and tried to clarify the life of the city. In addition, in order to broadly understand how to interact with the Rokko Mountains, selected a variety of people regardless of age and gender, and proceeded with the survey.

The most difficult thing was how to place pollution in the current environmental education in Japan. In Japanese environmental education, pollution has been targeted as a problem, but it is a big question how to reposition the accumulation of environmental ethics, pointed out by KITO, who emphasized the “Individuality of life” (KITOH, 2007, p. 143) that lives there. It was the one of biggest challenge in this research. It was Mr. A’s narrative that broke through this point. He said the era of pollution was “a good time (Interview of Mr. A, 2017)”. Furthermore, it was also important that the viewpoint of society clearly existed once the extremely personal events and mo-

tives became internalized. From these things, in organizing the discussion of pollution, the commonalities of the two contexts (structural context and historical context) became clear, and “Another perspective”, “Each form of pollution appears in relationship” was presented. By that the two cores uniqueness were extracted. In addition, points to the functional correlation between ethics for the environment and environmental education, and criticism of the “Instrumental mentality” (HARAKO, 2010, p. 93) of education are used as a theoretical framework, and research and sublimation on the philosophy of environmental education, which is the purpose of this study. Therefore, the main research method was an interview survey. “Register clinical trials” for quantitative studies (especially clinical studies and epidemiological studies) for which research plans, research methods, and research objectives are disclosed in advance is a method that cannot be used for qualitative research and this research. This is because, even if the purpose of the research is localized, in order to clarify it, it was necessary to pay attention to the specific life of people as shown in the background of the research. Even if the importance of environmental education is shown theoretically and academically, it is not synonymous with capturing activities that support the lives of living people. As Kitoh (2007) points out, theoretical and academic discussions are policy-theoretic and panoramic discussions that do not capture the real world. As already mentioned, the goal of ESD centered on environmental education is to bring about sustainable social change. Just because the method of change is clarified academically does not mean that a sustainable society will be realized. What is important is to raise environmental education from the life of each person’s real life. Relying on such a paradigm, it was necessary to adopt a life history approach to clarify concrete life in general.

At this time, it is necessary to pay attention to the positioning of the “researcher”. In my main discipline of environmental education in Japan, the main focus is on analytical reports using empirical scientific methods to see what changes have been seen in the conventional environmental education and research methods (NOMURA, 2015). There is little empirical and philosophical research in the form of “one person” as a <state of relationship>. This stems from the fact that in environmental education, the subject has always been directed to “people/human” and the environment has been viewed as a natural environment surrounding “people/human”. However, my research so far has shown a viewpoint that can be regarded as a <state of relationship> that goes beyond the binomial framework. The challenge is to systematically show how we are connected to society without dismantling Individual specific experience=the dynamic existence of <state of relationship>. At this time, as has been clarified in the above-mentioned “Dynamic circulation natural image” (MIKI, 2018, p. 104), it is necessary to clarify in more detail the process in which the outside environment is internalized through involvement. In other words, in the process of visualizing <state of relationship>, the fact that the relationship with society becomes clear itself constitutes a research method. There is a “viewpoint of trying to grasp what people living in society live as the subject of their lives in relation to the subjects that include the researchers themselves” (MAKINO, 2015, p. 106-107). The life history approach in this study is based on this perspective.

You can see that one point of communication with the subject is not limited to interviews. Instead of just interviewing in a closed room, I go to the important places for subjects and spend the same time. In addition, walk around the town where the target people spent and listen to the events of the time. Such com-

munication exists behind the interview. In other words, the construction of the “trust relationship” referred to in the interview survey is made in various ways. More importantly, there are many occasions to abandon of my position as a “researcher”. In the practice of writing and researching papers, “objectivity” and “building academic discussion” are certainly important. However, in the relationship with the subject, I had to face as a single person standing in front of the subject while being a researcher. Otherwise, the life of subject becomes a research tool. The life of others is used as a tool to capture “the life of one person”. It means that I use people who I already interviewed a research tool. Even I criticism that point out that education stays only a function. However, “to face as one person” was also very difficult for me.

In the next chapter, I will describe my relationship between life history and research in order to grasp the relationship with the subject including the researcher myself.

