

Minamata as Negative Heritage: Implications for Fukushima

Mami Aoyama and Mark J. Hudson

Abstract: This paper examines the industrial pollution that led to mercury poisoning around Minamata Bay in Kumamoto Prefecture, Japan from the 1950s. It is argued that the social and political 'lessons' of Minamata constitute a type of 'negative heritage' that presents a microcosm of many of the problems associated with modernity in Japan. Similarities between Minamata and the 2011 Fukushima nuclear accident are discussed and some reasons why the negative heritage of Minamata was ignored at Fukushima are briefly considered.

Keywords: Industrial pollution; Japan; Minamata disease; Fukushima nuclear accident; heritage

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This paper argues that in order to think about the environmental politics of the Fukushima nuclear disaster, it is useful to return to Minamata, one of the best-known cases of environmental pollution in Japan. Named after the town in Kyushu where it was first described, Minamata disease was caused when organic mercury in factory wastes polluted the sea and accumulated in fish and shellfish; people who ate contaminated seafood became ill. The mercury worked up the food chain and poisoned people who thought they were eating fresh, healthy food. Although the accident at the Fukushima nuclear power plant in March 2011 differs from Minamata in many respects, it has also led to the dispersal of an invisible poison into the environment – with health impacts that are, as yet, not fully understood. The discrimination experienced by the Minamata patients is being repeated in Fukushima. Despite the history of suffering associated with Minamata disease, Japan has once again produced a disaster with many victims. What are the lessons we should have learnt from Minamata?



Statue of Ebisu, the Japanese god of fisherfolk, in the village of Modo. Modo village was one of the fishing villages most seriously affected by Minamata disease.

Source: Mark Hudson

Remembering Minamata

The March 2011 earthquake, tsunami and nuclear disaster in eastern Japan came at a time of growing concern over global environmental crises. The two years since the so-called '3.11' disaster have seen an outpouring of research and writing on Fukushima and its impacts, both in Japan and beyond (Funabashi, 2012; Hasegawa, 2012; Hirose, 2011; Pritchard 2012). Fukushima has already convinced many countries to phase out or reconsider nuclear power (Bradford, 2012; Uekotter, 2012). Japan is no stranger to environmental disasters; earthquakes, tsunami and volcanic eruptions have played a prominent role in Japanese history since ancient times. As the first nation in Asia to industrialize, Japan has also suffered many cases of industrial pollution. Each example of environmental disaster in Japan has its own particular causes and impacts, yet it is also clear that there are important commonalities to the disasters experienced by modern Japan, deriving from contradictions in the culture of modernity. Here we consider Japan's most infamous case of industrial pollution in Minamata as a way to think about the Fukushima crisis.

Minamata disease is organic mercury poisoning caused by consuming fish which had accumulated mercury discharged from a chemical factory. Minamata disease is a microcosm of modernity and of the history experienced by Japan from the Meiji era (1868-1912) until after World War II (Gotō, 1995). We cannot understand Minamata (or Fukushima) without understanding the culture of modernity. The Chisso chemical factory in Minamata City, which caused Minamata disease, brought work and happiness to

many people; but it also brought unbelievable suffering to many others. Although the history of the Minamata disease incident has been discussed in English, in the aftermath of Fukushima it is worth summarizing again the background and impacts of the affair. The following description of the Minamata disease incident uses published histories in Japanese and English as well as the results of Aoyama's (in press) analysis of patient testimonies from Minamata.

Pollution in Minamata

In 1908, the Nihon Chisso Fertilizer Company (usually abbreviated as 'Chisso') established a chemical factory in Minamata in a poor region of Kyushu in southwest Japan. Before the factory was opened, Minamata had been a small town facing the Shiranui Sea, which was called "the sea where fish gushed out". Fishing folk lived along the coast and depended on its produce to make their living. The sea was so rich that one resident remembered, "If a visitor came, they would put the kettle on the stove, then go down to the sea, catch a fish or an octopus and be back just as the kettle started boiling" (Kurihara, 2000, 2).

Many people from neighboring villages came to work at the Minamata factory. In 1932, wastewater containing organic mercury began to be discharged from a plant producing acetaldehyde. Despite damage in World War II, the Chisso Minamata factory was reopened in 1945 and became a symbol of hope for the reconstruction of Japan. Minamata grew to over 40,000 people and was designated a city in 1949. More than half of the inhabitants of Minamata worked at Chisso or in Chisso related companies.

