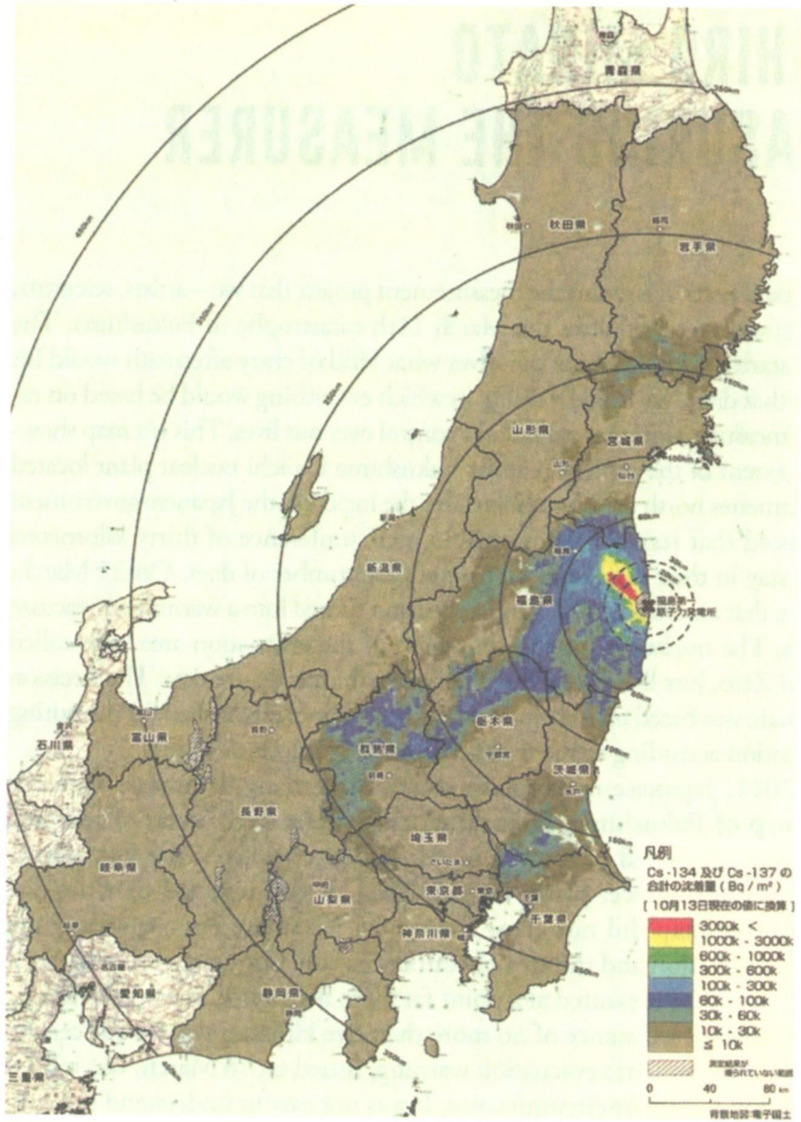
POLITICS OF MEASUREMENT

CHIHIRO MINATO
MEASURING THE MEASURER

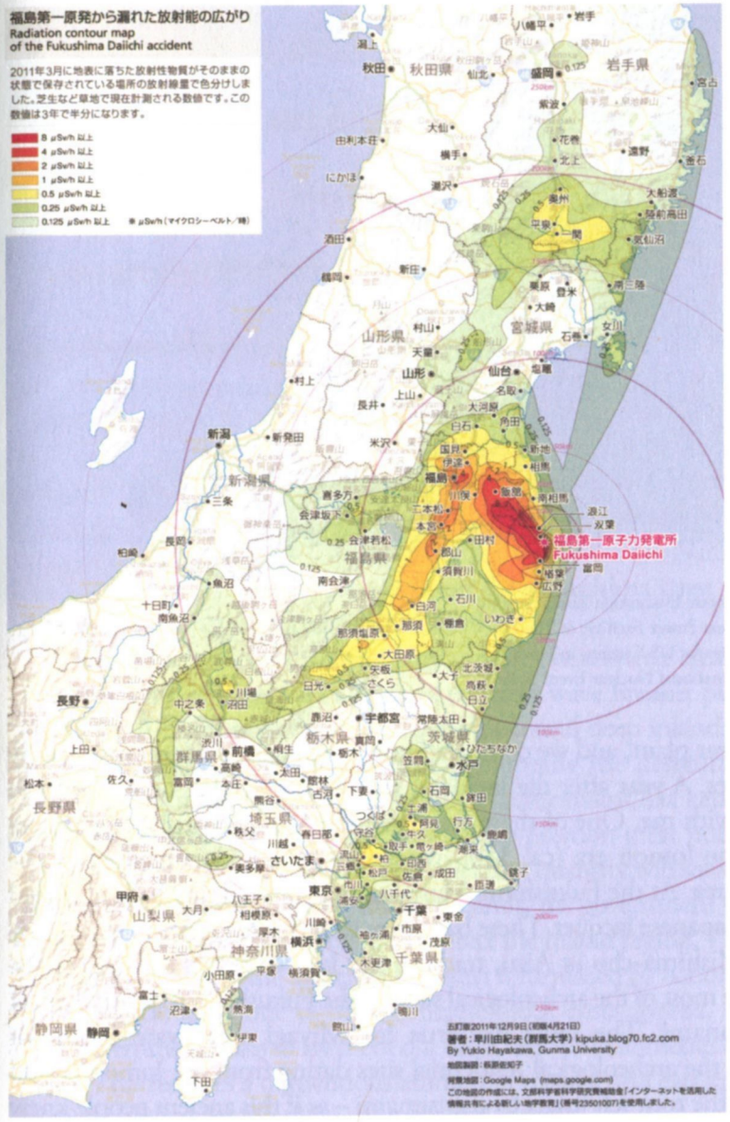
My presentation is about the measurement project that we – artists, scientists, and engineers – began after the March 11th catastrophe in Fukushima. The project started with us asking ourselves what kind of crazy aftermath would hit us after that date. We feared a reality in which everything would be based on radiation measurements that would take control over our lives. This is a map showing the extent of the explosion at the Fukushima Daiichi nuclear plant located 250 kilometres north of Tokyo. Soon after the incident, the Japanese government announced that residents living within a circumference of thirty kilometers should stay in their houses for an unspecified number of days. On 25 March, however, that announcement was changed and turned into a warning to evacuate the area. The nuclear plant and the centre of the evacuation area were called Ground Zero, just like the centre of a nuclear bomb detonation. The decision to evacuate was based on a chain of rather simple lines established for measuring the radiation according to the distance from the explosion's centre.

In 2011, Japanese mass media distributed many diagrams. Here we see a map of Fukushima. Fukushima city, where high levels of radioactivity were measured, is located seventy kilometres from the Fukushima Daiichi nuclear power plant. In May 2011, it was revealed that the distance on the map did not allow for conclusive statements regarding the spread of radiation and the area of contamination. Sometimes very high radiation would be measured at a point far from the centre, sometimes hardly any radiation at a distance of no more than five kilometres from the centre. The U.S. government's evacuation warning, issued on 16 March, was related to an eighty-kilometre circumference. It was not easy to understand the contradicting information that the two maps presented. Surprisingly, it was snow particles that absorbed the radiation and kept it on the ground. The movement of the particles followed the wind and water streams, rain, and snowfall. This raised the question: What do maps actually tell us?

