Insights into the Global Composition Taken at Three Stricken Places in Japan

By Keiko Torigoe

Introduction

Earthquakes are the movement of the Earth's surface, as activated by its sudden vibrations, and the sound of the Earth. In other words, sound is telling us that the Earth itself is an active "living organism" filled with hot magma that may shift to create earthquakes.

Earthquakes are among the natural disasters that occur often in monsoon Asia. In particular, Japan experiences many earthquakes. We who live in Japan have come to recognize this fact, and are more conscious of our land being located on large active faults that run under the ground.

A mega quake occurred off the coast of Sanriku on March 11, 2011. The resulting tsunami wiped out many cities and communities along the Sanriku coast, with estimates of nearly 19,000 people who disappeared or were killed. The disaster also triggered a nuclear plant accident and subsequent events; consequently we have a renewed awareness that our soundscape is in essence a global composition, a work tuned through the providence of nature. As such we feel the importance of the now nearly-forgotten culture of those who had co-existed with nature, sharing soundscapes within their environment. At the same time, we also feel it is important to carry out research and recordings on our everyday life.

The Great East Japan Earthquake has brought major changes to the soundscapes of Japan. Some sounds disappeared. Some sounds were newly born. The changes are continuing. Although some sounds remain the same, the way people hear and listen has been altered, either abandoned or transforming into something new.

This paper reports on my experiences and reflections on the concept of Global Composition, primarily those related to the "Visiting 100 Soundscapes of Japan Project," which is part of our "Soundscape Project for Earthquake Disaster" by the Soundscape Association of Japan.

Visiting 100 Soundscapes of Japan

The members of our Soundscape Association of Japan (SAJ) agreed it was important to administer surveys focusing on the impact on Japanese soundscapes after the March 11th event. Therefore we created the Soundscape Project for Earthquake Disaster 311 (March Eleven) in order to record and research the soundscapes at the stricken places in Japan. The SAJ is currently working on four projects as Soundscape Projects for Earthquake Disaster 311: "Visiting 100 Soundscapes of Japan Project," "Fukusima Project," "Fixed-Point Observations Project" and "Earwitness Project." "Visiting 100 Soundscapes of Japan Project" is based on "100 Soundscapes of Japan: Preserving Our Heritage," which was conducted between 1994 and 1997 by the Environment Agency. The aim of this project was to encourage individuals or groups throughout the country to recommend soundscapes that can be appreciated in specific sites. It was also aimed toward locals who wished to conserve soundscapes for the next generation. We therefore selected 100 soundscapes out of those recommended to serve as symbols of the richness and wide variety of Japanese soundscape as well as representative of Japanese nature and culture. A couple of points are relevant: after the project was done, the sounds and images of these places were recorded and published in various media[1] and it would be 10–14 years later these areas would be impacted by the mega earthquake and tsunami[2]. Some of the 100 soundscapes are located in the stricken area. Therefore, whether by irony or good fortune, we have some soundscape data with which to compare before and after the disaster.

Fig. 1: *Site Map*. Photo by Keiko Torigo

The aim of this project is to visit those sites to see how those soundscapes have changed, or have not been altered, by comparing them with those that were recorded before the disaster. The following summarizes our project findings that we've conducted so far at the three sites shown in fig.1.

Bell-Ring Cricket in Miyagino

The Bell-ring cricket (fig.2), "Suzu-mushi" in Japanese, is Homeogryllus, one of the most popular crickets in Japan known for its sound. Sendai, Miyagi Prefecture has several places that one might enjoy the traditional practice of appreciating the beautiful sounds of bell-ringing crickets, which can be heard for example in Mt. Takamori and Masue-no-mori forest.

The earliest reference to "Bell-ring crickets in Miyagino" dates back to the early 9th century when General Sakanoue Tamuramaro (AD.758–811) was sent by the then emperor to subjugate barbarians living in the northern area of Japan. There is a written document

Fig. 2: *Bell-ring Cricket.* Photo by Keiko Torigo

by Tamuramaro saying that he heard the beautiful sounds of bell-ringing crickets along a path on his way to Taga Castle in today's Sendai City. During the Edo period, through the 17th to the 19th centuries, there was a special field where young ladies who were living in the castle visited in order to enjoy listening to the crickets and hunting them (fig.3). The street from the castle to this field was called "princess road to Miyagino." The bell-ringing crickets in Miyagino, which are known for their singing in the "seven-ring" cycle, were presented to shoguns, that is Tokugawa generals, from the Sendai clan in the Edo period.