### *The second fieldwork of the research: The city of Kobe*

Of course, I had a lot of choice about topics to inquiry about relationship between human and nature as I already said. But I was suspicious of the implied trend that the city has no nature and it is not good to have little involvement with nature. There are mountains and seas in Kobe, and I am interested in nature even I grew up in such a big city. I think this was the biggest motivation. Hiding in this motivation is probably also an antithesis “why all the causes of environmental destruction are placed in the city residents”, and It was also a question that even people born and raised in cities could have a wealthy life while having various relationships with nature. I was worried about answering this question. Because I lived in the city, I thought that there might be

no connection to “essential” nature. Because we felt that the connection between food and culture based on nature environment was broken compared to the life in the countryside. However, the Kobe people loved the mountains and the sea and taught me that their identities were formed in relation to nature and that their lives were spun together in multiple layers. In other words, one of the reasons why did I chose Kobe as the survey site was that I wanted to know “how did/do I live in Kobe” as my life history. Through research, it was taught to people living in Kobe.

My interest has been widespread so far. It spread from the sense of crisis to environmental destruction to interest in Minamata and Fukushima. I would like to mention the moment when these interests have led to one in my life history through research. The interest in wildlife protection that I have had since childhood has become a concern for environmental issues. While learning about environmental problems, I realized that it was a social structure problem and a political problem.

### *Perspective of the research: environmental education and air pollution*

In this section, I will take up the case of Kobe that I have been studying and demonstrate the importance of capturing the whole of a person’s life. Up to now, the problem of cities has been strongly captured in the framework of “local / city” in the discussion of environmental education, and there are not many survey examples focusing on the specific activities of people living in cities. Therefore, Kobe City, Hyogo Prefecture was selected as the survey site, and the survey was conducted based on the relationship with the natural environment. The research methods were interviews, literature surveys, and participant observation, and the

analysis was conducted mainly by three people who had different ways of dealing with Mt. Rokko.

For the analysis, we did not use a fixed framework, but transcribed each subject's narrative and analyzed the truth of the relationship from the theoretical framework as needed. It should also be noted here that, based on the research ethics of the university to which we belong, we will refrain the real names of the interviewed. From interviews, three aspects emerged: "place of activity", "place of life" and "place of landscape".

In each aspect, it became clear that daily activities were formed by the mutual influence of the life in Mt. Rokko and other cities. The whole relationship between "Place (Mt. Rokko)" and "Place (Workplace)" was named "Dynamic circulation nature image". By embedding people living in the city as "one person", it has become apparent that the places that form the relationship are not limited to Mt. Rokko, but interact with each other in multiple layers. Even when trying to grasp the relationship from the natural environment, the expansion of the relationship can be seen by approaching the existence of a specific "one person". In addition, the spread is a form of <state of relationship> that can be seen by becoming "one person". From this, it became clear that the subject's daily life is not completed within the Mt. Rokko, but is formed through traffic to places other than Mt. Rokko (town, workplace, play). This "Dynamic circulation natural image" is an opportunity to re-examine the definition of the environment. Generally, the definition of the environment is recognized as surrounding the subject. Therefore, when trying to grasp the relationship between the person (subject) and nature (environment), the relationship between the subject and the outside had been tried to capture. In other words, the subject and the environment have been localized as

different entities. However, the relationship between the subject and the environment is dynamic in terms of time, space, and "involvement", and either cannot be considered static.

The three aspects extracted from this case and the "Dynamic circulation nature image" are the internalization of the environment that is supposed to be outside when trying to capture the overall picture of the relationship between people living in the city. Through dynamic relationships, meaning is given to the natural environment, and that meaning is another form of environment that permeates inside itself as a unique view of nature backed by personal experience. It is the relationship between the environment and the definition of the environment that both the internalized view of nature and the world around it have a dynamic relationship. The definition of the environment became in the dual meaning of what surrounds it from the viewpoint of "one person" as the subject rather than "human" as the subject (external environment) and the internal environment (internal environment). Here, the external environment is not limited to the natural environment, and the importance of capturing it as a dynamic relationship from the multi-layered interaction with the internal environment emerges.

However, In the discussion till now, the industrialization era has been overlooked because of its relationship with the natural environment of Mt. Rokko. Air pollution that has been expressed in previous interviews is a representative example. As a result of not being able to grasp them, the relationship between the people living in the city and the natural environment that we tried to clarify in this case is that even the Great Hanshin Earthquake, which has been sublimated into a "Coexistence image" (MARUYAMA, 1997, p. 150-153), has an affinity for the relationship between people and nature. It remains as a question of whether it

was still partially capturing the whole life of a person.

