



# **Japan's "Abandoned People" in the Wake of Fukushima**

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## Introduction

This course reader concerns Japan's "abandoned people" in the wake of the earthquake, tsunami, and nuclear disaster of March 11, 2011 in northeast Japan. The term "abandoned people" refers here to groups who have been neglected by both the government and the larger society in which they live. This label can of course be applied to neglected groups throughout history and around the world; some of the authors included here connect the experience of the people harmed by the 2011 disaster to other "abandoned people" in Japan, such as the citizens of Okinawa, victims of mercury poisoning at Minamata, and survivors of the nuclear bombings. In the context of Fukushima, the term highlights the Japanese government's neglect of Japan's rural citizens living near nuclear power plants, for they are exposed to nuclear dangers while Japan's urbanites live in relative safety—although the city dwellers may also be overestimating the extent to which they are safe. Some authors, like Satoko Oka Norimatsu, contend that the mistreatment goes beyond neglect—it is outright discrimination. The "abandoned people" sacrifice much, particularly their safety and perhaps their long-term health, for the sake of others.

The experience of the "abandoned people" of Fukushima is particularly relevant at a time when both Japan and other nations, such as the United States, operate or consider building nuclear power plants. Such projects raise myriad questions. Where should the plants be built? What risks will people living near the plants face? How much oversight should the government have? How much say should local residents have on whether a generator will be built? In the event of a disaster, who should take responsibility? Who should pay for the staggering costs of remediation and can they actually do so, if needed? Moreover, why do governments, corporations, and individuals so often underestimate risks?

Despite the huge risks associated with nuclear power plants, it is not easy to replace nuclear energy. Reliance on imported oil or coal is problematic, and nuclear power proponents in Japan generally doubt that it is possible to build cost-effective renewable sources on a large enough scale to meet even one-third of Japan's energy needs. Conservation efforts would help shrink those needs, but it is not clear by how much. Nevertheless, examining the mistakes made in the past, as the articles in this course reader do, can surely help avoid future disasters.

One of the most important questions that remains unanswered is: When the worst happens, as in Fukushima, how should the government protect its citizens? Given that the responses of the Tokyo Electric Power Company (TEPCO) and the Japanese national government were and are clearly failures, what can we learn from their mistakes to prevent "abandoning" more people? It is easy to think, "Something like that could never happen in America," but the failures of the U.S. city, state, and national governments after Hurricane Katrina in 2005 do not inspire confidence on this point. And while the response to Hurricane Sandy in 2012 was more effective, the hurricane showed the continued and inescapable vulnerability of the United States to natural disasters. Opponents of nuclear power argue that nuclear power plants intensify the destruction caused by such disasters, and the result is that they will leave larger groups of citizens "abandoned."

The March 2011 Great East Japan earthquake, tsunami, and subsequent Fukushima Daiichi nuclear disaster brought the plight of Japan's "abandoned people" into sharper focus. Three reactors melted down, contaminating a wide area around the plant with

radiation. This unquestionably endangered rural citizens, as it becomes clear that they were (and probably still are) exposed to levels of radiation that have been associated with cancer and other diseases in the past. Without accurate information, citizens do not know whether to evacuate, and may even distribute contaminated materials—such as crops—to other parts of Japan. In addition, citizens who want to evacuate often cannot afford to because they are not given relocation support.

Following the Fukushima disaster, there is evidence that the national government and TEPCO, which operates the Fukushima Daiichi power plant, deliberately concealed information about radiation levels and other dangers from the public. For example, the Japanese government ordered that residents evacuate their homes only where levels of radiation were twenty times higher than the levels that triggered evacuation following the 1986 Chernobyl disaster, and incorrectly insisted that all lower levels of radiation were perfectly safe. For this reason, many citizens and scientists are accusing the Japanese government of what Aileen Mioko Smith describes as “a strategy of reassurance over one of protection”—that is, the government is more concerned with making sure citizens *feel* safe than making sure they *are* safe.<sup>1</sup> However, empty reassurances to citizens when harm exists is not only extremely dangerous to their health, it also has failed to reassure them; this is why many people think the Japanese government has deliberately “abandoned” the people near Fukushima and other reactors. There is no true investment in their physical or emotional well-being.

Opponents of nuclear power see the abandonment of rural people as fundamental to reliance on nuclear energy itself. Currently, in Japan as in other countries, all nuclear reactors are situated in less-populated areas in order to make it possible to evacuate the people who live nearby should a disaster occur. Opponents of nuclear power criticize this policy on the grounds that it makes not only power companies and their regulators but also Japan's urbanites careless about the welfare of the nuclear power plant's neighbors, their rural compatriots. This situation, in which the people who enjoy the benefits of something are different from those who incur the risks, is what economists call a “moral hazard.” Nuclear power opponents assume that if urbanites were more at risk from nuclear generators, the urbanites would be willing to pay more for alternative energy and try harder to cut their use of energy in all forms.

The botched evacuation policy and ongoing radiation leakage into the air and water around the Fukushima plant is particularly disturbing because it makes it clear that local people were not protected from the disaster, challenging the underlying rationale for putting nuclear plants in rural areas anywhere. And so, many view Fukushima not as an accident but as a failure of both the whole system of nuclear power and government procedures to protect its citizens. The government did not institute tough enough safety regulations to prevent a predictable disaster in earthquake-prone Japan, it did not provide adequate support after the catastrophe, and it is not demanding that TEPCO immediately move the spent fuel rods from the cooling pools at the stricken reactors, even though they are no longer strong enough to withstand another powerful earthquake. The Fukushima disaster demonstrated to the world that the standard safeguards at nuclear power plants today are inadequate to protect citizens from terrible accidents. The authors of these

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<sup>1</sup> Aileen Mioko Smith and Mark Selden, “Bringing the Plight of Fukushima Children to the UN, Washington and the World,” *The Asia-Pacific Journal* 9.41.4, October 10, 2011.

articles agree that the only way to move forward is to phase out nuclear power in Japan and around the world, or at the very least, significantly improve the safety of nuclear power plants.

The authors gathered here explain the "abandoned people" as the result of two parallel domestic relationships in Japan: first, the dynamic between Japan's urban center and rural periphery; and second, the interactions between Japan's national government and local governments. In each of these relationships, the "abandoned people" have very little power, politically or otherwise. Onitsuka, Norimatsu, and Aukema explore Japan's political atmosphere to illustrate this relationship. Next, Thompson explains the difficulties Japanese locals face in coordinating their disaster-relief efforts, even with well-intentioned volunteer organizations. Greene and Busby use data from the 1945 Hiroshima bomb blast and the 1986 Chernobyl nuclear disaster to predict the serious health impacts from the radiation that are likely to develop among "abandoned people" in the years ahead. While other scientists have challenged Busby's assessments, these predictions nonetheless raise important concerns. Finally, George and Yoneyama place the Fukushima disaster in a historical context, drawing comparisons with the contamination of Minamata Bay in the mid-twentieth century, which until 2011 was Japan's most notorious environmental disaster.



**"Hooked on Nuclear Power: Japanese State-Local Relations and the Vicious Cycle of Nuclear Dependence"**

Hiroshi ONITSUKA

January 16, 2012

<http://www.japanfocus.org/-Hiroshi-Onitsuka/3677>

This article presents three separate problems with Japan's system of nuclear power, which combined to create the political and policy environment that led to the "abandonment" of Japan's rural citizens. The first is that nuclear power is backed by Japan's "nuclear village," a metaphor for the cooperation between, as Onitsuka describes, "politicians, businessmen, bureaucrats, scholars, and local governments that promote nuclear power generation." This stance did not change after Fukushima. When the Liberal Democratic Party regained power early in 2013, it immediately began pressing to restart Japan's idled reactors. These groups almost uniformly support nuclear power, and dissenting voices were routinely ignored in the past. The Fukushima disaster, however, has given new life to Japan's anti-nuclear movement.

Second, Japan's local governments receive almost all their funds in the form of subsidies from the national government, rather than from such sources as the property tax or sales tax. This means local governments face heavy pressure to strictly conform to whatever policy the national government chooses. Because the pro-nuclear lobby has so much influence in the national government, local governments have been powerless to do anything but actively pursue nuclear power. Any other decision on energy would mean being constricted to an unreasonably small budget.

The third problem is the geographic concentration of nuclear power plants in specific parts of Japan's periphery. This augments the negative impact on these areas when natural disasters strike. For example, the Fukushima coastline has twelve nuclear reactors clustered in two sets of six. This dense grouping of nuclear power plants placed the area in greater risk, which proved disastrous when the March 11 earthquake struck.

In addition to showing how a Fukushima-style disaster could occur, this combination of factors also explains the concept of Japan's "abandoned people." Locals have little political power because policies are so dominated by Tokyo. Onitsuka writes, for instance, that "local residents [of the town of Ōkuma] were completely excluded from the decision to build a nuclear power plant in the area." Even though a few powerful local officials were involved in negotiations, the negotiations were not transparent and these officials often did not hold opinions representative of the majority of local citizens.

## Hooked on Nuclear Power: Japanese State-Local Relations and the Vicious Cycle of Nuclear Dependence

Hiroshi Onitsuka

### *Abstract*

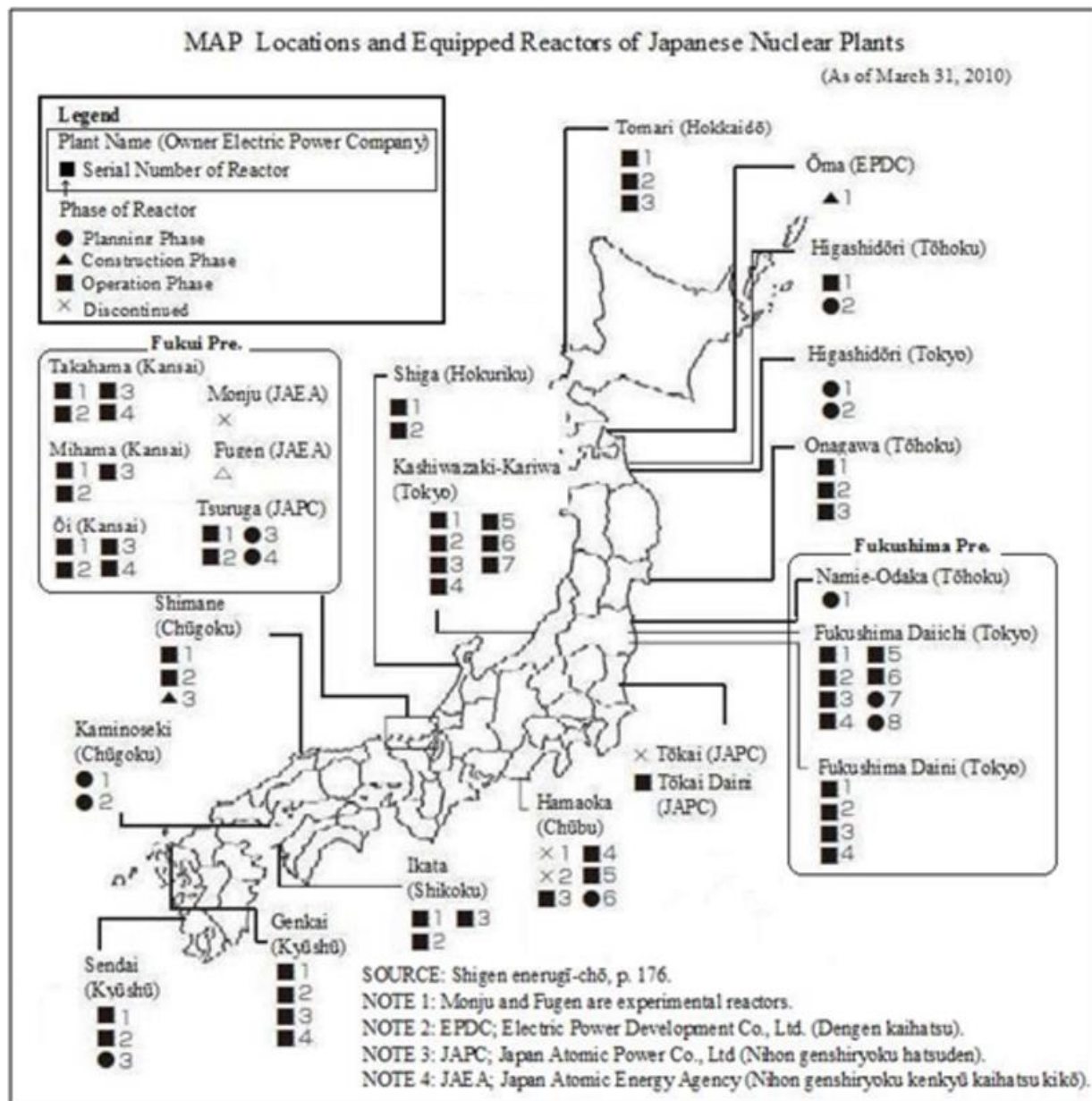
*This article examines the problems associated with the fact that Japanese nuclear power plants have multiple reactors within one plant and are concentrated in specific regions. It analyzes the situation from international, domestic, and local perspectives, revealing features of Japanese state-local relations.*

The crisis of the crippled nuclear power plant Fukushima Daiichi has continued for nine months and will continue for some time to come. One of the reasons that this has been such a protracted crisis is that four nuclear reactors within close proximity of each other were damaged simultaneously, making efforts to repair any one of them extremely difficult. Fukushima Daiichi was equipped with six reactors (operation had been suspended at two of its reactors on March 11, 2011), and the Tokyo Electric Power Company (TEPCO), together with the local government of Futaba Town, where the fifth and sixth reactors are located, had been planning to add two more reactors. Japanese nuclear power plants are characterized by having multiple reactors within one plant, and being concentrated in specific regions. The concentration of plants on the coastline of Fukushima Prefecture (two plants and ten reactors) and the Wakasa Gulf Coast of Fukui Prefecture (four plants and 13 reactors) has earned the two regions the nickname “Genpatsu [nuclear power plant] Ginza.”<sup>1</sup> At the site located between Kashiwazaki City and Kariwa Village, Niigata Prefecture, TEPCO has what is, with seven reactors, the world’s largest nuclear power plant complex (See Map). This geographic concentration of nuclear reactors significantly increases the probability of a crisis occurring when any of those regions are struck by natural disasters. Given the risks that they present, why do Japanese nuclear power plants have these features?



Signboard of Futaba Town Saying “Nuclear Power: Energy for Bright Future” (*genshiryoku akarui mirai no enerugi*), March 29, 2011.

SOURCE: [Nihon engan ryokōki](#) (accessed April 8, 2011).