Fig. 3: *Cricket hunting, image of wall poster at the headquarters of the Bell-ring Crickets Conservation Committee of Miyagino City Map*. Photo by Keiko Torigo

Although the crickets were there until around the mid-1930s, they became extinct due to insecticides sprayed by the Occupation Forces after World War II and the construction of a baseball stadium in recent years. However, a committee to conserve the environment for bell-ring crickets, which was set up by the Association for Promoting Miyagino Regional Development, has encouraged citizens to protect the bell-ringing crickets and return them to nature, creating an environment that is good for insect living.

On September 13, 2011, about six months after the quake and tsunami, we visited the committee members and learned the history and the current situation of the bell-ringing crickets in Miyagino. After dark, we visited some of the places related to the sounds of the insects. As the sites were unaffected by the tsunami, we were surrounded by various sounds of crickets, including bell-ring crickets, just as we had expected. After that, as the final destination of our visit that day, we went to an estuary of the Nanakita River which had been submerged for several days following the tsunami. On the way, the headlights of our car revealed that the fields were unable to grow rice because of the salt water. As the two entomologists of the research team were telling us that the cricket eggs would have been broken by the pressure of sea water, we were expecting a quiet landscape near the estuary without sound or else minimal, perhaps a feeble sound of crickets. However, when we got out of the car near the shore, we heard various powerful sounds of crickets echoing strongly in the dark.

Kaminari-iwa: Thunder Rock

Goishi Kaigan shore in O-funato, Iwate Prefecture, is a 6-kilometer ria coastline at the south point of Suezaki Peninsula that juts out in O-funato Bay. The shore has eight scenic spots, including "Goishi-hama" beach which is covered by black round pebbles shaped like "go" pieces, from which the name of the shore comes.[3]

Fig. 4: *Thunder Rock.* Photo by Keiko Torigo

Kaminari-iwa is one of them. "Kaminari-iwa" in Japanese means "Thunder Rock." It is a huge rock, known for its thundering sounds. According to the web site of the Ministry of the Environment, the rock produces "a sound of thunder that slashes incoming waves to make you shrink. You can always hear the sound regardless of time and season."[4] On November 23, 2011, we visited the site to learn about the tsunami's impact on the soundscape there. We went to a rest station of Goishi Kaigan shore to meet Hirofumi Ogawa who manages the place (as he had been introduced, as per the O-funato City's Commerce, Industry and Tourism Section). According to Ogawa, it is the structure of the thunder rock that generates the loud explosive sound, and the process is as follows. There is a cave inside the rock. Waves rush into the cave, pressurizing the air inside so that when it is released into the ocean, the rock generates a loud thundering sound. However, after the tsunami, the sound became much softer and less frequent. According to Ogawa, this is probably due to reduction in the amount of air inside the cave caused by the fallout of rocks made by the quake.

He took us to a site from where we could look down onto the rock directly. Walking in a pine grove behind the rest station, we were able to see the giant rock below a precipice (fig.4).

We listened attentively in the cold rain. But we could barely hear the sound of the rock. "Hey, it sounded just now," said Ogawa, but we could hear nothing. As Ogawa was telling us several times that this was the sound, we began to catch it albeit faintly. It was like a soft beating that only sometimes echoed in the rock.

Each of us pondered the fact that although the giant rock looks the same, it barely manages to hold its life. Listening to the voiceless Thunder Rock, we recalled the fact that sometimes quietness can be more meaningful than a loud sound. Personally, I deeply regret that I had not visited the place before the tsunami. I had been thinking it would be easy to visit and listen to the sound of the thunder rock at any time.

On our way back, Ogawa took us to Goishi-hama beach(fig.5). He told us, "I can clearly recall the unique high-pitched rattling sound of the stones moving in the waves. But after the tsunami, the sound of the stones lowered its pitch and became heavier." We noted from the shape of the shore near a seawall that the tsunami had taken away many stones.