### *A biographic interview about air pollution life history*

While listening to the relationship with the natural environment, there was a talk about the air pollution of Keihanshin area which including industrial zone in the 1970s. Though interviewing, I realized that capturing the reality of the relationship between a person and nature, with only the relationship with the natural environment as a range, can only be a fragmentary capture of “capturing the whole of one person’s activities”. So this section, we start to focus on the analysis of Kobe’s air pollution and interview about air pollution in Kobe of Mr. A who had been worked at Kobe Steel, one of the causative companies, is still participating in the anti-pollution movement, saying “I love the company, so I am against pollution. (Interview of Mr. A, 2017)” I’ve been deepening my discussions centering on this person’s interview.

The southeastern part of Kobe City, the southern part of the Rokko Mountains, was designated as a national pollution designated area in 1977. At that time, not only Kobe but also the Hanshin area was seriously damaged by air pollution. Diseases to be rescued are chronic bronchitis, bronchial asthma, asthmatic bronchitis, emphysema and their sequelae. In 1985, Kobe City lifted the pollution designated area and there are no newly certified patients, but more than 3,000 patients are certified. Discussions on pollution in cities often focus on policy aspects. This is because the policy / regulation is the most effective as an urgent problem to be corrected in the urban pollution-specific structure where the damage / damage structure is difficult to see, and in a city with a large population. It is possible that the viewpoint of

winning the solution is emphasized. However, in this study, the emphasis is on taking a person’s activities as a whole. Therefore, I would like to clarify how the pollution has been positioned among the people’s involvement from interviews with Mr. A who worked at Kobe Steel, one of the pollution-causing companies.

### *Mr A life with pollution*

Mr. A was born in Kobe in 1952 and worked for 42 years at the age of 18, joining Kobe Steel at the age of 60. For five years immediately after joining the company, he was assigned to an environmental measurement team that worked to investigate and improve air pollution. This five-year work has been one of the opportunities until Mr. A has been involved in the anti-pollution movement until now. The reason why Mr. A is still involved in the anti-pollution movement is “I really like Kobe Steel, so I will fight it” (Interview of Mr. A, 2017), the antithesis for the high economic growth period, the objection to the problems expressed as reflection and distortion. Expressed as anti-war and peaceful feelings, “prepared to fight for life” and “mission”(Interview of Mr. A, 2017). The thoughts and activities related to peace based on the anti-pollution movement are the missions that were born in this world, and they are positioned as a resistance to the “greatest pollution, the greatest waste (Interview of Mr. A, 2017)” of war. And it is perceived as a “mission” that determines the way of life. You can see how the influence of the times is projected on his way of life.

Each of his experiences are three-dimensional, but we can see Mr. A’s “picture scroll” as if it were drawn in a single scroll. With a strong determination to fight against pollution, which is a distortion of the period of high economic growth, he looks back on that era with a smile, saying “It was a good era (Interview of

Mr. A, 2017)". If you look at this in a contrasting structure such as "pollution vs. development", it will seem contradictory, but the two correlations are drawn as neither "one" nor "the other". When captured through a single person, Mr. A, it is drawn in one picture scroll without any contradiction. Mr. A's present form of progress, which captures "problems", has restructured his attachment to the city of Kobe, making it possible to perceive pollution as multi-layered, ambiguous and individual. In other words, for Mr. A, climbing Mt. Rokko and seeing Kobe is related to a place where he can imagine "Kobe in the future" while overlooking "Kobe in the past" and is a creative future is there. Although the future is in the context of the past, it has always been created by the reorganization of attachment based on the present, and it is drawn today in the picture scroll of Mr. A's "mission".

The feature of what can be seen from Mr. A's interview is that the position of pollution is not "a city problem" independently, that is, an outside problem, but is positioned in the life of each individual. It can be considered in a personal context. At the same time, the entrance to capture pollution is expressed as "distortion" or "valley", and for the time being it is captured in a contrasting structure such as "pollution vs development". However, its positioning is not fixed, it is always reconfigured and spelled as individual concrete. This indicates that Mr. A's "pollution" is depicted in Mr. A's life, and the pollution simply exceeds the framework of the phenomenological "problems" and the victims and their families. It can be said that it has been defined in an ambiguous way within individual and specific relationships in a form that is not limited to pollution patient and their families. It is not possible to introduce everything here, but the existence of "pollution of Mr. B", "pollution of Mr. C" and "pollution of Mr. A", that is, "the pollution of each" has emerged

in the interviews so far. The form of pollution that has emerged is in a diverse, specific and multi-layered relationship, and is viewed as a position different from the pollution that has been seen in the past. I would like to elaborate on how they differ.