The answer to this question lies in the makeup of Japanese local governments and their relations with the state. Since March 11, the term “nuclear village” (*genshiryoku-mura*) has become well known amongst the Japanese population. This term refers to the powerful and exclusive complex of politicians, businessmen, bureaucrats, scholars, and local governments that promote nuclear power generation. Local governments and their constituents, such as the mayor, officials and assemblypersons, are the final decision-makers in the process of constructing a nuclear power plant. Local residents are essentially excluded from the process. It was not until 1997 that the first local referendum on the construction of a nuclear power plant was squeezed through: the holding of local referenda to decide not only this kind of issue, but any issue that affects local communities, has been very rare in Japan.

Although local governments have played a significant role in the politics and economics of Japan, Anglo-American studies on Japan have paid them little attention. Among developed

countries, the size of Japanese local government budgets is strikingly large, as is the amount of budget transfer from central government to local governments. The subsidies and grants that come from the central government make up a large proportion of the income of local governments, and many of these come with strings attached (*himotsuki*).<sup>2</sup> It is through this budget transfer that central government controls local governments, and local governments court the patronage of central government. The autonomy of Japanese local governments is compromised by this budget transfer system, which is referred to as “30 percent autonomy” (*sanwari jichi*), as on average 70 percent of the income of a local government is from the central government, which ultimately controls the way in which the funds are spent. In short, the central government and local governments are politically and economically inseparable, meaning that local governments represent an element that cannot be overlooked in any attempt to understand the country’s politics and economy. The Japanese government and electric power companies have capitalized on this system in order to construct nuclear power plants, giving rise to a vicious cycle of economic dependency that has ultimately resulted in the present crisis. This paper investigates the reasons for the geographic concentration of nuclear reactors in Fukushima, focusing on its local governments and their relationship with the state.

### **I. The Dawn of Japanese Nuclear Power**

Firstly, let us look at the background of nuclear power development in Japan. The beginning of the Japanese nuclear power industry was political rather than economic. In 1954, a Japanese fishing vessel, *Daigo Fukuryu-maru* (Lucky Dragon # 5), was exposed to nuclear fallout from the US hydrogen bomb test on Bikini Atoll. All crew members suffered radiation sickness and one of the crew died of radiation poisoning. This gave rise to anti-nuclear movements and anti-US sentiment amongst Japanese people. The US government, concerned about this situation, launched “Atoms for Peace,” which aimed to overcome Japanese anti-nuclear sentiment by stressing the “peaceful use” of nuclear power. The program sought to reverse the awareness of nuclear power amongst Japanese people, who understood the power of nuclear technology through the experiences of Hiroshima and Nagasaki. The US contacted Shōriki Matsutaro, the owner of the Yomiuri shinbun and the president of the Nippon Television Network Service. Shōriki had political ambitions: he dreamed of leading the way in the development of Japanese nuclear power, and at the same time acquiring fame and power. To promote the “peaceful use of nuclear power” he used his powerful media empire.<sup>3</sup> In 1955, Shōriki was elected to the House of Representatives from a district in Toyama Prefecture, promising to promote nuclear power and a merger of two conservative parties.

Nakasone Yasuhiro, a member of the House of Representatives from Gunma Prefecture and later prime minister, also became interested in nuclear power. He started to promote Japanese nuclear power policies, soliciting the involvement of politicians from the Socialist Party of Japan. At that time, Japanese scientists were skeptical about the “peaceful use” of nuclear power.<sup>4</sup> However, as a result of his efforts, the first budget for nuclear power was included in the national budget in 1954, and the Atomic Energy Basic Law was passed in 1955.<sup>5</sup> The law stipulated that nuclear power policies must be promoted “democratically” and “independently”, and that their results be “made public.”

Japanese electricity companies became interested in nuclear power generation around that time. In 1955, TEPCO (Tokyo Electric Power Company) established a Nuclear Power Generation Department, and started to examine the future of nuclear power. However, due to the decline in

the price of oil, the cost of thermal power generation also declined, which slowed the pace of development of nuclear power plants by Japanese companies. Rather than carrying out development independently, Japanese electric power companies cooperated in the building of the first commercial nuclear power plant in Tokai Village, Ibaraki Prefecture in 1960 (it started operation in 1967).<sup>6</sup> During construction planning in 1959, the Science and Technology Agency (*Kagaku gijutsu-chō*), a governmental office for the administration of science and technology policies, calculated the costs that would be incurred in the event of an accident at the Tokai Nuclear Power Plant. The agency estimated that the amount would be twice as large as the Japanese national budget at that time. However, the agency concealed this report, and denied its existence for 40 years.<sup>7</sup> In failing to publicly disclose this information and continuing to promote nuclear power in full awareness of the risks it posed, the government violated the Atomic Energy Law from the very outset.

## II. Dreams of Economic Revitalization and Secret Negotiations

Fukushima Daiichi is the second commercial nuclear power plant in Japan. In 1958, the governor of Fukushima Prefecture, Sato Zenichirō, who had been ambitious in promoting the industry of the prefecture, sounded TEPCO out on constructing a nuclear power plant in Fukushima. He ordered the prefectural office to investigate the possibility of nuclear power generation, and himself joined the Japan Atomic Industrial Forum (*Nihon genshiryoku sangyō kaigi*) in 1960. Kimura Morie, a member of the Upper House from Fukushima, was also considering the promotion of industry in Futaba County, which was part of his electoral district. His idea was to invite a nuclear power plant to the county. Sato died in 1964, and Kimura was elected governor, inheriting his nuclear industry policy. Fukushima Prefectural Office kept its eye on Futaba County on the coast of Fukushima, an underdeveloped and sparsely populated district referred to as the "Tibet of Fukushima." Ultimately, the prefectural office selected a site on the border between the towns of Futaba and Ōkuma as the potential construction location, and approached TEPCO, the Tōhoku Electric Power Company, and the Japan Nuclear Industry Conference with this proposal.<sup>8</sup>

The Fukushima Prefectural Office and TEPCO contacted the mayors and assembly members of Ōkuma and Futaba in February 1961. The leaders of the two towns leapt at the proposal, hoping that it would contribute to local economic revitalization. In the case of Ōkuma, the town had fallen into financial distress, a fact which pushed the town to seek the construction of a nuclear power plant. During the mid-1950s, there were serious question marks over the way in which the town's budget was being spent, with budget demand seeming out of proportion compared with actual expenditure. This issue came to the surface when the building of the power plant was being discussed (the audit committee of the town conducted an investigation, but ultimately failed to explain the disparities).<sup>9</sup> The assemblies of Ōkuma and Futaba decided to invite the construction of a nuclear power plant in the fall of 1961. Anticipating potential public resistance to the construction of the plant, one member of the assembly of Ōkuma proposed a motion for "the establishment of a powerful special committee" for the purposes of preventing information related to the project becoming public knowledge, based on the reasoning that "confidential matters will arise and negotiations will be necessary". The motion carried. In a further move to avoid public opposition, a pledge to TEPCO was submitted and signed by the mayor and 16 assemblypersons, stating that the town (as opposed to the energy companies) would take complete responsibility for acquiring the lands necessary for the site from local residents in an 'amicable' manner.<sup>10</sup> Local residents were completely excluded from the decision to build a

nuclear power plant in the area, and the process was dominated by a small number of locally influential people; transparency was totally lacking. The prefectural office and TEPCO were equally complicit in concealing the plan, even going to the extent of having young female TEPCO workers accompany engineers on inspections of potential locations so as to give the impression of being simply vacationers on a hiking trip. The prefectural office and TEPCO did not reveal the plan either, and secretly investigated potential locations.<sup>11</sup>

Fukushima Prefecture employed the “Fukushima Prefecture Development Public Corporation (*Fukushima-ken kaihatsu kōsha*) as the agency through which to purchase lands for TEPCO, and the local governments of Futaba and Ōkuma encouraged residents to relocate.<sup>12</sup> Local residents knew nothing of the project to construct a nuclear power plant until it was revealed to them two years after the decision had been made by the towns’ assemblies.<sup>13</sup> The corporation, the local governments, and TEPCO negotiated only with land owners and fishery right holders for the purchase of the lands, keeping other residents totally in the dark.<sup>14</sup> The officials of those local governments became agents for the purchase of land. Hashimoto Tetsujirō, a farmer from Ōkuma, stated that prefectural and town officials visited him to ask him to lead a movement to promote the construction of a nuclear power plant. They offered a deal “to ensure Mr. Hashimoto’s livelihood.” He accepted, and was hired by TEPCO as a full-time worker.<sup>15</sup>

The purchase of land for the building site went smoothly. One of the reasons for this was that 30 percent of the site was owned by Tsutsumi Yasujiro, the president of the real estate corporation Kokudo Keikaku, and was not in use. Another reason lay in the weak ties within the community, together with the firm control that was wielded over the hamlets of the site by the towns administering them. The site covered much of the First District, Ottozawa Hamlet, Ōkuma Town and Hosoya Hamlet, Futaba Town. The First District of Ottozawa was unique in that it was divided into two very distinct parts: the northern part was home to long-established former samurai families who continued to exert a powerful influence in the community, having seized the majority of positions of local authority. The then mayor of Ōkuma, who promoted the plant, was from this district and a member of one of the former samurai families. The Southern part on the other hand was home to tenants and branch families (*bunke*) of main family households (*honke*) in the northern part. Hosoya Hamlet also had a similar feature: many of its residents were newcomers that had arrived from neighboring hamlets or other prefectures after the Meiji Restoration. The agricultural productivity of these communities was low, and those communities were not so much independent from as subject to the administrative town.<sup>16</sup>

Another factor that contributed to the smooth purchase was that people were not yet aware of the danger of nuclear power plants (the Japanese anti-nuclear power movement was not significant until the 1970s). TEPCO completed the purchase of lands for the site by 1968. Yet, according to the investigation report by the Japan Atomic Industrial Forum, about 30 percent of the residents of Ottozawa and Hosoya answered ‘no’ to the survey question ‘Do you trust the statement “Accidents will definitely not occur at a nuclear power plant?”’<sup>17</sup> It was clear that residents had a vague sense of malaise regarding the safety of nuclear power plants.

### III. Subsidies, Rivalry among Local Governments and Proliferation of Plants

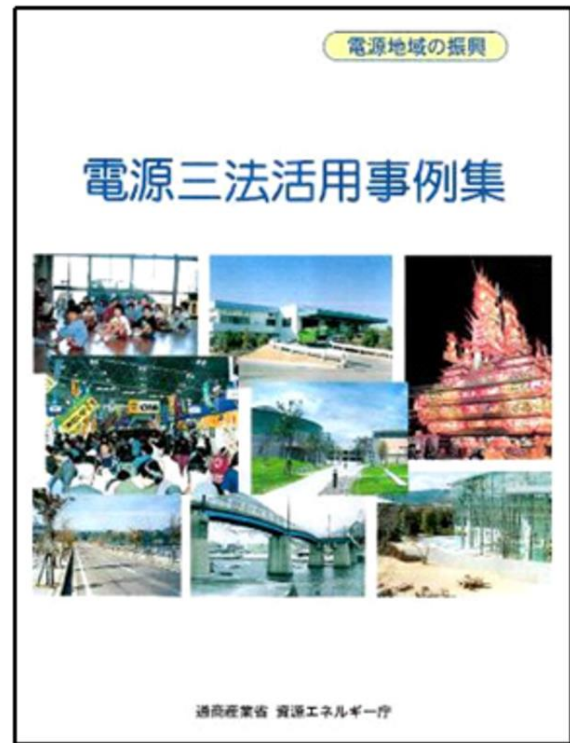
In order to promote the construction of nuclear power plants, the central government implemented the Three Laws for Electric Power Resource Sites (*dengen sanpō*) in 1974, and Nakasone and Tanaka Kakuei strove hard to get the bill passed. These laws ensure national subsidies for local governments which accept an electric power plant, and were especially



designed to promote the construction of nuclear power plants. With these laws, constructing nuclear power plants became even more connected to rural development than before. The amount of the subsidies was considerable (for detail see below, part IV), and in addition to these subsidies, the local government was also guaranteed receipt of local property taxes for the plant. In the case of Ōkuma, in 1978 the town had a total of 1.92 billion yen in tax revenues, of which income related to the nuclear power plant amounted to 1.7 million yen (88.5 percent). The town became economically dependent on the plant, and by 1979, the size of Ōkuma's budget had soared to 26.6 times the amount in 1965.<sup>18</sup>

The construction of the Fukushima Daiichi plant was initiated by Ōkuma. In order to start receiving local property tax as soon as possible, however, Futaba requested TEPCO to start construction on a reactor immediately and complete it as quickly as possible. As a result, the number five reactor located in Futaba started operation in April 1978, six months before reactor number four, which was located in Ōkuma.<sup>19</sup> Before the construction of the plant, Futaba had enjoyed greater prosperity than Ōkuma. However, after a road from Ōkuma to Fukushima Daiichi was constructed, companies related to the power plant became concentrated in Ōkuma.<sup>20</sup> Since Ōkuma had more reactors than Futaba, its budget revenue was greater than that of Futaba. Residents of Futaba demanded public services at the same level as those of Ōkuma. Ōkuma had a sports center, which had a gym (the size of three basketball courts), a multi-purpose sports ground, a baseball field, a tennis court, a swimming pool, a martial arts *dojo*, and a Japanese archery *dojo*.<sup>21</sup> Futaba built an athletic park in order to respond to its residents' demands of "[We] want it in Futaba too."<sup>22</sup> It is estimated that the total cost of the project (which is yet to be completed) will amount to four or five billion yen. Futaba also built a health care center (cost: 17 billion yen) and a hot spring center (cost: 160 million yen). Backed by abundant subsidies and property tax, the town's budget expanded.<sup>23</sup>

The chain-reaction spread to neighboring towns. Soon after the construction of Fukushima Daiichi began, proposals for the construction of the Fukushima Daini [Number Two] nuclear power plant gained momentum. This plant was to be built in Tomioka and Naraha towns, which are located to the south of Ōkuma and Futaba towns. In November 1967, Tomioka and Naraha established the Alliance for General Development of Southern Futaba (*Nansō-chiku sōgō kaihatsu kisei-kai*), and lobbied the governor to attract enterprises to the region. As the name of the alliance stressed "southern," this alliance was established in rivalry with the northern part of Futaba County, where Ōkuma and Futaba towns were located.<sup>24</sup> As with the local governments



Front Cover of the Guidance Pamphlet of the Three Laws for Electric Power Resource Sites Depicting Their Utilization for Local Revitalization (*dengen sanpō katsuyō jireishū*)  
SOURCE: Shigen enerugi-chō, ed., 2000, front cover.

of Ōkuma and Futaba, the local governments of Tomioka and Naraha had not informed residents of the project. The officials of those local governments examined the site in December 1967, but told residents simply that they were “planning to invite a huge factory” and they did “not know what kind of factory would come.” At the end of December, the officials of Tomioka and Naraha gathered headmen of the hamlets of the towns, saying that, “In order to promote the industrialization of this under-developed area, [we] have established the Alliance for General Development of Southern Futaba. To promote this plan, [we] would like to hold a meeting.” At that meeting, they revealed the project to invite the construction of a nuclear power plant for the first time. Headmen of the hamlet answered that they had to consult with other residents. However, the next day, officials of the towns visited the headmen, and pressured them with the following comments:

“There is no time because it will soon be the last business day of the year, and the governor has to announce [the construction of a nuclear power plant] as a policy on January 4th. [We] must have the name seals of the hamlet headmen by any means possible. If the hamlet decides against inviting [the plant], [we] will repeal this signing. [We] promise this will happen at any cost.”<sup>25</sup>

The local governments, planning to invite a nuclear power plant without public disclosure, forced the project through, completely disregarding the wishes of the residents.