From 1954, cats in fishing villages around Minamata began to 'go mad' and die and symptoms soon spread to humans. 1956 saw the official discovery of Minamata disease by the Public Health Office. Rumours of a strange epidemic became one cause of discrimination against Minamata patients. Kumamoto University reported that poisoning from seafood caught in Minamata Bay was a possible cause of the disease. This led Minamata City to institute a voluntary directive against fishing and shellfish collecting in the Bay. Unable to sell their products, the Minamata fishers lost their main source of income and, with no other food, had to eat seafood, even though they knew it was dangerous. The fishing harbour at Minamata became a "boat cemetery" full of "empty, half-rotten boats" (Ishimure, 2003, 69).

In 1959, the Chisso company hospital began an experiment in which effluent from the acetaldehyde plant was put on food given to cats. In October, cat No. 400 developed symptoms of Minamata disease. This demonstrated that the wastewater was the cause of Minamata disease, but Chisso kept the results of the experiment hidden and continued to produce acetaldehyde until 1968 (George, 2001, 60-61). Chisso dumped wastewater containing organic mercury into the sea for 36 years and for nine years after it had confirmed that its own wastes were causing Minamata disease.

Impacts of the disease

Organic mercury taken into the body damages the internal organs beginning with the brain and nerves. Major symptoms of Minamata disease include sensory impairment of limbs, ataxia, vision and hearing impair-

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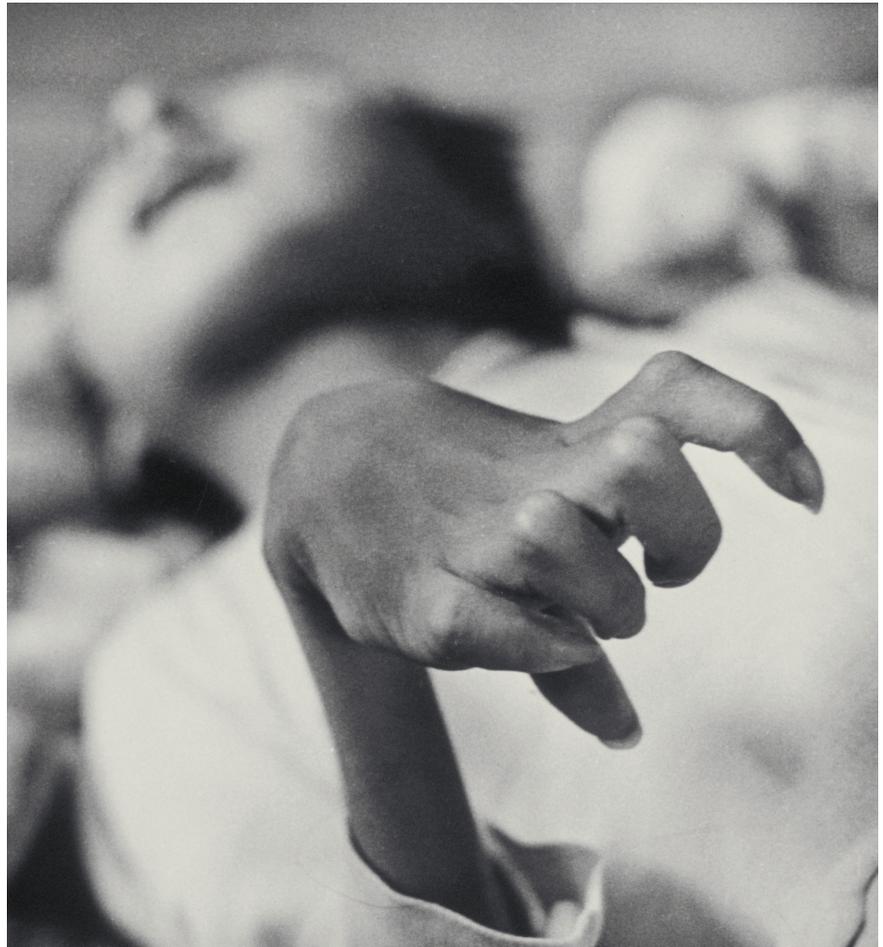
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Ho Chi Minh City hat sich jüngst zur ersten Megastadt Vietnams mit mehr als 10 Millionen Einwohnern entwickelt. Die pulsierende Wirtschaftsmetropole zieht in hohem Maße Zuwanderer aus ländlichen Gebieten an und ist zugleich Experimentiererraum sowie Motor des gesellschaftlichen und ökonomischen Wandels. Innerhalb Vietnams ist hier der Wohlstand am größten und die Zahl konsumorientierter Mittel- und Oberschichten stark angewachsen. Dabei ist die Metropole aber auch ein Ort extremer sozialer Polarisierung und wirtschaftlicher Gegensätze auf engstem Raum. Hinzu kommen neue Herausforderungen durch die Risiken des Klimawandels. Die Autorinnen und Autoren verschiedener Fachdisziplinen zeichnen ein spannendes und vielschichtiges Bild der Metropole, die durch eine hohe Veränderungsdynamik, aber auch durch viele Brüche gekennzeichnet ist.