The measuring project compares the information distributed by authorities and media after 11 March to our own field research. Walking around in the vicinity of the coast of Japan, we measured the radiation close to the Fukushima

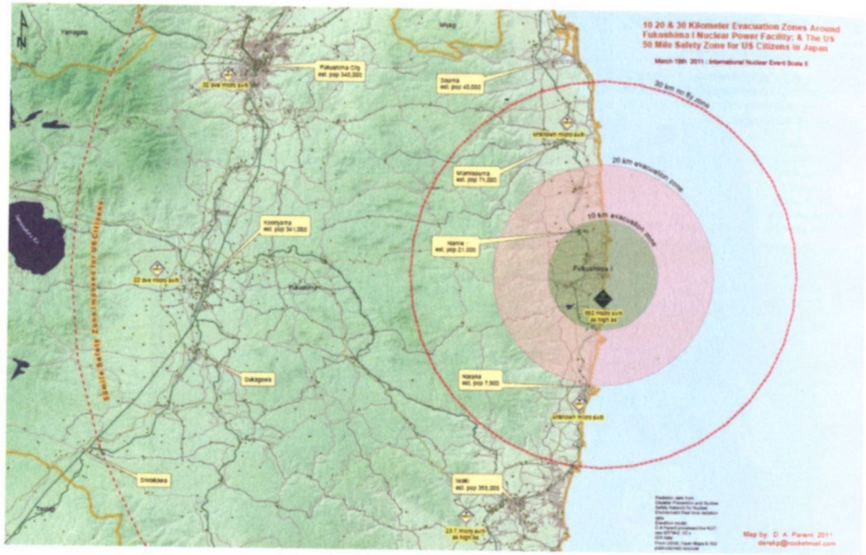


Measurement of the total amount of deposition flux of Caesium 134, 135 based on aircraft monitoring data, issued on 11 November 2011 by the Ministry of Education, Culture, Sports, Science and Technology, Japan, measuring date: 13 October 2011



Radiation Contour Map of the Fukushima Daiichi accident, produced by Yukio Hayakawa, volcano geologist, Prof. Gunma University (8th revised edition, 1 February 2013 / 1st edition, 21 April 2011)

This map shows the level of deposition flux of radioactive materials since March 2011. It is based on the data from September 2011, which was measured on the lawn or one metre above the ground (μSv/h). The measurement level tends to be lower on the ground or on the asphalt, as radioactive materials are easily swept away by winds and rains, while the spots where radioactive materials accumulate, such as a drain spouts, under the eaves, by the roadside, etc. could be many times higher than what the map shows.



10, 20 & 30 Kilometre Evacuation Zones Around Fukushima I Nuclear Power Facility; & The US 50 Mile Safety Zone for US Citizens in Japan, 18 March 2011: International Nuclear Event Scale 5

Daiichi nuclear plant, and we compared it to the line of radiation mapped by the authorities. A year after the incident, I invited my colleagues in Japan to take a walk with me. One of them was Yukihiko Mori, an archaeologist specialised in the Jomon era (ca. 3500 years ago) as it is documented in the Fukushima area. At the Fukushima Museum he presented tiny balls of thread coated with Japanese lacquer. These balls were found at the Jomon archaeological site in Mishima-cho in Aizu, traditionally known for its arts and crafts. Mori told me most of the archeological sites on the Fukushima coast were intact after the tsunami. The same was true for Miyagi and Iwate (north of Fukushima), the archeological residential sites dating from the Jomon period overlap with the zone left intact by the tsunami – as if this ancient people knew the boundary where a tsunami would stop. These facts made me imagine that the balls of thread must have been laid out around the boundaries of the intact zone in order to measure something. Before all the houses were demolished within ten to thirty kilometres away from Fukushima Daiichi, I decided to take measurements of the tsunami's traces, traces indicating the maximum height of the waves, and to mark these traces with a thread on the walls. I called the resulting lines Duchamp lines, as I adopted the concept of line dropping by used by Marcel Duchamp in his famous work *3 Standard Stoppage* of 1913.