In January 1968, the Fukushima Prefectural Office announced that they had invited a TEPCO nuclear power plant.<sup>26</sup> However, many residents opposed the project, refusing to sell their lands. The governor himself took the lead in pressuring the opposing residents, offering “special sympathy payments” (*tokubetsu hairyokin*) of one hundred million yen to overcome the protest.<sup>27</sup> When the construction was finally decided upon, Naraha and Tomioka competed to be the first to start receiving property tax from the plant by demanding that the initial construction take place in their towns. The construction started in Naraha, a decision which generated a sense of resentment in Tomioka. Just with Ōkuma and Futaba, a fierce rivalry had taken root between these two towns.

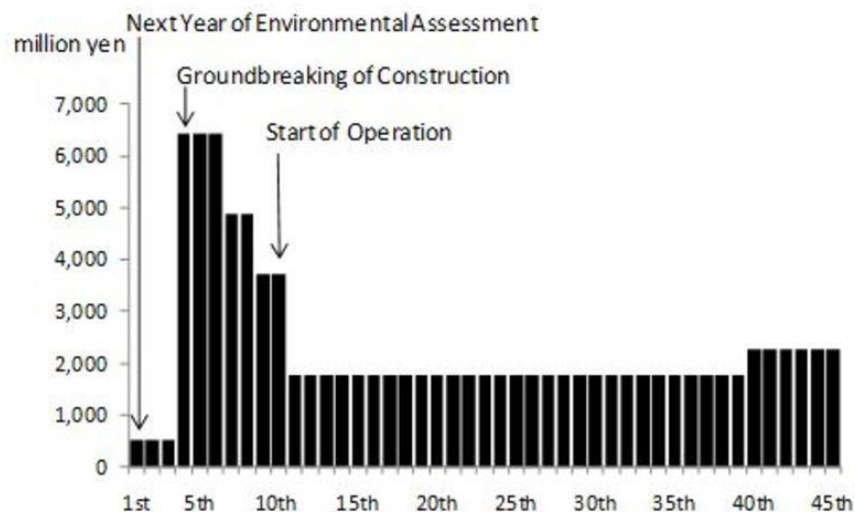
#### **IV. Financial Crisis in Local Governments, US-Japan Relations, and Additional Reactors**

However, the affluence generated by the subsidies did not last. This was partially due to a unique feature of the Three Laws for Electric Power Resource Sites: *local governments are provided with heavy government subsidies for the first five years after the start of construction, but once the plant begins operation, the amount of the subsidies plummets to a quarter of the initial amount* (see Graph). In addition, the statutory life of the local property tax on a nuclear power plant is defined as 15 years, and the tax revenue are reduced by half from the first year to the fifth year.<sup>28</sup> In short, a local government hosting a nuclear power plant receives a substantial infusion of money only during the period of construction.

Although Futaba Town had rich subsidies, its public finances deteriorated in the 1990s. The town built a large number of facilities, but their operating costs exhausted its budget. In order to increase its income, the assembly of Futaba invited the construction of two more reactors in 1991 (however, after it was revealed in 2002 that TEPCO had concealed problems that were discovered at Fukushima Daiichi two years earlier, the town withdrew its invitation). Once a community accepts a nuclear power plant, it develops a dependency on it and begins to demand more reactors. Naraha and Tomioka towns also had deteriorating finances after the initial infusion of subsidies: in the case of Tomioka, the town constructed Rifu Tomioka, a health



care center with a swimming pool, hot spring, and accommodations. Its annual operating costs amounted to 170 million yen. Endō Katsuya, the mayor of Tomioka informed the town assembly in 2009 that "[We] have constructed too many facilities, spending a vast amount of money. It is truly an administration-generated bubble."<sup>29</sup> In Japan, this situation is known as "nuclear power plant addiction" (*genpatsu izon-shō*).



**Graph amount of annual subsidies provided for a local government which holds a nuclear power plant (model case of a plant with 1,350,000kW output).**

Source: Shigen energi-cho, pp.3-4. Calculated by the Agency for Natural Resources and Energy.

US-Japan relations also contributed to the emergence of this situation in the 1990s. In the US-Japan Structural Impediment Initiative, the US demanded that Japan spend ten percent of its GNP on public investment (items that do *not* contribute to the productivity of Japanese industry). The Japanese government committed 430 trillion yen to domestic public investment over the ten-year period starting from 1991. When the US insisted that this level of spending was

insufficient, Japan declared in 1994 that it would commit a further 200 trillion yen in spending by 2008. In short, the Japanese government promised to spend 630 trillion yen on the construction of public facilities. The US aim was to confine the influence of the Japanese yen to its domestic market, preventing the devaluation of the US dollar. Together with the necessity of stimulating an economy that was struggling as a result of the recession, this commitment to the US led the Japanese government to try to expand public investment. However, in the name of maintaining the fiscal discipline of the central government, the Japanese government forced prefectural and local governments, rather than the central government, to expand public investment.<sup>30</sup>

Under these circumstances prefectural governments encouraged local governments to expand their budgets. Owing to their abundant income, it was the local governments in areas with nuclear power plants that were targeted by the Fukushima Prefectural Office for budget expansion. Futaba Town officials reported that the prefectural office repeatedly approached the town with projects as it had been overwhelmed by all the projects that had been allocated to it by the central government, saying that they "could not reject them". They were told, "There is a favorable local bond issue. Please take it. The prefecture will take care of you later." The town accepted the proposals. Town officials said, "Expanding on nuclear power will bring subsidies and increased local property taxes. [...] Local residents also thought there was money in it, and started demanding more and more [projects]."<sup>31</sup>

In 2007, the Ministry of Internal Affairs and Communications released the actual ratios of bond-redemption (*jisshitsu kōsai hiritsu*)<sup>32</sup> of all local governments. Futaba Town ranked tenth from the bottom nationwide. In an effort to resolve the town's poor finances, Idogawa Katsutaka, the new mayor of Futaba, cut his salary to virtually nothing in 2008.<sup>33</sup> He also cut projects and expenditures within the town budget. However even these measures were able to contribute little. In response to this situation, Idogawa said, "There are still people who cannot change their attitudes."<sup>34</sup> Finally in June 2007, the assembly of Futaba Town, desperate to obtain revenue, reinstated the invitation of the new plant.

After March 11, 2011, when Futaba and Ōkuma were struck by the magnitude 6 earthquake, the administrative center of Futaba was relocated to Saitama Prefecture. Even then, on April 4, 2011, the mayor of Futaba, together with delegates from the seven local governments of the areas with nuclear power plants, petitioned the prime minister *not* to change the national policy of increasing the number of nuclear power plants.<sup>35</sup> This seemingly baffling response in the wake of natural disaster exposes the reality of Japan's policy on the construction of nuclear power plants: once a town welcomes a nuclear plant, it becomes incapable of existing without it. On April 7, 2011, the same day in which it raised the crisis level of Fukushima Daiichi from 5 to 7, the Japanese government reported that it would raise the amount of subsidies for local governments with nuclear power plants. This statement was not made public through a press conference, but merely appears in print in an official gazette.<sup>36</sup>

## V. Conclusion

This article has traced the process that facilitated the construction and proliferation of nuclear power plants in Fukushima through analysis of the structure of national, prefectural and local financial politics: the planning of the projects to construct nuclear power plants was carried out by the prefectural office and local governments by means of secret negotiations with no public disclosure being made to residents until the final stages. Then, once local governments agreed to the construction of a plant, the community developed a dependency on it and became eager to invite the construction of further reactors. These are the reasons for the heavy concentration of Japanese nuclear power plants within a few specific regions, all of them impoverished rural areas. In addition to these domestic factors, US-Japan relations played a significant role in encouraging Japan to invest in nuclear power generation.

The writer Kamata Satoshi has investigated this invitation process, visiting every nuclear power plant in Japan. The reports that he produces from each of these visits mirror the process that we see in Fukushima Daiichi and Daini: negotiations being conducted between the prefectural office and the government with a total lack of public disclosure; the decision to invite plants being made unilaterally by local government or local leaders; local government pressuring opponents into accepting the project; the acquiescence of local leaders and residents bought with promises of money.<sup>37</sup> Yoshioka Hitoshi, the vice-president of Kyūshū University, has pointed out that electric power companies exploit the hierarchical network of local politics, bringing those at the top of this hierarchy such as local and prefectural officials and assemblypersons into their camp before the construction begins.<sup>38</sup> Even in cases where residents have succeeded in rejecting the construction, the central, prefectural, and local governments, as well as the electric power companies employ the tactics of coercion discussed above, making residents' protests extremely difficult.<sup>39</sup> In short, specific circumstances that characterize communities and local governments in Japan (a firmly hierarchical social structure, a lack of transparency, rivalry between

communities, poverty of peripheral areas) make this method of coercion effective. As such, the present crisis arising from the incident at the Fukushima Daiichi nuclear power plant can be seen to be the direct result of deeply-entrenched problems that lie at the root of Japanese local government and state-local relations.

Hiroshi Onitsuka is an independent scholar who specializes in the history of modern Japan, especially local public finance, and in Japanese emigration to Manchuria.

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## Notes

<sup>1</sup> “Ginza” is a bustling amusement district of Tokyo. The word is also used to describe an area that has a concentration of a specific thing.

<sup>2</sup> Miyamoto, pp. 238-239.

<sup>3</sup> Arima Tetsuo found documents concerning this US psychological strategy targeted at the Japanese public in the Library of the Congress, and investigated its relation with Shōriki.

<sup>4</sup> Yoshioka 1999, pp. 64-65.

<sup>5</sup> For Nakasone’s efforts for the promotion of the Japanese nuclear industry, see his autobiography, *Jiseiroku* (Nakasone).

<sup>6</sup> Nakajima 2011, p. 192.

<sup>7</sup> Mainichi shinbun, morning ed., June 16, 1999, p. 3.

<sup>8</sup> For the process of inviting the plant at the prefectural level, see Nakajima 2011, p. 193.

<sup>9</sup> Ōkuma-chō shi hensan iinkai, ed., pp. 410-411.

<sup>10</sup> For the process of inviting the plant at the local level, see Yamakawa, p. 153.

<sup>11</sup> Nakajima 2011, p. 194.

<sup>12</sup> Ibid., pp. 197-198.

<sup>13</sup> Kamata 2011, p. 103.

<sup>14</sup> Nakajima 2011, p. 200.

<sup>15</sup> Ibid., p. 105.

<sup>16</sup> For the process of the land purchase, see ibid., pp. 196-197, p. 200.

<sup>17</sup> Ibid., pp. 203-204. Calculated by Nakajima based on the survey by the Japan Atomic Industrial Forum, p. 30, Table 24.

<sup>18</sup> Kamata 2011, pp. 113-114.

<sup>19</sup> Nakajima 2011, p. 206.

<sup>20</sup> Kaneko et al., p. 107.

<sup>21</sup> Supōtsu no sato Futaba annai sentā.

<sup>22</sup> Kaneko et al., p. 108.

<sup>23</sup> Ibid., p. 101.

<sup>24</sup> [Nakajima Hisato](#), "Nakiotoshi de Fukushima Daini genpatsu kensetsu dōi wo semaru Tomioka-chō tōkyoku" in *Tokyo no genzai kara rekishi=kako wo yomitoku*, June 2, 2011, (accessed August 19, 2011).

<sup>25</sup> Kamata 2011, p. 94.

<sup>26</sup> Ibid., p. 92.

<sup>27</sup> Yamakawa, p. 159.

<sup>28</sup> Kaneko et al., pp. 104-106.

<sup>29</sup> Asahi shinbun, "Fuwaku no genpatsu ginza (4): Kyogaku no shikin seigyo dekizu," *asahi.com*, December 7, 2010 ([accessed](#) August 19, 2011).

<sup>30</sup> Uzawa and Uchihashi, pp. 41-45.

<sup>31</sup> Kaneko et al., p. 108.

<sup>32</sup> The ratio of the amount of bond-redemption against the amount of income. It is employed as an indicator of the financial circumstances of a local government.

<sup>33</sup> Asahi shinbun, "Fuwaku no genpatsu ginza (4): Kyogaku no shikin seigyo dekizu," *asahi.com*, December 7, 2010 ([accessed](#) August 19, 2011).

<sup>34</sup> Kaneko et al., p. 110.

<sup>35</sup> Fukui shinbun, "Genpatsu zōsetsu minaoshi jikishōsō," *Fukui shinbun online*, April 5, 2011 ([accessed](#) August 19, 2011).

<sup>36</sup> Tokyo shinbun, "Kōfukin de genpatsu atooshi: reberu 7 yokujitsu 'Shinsetsu ha zogaku,'" *Tokyo Web*, August 17, 2011 ([accessed](#) August 20, 2011). This information was not uncovered until it was reported by the Tokyo shinbun on August 17, 2011.

<sup>37</sup> See Kamata 2001; Kamata 2011.

<sup>38</sup> Yoshioka, pp. 160-162.

<sup>39</sup> See Kamata 2001, Chapter 3, Chapter 15. They report the cases of Kaminoseki and Maki towns, respectively.