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Tomoko, a congenital Minamata disease victim



1972 photograph by W. Eugene Smith & Aileen M. Smith

ments, speech disorders, and convulsions. Severe cases experienced extreme pain and many patients become deranged and lost consciousness before death. Mothers passed the mercury in fish they had eaten to their placentas. One mother lamented that, “When my baby was in my belly, I ate a lot of fish to give it plenty of nourishment. But then the baby was born with Minamata disease. The baby was a Minamata disease patient from the moment it was born, but there was nothing at all wrong with me” (Higashijima, 2010, 128).

Many of the patients who developed severe symptoms in the first decade after Minamata disease was officially recognized died within three months. In 1965 the mortality rate was 44.3%. Later, many people were recognized to have less severe symptoms. In 2012, a total of 2,273 certified patients was known. However, more than 65,000 people applied under the Minamata Disease Special Measures Law that was passed in September 2009 and held open for applications until July 2012 (Aoyama, in press). Despite these numbers, it is thought that further hidden patients still remain uncounted.

Although the pollution that caused

Minamata disease came initially from only one factory and the cause of the disease was identified quite quickly, the incident continued for decades and affected many people over a wide area. Impacts included the destruction of the natural environment, poverty and livelihood disabilities, the collapse of communities, discrimination and psychological distress. Discrimination still exists today (Aoyama, in press).

Minamata disease ruptured the traditional occupation of fishing in the area and young people left the villages, never to return (Ishimure, 2003, 5). Despite their own symptoms, Minamata patients had to look after their families even though they could not sell their fish to make ends meet. Some shops would no longer sell them rice even if they had money. A 1969 lawsuit seeking responsibility from Chisso brought further discrimination for the Minamata patients since it made enemies of almost all inhabitants of Minamata, who worked in industries connected to Chisso.

Democracy and Minamata

In 1959, fishermen forced entry into the Chisso factory, demanding stop-

page of the waste discharges. Following this incident, the mayor of Minamata petitioned Kumamoto Prefecture, requesting that the discharges not be stopped. A basic structure developed wherein Chisso and its supporters were in the majority, whilst the victims were a minority. A minority of fishermen was demanding that the factory wastes be stopped while a majority was asking that business be continued as usual. The profits of the majority were built on the sacrifices of a minority (Higashijima, 2006, 140). For the workers of the town, the existence of the Minamata disease patients and their lawsuits were nothing but threats to their livelihoods.

It was known since 1956 that Minamata disease was caused by seafood from Minamata Bay, but the Ministry of Health and Welfare did not regulate fishing, on the basis that, “There is no clear evidence that all fish and shellfish in ... Minamata Bay are poisonous.” A few months after the publication of the mercury theory, the Ministry of International Trade and Industry (MITI) announced that, “There are many doubts that the poisonous compounds in fish and shellfish are derived from



Fishing for gray mullet in Minamata Bay

organic mercury and we believe that we can't attribute the cause of Minamata disease to the waste discharges from the Chisso Minamata factory." MITI stated in court that, "The role of the Ministry ... is to promote industry, to increase production, and the production of acetaldehyde is the first consideration" (Higashijima, 2010). The government weighed the prevention of the spread of Minamata disease against rapid economic growth and privileged the protection of big business and the wealth of the general population against the lives and health of some citizens. It was only in 1973 that the Kumamoto District Court finally ruled against Chisso and it took a total of 31 years before the responsibility of the national and prefectural governments was recognized in 2004.