The second person to accompany me on a visit of the region was Masao Okabe, an artist. He imagined that our measured line of radiation indicates the seasonal wind in the region. If the earthquake had come later in summer, the winds would have been directed towards Tokyo and the waves of radiation would have hit the city directly. Okabe and I recently started the project "Touching Contaminated Trees" in Fukushima. This project aims at documenting traces of the radiated trees by frottage and measuring the radiation at the site where the trees stand. The third person involved was Ryoko Sekiguchi, a Japanese poet living in Paris. Walking along with our strings, we measured the distance from the shore and the height of the wave, we referred to the stone tablets scattered along the northern coast in Miyagi, Iwate, through Aomori, which again commemorate tsunamis and earthquakes that happened long ago. The stone tablets in Aneyoshi, Iwate Prefecture, came to be known due to the fact that they indicate the boundary of the intact zone, which possibly translates as "Do not build homes below this level!" Because it followed this recommendation, the village was not destroyed by the tsunami. The Namiwake Temple is a similar example: it was also built on the Fukushima coast – right on the spot where the big waves stopped in 1611.

During the walks we found many strange phenomena created by the last tsunami. One of them was a massive concrete wave breaker pushed away by the wave. A number of these blocks can be found deep inland, which clearly demonstrates that they were useless in stopping the destructive force of a tsunami. Since the tsunami, the Japanese government has kept ordering the same concrete blocks, but now continues to position great numbers of them where the tsunami hit, based on the belief that quantity will solve the problem. After running simulations of future tsunamis, the government is now placing hundreds more blocks per metre to protect the inland region. This is a kind of measurement where the underlying pretext is furnished by national politics and economy. Building one of these concrete block costs approx. 10,000 Euros. The government plans to lay them out on at least 400 kilometres of the Japanese coast. This requires a tremendous amount of money, and eats up construction budgets needed for rebuilding the affected areas.

In 2013, our first research result from the measuring project was presented in an old rice warehouse in Kitakata city, Fukushima, during the Aizu Lacquer Art Festival. The region is traditionally well known for rice and sake production, as the land is rich in water. While conducting the measurement project, we met the owner of the oldest sake brewery, who turned out to share our interest in measurement and immediately understood the purpose of our project. This is why the warehouse came into play. For more than a hundred years, farmers and sake makers have measured wind, water, and snowfall. They measure not

Measuring Project, documentation photo,
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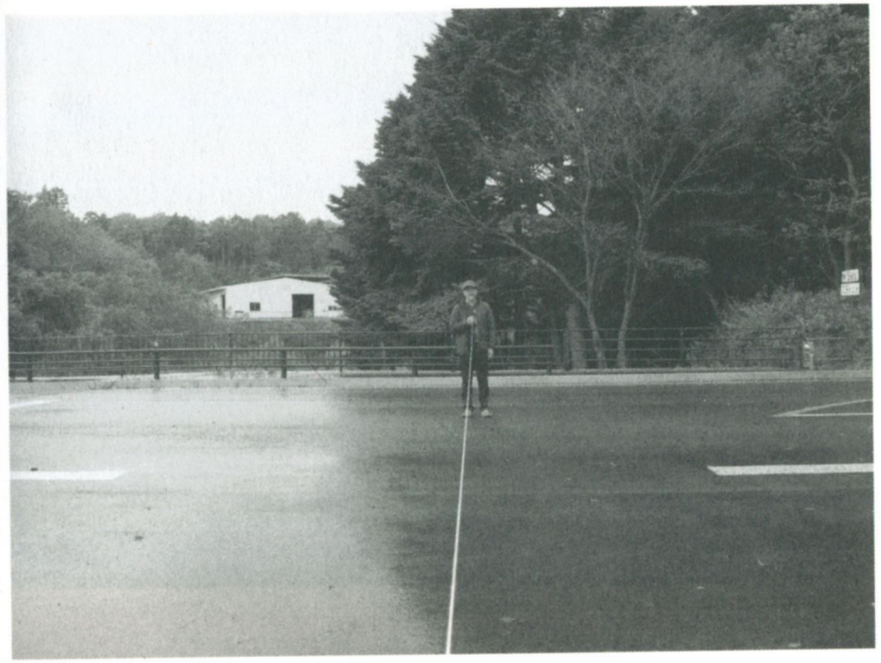
only using technical devices but also their own senses, e.g. sight. The direction of the wind, the shapes of snowflakes, the movement of water is the basis of their decision when to plant rice. When winter is too long, they might postpone it for a week, or sometimes even for a month. Measurement based on unaided human perception has succeeded in maintaining the land for a thousand years. Accounts of this can also be found in local literature, poetry, dance and theatre. Art has served to document and preserve these methods of measurement. That's why the brewery owner kindly gave us this space next to his sake production.