Fig. 5: *Goishi-hama Beach*. Photo by Keiko Torigo

Waves of Izura Kaigan Shore

Fig. 6: *Izura Kaigan Shore*. Photo by Keiko Torigo

Izura Kaigan shore, located in Ibaraki Prefecture, consists of five large and small inlets. This shore is known as a place to which Tenshin Okakura (1863–1913), the father of Japanese modern art, moved the "Art Institute of Japan" in 1906, when he left Tokyo College of Fine Arts. Tenshin worked here together with his pupils, who later became masters of Japan's modern painting. The sound of waves on the Izura Kaigan shore, the place which Tenshin loved for its landscape (fig.6), was described in the Environment Ministry's web site as a place where "you can hear the sound of savage waves of the Pacific Ocean washing the cliffs and reefs near a hexagon pavilion, which sometimes sound softly or violently reflecting your feelings."[4]

"Rokkaku-do," the hexagon pavilion, is an arbor that was designed by Tenshin and constructed on a rock base projecting over the sea on the premises of his house. The pavilion is the symbol linking Izura Kaigan shore and Tenshin, as it must have been conceived while he was deep in thought looking upon how the waves of the Pacific Ocean broke while listening to its sounds. However, when the tsunami hit the shore, the whole construction of the pavilion was swept away by the first wave, leaving only its base. (fig.7)

When we visited Izura Kaigan shore on March 2, 2012, the first place we went to was the Tenshin Memorial Museum of Art, Ibaraki. In the museum, a three-dimensional model indicated the location of Tenshin's house and helped us to understand that as he and his pupils were working toward their new movement of arts, they did so while immersed within the sonic backdrop of the waves. In the meantime, the restoration work of the hexagon pavilion was on-going, and we heard various sounds related to the construction work coming from behind the fence. We reflected on the words that

Fig. 7: *The site and the surroundings of the pavilion after it was swept away by the first wave, leaving only its base.* Photo by Keiko Torigo

once described the soundscape associated with Izura Kaigan. Sitting still on the beautiful shore, we tried to listen to the sound that he must have heard back then. It was clear that the sound of waves we heard at Izura Kaigan shore was not the same as the one to which Tenshin had listened. Most importantly, local people now hear the sound of the ocean differently before and after the March 11 disaster.

These sites I have described embody the underpinnings to the concept Global Composition of Soundscape. Our findings recognize the changes we found in the places stricken by the tsunami. Through this work, I have confirmed my speculations and perceptions after visiting the three sites, and would like to further expound on the three phases of global composition.

Three Phases of Global Composition: Global Composition Played by the Globe

The fundamental player of "Global Composition" is the earth itself. Visiting the stricken sites helped me to understand clearly this fact. For example the quake and the tsunami made various impacts on the natural soundscapes by changing the forms of nature as we observed in the cases of Thunder Rock and Goishi-hama beach. The mega quake caused subsidence along the coastal line. This must be one of the reasons that the rock lost its voice as the amount of air taken inside the cave was reduced due to its fall. On the other hand, "Global Composition" consists of various types of natural sounds: sounds of plants and trees and the sounds of natural creatures such as animals, birds and insects. Mankind is a member of those natural creatures, but it is only in the recent history of the earth that humans made their appearance there.

Most of the places we visited were by the seashore. This was partly because the damage by the tsunami was much bigger than that of the earthquake. The devastating tsunami has taken away upper layers of soundscapes once covering the surface of the coastline. What was left there was the fundamental layers of soundscape which consist of natural phenomena such as ocean waves and winds as well as sounds of natural creatures such as crickets and birds.

What we confirmed when we visited the bell-ringing crickets in Miyagino was the fact that these insects are living vigorously even in the tsunami-affected places. It is true that a quake and a tsunami have an impact on natural soundscapes by changing the forms of nature, as we observed in the cases of Thunder Rock and Goishi-hama beach. But, compared to the big change of the "human soundscape," it seems that there was less impact on the soundscape of wildlife, notably plants and other creatures. On the other hand, the loss of the hexagon pavilion shows that man-made structures are very vulnerable to the fury of nature.