**“Fukushima and Okinawa – the ‘Abandoned People,’ and Civic Empowerment”**

Satoko Oka NORIMATSU

November 21, 2011

<http://www.japanfocus.org/-Satoko-NORIMATSU/3651>

While Onitsuka explains the political elements that created Japan’s “abandoned people,” Norimatsu formally introduces the term and links two separate groups of people, each of whom was abandoned in order to pursue a specific government priority. She compares the Fukushima disaster to the ongoing U.S. military occupation of the island of Okinawa. Both of these topics demonstrate tensions in Japan’s center-periphery relations, and in both instances, Norimatsu argues that the Japanese government is discriminating against citizens who live in distant regions in order to make life better for those living in the large cities. Specifically, Japan allows the U.S. to maintain military bases on nearly 20 percent of the main island of Okinawa, which many locals resent. The Americans are not always good neighbors. To give three examples: stray bullets have wounded people and damaged property; in 2004 a helicopter crashed into a building at Okinawa International University (luckily no one was injured); and in 1995, three US personnel raped a 12-year-old girl. In the same way, Norimatsu argues, the risk from living near nuclear power plants is unfairly assigned to people living in Japan’s rural periphery, only temporarily alleviated by enormous subsidies granted while the plants are under construction.

Norimatsu says that as many as 10 percent of Japanese have protested against the presence of U.S. bases in Okinawa, and in Okinawa itself anti-base sentiment is felt by well over 50 percent. Meanwhile, the anti-nuclear power movement continues to grow as people in areas that resemble Fukushima have come to resent nuclear power plants near their homes; they are beginning to demand a drastic changes in policy from their government. Even so, Norimatsu points out that they do not at present have enough political power to enact change without support from inhabitants of Japan’s metropolises. Indeed, Norimatsu hopes that Fukushima could be the event that sparks a broad change in Japan’s center-periphery relations.

The article also highlights other failures of the Japanese government in handling nuclear energy. For instance, following the Fukushima disaster, the government and TEPCO grossly underestimated the amount of radiation present at Fukushima, one reason why local residents did not evacuate immediately. In addition, as Onitsuka explains, the complete fiscal dependence of local governments on the national government seemingly perpetuates the dangerous cycle of building more nuclear reactors rather than carefully weighing alternative energy strategies. These failures both came at the expense of the “abandoned people.”

## **Fukushima and Okinawa – the “Abandoned People,” and Civic Empowerment**

**Satoko Oka Norimatsu**

On March 11, 2011, an earthquake and tsunami along the Pacific coastline of Northeastern Japan brought devastation reminiscent of the 1945 atomic and incendiary bombing that devastated whole towns, littering them with the bodies of victims and posing a continuing threat to survivors. After Hiroshima and Nagasaki, the nuclear reactor meltdown and explosion at four reactors at Fukushima Daiichi Nuclear Power Plant was the third large-scale nuclear disaster to hit Japan. This time, however, Japan inflicted it on itself.

Two weeks after the disaster, author Oe Kenzaburo wrote,

The Japanese should not be thinking of nuclear energy in terms of industrial productivity . . . To repeat the error by exhibiting, through the construction of nuclear reactors, the same disrespect for human life is the worst possible betrayal of the memory of Hiroshima's victims.<sup>1</sup>

*The New Yorker*, which published Oe's essay, was the magazine that in 1946 published John Hersey's *Hiroshima*,<sup>2</sup> where, for the first time through the narratives of bomb victims, American readers were confronted with the human consequences of the events that had unfolded under the mushroom cloud. Now Japan, the “pacifist nation sheltering under the American nuclear umbrella,” as Oe puts it, had allowed itself to buy into the illusion of a dichotomy between nuclear weapons and nuclear power, the former evil and the latter peaceful.

Anti-nuclear sentiment had grown rapidly in post-1945 Japan, especially after the crew of the Japanese fishing boat Lucky Dragon #5 was subjected to radiation from a US hydrogen bomb test at Bikini Atoll in 1954,<sup>3</sup> touching off Japan's powerful anti-nuclear weapons movement. But that sentiment would be largely eclipsed by the Eisenhower administration's “atoms for peace program” leading Japan to invest heavily in nuclear power. In 2011, Japan would pay a heavy price for ignoring the risks, and building fifty-four nuclear power plants around the coastline of its earthquake- and tsunami-prone islands.<sup>4</sup> The two forms of the nuclear were in fact comparable in their potential to inflict devastation.

In the immediate aftermath of the March 11 Level 7 earthquake tsunami disaster, the troubled power plants at Fukushima Daiichi released radioactive material that was 15 per cent of that released at Chernobyl (770,000 tera-becquerels), and radioactive fallout of Cesium 137 (half-life 30 years) that is 168.5 times that released by the Hiroshima atomic-bomb.<sup>5</sup> Some 600 square kilometres of land (an area ten times that of Manhattan) has Cesium deposit levels equivalent to the uninhabitable land around Chernobyl even 25 years after the accident. There is an additional 700 square kilometres of land with radiation levels that made evacuation mandatory after Chernobyl,<sup>6</sup> yet tens of thousands of people, including radiation-susceptible children and pregnant women, remain in the area. What particularly distinguishes Fukushima from Chernobyl is the large amount of radioactive material (3,500 tera-becquerels<sup>7</sup>) released into the ocean, levels unprecedented among all past nuclear attacks, accidents and tests, raising concern about the effect on marine life and seafood. Tokyo Electric Power Company (TEPCO) and the Japanese government, in explaining the failure to prevent such a disaster insist that the scale of the tsunami was “beyond the scope of the imaginable.” Mounting historical evidence points to the contrary, however: a tsunami of Fukushima scale was indeed to be expected, but government and TEPCO chose to ignore it.<sup>8</sup>

Much of the above contamination was unavoidable even after the nuclear meltdown occurred, but the government's attempts to minimize liability and to prioritize economy over people, supported by industry, exposed people to further, avoidable contamination.<sup>9</sup> Sato Eisaku, former Fukushima Governor (1988-2006) reflects on what happened to people who trusted their Government:

People of Namie Town stayed up all night, looking for missing people, but evacuation was ordered, so they went to Tsushima District [to the Northwest]. For three days from then, 6,000 people, one third of the town's population, drank water, and ate food served there. When we looked at the contamination map released by the government much later, Tsushima was painted blazing red, indicating the highest contamination level. The [Namie] mayor had tears in his eyes as he told me the story.<sup>10</sup>

The mainstream media, for which the electric power companies are major sponsors, have cooperated with the government in downplaying radiation risks, even promoting produce from radiation-affected regions in the name of "supporting tsunami-hit areas." The government has raised allowable radiation exposure levels for ordinary people by twenty times (1 to 20 millisieverts per year), and for nuclear workers by two and half times (from 100 to 250 millisieverts in 5 years), it has set "provisional" [i.e. relaxed] standards for food and drinking water contamination, and labelled any food with radioactive material under those standards "safe." Voices raised to question the safety of products from affected areas were dismissed as "harmful rumours" (*fuhyo higai*).

Okinawan historian Tonaki Morita saw such policies as indicative of the government's readiness in case of emergencies to "give up protecting people, mobilizing people for national interest, and making people accept death", much as the Japanese government did to Okinawa during WWII by sacrificing the islands and their people, then by accepting Okinawa's status as a US military colony between 1945 and 1972, and finally by imposition of military bases after the war and to this day. They promote such consciousness by evoking nationalism and glorifying the sacrifice of nuclear workers just as they once they glorified Kamikaze pilots.<sup>11</sup>

The media extensively covered the US military's "Operation Tomodachi," presenting the US as a savior in the wake of the 3.11 disaster while ignoring the US role in promoting nuclear power over the last half century and ignoring the fact that the cost of the operation was only approximately one percent of the expenses that the Japanese government annually bears for US troops in Japan.<sup>12</sup>



**Operation Tomodachi**

Japan, having spread massive contamination through air and the sea throughout the world, portrayed itself in the international community as a victim of prejudice toward Japanese products, and pleaded for the purchase of Japanese food and products. They reported planning to meet goals early, such as declaring "cold shutdown" of the troubled reactors, even when they did not even know where the fuel was after it melted down and through the containment vessels.<sup>13</sup> The



government, moreover, sought to return evacuees as quickly as possible to areas still highly contaminated and with little prospect of successful decontamination. Radioactive Cesium has been found in urine samples of children not just in directly affected areas of the Northeast, but in Tokyo and other locations more than two hundred kilometres from the reactors,<sup>14</sup> and abnormalities have been observed in thyroids of children in Fukushima.<sup>15</sup>

If the government's job is to protect people and the environment, it was necessary to evacuate everyone who was at high risk, above all the most vulnerable—infants, children and pregnant women—and to contain radiation to the extent possible. What the government did was exactly the opposite: leaving far too many people in risk-affected areas, and spreading contamination throughout and beyond Japan through food, sludge, rubble, garden soil, and landfill. Okinawan author Urashima Etsuko, reflecting on the aftermath of 3.11, lamented,

What kind of world have we created? Water, air, and soil, nurturers of life, now have become a threat to life. It makes me shiver, thinking about the crime we have committed against future children.<sup>16</sup>

The people of Fukushima and the people of Okinawa may both be described, as Okinawan peace activist and writer Nishioka Nobuyuki does describe them, as *kimin*, or "abandoned people." Nuclear power plants in poverty stricken rural areas and US military bases concentrated in Okinawa are both rooted in the discriminatory policies of the national government. Each discriminates against the periphery to assure the protection of the state and guarantee the energy needs of the metropolis. In the backdrop of the fifty-seven year long Japanese nuclear power policy is the corrupt structure of "politics, bureaucracy, industry, labour organizations, academia, and media," what critics have labeled the "nuclear village."<sup>17</sup> The central government targets vulnerable rural municipalities, already suffering from depopulation and economic degradation, to accept nuclear reactors or military bases, flashing subsidies, "white-elephant" projects, and jobs. But neither US bases nor nuclear reactors brought prosperity. Former (1998-2006) Fukushima Governor Sato Eisaku says,

From now on, I want to think of Okinawa's hardship as if it were my own.... Subsidies associated with hosting nuclear reactors were never the "candy" they were thought to be. One town which invited a nuclear power plant suffered from financial difficulties even in the absence of accidents, and after 30 years, the town cannot even pay the mayor's salary.... We need to think from the perspective of future generations, and learn from the hardship that Okinawa has gone through.<sup>18</sup>

This realization is shared by Inamine Susumu, Mayor of Nago City.

....[Half of the subsidy] funds just went for accelerated public works projects and you can hardly claim that these projects benefited the northern-district municipalities with weak financial capability.<sup>19</sup>

Subsidy funds, which are not "earned by the sweat of the people," never cover 100% of the cost of the public projects; local municipalities are left to bear part of the expenses, and above all they find themselves saddled with post-construction maintenance, which in the long term becomes a financial burden for small municipalities, which have little need for so many community centres and sports stadiums. Since Mayor Inamine's refusal to host a new base, Nago City no longer receives the "realignment subsidy," which is granted to base-hosting municipalities, despite the

fact that Nago continues to host the Henoko base. Inamine, with local support, remains committed to creating a city that does not rely on subsidies or the US military.<sup>20</sup>

Nor is the problem limited exclusively to Okinawa. For fiscal year 2012, four out of the forty-four nuclear-hosting municipalities in Japan have declined subsidy funds. Sakurai Nobukatsu, mayor of Minamisoma City (about 25 kilometres from Fukushima Daiichi), said,

We have stated that we will no longer co-exist with nuclear power plants, and we have written the phrase “departure from nuclear power” in our reconstruction plan. None of the problems [that we now face] can possibly be solved with the level of subsidies we receive.<sup>21</sup>

As in the case of Okinawa, the response to the 3.11 crisis has been to pit Tokyo against local governments and citizens. On October 20, 2011, the Fukushima Prefectural Assembly adopted a resolution calling on the government to close all ten nuclear reactors in the prefecture. It became the first of the thirteen prefectures hosting nuclear power facilities to do so.<sup>22</sup> While the central government is eager to maintain its current pro-nuclear power policy by “ensuring the highest standard of safety,” and even plans to export nuclear power technology,<sup>23</sup> polls indicate that over 80 per cent of Japanese now favor nuclear phase-out<sup>24</sup> and 66 per cent of prefectural and municipal leaders oppose construction of new nuclear reactors.<sup>25</sup>

Okinawa, the prefecture farthest away from Fukushima Daiichi, has no nuclear power plant. However, the Okinawan power company has been conducting research on introducing small- to mid-size nuclear reactors. On September 25, *Ryukyu shimpo*, one of the two main Okinawan newspapers, called attention to a 1980’s plan to build a high-level radioactive waste disposal site in one of the prefecture’s remote islands.<sup>26</sup>

Will people of the periphery choose to remain abandoned? Certainly not all. In Northeastern Japan, many people have stood up, taking safety into their own hands. Citizen groups conduct independent radiation measurements and publish their own radiation protection guides. Anti-nuclear power demonstrations spread, with a scale and intensity not seen in mainland Japan since the 1960s anti-Anpo (Japan-US Security Treaty) movement. As seen in Sato Eisaku’s words quoted above, perceptions of commonality between Okinawa and Fukushima – the state imposition of military bases or nuclear reactors on the basis of discrimination against marginal and vulnerable areas at the expense of well-being of those living there — seems to be growing in Japan, awakening some with sympathy with the Okinawan situation on a level not seen before 3.11.



**Nuclear power plants in Japan’s peripheries, March 2011**

Though the scale of current anti-nuclear demonstrations in Japan are not comparable to those of anti-base movements in Okinawa for the past six decades that mobilize as much as ten per cent of the population, it is notable that some mainlanders seem to emulate the Okinawan movement, using the same symbolic colour yellow, and slogans like "life is precious" ("*Nuchi du Takara*" in Okinawan). As in the "Arab's Spring" movements of 2011, civic voices spread through newly emerging social media such as Facebook and Twitter, integrating existing movements, connecting different generations, and merging anti-nuclear, anti-base, anti-neoliberal and the burgeoning "Occupy" movements, suggesting a broader possible social base for movements throughout Japan.

Because of increasing public distrust in the government and mainstream media's information concerning the crippled nuclear reactors and radiation risks, internet media have attracted a surge of new users in post-3.11 Japan. There is an emerging crop of internet journalists, such as Iwakami Yasumi, Uesugi Takashi, Kinoshita Kota, and Shiraishi Hajime, and many others, as well as widely read bloggers and Twitterers<sup>29</sup> Their influence threatens the monopoly on information of the Japanese government and major media, leading the government to call on telecommunication companies to "take appropriate measures to prevent groundless rumours on the internet,"<sup>30</sup> giving rise to plans to monitor "inaccurate and inappropriate information" on blogs and Twitter,<sup>31</sup> and inviting influential overseas bloggers to Japan in order to get them to promote Japan as a safe place to travel to and buy from.<sup>32</sup> These manipulative plans were met with much contempt and scorn on the internet, where they were derided as desperate propaganda by the government.