Looking back at the discussions on pollution so far, it was a very important viewpoint that picked up the voices of people who were directly affected by pollution "environmental ethics as the principle of resistance" as "a viewpoint that tries to capture the individuality of each person as a whole" (KITOH, 2009, p. 164-165). He localized the importance of "the whole of the relationship with the environment that the victims have to live in the pain of various levels of damage, and the meaning of "life" there" (KITOH, 2009, p. 165). They capture the "living figure" of each person who has been undertaken by the systemic, comprehensive, structural and political actions of specific and multiple damages such as Minamata disease patients and their families. It was a strong objection to neglecting the "Individuality of life".

It never changes. However, the people who have faced in this study are not only those who have been directly affected by pollution. It is thought that by clarifying the appearance of "Each form of pollution that appears in the relationship" among people who are not, it will be a starting point to capture the "Individuality of life" more abundantly. What this point suggests is to show the limits of continuing to position pollution as an outer "problem". If Mr. A's words that the period when air pollution occurred was a "good time", it would be contradictory, but when it was re-examined from the perspective of "Each form of pollution appears in relationship" it would be a "problem" that can be seen that there is an organic link with elements other than pollution. In other words, it can be said that it shows the limit of seeing pollution as a mere phenomeno-

logical “problem”, and as a “problem” only for the victims and the surrounding people. The problem that there was a layered, ambiguous, individual “Each form of pollution appears in relationship” that was overlooked by cutting out pollution as a “problem” on the outside and “problems” of the victims will be raised. The form of “Each form of pollution appears in relationship” following the context that has revealed that life and culture have been destroyed without constraining pollution to specific health hazards suggests that the pollution is reconsidered in a broader sense. This is because the figure of “Each form of pollution appears in relationship” emerged from the people who were not focused on by Kitoh (KITOH, 2007, 2009). However, there is a context of “Individuality of life”. This will push “environmental ethics as the principle of resistance” can include more people other than pollution victims, their families, and those who have been actively involved, and will have the possibility of not limit pollution to “outside events”.

The characteristics of “Each form of pollution that appears in the relationship” are the following three. (1) What has been clarified from the relationship that colors the life of the city drawn by focusing on “Individuality of life” of people who live in the city, generally people who were anonymously as “perpetrators of environmental problems”. (2) What we specifically consider pollution as a part of the relationship that colors urban life, not as an external “problem”. (3) Dynamic things that decorate the personal history that is reconstructed through specific activities. The first two focus mainly on the people who live in the city, but the characteristics of the third “Each form of pollution appears in relationship” are not limited to people who live in the city. Therefore, it can be regarded as having universality. In that sense, the appearance of “Each form of pollution appears in relationship” is characterized

by the fact that it has emerged from the relationship, beyond the static “events”, as well as individual specific experiences.

## Conclusion

There are two sources of environmental education in Japan: nature conservation education and pollution education. However, it is clear that these two sources have continued to point out the same problem. Both of them have always considered the structural problems of society and the way their individual lives were destroyed by environmental destruction. Currently, discussions on pollution education are active. One of the contents is the agenda of how to take over pollution education in modern times (ANDO, 2015). This is largely due to the Fukushima nuclear accident in 2011 and the 60th anniversary of Minamata disease official recognition in 2016. The meaning is that we younger generations who do not know the times when pollution frequently occurred take over pollution education. It is expected that the meaning of “Each form of pollution that appears in the relationship” will be clearly indicated. The qualitative transformation of students’ learning through the Minamata disease incident is able to be referred at this time. It depicts how the problem of contamination, such as textbooks that exist outside of learner, develops into its learner’s own problem. What is important at this time is not the encounter with an anonymous “patient” person, but the encounter with a single person named “you”. By the emergence of the question of what Minamata disease was for this person and at the same time what was the Minamata disease / Minamata case for me, I was asked myself and re-examined the outside problem as my own problem. It can be said, with the advent of the question of what is Minamata disease for this person and what is the Minamata disease / Mi-

namata case for me, they rethought what was an external problem as their own problem.

Asking what a sustainable society is, a critical look at modern education, and capturing sustainability including human sustainability, this is because there is the only person who lives on the ground (KITOH, 2009). And since the expression of that single person is deprived of the structural problems of society with holding deeply unreasonable, so that three unsustainability of people, nature and society would be matters. This philosophy that supports environmental education is supported by the big question of “where and how do I live?” Although it is a question, it can be said that it has risen out of the relationship. I will continue with theoretical research on environmental education based on this. The above is an overview of my research.

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