Japanese politics continues to follow its own logic – like measuring on false premises and constructing enormous amounts of concrete blocks. For Japanese citizens, it is quite impossible to compete with this powerful flow of data and actions. However, we should not stop our walks and continue measuring landscapes with our threads. The Jomon thread balls direct our attention to invisible landscapes dating back thousands of years ago. Taking recourse to the ancient uses of thread measurement, the measurement project situates acts of measuring as part of the continuity of time and space in nature, and does not limit itself to measuring by means of technological devices alone – such as Geiger counters – but also employs human perceptions. This may lead us to a more fundamental understanding of the irregularly scattered radiation than those data collected only by locals, who experienced the limitations of disaster technologies.



Measuring Project, documentation photo,
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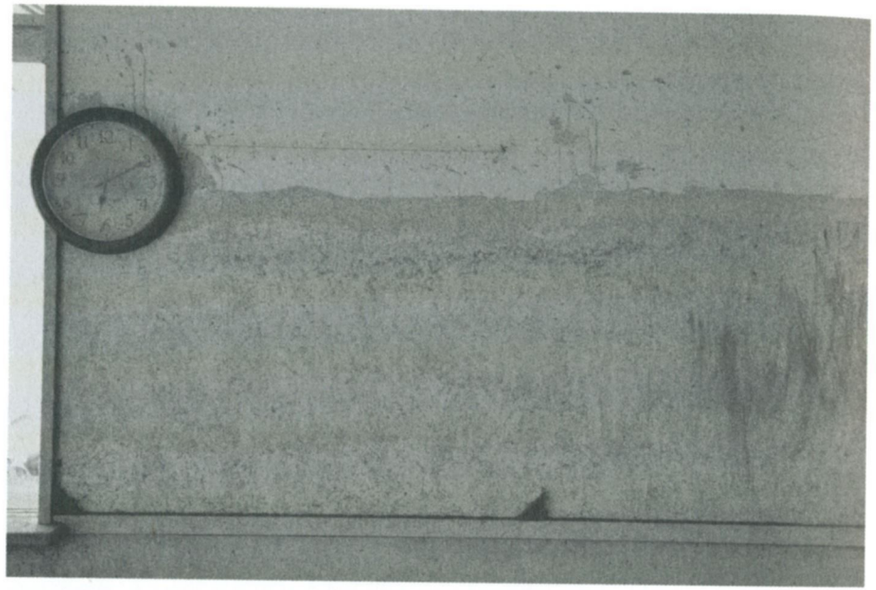
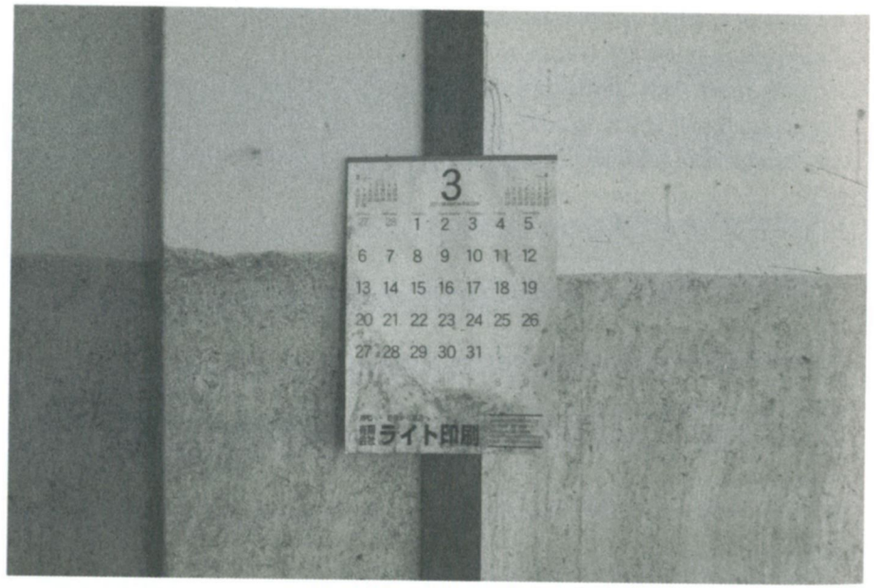
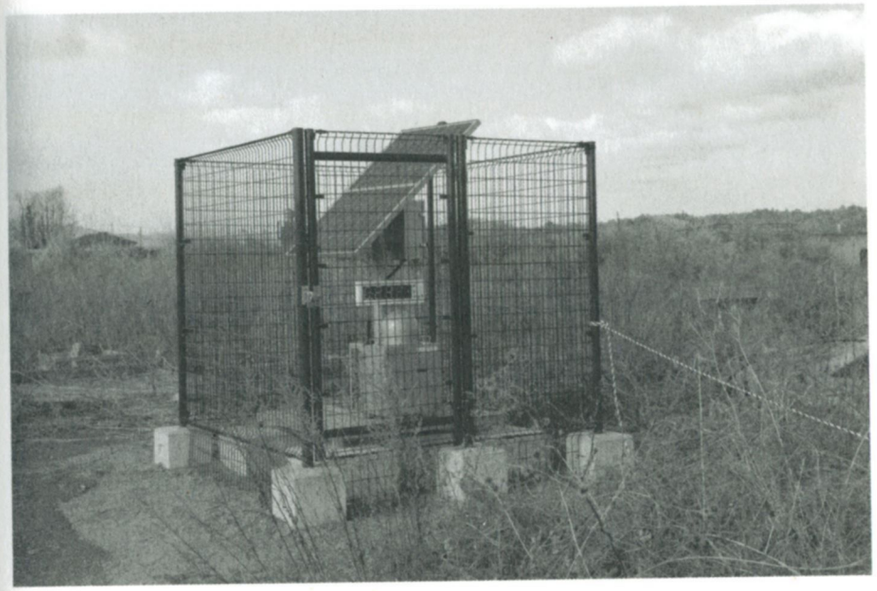
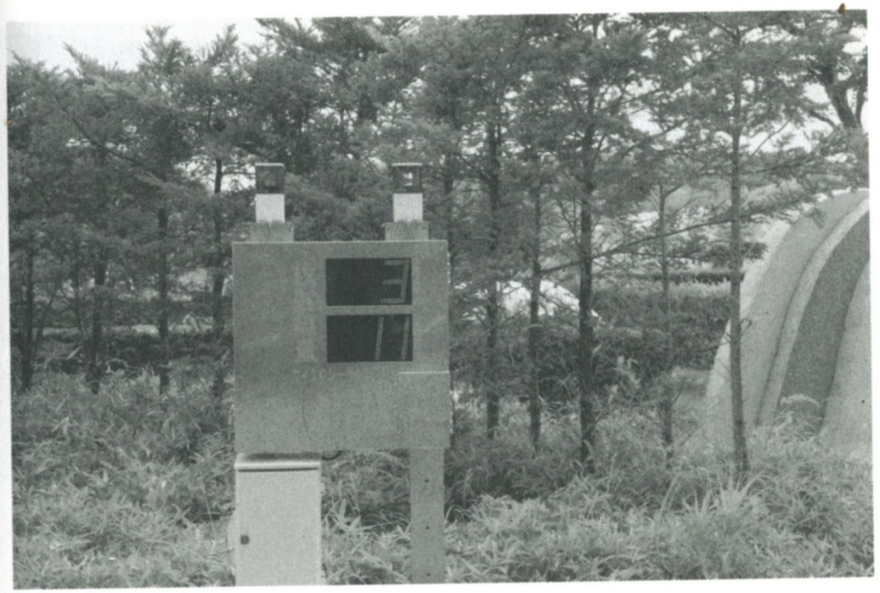
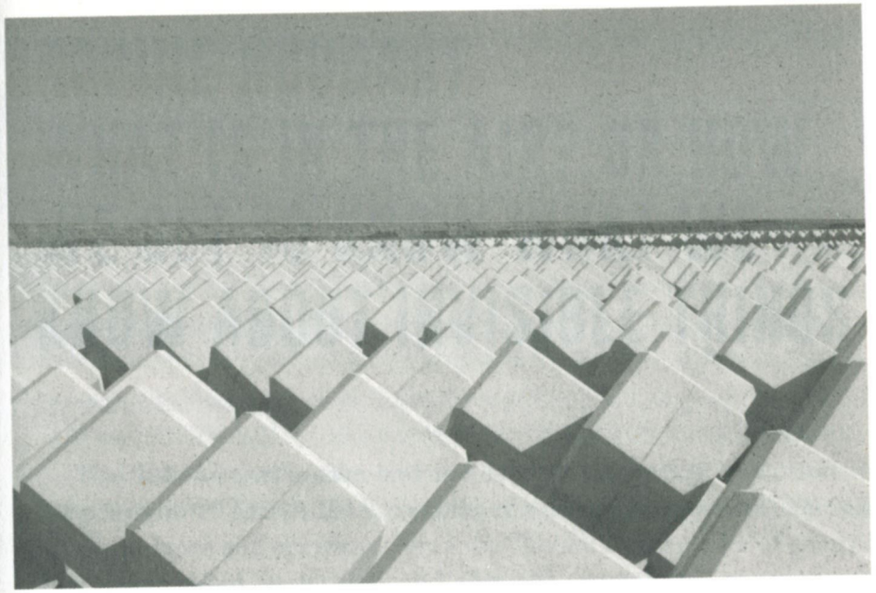