With Okinawa's all-island determination to refuse construction of another military base on their land in the face of unrelenting pressure from the Japanese and US governments, and with people across the nation awakening to new dimensions of citizenry and autonomy through alternative media and direct action, are we living in "a global Gandhian moment,"<sup>33</sup> as international law scholar Richard Falk suggests, in which the "abandoned people" are empowered and engaged in non-violent confrontations with established powers, making the impossible possible?

An answer is in each of us, and how we capture this critical historical moment.

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## Notes

<sup>1</sup> Oe Kenzaburo, "History Repeats," *The New Yorker*, March 28, 2011.

<sup>2</sup> John Hersey, *Hiroshima*, Vintage, 1989

<sup>3</sup> [Yuki Tanaka and Peter Kuznick](#), "Japan, the Atomic Bomb, and the "Peaceful Uses of Nuclear Power," *The Asia-Pacific Journal: Japan Focus*, Vol. 9, Issue 18 No. 1, May 2, 2011

<sup>4</sup> [Gavan McCormack](#), Hubris Punished: Japan As a Nuclear State, *The Asia-Pacific Journal: Japan Focus* Vol. 9, Issue 16 No 3, April 18, 2011.

<sup>5</sup> “Fukushima accident released far more cesium than Hiroshima bombing,” *Asahi shimbun*, 28 August 2011. Fukushima nuclear accident emitted 15,000 terabecquerels, while the Hiroshima atomic bomb released 89 terabecquerels.

<sup>6</sup> “Some Fukushima soil same as Chernobyl ‘dead zone,’” *The Japan Times*, 1 June 2011.

<sup>7</sup> “Radioactive cesium from Fukushima on tour of Pacific Ocean,” *The Daily Telegraph*, 15 Sep 2011.

<sup>8</sup> “TEPCO failed to act on 10% probability assessment for worst-case tsunami,” *Mainichi shimbun*, 10 Oct 2011.

<sup>9</sup> [Say-Peace Project and Satoko Norimatsu](#), “Protecting Children Against Radiation: Japanese Citizens Take Radiation Protection into Their Own Hands,” *The Asia-Pacific Journal: Japan Focus*, Volume 9, Issue 25, No.1, June 20, 2011.

<sup>10</sup> Sato Eisaku, “Nihon wa ima kanshi kokka,” *Ryukyu shimpo*, 25 Sep 2011.

<sup>11</sup> Tonaki Morita, “3/11 igo ni kansuru kosatsu,” Ishihara Masaie Ed., *Peace Now Okinawasen musen no tamenno saiteii*, Horitsu Bunkasha, 2011., pp. 132-133.

<sup>12</sup> Roxana Tiron, “U.S. Defense Department Will Spend as Much as 80 Million on Aid to Japan,” *Bloomberg*, 29 Mar 2011. “So-called ‘Sympathy Budget’ is only 28% of the total expenses Japan is paying for US bases,” *Peace Philosophy Centre*, 2 Oct 2010, [link](#).

<sup>13</sup> “Criteria for ‘cold shutdown’ of Fukushima nuclear plant remain vague and ambiguous,” *Mainichi shimbun*, 18 Oct 2011.

<sup>14</sup> For example, “Saitama ken kawaguchi shi 10 sai no onnna no ko no nyo kara seshiumu kenshutu,” *Kodomo o mamoro Save Child*, [link](#).

<sup>15</sup> “Kojosen no kino 10 nin ga henka fukushima no kodomo shinshu dai byoin chosa,” *Sankei shimbun*, 4 October 2011, [link](#).

<sup>16</sup> “Taiki chu to kaisui no hoshasen ni tsuiteno futatsu no gimon,” *Peace Philosophy Centre*, April 4, 2011, [link](#).

<sup>17</sup> Nishioka Nobuyuki, “genshiryoku ‘kaku’ no nai musen shakai o,” Ishihara Masaie Ed., *Peace Now Okinawasen musen no tamenno saiteii*, Horitsu Bunkasha, 2011, p. 179.

<sup>18</sup> Sato, *ibid*.

<sup>19</sup> [Inamine Susumu and Miyagi Yasuhiro](#), “‘Unacceptable and Unendurable,’ Local Okinawa Mayor Says NO to US Marine Base Plan,” *The Asia-Pacific Journal: Japan Focus*, Vol 9. Issue 42 No 2, October 17, 2011.

<sup>20</sup> “Saihen kofukin keijou sezu 11endo yosan nago shi ga hoshin,” *Ryukyu shimpo*, 12 Decemer 2010, [link](#).

<sup>21</sup> Sakurai Nobukatsu interviewed in *NHK News 7*, 19 October 2011.

<sup>22</sup> “Zen genpatsu ‘hairo’ no seigan saitaku fukushima ken gikai, ricchi do ken de hatsu,” *Tokyo shimbun*, 20 Oct 2011.

<sup>23</sup> "Genpatsu yushutsu o keizoku," *Ryukyu shimpo*, 19 Oct 2011.

<sup>24</sup> "Majority of Japanese want to scrap nuclear plants: poll," *The China Post* (AFP), 19 Jun 2011, [link](#).

<sup>25</sup> "Genpatsu shin zosetsu hantai 66%," *Ryukyu shimpo*, 11 Sep 2011.

<sup>26</sup> "Yaeyama de hoshasei haikibutsu shobunjo mosaku nihon gennen komon ga chosa," *Ryukyu shimpo*, 25 September 2011, [link](#).

<sup>27</sup> [Say-Peace Project and Satoko Norimatsu](#), "Protecting Children Against Radiation: Japanese Citizens Take Radiation Protection into Own Hands," *The Asia-Pacific Journal: Japan Focus*, 20 June 2011.

<sup>28</sup> [Hase Michiko](#), "We want genpatsu in Tokyo!" – The new sarcastic edge of Japan's anti-nuclear demos," *The Asia-Pacific Journal: Japan Focus*, 11 Oct 2011.

<sup>29</sup> See *Asia-Pacific Journal: Japan Focus* complete coverage and guide sources on the 3.11 earthquake, tsunami and nuclear plant meltdown, [link](#).

<sup>30</sup> "Somusho ni yoru 'intanetto jo no ryugen higo' o torishimaru yosei ni tsuite," *Peace Philosophy Centre*, [link](#).

<sup>31</sup> "Seifu ni yoru burogu tsuittaa kanshi shiyo sho," *Peace Philosophy Centre*, 15 July 2011, [link](#).

<sup>32</sup> The Ministry of Foreign Affairs reportedly budgeted 400 million yen (approx. 5 million US dollars) to invite influential bloggers outside of Japan to visit Japan, starting in November 2011. "Kaigi broggaa shotai de 4 oku en gaimusho," *Okinawa Times*, 11 Oct 2011, [link](#).

<sup>33</sup> [Richard Falk](#), "Is This a Global Gandhian Moment?," *Citizen Pilgrimage* (Richard Falk's blog), 10 Oct 2011.

**“A Problem for all Humanity: Nagasaki Writer Hayashi Kyoko Probes the Dangers of Nuclear Energy”**

Justin Aukema

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<http://www.japanfocus.org/-Justin-Aukema/3670>

As explained above, the term “abandoned people” does not refer exclusively to poor citizens living near power plants. The following two articles compare their plight to two other groups of “abandoned people.” This article by Justin Aukema examines atomic-bomb victims, while Christopher Thompson recounts the recent struggles of people affected by the earthquake and tsunami—but not the nuclear disaster—north of Fukushima Prefecture.

Aukema explains that renowned author and atomic-bomb survivor HAYASHI Kyoko is expanding her long-time criticism of nuclear weapons to include nuclear power. Survivors of the atomic bombs are known as *hibakusha*; they are “abandoned” because they often had to struggle to obtain assistance, or even recognition, from the government for their radiation-induced suffering. Hayashi sees the dangers of radiation as something that affects all humanity, regardless of its source. To her and many others, atomic weapons are clearly too destructive ever to use, and because nuclear power plants have the potential to create the same kind of destruction, such energy should be avoided as well. Her central message is that building nuclear power plants in Japan’s periphery is far from an adequate solution, and is certainly not a moral one.

Aukema provides a literary analysis of Hayashi’s texts, illustrating the ways in which the atomic bombings and nuclear power are connected in her mind. Her stories depict various reasons why nuclear power should not be Japan’s primary source of energy. For example, a 2002 work, *Harvest*, is eerily prescient of the Fukushima crisis. The main character in the story is misinformed by higher authorities about the dangers of radiation following a nuclear accident and has inadequate information to decide what action he should take. The story warns that when nuclear power plants fail, the government does not keep Japan’s citizens safe. Hayashi represents the growing number of Japanese who are calling for the reduction, if not elimination, of dependence on nuclear power. Her 1945 experience in Hiroshima and her long career as an activist give her statements moral authority.

## **A Problem for all Humanity: Nagasaki Writer Hayashi Kyoko Probes the Dangers of Nuclear Energy**

**Justin Aukema**

*Recent works have found renowned author Hayashi Kyoko and A-bomb survivor expanding her criticism of nuclear weapons to include nuclear power. This article looks at her criticisms of the nuclear disasters at Tokaimura in 1999 and Fukushima (ongoing), and her emphasis on the dangers of radiation as one which affects all humanity.*

Hayashi Kyoko (1930 - ) was fourteen and working at the Mitsubishi arms factory in Nagasaki – less than a kilometer and a half from the epicenter – when the atomic bomb struck. The experience would forever change her life and, eventually provide the central theme during her later career as a writer. Although wishing to sever her ties with what she has called “the worst of fates,” Hayashi has also stressed the impact of the bombing on her, writing “there was no way to live, other than by confronting August 9<sup>th</sup>.”<sup>1</sup> Since the publication of *Matsuri no Ba* (The Site of Rituals) in 1975, Hayashi has striven to encourage later generations to think of problems of the legacy of the bomb as their own.<sup>2</sup> One important way in which she has done this, is to highlight the lingering effects of radiation. For Hayashi, the problem of radiation damage does not end with the atomic bombing of Hiroshima and Nagasaki. Rather, it has consequences that affect all humanity.

Writers of atomic bomb literature including Hayashi have long focused on the dangers of nuclear weapons, including the ongoing suffering of Hiroshima and Nagasaki hibakusha. Few have directly criticized nuclear power. American propaganda efforts such as the Atoms for Peace program during the Eisenhower administration were highly successful in winning support for nuclear power in Japan, and even many hibakusha actively supported its “peaceful” uses. Because of this, many hibakusha including, until recently, Nippon Hidankyō (the Japan A-Bomb Victims Association) have been reluctant to speak out concerning disasters at nuclear power plants and the emergence of new waves of radiation victims.<sup>3</sup>

While Hayashi was no exception to this, her attention to the lingering dangers of radiation as a problem that can affect people and the environment for generations to come, is applicable to problems of nuclear power as well. Furthermore, in more recent works Hayashi has turned her attention to nuclear power. In linking nuclear power with nuclear weapons she has created a powerful critique of all forms of atomic energy. Her words in 2011, after the disaster at Fukushima, that “radiation damage is not just the individual experiences of hibakusha, it’s a problem for all humanity,” reflect the two new insights in her work – an emphasis on the dangers of all forms of atomic energy and the realization that we are all now potential hibakusha.<sup>4</sup>

### ***From Trinity To Trinity (1999 -2000)***

While the disaster at the Fukushima TEPCO nuclear power plant in March 2011 put the dangers of nuclear power in the world spotlight, Japanese nuclear plants had experienced earlier disasters including the 1999 accident at a JCO nuclear fuel conversion plant in Tokaimura, Ibaraki, an incident which had a large impact on Hayashi. While she was writing *From Trinity to Trinity*<sup>5</sup>, a mishandled nuclear fuel conversion procedure at a JCO processing plant for nuclear fuel exposed three workers to deadly amounts of radiation and made more than 100 other workers hibakusha. Approximately 310,000 residents over a 10 kilometer radius were told to remain in their homes

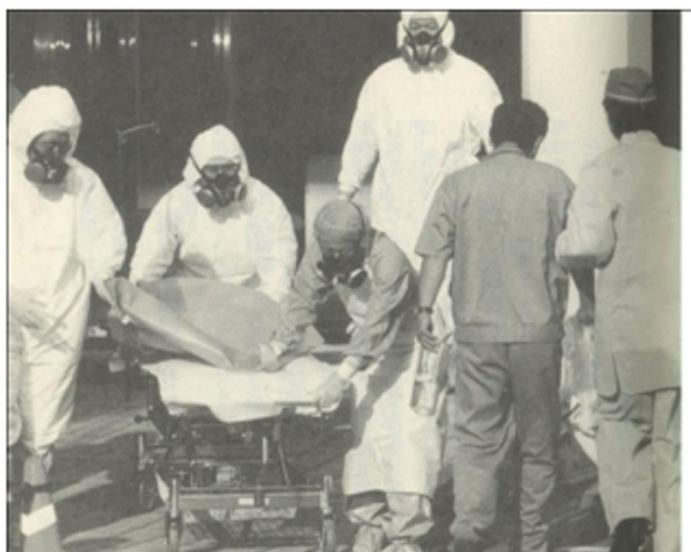


after radioactive particles, as well as neutron and gamma rays, leaked out of the plant. Ultimately at least 667 people were dangerously exposed to radiation.<sup>6</sup> In *Trinity* Hayashi writes that she saw the news of this incident on television during her visit to the Trinity Site in New Mexico. This prompts her to write a letter to her friend Rui,

Just about an hour ago when I returned to my hotel room, I overheard news of the Tokaimura incident on television. I'm very anxious to know how big the accident was. Tomorrow I depart for Trinity. I can't seem to relax with all the time I have, so I'm writing this letter to you.<sup>7</sup>

Tsukui Nobuko, a writer and interpreter who traveled with Hayashi to New Mexico, notes the impact of the event on Hayashi's work, writing "of course the terrible amazement that we, in the midst of a trip to the very origin of the bomb, felt over the accident at the nuclear plant – a byproduct of nuclear weapons – is dealt with in *Trinity*."<sup>8</sup>

*From Trinity to Trinity*, written in 1999 and published in the compilation *Nagai Jikan o Kaketa Ningen no Keiken* (Human Experiences Over a Long Time) (2000), is based on Hayashi's trip to the Trinity Site where the first atomic bomb was tested on July 16<sup>th</sup>, 1945. The narrator of the story mentions that she had wanted to visit the site for some time and, elaborating on her motivations, writes "Trinity is the departure point for my August 9<sup>th</sup>. It is also the terminus for me as a hibakusha – from Trinity to Trinity."<sup>9</sup> In other words, the path of the atomic bomb that affected the rest of Hayashi's life, started at Trinity. The trip also serves to give a sense of closure to her constant wish to "cut her ties to August 9<sup>th</sup>."<sup>10</sup> Thus, by coming full circle, Hayashi comes face to face with the tragic history which has resided in her for more than half a century.