What struck me most when I visited the three places was a stark contrast between the completely destroyed areas of tsunami-stricken communities along the coast to the natural landscapes that seemed to be full of life. We have sayings in Japan like "tsunami is the cleaning of the god" and "the ocean is reset by the tsunami." In fact, Kesennuma's oyster farmers in Miyagi prefecture report that their oysters this year are growing twice as fast as before. Fishermen who live amidst the ocean seem to be aware of these mysteries. What I recall here, drawing upon soundscape research and design, is a passage in *The Tuning of the World* by R. Murray Schafer: "Because the production of sounds is so much a subjective matter with modern man, the contemporary soundscape is notable for dynamic hedonism." He then elaborates, as in *Utruisque Cosmi Historia* by Robert Fludd,

> ...there is an illustration entitled "The Tuning of the World" in which the earth forms the body of an instrument across which strings are stretched and are tuned by a divine hand. We must try once again to find the secret of that tuning.[5]

Global Composition as "Relationship" in the Sense of Culture

Global Composition is the relationship that human beings create within their surrounding environment; in other words, the composition is a soundscape itself in a fundamental sense.

Thunder Rock, for example, originally had no such name. It was only called that when people described the sound made by the rock as thunder. But the naming drew many people to the place, and the rock became a soundmark of the area. Even after the tsunami took away the sound of the rock, the relationship between the people and the rock remains the same, based on the sonic memory of the thunderous vibrations. Yet, the rock lost its voice, and therefore the soundscape has been altered.

Thunder Rock exemplifies the meaning of "soundscape," when defined, for example in Barry Truax's 1978 *Handbook for Acoustic Ecology*, as "an environment of sound with emphasis on the way it is perceived and understood by the individual, or by a society. It thus depends on the relationship between the individual and any such environment."[6]

Individual sense-making of our surrounding environment is the essence of our cultural experiences. This idea explains why various cultures across the world are formed according to the nature of their lands. If the rock is a musical instrument created by a god, this "instrument" was taken away by that deity. The Japanese culture draws upon customary understandings of natural calamities; such tradition informs, one is only allowed to live for a time alongside nature, as it is created and controlled beyond one's will. Consequently, a "sense of vanity of life" permeates the core of Japanese culture, and one of its significant features is the ability to live alongside nature.

In the past it was believed by the Japanese that the voices of the dead existed in the sounds of crickets. When I visited bell-ringing crickets in Miyagino, I became aware of that belief, as I stood under the moon on the sixteenth night of a lunar month near the estuary of Nanakita River. It was then, I could understand the heart of our predecessors who sought for their ancestors' souls amidst the sounds of crickets living under green leaves cloaking the ground.

Global Composition in Our Listening Activities

Global Composition is ultimately created and formed by our individual listening activities.

The sound of the waves we heard at Izura Kaigan shore is not the same as the one Tenshin had listened to in several senses. These sounds are heard differently before and after the March 11 disaster. When we visited Izura Kaigan and other shores, I could not help feel afraid as I observed the dashing waves from the Pacific Ocean and listened to its sound. Considering the fact that I only watched the tsunami on television, the locals who actually experienced the disaster must be having quite different views of the ocean and its sound. These memories may exceed imagination.

On the other hand, I would like to report the existence of "ears to tsunami" which arose into our consciousness largely due to the mega quake and tsunami in 2011. The coast of Sanriku has been repeatedly attacked by destructive tsunamis since ancient times. We are now digging out such memories from the past:

> The seawater was beginning to get rough at a high volume, then receding from the coast gradually and picking up speed. It looked like a giant monster rising on his black dress. The water became extraordinary swollen within the dark off the coast, and then as if the time was just ripe, it turned into a towering wall of water and began to move toward the coast. At that time, the local people near the shore were drinking and dining without realizing the dreadful scenario within the

ocean. When they suddenly heard a boom, they looked at each other puzzled. Some thought it was thunder and others thought it was the sound of a cannon booming.[7]

What was stated above is based on a story told by the people of Sanriku about a devastating tsunami in 1896, known as the Meiji Sanriku, to a notable documentary writer, Akira Yoshimura (1927–2006) who visited them in 1960. This is an earwitness account of the soundscape of the disaster. Many people had heard the sound of the tsunami that was triggered by an undersea earthquake. Consequently, the people of Sanriku became sensitive to changes in the environment, including sounds. It was also reported that soon after the disaster, people got confused and upset when they misheard other sounds as those of a tsunami.