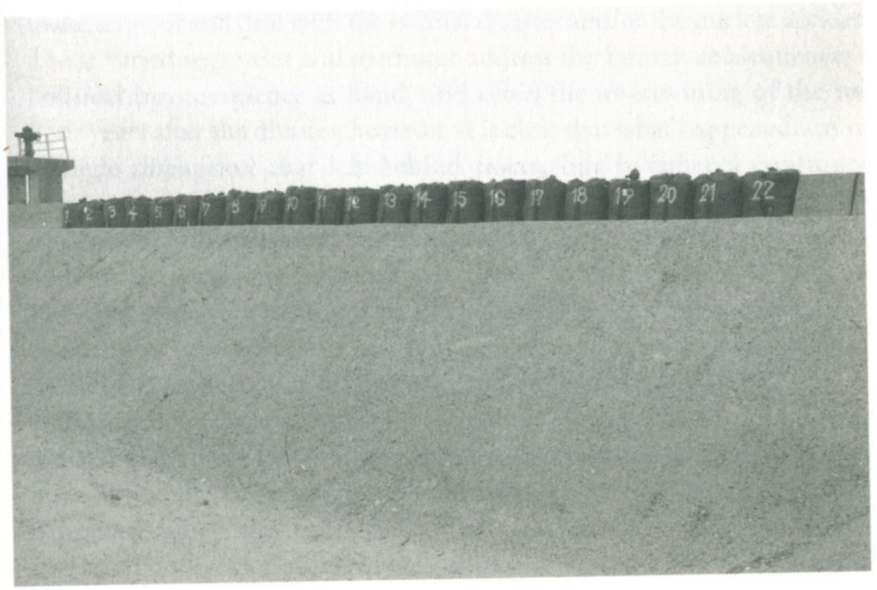






Chihiro Minato, *Untitled*, 2012,
photographs, courtesy the artist.





Chihiro Minato, *Untitled*, 2012,
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