**Figure 1: One of the three workers exposed to high-level radiation is carried by stretcher from the JCO plant. (9.30. 1999)**

In the story, the narrator describes a number of places in New Mexico, including The National Atomic Museum, the Los Alamos National Laboratory, and finally the Trinity Site at the White Sands missile test site. The narrator reflects on American attitudes toward the atomic bombings and nuclear power, and atomic power's relationship with nature. The narrative is broken at many points as she recalls stories from the past, or reflects on things she has read. Much of the story is written as a letter to Rui, who is described as a younger, female friend.

Hayashi expands her focus in *Trinity* to include nuclear power in her criticism of nuclear weapons, and to move beyond the experiences of atomic bomb victims to include victims of other nuclear disasters. While in the past she often used more literal descriptions, such as glass shards embedded in a survivor's body, to describe the lingering effects of radiation, Hayashi



approaches her critique of atomic energy in *Trinity* more subtly and through a greater use of linguistic techniques, metaphor and parable.

One example of this occurs in the language with which Hayashi frames nuclear weapons and nuclear power. In Japanese, the word typically used for atomic bomb is *genshibakudan* (原子爆弾) and for nuclear power *genshiryoku* (原子力). Eschewing these terms however, in *Human Experiences Over a Long Time*, Hayashi often opts for the third term, *kaku* (核) which implies an "atom" or "nucleus" and is best translated into English as nuclear or atomic energy. In *Trinity* when Hayashi stands at Ground Zero of the Trinity Site in New Mexico, she reflects on atomic energy's lasting effects and extends the concept of hibakusha to the natural world, including plants and animals, writing "until I had stood at the Trinity Site, I had thought that the first victims of nuclear energy (*kaku*) had been humans. This was not the case though, the first hibakusha had been right here." It is not just the nuclear bomb that has the potential to create hibakusha, but all nuclear energy.<sup>11</sup>

Additionally, there is the use of the word *hibaku*. This can be written two ways, 被爆 or 被曝. The first refers to being bombed, especially by an atomic bomb, and contains the nuance of receiving radiation damage. Similarly, *hibakusha* (被爆者) refers to victims of bombings, especially the atomic bombings, and is occasionally defined as one who holds certification from the government as having been exposed to radiation in Hiroshima or Nagasaki. The second writing, 被曝 is defined as being exposed to radiation and includes all victims of radiation damage whether of bombing or radiation associated with nuclear power.<sup>12</sup> In *Human Experiences Over a Long Time*, Hayashi uses this second writing when she talks about internal radiation exposure (*naibu hibaku*) from inhaling radioactive particles. The issue of internal radiation exposure has been of the greatest concern for Hayashi. Many of her works were written as victims of the atomic bombs suffering from radiation sickness were attempting to gain recognition from the government. Ultimately, Hayashi writes, the Japanese government refused to recognize the link between radiation sickness from internal exposure and the atomic bombs.<sup>13</sup>

Hayashi's final example of language in *Trinity* to emphasize the threat of radiation from nuclear energy is through the character Rui. The name Rui is written in katakana (レイ), the Japanese script used mostly for foreign words or when the author wishes to direct emphasis toward a particular term. Katakana can also be used when the writer wishes to delineate certain boundaries or insert ambiguity around a meaning which might otherwise be implied were the word to be written with Chinese characters. In the case of Rui, it would be apparent to a Japanese reader that the sound "rui" could also be expressed by the character 類, the same character used in the word *jinrui* (人類), or "humanity."<sup>14</sup> In his introduction to Vol. 6 of *The Complete Works of Hayashi Kyoko*, Prof. Kuroko Kazuo of Tsukuba University highlights Hayashi's use of the character "Rui" as symbolic of the larger themes dealt with in *Trinity* and *Human Experiences Over a Long Time*.

The novel depicts the character Rui as a younger friend, however, it is natural to think that the author also implies that Rui represents humanity. When the story is read in this way, the link between Hayashi Kyoko's visit to the Trinity Site and the critical incident that occurred at the JCO nuclear processing plant in Tokaimura, Ibaraki on Sept. 30<sup>th</sup>, 1999 becomes clear. One strongly thinks that atomic energy versus human beings and the earth is a larger theme than that

dealt with in her previous works, which were based on personal experiences as an A-bomb victim.<sup>15</sup>

Read in this way, Hayashi's message becomes clearer. In the beginning of the story, the narrator recalls a time when she inquired about Rui's age. Avoiding the question, however, Rui responded "I want to be just like you when I grow up."<sup>16</sup> This line could be understood as humanity's fascination with atomic energy – a fascination which threatens the danger of becoming a hibakusha like the narrator or even our own destruction. Later, Rui questions the narrator's intent in visiting the Trinity site, asking if she is "an atomic bomb maniac," a statement reminiscent of criticism that Hayashi has faced throughout her writing career for focusing so single-mindedly on the atomic bombings.<sup>17</sup> Ending both *Trinity* and her letter to Rui, the narrator says, "the world needs not your tests," in reference to the atomic bombs. Then in the very last line, the narrator asks, "what are your thoughts, Rui?"<sup>18</sup> The effect of this line is to force readers to break whatever sense of objectivity might have been felt toward the story and to contemplate Hayashi's message as their own problem.

In *Human Experiences Over a Long Time* Hayashi illustrates the danger of radiation with an increased sense of urgency, reflective of the magnitude of a problem such as nuclear energy versus human beings, a danger illustrated in a number of different scenes in *Trinity*. This ever present danger is wonderfully illustrated through the metaphor of the intruder. Just after a visit to the Science Museum in Los Alamos, the narrator relates an "incident" that occurred shortly before she left Japan. Awakened by a sound during the night, she glimpses the outline of a man outside the door to her garden. The man walks away, but the narrator is terrified and checks to see that all of the doors are locked. In the morning, she is unsure of whether she really saw him, but when she finds something the man had left behind, she is sure. She mentions that, after this event, she installed a security system and was more careful to lock the doors. However, she is unable to regain her previous sense of safety and mentions that the incident made her realize her "own loss of the sense of crisis."

I had been embracing a groundless sense of security, thinking that our daily peace was protected. On hot summer nights, I would leave the glass door in the hallway open a crack to let the wind blow in and sometimes would forget to lock the door. Danger is always within close proximity. ...I don't want an innocent child that I've raised to be touched by violence. When I repeatedly cautioned thus, Kei said, 'If we take appropriate measures and there's still a break in, then that's that.' Yes, yes. But somehow it sounded wrong. Was it alright to be so complacent?<sup>19</sup>

The metaphor of the attempted break in again reflects Hayashi's feeling that, by being exposed to the bomb, a crime had been perpetrated against, not just her, but her children as well, and all who could be susceptible to the effects of radiation. "There are particles of radiation from the atomic bombing in my body," she stated. "That's not just a problem that ends after the bombings of Hiroshima and Nagasaki, that's a problem of genes."<sup>20</sup> In addition, Hayashi speaks of society's complacency in the face of the dangers of radiation. While some of this is addressed to the false sense of security that many are lulled into in presuming that they are safe from attack by nuclear weapons, Hayashi's incorporation of the Tokaimura incident into the story suggests that this same complacency can be displayed toward nuclear power as well.

***Harvest (2002)***

Two years after writing *Trinity*, Hayashi again returned to the Tōkaimura disaster with *Shūkaku* (Harvest) (2002). This short story depicts an elderly farmer and his son who live right next to the nuclear processing plant. In scenes that eerily anticipate the tragic events later to unfold at Fukushima, the reader witnesses a nuclear disaster unfolding only meters away through the eyes of the main character. Uninformed about the details of the plant next door to his farm, the main character – 74 year old Yamada – goes about his day in typical fashion until the faint sound of sirens within the plant walls begins to sound. Learning about the accident only after watching the news on television, Yamada is eventually told to evacuate along with the rest of the surrounding area. However, unwilling to leave his farm right before the harvest, he decides to stay.

*Harvest* is significant for Hayashi's writing in that it is one of the first instances in which she focuses in detail on victims of radiation not from the atomic bomb but from nuclear power disasters. What is both striking and tragic in the story is the lack of knowledge of the characters about nuclear power – so much so that the nature of the accident is almost completely beyond their comprehension. Coupled with this is the fact that the language used by the characters could equally be addressing an atomic bomb explosion as another form of nuclear disaster. Here again, Hayashi breaks through the boundaries between nuclear weapons and nuclear power. "What should we do if it's a nuclear explosion," Yamada asks his son in desperation. "A nuclear explosion," his son replies incredulously, "you make it sound as if they're making bombs over there."<sup>21</sup>

Later, however, Yamada's son displays the same desperation and concern when he attempts to convince his father to evacuate with him.

Suppose they're dealing with nuclear fuel over there, then any kind of accident has got to mean that there's radiation involved. And if it's anything like a nuclear explosion, then we're being pierced by radiation stronger than an x-ray.<sup>22</sup>

Yamada and his son's lack of information about nuclear power is in no small part the product of the plant's failure to educate the surrounding populace of its dangers. Near the beginning of the story, Yamada reflects on the wall which was erected right next to his field, to block off the plant.

Although he couldn't see through the wall which blocked one side of the road, it was apparently a plant which manufactured nuclear fuel. At least that's the explanation he had been given before the plant was built. ... Since none of his land had been bought up [by the plant] for use though, he hadn't been given any other information. All he knew was that, after the wall had been put up, one part of his potato field had been cut off from sunlight.<sup>23</sup>

After the disaster, Yamada and his son are in danger. Although they hear sirens inside the plant, they receive no warning and are forced to get their information from the television news. This, however, proves to be of little help as

... each station simply repeated the same information in a calm, orderly fashion. There was no room for groundless rumors or gossip and no materials with which to compare how things really were.<sup>24</sup>

Eventually, Yamada chooses to remain in his home and complete the harvest of his sweet potatoes. After most of the surrounding area has been voluntarily evacuated, news crews begin to move in right next to his home and scientists come to monitor the level of radiation in his fields. Here again though, Yamada is given conflicting information about the levels of radiation. Radioactive particles are detected in 33 different soil samples from the surrounding area, but he is told that the levels are much lower than normally found in nature. Salt – an indicator of radioactivity – is taken from his house, but the results of this test are never returned to him. One week after the accident, Yamada and his son harvest the potatoes, unaware of whether the fields have been contaminated by radiation. Yamada states that he, “didn’t want to ask” if any of the 33 soil samples were taken from his field. Even if it was contaminated, he “couldn’t just leave potatoes that were ripe to be harvested” and the 30,000 yen (around \$285USD in 1999) compensation being offered “wouldn’t make up for anything.”<sup>25</sup> At the end of the story Yamada is confronted by a succession of reporters, all of whom convey a sense of disbelief that he had not evacuated. It is this disbelief that strikes a nerve with Yamada, who had never been informed that he was in danger.

The nuclear disaster that Hayashi depicts in *Harvest* through the Tokaimura incident of 1999 takes on new meaning following the 2011 nuclear meltdown at the TEPCO-operated nuclear power plant in Fukushima. The dangers of nuclear power and people’s complacency in assuming that it is safe, as well as authorities and the media withholding information, are directly confronted in *From Trinity to Trinity*, *Harvest* and other works in *Human Experience Over a Long Time*.



**Figure 2: Officials monitor radiation levels at a radish field, 1km away from the Tokaimura plant (12.2.1999)**

Hayashi’s linking of radiation poisoning associated both with the bomb and with nuclear power alerts readers to nuclear dangers. Unfortunately however, as American University History Prof. Peter Kuznick has noted in discussing the relationship between the atomic bomb and nuclear power, “the public allowed itself to be convinced that nuclear power was safe and clean. It had forgotten the lessons of Hiroshima and Nagasaki.”<sup>26</sup>

### **Hayashi addresses the crisis at Fukushima**

*Genbaku o Ikite: Sakuhin to Shogai ga Kataru* (Living the Bomb: Speaking from a Life and Works) was published in July 2011 as a booklet by Iwanami Shoten and is written as an interview between Hayashi and Ferris University professor Shimamura Teru. Reflecting on her wartime experiences and career as a writer, Hayashi elaborates on the background behind *From Trinity to Trinity*, and ties together the dangers of radiation from bombs and nuclear power, especially in light of the disaster at Fukushima.

Hayashi again confronts nuclear energy as the combined danger of nuclear weapons and nuclear power through her use of the word *kaku*. In speaking of her trip to the Trinity site, she reflects on the problem of radiation for the modern age.

The Ground Zero monument that stands at the Trinity site is the warning sign that humans have plunged into the nuclear (*kaku*) age. Damage from radiation isn't just a special right of victims of the atomic bombings, but is a problem for all those with an awareness of the dangers of nuclear energy (*kaku*).<sup>27</sup>

Later, she reflects further on how her visit to the Trinity site was intended to bring closure to her personal journey fighting against nuclear weapons, and to break away from August 9<sup>th</sup>. However, seeing the damage that nuclear power caused to the animals and environment at the test site, and observing the lingering effects of radiation, she was led to think of the effects of radiation on humanity and nature in larger terms than before. This led her to state in *Living the Bomb* that "as one hibakusha, I clearly came to understand that humans and nuclear energy cannot coexist."<sup>28</sup> Linking her criticism of nuclear energy (*kaku*) to the March disaster at Fukushima, Hayashi states:

People today think of nuclear energy only as a fuel source. There are still many hibakusha from August 6<sup>th</sup> and 9<sup>th</sup> alive in Japan. Although it comes in different forms, we're supposed to have learned what kind of effect atomic energy (*kaku*) has on humanity. At least politicians and experts are supposed to understand this. I'm simply astounded that this country still hasn't learned from our experiences. Why don't such intelligent people understand that, no matter what the situation, atomic energy (*kaku*) is never beneficial?<sup>29</sup>

Hayashi also uses both writings of *hibaku* and refers to all victims of radiation damage as *hibakusha* (被曝者) as well. Interviewer Shimamura states that "nuclear power plants are, by their very nature, a structure that produces *hibakusha* (被曝者). Even if there are no more incidents with explosions, in order to continue maintaining the plants, the workers will continue to be exposed to radiation (被曝)."<sup>30</sup>

Once again, it is internal exposure (*naibu hibaku*) that concerns Hayashi. "For me," she writes, "the issue of the 'internal' has been much more important. The 'internal' can cause all sorts of illness."<sup>31</sup> After Fukushima, internal radiation damage became a great concern amongst the public, and the terms *hibaku* and *hibakusha* to refer to all victims of radiation damage came into much greater use. In August 2011 Japanese author Oe Kenzaburo quoted Hida Shuntaro, a Hiroshima hibakusha and doctor also often quoted by Hayashi, urging the government to conduct research into treatment for "victims of internal radiation damage" (*naibu hibakusha*) as well as "establish a system to deal with the possibility of new hibakusha (ヒバクシャ)."<sup>32</sup> Oe took the universality of "hibakusha" even further, by writing the word in Japanese *katakana* script, without any Chinese characters. This removes the previous linguistic boundary that distinguished A-bomb victims and victims of other radiation damage.