Responsibility for the outbreak of Minamata disease and for its spread and prolonged nature was held by the Chisso company, by the national and local governments, and by the medical and academic communities. These social powers worked in cooperation with each other to encourage an 'affluent society' that gave priority to

the economy and to making Japan an economic superpower. The mass media helped transmit such values to the general populace. The media reported on Minamata disease, but that was overshadowed by reporting that contained 'commercials' for the right of postwar society to promote 'affluence' through economic development. Afraid that their own livelihoods would suffer, most inhabitants of Minamata City also opposed stopping production at the Chisso factory. Finally, consumers across Japan bought large quantities of goods made using materials produced by Chisso. It can be said that almost all of the people who constructed Japanese society bore some responsibility for the sufferings of the Minamata disease patients. In thinking about responsibility for Minamata, the writings of fisherman and activist Masato Ogata, himself a sufferer from Minamata disease, have been very influential in Japan. Ogata argues that within the value system of contemporary society, it is possible for anyone to become like Chisso or the townsfolk of Minamata and thus that we all carry Chisso within us (Oiwa, 2001, 146).

Minamata as negative heritage

The concept of 'negative heritage' was proposed by archaeologist Lynn Meskell (2002, 558) as a way of thinking about sites of conflict that become "the repository of negative memory in the collective imaginary". This concept has become widely used in Japan, particularly in debates over the heritage status of the Hiroshima and Nagasaki atomic bomb sites. We propose that Minamata also serves as a type of negative heritage, a place and a series of sites which remind us of the great sacrifices involved in the modernization of Japan. After the suffering of World War II, the Japanese people saw the Chisso Minamata factory and other sites of industrial production as symbols of hope for a bright future. The Korean War triggered Japan into an era of rapid economic growth during which the Japanese economy experienced an unprecedented average growth of 10%. By 1968, Japan's GNP was second only to the United States. Consumer goods such as televisions, refrigerators, washing machines, electric rice-cookers, cameras, lipsticks, air-conditioners and cars became widely used in ordinary homes by the

1960s (Yoshikawa, 1997). The Tokyo Olympics in 1964 and the Osaka Expo in 1970 were events that symbolized Japan's new position as an economic giant.

Plastics, vinyls and other chemical products supported Japan's rapid growth. The Chisso Minamata factory was the leader of Japan's chemical industry and the citizens of Minamata talked proudly about how the growth of the factory had led to an economic boom in the city. A retired factory manager became mayor and most of the local councilors were also connected to the factory. The city finances were supported by Chisso and the majority of the inhabitants of Minamata worked in jobs that were connected to the company (George, 2001). For the mayor and other officials, protecting the citizens of Minamata meant protecting the Minamata factory.

Although most people knew little about the suffering of Minamata disease, products using materials made by Chisso were everywhere in post-war Japan. Chisso's technology helped make our lives convenient and comfortable. The consumption behaviour of the general population was directed toward increased affluence for individuals and their families, but the resulting mass consumption supported Chisso's factory production, encouraging environmental pollution, and, as a result, caused Minamata disease and increased the number of victims. This meant that, as consumers, the general populace of Japan was an unwitting accomplice to the perpetrators of the Minamata incident. Furthermore, they elected politicians who would guarantee this affluent lifestyle and strengthened the structures of social power and material and economic 'affluence'.

Prejudice and discrimination from the local community worsened the suffering of the Minamata patients. Many people were worried that if Chisso went out of business, their incomes would be cut off and they would be unable to maintain their livelihoods. It is for similar reasons that opposition to closing nuclear power plants is common in areas around those plants. In order to promote the move away from nuclear power, there is a need to discuss how to avoid the trap of sacrificing people's basic livelihoods

From Minamata to Fukushima

To refer to Minamata as a type of

negative heritage implies that it is not just a site of remembrance but that it can also be used in the present to help us debate and learn about the past in order to build a better future. What role, for example, might Minamata have to play in debates over Fukushima? There are a number of striking similarities between Minamata and Fukushima which suggest that many basic lessons from the earlier incident were not learnt. Environmental pollution is the pollution of future lives, often in ways not foreseen by existing science. Like the mercury in Minamata Bay, the radiation from the Fukushima nuclear power station not only affects humans through external exposure, but is also concentrated in the natural world and taken in through food. It is possible that these accumulations will cause delayed health impairments and the effects on children are a particular concern (McCurry, 2012). Just as one of the basic causes of the Minamata disease incident was prioritizing production and growth, nuclear power stations were supported as essential to affluent lifestyles that utilize large

amounts of energy. Even after it became economically affluent, Japan was dominated by social values that prioritized the economy over nature and life.