After that, the area was attacked again by a big tsunami in 1933 and another one caused by the Chile Earthquake in 1960. In the town Taro, which had experienced many destructive tsunamis, a great seawall called the "Super Dike" was constructed. It was more than 10 meters high from sea level when completed in 1978. However, the wall deprived the locals of the ocean landscape visually and aurally. In 2011 many people in the town were killed by the tsunami that went easily over the tall seawall. They included those who didn't run away because they had trusted the man-made artifact.

Public trust in science was betrayed in a similar way with one of the worst nuclear accidents occurring in Fukushima. As nuclear power can be seen as a symbol of science and technology in the modern era, this accident revealed a problem of modern civilization in which human beings think they have the power to control nature. We are beginning to recognize the real problem, in that we attempt to separate ourselves from nature.

How did the people in Sanriku hear the sound of the tsunami on March 11, 2011? This continues as one of the pressing, and most critical questions for us to answer, as our research consists of seeking and collecting "earwitness accounts" of the tsunami on March 11.[8]

Final Remarks

Two years have passed since the mega quake attacked Japan's way of life. Many problems have not been solved. Some problems have become worse or more complicated. What we can do, for certain, in this circumstance is to record and report what we have lost, what we have experienced and what we remember. Therefore, I believe it is worth reporting our activities and findings regarding the soundscapes in places stricken like the Tohoku coast. In this way, our experience in Japan may be shared with members of the larger soundscape community of the world. I hope therefore what I wrote here may become an inspiration or motivation for others to think and discuss ideas related to "Global Composition" and "acoustic ecology."

Acknowledgement

This article is based on my proceeding draft presented for the Global Composition Conference at Hochshule Darmstadt, July 25–28, 2012. The original article was subtitled "Ongoing Report on the Soundscape Project for Earthquake Disaster 311 by the Soundscape Association of Japan." Ongoing Report 2 was authored by Koji Nagahata who related information on the Fukushima soundscape. In addition to our paper presentations, we prepared a small exhibition at the library, the details of which were reported in another paper. There we opened discussion every afternoon throughout the conference in order to elaborate on the findings of our research directly with the participants at the workshops.

I would like to thank our contributors and guides who explained to us the change in their soundscapes at the stricken places and everyone who came to our exhibition and workshop at the conference. I also would like to express special thanks to Prof. Sabine Breitsameter who provided us with this precious opportunity, Mr. Michael Paull and Ms. Natascha Rehberg who helped us with the workshops, and my colleague, Koji Nagahata who leads SAJ's Earthquake Disaster Project.

About the Author

Keiko Torigoe is a soundscape researcher, participating in various projects which relate to the field of environmental design, conservation, and education as well as site-specific art. She is currently a professor at the School of Cultural and Creative Studies, Aoyama Gakuin University in Tokyo and the chairperson of the board of directors of SAJ (Soundscape Association of Japan).

Endnotes

1. Keiko Torigoe, "A Strategy for Environmental Conservation," From Awareness to Action, The Royal Swedish Academy of Music, 89 (1999), 103–109.
2. There are two different series of video films; Japanese 100 Soundscape Videos [Japan's sound scenery (top) 100 compilation: in sound and images. They are catalogued in the British Library no. 1CV0003363 – 1CV0003382; 100 Japanese Sounds to Remember: catalogue no.1CV0003383 – 1CV0003392].
3. "Go-ishi" is a black round piece used for the game of "Go," one of the most popular games together with Shogi (Japanese chess).
4. http://envgis2.nies.go.jp/oto [in Japanese]
5. R. Murray Schafer, *Tuning of the World* (Toronto: McClelland and Stewart Limited, 1977).
6. Barry Truax ed., *Handbook for Acoustic Ecology* (A.R.C. Publications, 1978), 126
7. Akira Yoshimura, *Sanriku Kaigan Oh-Tsunami* (Bungei Syunjuh, 2004), 21–22 [in Japanese]
8. One example of the recent studies on the earthquakes of the past is as follows: Hisao Funaba, "Sounds of the Great Kanto Earthquake described by the Ferris schoolgirls," *Soundscape (Journal of Soundscape Association of Japan)*, 13, (in press). [in Japanese]