After Fukushima, Hayashi spoke with renewed urgency, and at times abandoned metaphor to speak more directly. In a June, 2011 interview with Japan's leading business newspaper, the *Nihon Keizai Shinbun*, she addressed the connection of nuclear weapons and nuclear power as follows:

Atomic bombs are different from what powers nuclear plants. Yet, at their core, they are the same nuclear matter. When you carry this line of thought to connect August 9<sup>th</sup> and Fukushima, it is apparent that both pose problems of how one thinks about human life.<sup>33</sup>

The value of human life is fundamental for Hayashi and it runs through all of the works examined here. As an atomic bomb victim, she has witnessed and shared the history of hibakusha, from their struggle to gain recognition from the government, to their discrimination in society and lifelong suffering from radiation. In 2011's *Living the Bomb* Hayashi further explains some of the metaphors used in *From Trinity to Trinity* and *Harvest*, tying them to the concept of the value of human life, and its relation to the disaster at Fukushima. Through these examples, we see that some of Hayashi's most pointed criticisms of nuclear power were made as early as 1999, well before Fukushima.

One of these examples is the metaphor of the Spanish conquistadores in *Trinity*. The narrator uses the story to transition between her time just after visiting the National Atomic Museum and just before traveling by car through the New Mexico countryside. "It's written in the *History of World Exploration*" she begins, "that Spaniards began colonizing New Mexico in 1598." And she continues,

Santa Fe is interesting in the history of conquest. Any land that people set their eyes on seems to have an enticing charm before it has ever been trodden... Enticed by the native American legend, exploration parties passed through Santa Fe as they made their way east and west in search of the city of treasure and gold. ... Most of the explorations ended in failure. The explorers either suffered from internal divisions or became entangled in local disputes that ended in bloodshed.<sup>34</sup>

Beneath the surface of this critique of European expansion, these words touch on a more fundamental issue for Hayashi – the concept of center versus periphery. The nuclear power plants in Japan, such as those at Tokaimura and at Fukushima are located far from the hub of empire – Tokyo. When accidents happened, it was not the people of Tokyo who were threatened, but the people who lived near the plants – the farmers, and members of other rural communities.

This is something that Shimamura, in his discussion with Hayashi, elaborates on in *Living the Bomb* where he exposes the harsh reality of the power politics involved in the Japanese nuclear industry. Speaking first to the origin and connection of the Trinity Site with the European colonizers, he points out,

The European colonizers chased the Native Americans out one after another and snatched up increasingly large portions of their land. It was on that land that they conducted the nuclear test. In other words, it was built upon the plunder and cheap purchase of lives. I think that nuclear power plants are the same – they are founded upon lives which are looked down upon and cheaply bargained for. Whether in Fukushima or Aomori or Fukui, nuclear power plants are located where there is a bounty of nature. In other words, none are located in urban areas or industrialized areas.<sup>35</sup>

The issue of discrimination of center against periphery, central to both *Trinity* and *Harvest*, is one on which Hayashi elaborates on in *Living the Bomb*. Relating a story of a conversation with her friend, a doctor who had worked with hibakusha since the end of the war, Hayashi asks why the United States would set an 80 kilometer evacuation zone, while the Japanese Government only set a mandatory 20km evacuation zone around the crippled nuclear plant in Fukushima.

"It's a matter of human life," the doctor explains, "a difference of the extent to which basic human rights are recognized."<sup>36</sup>

Hayashi states that only from one other person – a doctor who had worked with patients of the Chernobyl disaster and urged mandatory evacuation 30km around the plant at Fukushima – did she hear similar words used in the mainstream media. "It was only from this one doctor," Hayashi says, "from whom I heard the words 'human life.'" This leads her to conclude that "in this country, the weak are discarded."<sup>37</sup>

In return for accepting nuclear reactors, struggling rural economies like those in Fukushima received subsidies from the central government, and the promise of jobs and prosperity. Like nuclear power plants, U.S. military bases in Japan are also located in the periphery, with an overwhelming amount in Okinawa. Vancouver Peace Philosophy Centre director Satoko Oka Norimatsu has noted that the national government's positioning of nuclear power plants and U.S. military bases far from Tokyo is rooted in policies which discriminate "against the periphery to assure the protection of the state and guarantee the energy needs of the metropolis."<sup>38</sup> Norimatsu cites the use of the word *kimin*, or "abandoned people," to describe the plights of the people in Fukushima and Okinawa.

When Hayashi speaks of discrimination and the value of human life to lament the actions of the government after the disaster at Fukushima, she speaks from a lifetime of living with the damaging effects of radiation as a hibakusha, and out of concern for future generations. Recalling the struggles of Nagasaki and Hiroshima hibakusha to gain recognition from the government, she worries about how the long term human effects of radiation from Fukushima will be dealt with, stating:

Amongst my hibakusha friends, many have repeatedly been in and out of the hospital. However, even if they submitted the forms to gain recognition as suffering from radiation sickness, their claims were continually rejected on the grounds that there was no connection between the atomic bomb and their sickness, or that the cause was unclear.<sup>39</sup>

Recognition based on the often invisible effects of internal radiation damage, the issue that has been most important for Hayashi, was repeatedly denied by the government. After the disaster at Fukushima, however, the issue of internal radiation damage (*naibu hibaku*) was raised publically for the first time. "As soon as I heard these words, I broke into tears," Hayashi said. "So they had known about internal radiation damage all along."<sup>40</sup>

Through metaphor and language in *From Trinity to Trinity*, *Harvest*, and other stories in *Human Experience Over a Long Time*, Hayashi directs her lifelong message about the dangers of radiation and the struggles of hibakusha to encompass atomic power in general. In this way, she effectively directs comment and criticism that speaks to contemporary issues of nuclear power—both the atomic bomb and nuclear energy. Hayashi has long sought to shake readers out of complacency over the dangers of atomic energy and, as John Whittier Treat has written in his comprehensive study of atomic bomb writers, endeavored to "make the bombing a present-day problem for a world that only looks as if it is at peace."<sup>41</sup> Drawing on her lifelong experiences with the atomic bomb, Hayashi seeks to assure that humanity will no longer have to face tragedy at the hand of the atom, whether atomic bombs or atomic power.

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## Images

Image 1: Shimizu Shuji and Noguchi Kunikazu. *Rinkai Hibaku no Shougeki: Ima aratamete tō genshiryoku*. (Tokyo: Liberta, 2000), 13.

Image 2: Rinkai Jiko no Taiken wo Kiroku Suru Kai. *Tokaimura Rinkai Jiko no Machi kara: 1999nen 9gatsu 30nichi Jiko Taiken no Shōgen*. (Tokyo: Morimoto, 2001), 51.

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*For further information on and works by Hayashi Kyoko in English, please see Kyoko Selden’s excellent translations.*



## Notes

<sup>1</sup> Hayashi Kyoko, *Hayashi Kyoko Zenshū*, (The Complete Works of Hayashi Kyoko) Vol.6. (Tokyo: Nihon Tosho Sentā, 2005), 9, 64.

<sup>2</sup> *Hibakusha* (被爆者) refers to a person who was exposed to the atomic bombing and suffers from radiation poisoning and other effects. More on the uses of the word will be discussed later.

<sup>3</sup> [Yuki Tanaka and Peter Kuznick](#). "Japan, the Atomic Bomb, and the 'Peaceful Uses of Nuclear Power.'" *The Asia – Pacific Journal*, Vol. 9, Issue 18, No. 1, (2 May, 2011)

<sup>4</sup> Hayashi Kyoko. *Hibaku o Ikite: Sakuhin to Shōgai o Kataru*. (Living the Bomb: Speaking from a Life and Works) (Tokyo: Iwanami Shoten, 2011), 26.

<sup>5</sup> "From Trinity to Trinity" (Torinitī kara Torinitī e) is the second of the two novellas in *Human Experiences Over a Long Time* (Nagai jikan wo kaketa ningen no keiken, 2000, Noma Literary Prize). Translation by Kyoko Selden, *The Asia-Pacific Journal*, [link](#).

<sup>6</sup> Figures were taken from Hayashi, *Living the Bomb*, 51 and can also be found in "Criticality accident at Tokai nuclear fuel plant (Japan)." World Information Service on Energy. 14 December 2010, [link](#). The Tokaimura incident occurred on September 30<sup>th</sup>, 1999. JCO is a subsidiary of Sumitomo Metal Mining. For more in depth analysis see, for example, Nanasawa Kiyoshi. *Tokaimura Rinkaijiko e no Michi* (The Road to the Tokaimura Criticality Accident). (Tokyo: Iwanami Shoten, 2005).

<sup>7</sup> Hayashi Kyoko. *Human Experiences Over a Long Time*. (Tokyo: Kodansha, 2000), 156.

<sup>8</sup> Tsukui Nobuko. "Genten e no tabi: Hayashi Kyoko sakuhinkō," (Journey to the Source: A Look at one of Hayashi Kyoko's works). *Meisei Daigaku Kenkyū Kiyō – Jinbun Gakubu*, v. 39. (March, 2003), 61.

<sup>9</sup> Hayashi Kyoko. *Human Experiences Over a Long Time*. 136.

<sup>10</sup> Ibid., 134.

<sup>11</sup> Hayashi, *Human Experiences Over a Long Time*, 171.

<sup>12</sup> Definitions based on a survey of five dictionaries: *Nihongo Daijiten*, Vol. 2. Shogakukan, (1972, 2001); *Nihongo Daijiten*, Vol. 2. Kodansha (1995); *Gakken Kokugo Daijiten*. Gakushūkenkyūsha, (1998); *Nihongo Daijiten*, Seisen ban. Shogakukan, (2006); *Kojien*. Iwanami Shoten, (1998). The two writings of *hibaku* are often confused, and some dictionaries list them under the same heading.

<sup>13</sup> Hayashi, *Human Experiences Over a Long Time*, 16-17 as well as Hayashi, *Living the Bomb*, 43-44.

<sup>14</sup> Other critics who have discussed this include Kuroko Kazuo in Hayashi Kyoko, *The Complete Works of Hayashi Kyoko* v.6, 494 and Tsukui Nobuko "Genten he no Tabi: Hayashi Kyoko Sakuhinkou," 63 – 64.

<sup>15</sup> Hayashi, *The Complete Works of Hayashi Kyoko*, Vol. .6. (Tokyo: Nihon Tosho Sentā, 2005), 494.

<sup>16</sup> Hayashi, *Human Experiences Over a Long Time*, 129.

<sup>17</sup> Ibid., 133. For more criticism of Hayashi see Nakagami Kenji and other critics in John Whittier Treat, *Writing Ground Zero: Japanese Literature and the Atomic Bomb*. (Chicago: University of Chicago Press, 1995), 107 – 120 as well as Hayashi, *Living the Bomb*, 24 – 27.

<sup>18</sup> Hayashi, *Human Experiences Over a Long Time*, 179.

<sup>19</sup> Ibid., 161.

<sup>20</sup> Hayashi, *Living the Bomb*, 28.

<sup>21</sup> Hayashi, *The Complete Works of Hayashi Kyoko*, v.6, 266-267.

<sup>22</sup> Ibid., 267.

<sup>23</sup> Ibid., 265.

<sup>24</sup> Ibid., 268-69.

<sup>25</sup> Ibid., 274-75

<sup>26</sup> Yuki Tanaka and Peter Kuznick. “Japan, the Atomic Bomb, and the ‘Peaceful Uses of Nuclear Power.’”

<sup>27</sup> Hayashi, *Living the Bomb*, 32.

<sup>28</sup> Ibid., 41.

<sup>29</sup> Ibid., 42.

<sup>30</sup> Ibid., 45

<sup>31</sup> Ibid., 28

<sup>33</sup> Shiraki Midori. “Nagasaki Hibakusha ga mita ‘Fukushima’ – Sakka Hayashi Kyoko san (‘Fukushima’ as seen by Nagasaki hibakusha Hayashi Kyoko).” *Nihon Keizai Shinbun*, 22 June 2011.

<sup>34</sup> Hayashi, *Human Experience Over a Long Time*, 146 – 148.

<sup>35</sup> Hayashi, *Living the Bomb*, 45.

<sup>36</sup> Ibid., 42.

<sup>37</sup> Ibid., 43.

<sup>38</sup> [Satoko Oka Norimatsu](#). “Fukushima and Okinawa – the ‘Abandoned People’ and Civic Empowerment.” *The Asia-Pacific Journal*, Vol. 9, Issue 47, No. 3 (21 Nov. 2011)

<sup>39</sup> Ibid., 43.

<sup>40</sup> Ibid., 43

<sup>41</sup> Treat, John Whittier. *Writing Ground Zero: Japanese Literature and the Atomic Bomb*. (Chicago: University of Chicago Press, 1995), 321.

**"Local Perspectives On the Tsunami Disaster: Untold Stories From the Sanriku Coast"**

Christopher S. Thompson

March 5, 2012

<http://www.japanfocus.org/-Christopher-Thompson/3706>

This article strives to give a voice to survivors of the Great East Japan Earthquake who suffered from the tsunami but not the nuclear disaster; their invisibility makes the case that these survivors are a separate group of Japan's "abandoned people." They have been poorly represented in discussions on Japan's future energy policy; Thompson uses individual accounts to explain the residents' "short and long-term needs, the full social, cultural, and economic impact of the tsunami disaster, and the future prospects of the region."

In September 2011, Christopher Thompson made a volunteer trip to Northeast Japan, learning firsthand the needs and opinions of these "abandoned people." Thompson encountered the complaint that smaller communities are ignored by the government and international aid groups. Citizens in Iwate and Miyagi prefectures believe that while Fukushima's citizens are receiving aid they deserve and need, people in the northern regions are "left to fend for themselves." Thompson's own experiences suggest that their complaint is justified; when he visited the area six months after the disaster, many coastal communities had not yet cleaned up the mountains of refuse left by the tsunami. One year after the disaster, when Thompson's article was published, the situation still had not changed.