Despite the similarities, there are also a number of significant differences between Minamata and Fukushima. In the case of Minamata, the pollution primarily affected the local marine ecosystem which provided the main livelihood for one group in the community. The pollution at Fukushima, however, covers a much wider area and affects all groups of society. 'Technological stigma' (Gregory et al., 1995) played a role in the discrimination against those affected by Minamata disease but its effects were limited in geographical scope. The technological stigma of Fukushima, by contrast, affects a huge area of eastern Japan including, for some people, the capital of Tokyo. Given Japanese cultural taboos over pollution (Kirby, 2011) it is yet unclear how the sheer scale of this stigma will affect Japanese society. The effects of Fukushima are not only much broader than Minamata but also still largely



Source: Mark Hudson

Between 1977 and 1990, Minamata Bay was filled with earth, burying many fish affected by mercury poisoning. Local people have carved many Jizo bodhisattva statues which they place facing the sea on this reclaimed land.

uncertain. Ulrich Beck (2011), writing in the Japanese journal *Sekai*, has noted that Fukushima has brought Japan into the world risk society.

There are, of course, other factors related to the politics of energy policy in Japan that constitute differences from the Minamata incident. The complex range of actors supporting and opposing nuclear power in Japan is summarized by Funabashi (2012). Despite such differences, however, both Fukushima and Minamata are disasters exacerbated by powerful circles of vested interest that include major companies such as Chisso and TEPCO, smaller companies that relied on business from these industrial leaders, local and national governments, the courts, certain scholars and academic associations, and elements of the mass media (Funabashi, 2012; George, 2001; Hasegawa, 2012; Higashijima, 2010). Uekoetter (2012, 26) notes that, "After Fukushima, we can see clearer than ever how expert systems, like those of the nuclear complex, challenge our democracy" yet the roots of this challenge were already clear from Minamata.

Another important element of the heritage of Minamata has been debated over the democratization of knowledge. Teruo Kawamoto, chairman of the Chisso Minamata Disease Patients Alliance, noted that, "Our movement will return correct knowledge and information about Minamata disease into our own hands. (...) If we can't achieve that, our responsibility will be heavy" (Kurihara, 2000, 111). However, groups with social power concealed, manipulated and complicated inconvenient information about Minamata disease. After the explosions at the Fukushima power station, it has also become difficult to obtain accurate information. People concerned about the dangers of nuclear power have used social media to organize demonstrations across Japan but there has been little mainstream reporting of these activities. Two years after 3.11, information about the conditions and suffering of the victims of the disas-

ter rarely reaches other parts of Japan. As with the Minamata incident, attempts have been made within the social system of Japan to deal with this great sacrifice as cheaply as possible. The safety myth of nuclear power has, however, been broken and constitutes a problem with major implications for people's lives and the future of humanity. In order for each individual to confront the problem of nuclear power and to choose their own future, accurate information is required about the effects of radiation and the safety of nuclear energy. Moreover, the dominance of values giving priority to the economy and of behaviours that seek material affluence without giving thought to its implications are not just problems of the exhaustion of energy and resources, but also bring health impairments, poverty and discrimination, and can even go beyond the human world to cause the extinction of plants and animals. We have to recognize these victims as well. The first step toward a just and autonomous society is for each person to accept 'human responsibility' for these problems and to engage with them.

If, as we have argued, there are many basic similarities between Minamata and Fukushima, why wasn't the negative heritage of Minamata used to prevent the next crisis? Minamata has been one of the most extensively studied cases of industrial pollution from anywhere in the world. Although Chisso and many other actors involved in the pollution have done their best to hide incriminating evidence, we now know a great deal about the basic history of the Minamata incident. Yet that history has been one of concealment at all levels, a concealment that by its very nature has made it difficult to fully understand the meaning of Minamata. Furthermore, the victims of both Minamata and Fukushima have been victims of state policy at the highest level, a fact which also makes it difficult to sustain contradictory narratives. The question of how to effectively employ the negative heritage of Minamata is made

even more critical by the Fukushima disaster.

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