In addition, locals are not consulted about "the planning and implementation of their own recovery efforts." Many major volunteer organizations, headquartered elsewhere, do not solicit local opinions about what work needs to be done, instead trying to organize all recovery efforts remotely. Therefore, many volunteers end up doing work that is not essential. To remedy this problem, local coordinators of the volunteers often ask volunteers to change their activities, even though such switching of tasks is technically against the rules of most volunteer organizations. Thompson was told that his whole group would scrub out a school, but when he arrived, the local volunteer coordinator asked half of his group to clean up a river instead.

A final common theme among the locals was a desire to return to normalcy: this means not only clearing away the earthquake and tsunami damage, but also continuing activities such as celebrating annual festivals, which provide a welcome distraction from the reconstruction work and a comforting link to the past. Thompson argues for three changes that would be beneficial for Northeast Japan's "abandoned people." First, they need more aid than they are receiving. Next, they want more independent authority over the activities of volunteers. Finally, they want their choices to be respected. Unfortunately, Thompson concludes, even these simple desires may not be met, given the misunderstanding, disrespect, and discrimination that caused the authors gathered here to conclude that these rural citizens have also become "abandoned people."

## Local Perspectives On the Tsunami Disaster: Untold Stories From the Sanriku Coast

Christopher S. Thompson

### Introduction

On the Sanriku coast of Tōhoku (Northeast) Japan, almost one year after the Great East Japan Earthquake on March 11<sup>th</sup>, 2011, as tsunami recovery efforts shift from local, short term relief initiatives to long-term regional revitalization strategies, an accurate understanding of how affected residents perceive the disaster and are responding to it is crucial for implementing solutions to existing hardships and those to come. However, local perspectives on the tsunami disaster and relief-related issues, particularly from the dozens of small and medium-sized coastal municipalities in Fukushima, Iwate, and Miyagi prefectures (collectively probably the single largest block of tsunami survivors), are still greatly underrepresented in the ongoing discussion about tsunami recovery (Ito and Mifune 2011: 52-90; Takahashi 2011: 110-122). Without this local perspective, our understanding of coastal survivors' current lives, their short and long-term needs, the full social, cultural, and economic impact of the tsunami disaster, and the future prospects of the region are woefully incomplete.

Built on a foundation of long-term fieldwork in Iwate and ethnographic insights gleaned during participation in a disaster relief trip to the prefecture in late September of 2011, this account provides access to the voices of a small group of Iwate coastal locals who are among those who have typically gone unrepresented in tsunami-related news stories, policy making, and research.

### Bus Trip To Otsuchi

*On the morning of September 25th, 2011 at approximately 9 a.m., I sat in a fold-out jump seat in the front row aisle of a fully loaded 50 passenger tour bus nearing the Port of Kamaishi on the Sanriku coast in Iwate reviewing the day's plan with Kishida Kachō<sup>1</sup> a top administrator at Iwate Prefectural University (IPU), who was kindly acting as our guide for the day. On the bus were 26 students and several staff members from IPU and 16 students and faculty from my institution, Ohio University (OU). This was our first fieldtrip together.*

*Nobody really knew what to expect. Ten members of our OU group were undergraduates based in Japan for the semester in study abroad programs at OU's partner institutions in Nagoya and Tokyo. I, their program director, had brought these students with representatives visiting Japan from our Dean's Office to Iwate for this three-day holiday weekend to be "tsunami volunteers." We had just met our IPU friends face-to-face for the first time the previous day, but we shared a common objective that had been discussed often over e-mail and Skype during the last several months: while participating in this disaster relief trip, to explore possibilities for a joint service learning project that could more effectively mobilize the students, faculty, and administrators from both of our institutions to listen and react to the needs of local tsunami survivors on their own terms. With this ambitious goal in mind, together, we were about to embark on our first tsunami "fukko shien," (recovery support) experience.*

*We were headed to the town of Otsuchi-chō, North of Kamaishi. Looking out the bus window, damage from the tsunami on 3.11 was still apparent everywhere. As we turned left off of the Kamaishi Highway (Route 283) onto Coastal Route 45 at the Matsubara intersection to head North to Otsuchi, we began to see live, the shocking after scenes of decimation each of us had witnessed with the rest of the world on TV or via video replay for days afterward.*



**Kamaishi, before and after March 11, 2011**

*Buildings reduced to rubble, yet to be cleared. Hundreds of wrecked cars piled three stories high, awaiting removal. The first and second floors of three and four-story buildings in the harbor district gutted to the core by rushing seawater that was reportedly 9 meters high at this location (Asahi Shimbun 2011a: 74). We even saw the fishing boats like those in the news - one half buried in beach sand, another still resting on the coastal Yamada Line train station platform, and a third crushing the roof of a small house.*

### **Local Opinions On Disaster Relief**

One of the many locally based Non-Profit Organizations (NPOs) leading the tsunami disaster relief effort in Iwate is Ginga Net, housed within the campus of IPU, located two bus hours inland in Takizawa-mura, Northwestern Iwate, near Morioka, the prefectural capital. It was through Ginga Net and IPU, and in particular thanks to a connection with Fujino sensei, a professor in the Welfare Department at IPU (which operates Ginga Net), that our OU group was able to organize this trip. Through Fujino sensei, I had also arranged for my OU group to participate in several planned activities in Otsuchi-chō with IPU students, first at a kindergarten, then nearby at the local junior high to help restore the facility.

As I worked from the U.S. to coordinate this project in April of 2011, I quickly realized that a majority of those in Iwate organizing relief efforts - civil servants, NPO staff members, volunteers from outside and well meaning Iwate citizens - shared a similar view. They believed that while the high profile disaster sites to the South (places such as Minami Sanriku [Miyagi] Onagawa-chō [Miyagi], and Sendai [Miyagi] continued, deservedly, to receive international attention and regular and predictable on-the-ground support for relief efforts there, many of the smaller coastal communities the size of Otsuchi-chō (population 15,277 [Otsuchi-chō 2011]) and smaller on the Sanriku Coast North of Kamaishi (towns like Yamada, Miyako, Tanohata, and Kuji) have been left to fend for themselves. During the day in Otsuchi-chō, I encountered plenty of anecdotal evidence to justify this opinion.

### **Otsuchi-chō**

*The bus pulled into Otsuchi-chō just before 10 a.m. By the time we arrived at the Volunteer Station just off of Route 45 onto Route 280 in the Kamichō district, all aboard our bus were silent - thoroughly shell shocked by the view. We parked on the street just past a public bus stop. To our West (inland) was a wooded area where a five-story elementary school had burned down after its lower floors had been stripped by waves of everything but the columns holding up the*

*upper floors, which at this location had been 8.5 meters high. Looking East (toward the sea), we were at the edge of what had been an expansive ocean-side residential neighborhood (maybe 100 residences) on what looked to be a coastal plain adjacent to Otsuchi Harbor. However, no houses were left. All that remained were empty water-saturated lots and slabs of concrete and rectangular remnants of block, marking the foundations of what was once there.*

*Everyone waited on the bus while Kishida Kachō, Fujino sensei, and two other IPU staff members took me and another OU colleague to check in at the Kamichō Volunteer Station. This turned out to be a prefabricated building built in an empty lot about a ten-minute hike through the woods up a hill into another residential area, where all the houses were in perfect order. It was quite a contrast to the area we had viewed on the bus. The administrator, a woman from Morioka, explained to us that the station had been built in the hills so that in the event of another large earthquake or tsunami, Otsuchi wouldn't lose its disaster relief hub.*

*We signed in as a joint work team from IPU and OU for our volunteer assignment, but it was necessary to change plans. Instead of all of us going to the kindergarten and school to clean up, as was the original plan, we were asked to split up into two groups. "This is what the hamlet coordinator in Sakuragi-chō (where the kindergarten is located) wants you to do," explained the administrator. "We don't have much oversight and local opinion is not often solicited so we are forced to make adjustments like this locally," she added. Wanting to be flexible and to adapt to local needs, we quickly agreed to the change. The administrator seemed relieved.*

*As we left the prefab, the administrator handed me a packet of registration stickers that each member in our group was supposed to wear on an outer garment in approximately the same place. "We need to keep track of who is official," she said, then reminded that if Otsuchi-chō could get enough participants together, an Aki Matsuri (Fall Festival) procession was planned for the afternoon. "Whether you are at the kindergarten or at the school cleanup, you might be asked to drop everything and participate. Will you be able to agree to that?"*

*"No problem," I replied, wondering why she was trying so hard to gauge our willingness to be flexible. Then Kishida Kachō explained:*

*This district has had bad experiences with relief volunteers before. Some volunteers like to come only to help with what they planned to help with. Really, what these locals need more than anything are people to share their pain and who will help give them a sense of normalcy. To outsiders, the matsuri is an exotic attraction. To locals, it symbolizes normalcy, as this is what we do every year in late September. Not celebrating the fall festival would be like not having Christmas! (Kishida 2011)*

### **Yoiko Kindergarten**

*I led the kindergarten group. My first impression of Yoiko Kindergarten<sup>2</sup> was that it was immaculate – untouched by the tsunami. It was located in a residential neighborhood about 10 minutes by car from Kamichō in a district, further inland to the West. The district was protected from the harbor by a retaining wall, so all the residences looked to be in pretty good shape. Until seen up close. Examined carefully, still visible were watermarks on the outside of the houses, just under the rooflines. Cracks in walls, uneven ground, broken roofs, and crooked foundations were also apparent. However, the log cabin-style kindergarten building looked almost brand new, except for the water mark stains they couldn't remove from high on the inside walls. We*

*later learned that this was the first building the neighborhood association had decided to collectively repair because Sakuragi-chō was a working-class borough with many young nuclear families whose natal households were related to the fisheries, which are located closer to the harbor in the Kamichō area. To participate fully in local relief and reconstruction efforts, the young parents needed a safe place to leave preschool children.*

*For the first 45 minutes after our arrival, we danced with the 25 children, 2-6 years of age. Then, we played games with them. Finally, we read them stories in English, a tradition started by the Enchō sensei (director) to internationalize their curriculum, and to stimulate young minds as part of the postwar Montessori tradition in which she had been trained. At her request, we brought with us a suitcase full of English language storybooks to replace the collection that had been washed away. Since everything seemed so normal, we wondered for the first hour-and-a-half why this kindergarten had been chosen by Fujino sensei for us to visit. But as soon as the five teachers put the kids down for their afternoon naps, we learned from the 78 year-old director the rest of the story. Not all was as it appeared.*

I was born in the year of the last great *tsunami* here, caused by the Showa Sanriku Earthquake on March 3rd, 1933. Maybe that's why I felt so strongly, unlike some others on our street, that we needed to get all of the children and teachers to higher ground on the hill behind our kindergarten when we heard on the radio that the *tsunami* was coming - even though we didn't hear any sirens. After all, I am a product of *tsunami tendenko*.<sup>3</sup> My biggest regret about that day is in not convincing a grandparent who arrived here right at that moment to pick up her granddaughter to stay with us instead of going home to get her daughter and husband before finding higher ground. She drove down our street, up over the retaining wall, and turned the corner toward the harbor. Up on the hill, moments later, we watched as the *tsunami* formed in the distance and roared toward us over the roads on which she had just passed, crushing everything up to the second floor of everything in its path. I still wake up at night thinking about it.

Some volunteer visitors often ask us why we stay here in town instead of moving further inland or to some other city. These are good questions. But, the answers are simple. We don't move further inland because it's too expensive. We don't move away because this is our home. There have been *tsunami* here before. In fact, three others before this one since 1896.<sup>4</sup> And one might come again. If we left the area just because we were scared, then we would lose out. Lose out on a wonderful life by the sea, with the people (family and friends) who are near and dear to us. Part of our heritage is finding a way to survive these disasters, which are always a possibility here. But we can't recover alone. We need your help. Thank you for coming today. You made the children happy. This makes my teachers and me happy, and gives us courage to go on. We'd love to see you again. Can you stay for the *matsuri*? We rarely see our relief visitors more than once. Please come back, if you can. (Tsukamoto 2011).

*In conversations with the kindergarten staff during our visit, we also learned that many of the children we had interacted with had lost a sibling, parents, other relatives, or friends in the tsunami. Most of them were still suffering symptoms of post-traumatic shock. The director also mentioned that several of the children had developed abnormal attachments to their teachers, and were having trouble going home at the end of their day. This is how we met Fujino sensei, she said. Through her job at IPU, she is helping us find the help we need.*





**A mural that depicts the poem "Ame ni mo Makezu" and fairy tale "Ginga-Tetsudo no Yoru" (Night on the galactic railroad), both by Kenji Miyazawa, on a wall at Okawa Elementary School in Ishinomaki, Miyagi Prefecture**  
(Photo by Shinichi Iizuka)

*Our final activity at the kindergarten was sharing lunch with the teachers. We all sat around a table and got to know each other. I noticed that not everyone took an obentō (box lunch). "Why?" I asked one of the young teachers who wasn't eating. "Those of us not eating are fasting for lunch to honor relatives we lost," she said. The lunch contains saba (mackerel). In March, we all lost family members who worked in the local saba fisheries."*

### **School Clean-up/ River Clean-up:**

*After lunch, our kindergarten group joined the others at Otsuchi Junior High School, where the rest of our OU-IPU group were not cleaning up the school, but the river next to it instead. The stream was about 6-8 meters wide, and ran down from a wooded hillside, adjacent to the school.*

*According to members of the neighborhood association who were working with the group, this job was the local priority, not the school clean-up. So the larger volunteer group from Tokyo we were scheduled to work with, intent on cleaning the school or some other facility, left for another project. But two IPU students, whose relatives live in Otsuchi, asked Kishida Kachō if our group could stay. They knew the local neighborhood association had experienced a lot of difficulty in attracting any volunteer groups to this river project until Matsubara-san from an ecological cleanup company in Nagano (central Japan) had agreed to take on the project. The reps told us he is originally from Namiita Kaigan just North of Otsuchi, so could relate to the importance of salmon in Otsuchi and to this project for locals. This particular week he had brought a high school group with him from Nagano to work in the stream. He was more than happy for our green-shirted volunteers to join his team.*

*As those of us from the kindergarten joined the effort, everyone pointed out the dozens of salmon, swimming up the stream through the debris to spawn! The purpose of this job was to clean the stream so the salmon could lay their eggs successfully and return the next year. Cleaning involved the removal of the top layer of oily sludge from the riverbed by shovel, carting it by wheelbarrow to a location where it would be put into plastic bags to be discarded. The debris had to be taken out and thrown away as well. By 3 p.m., most of the work was finished. It was then time for the closing meeting, led by Matsubara-san. As everyone gathered around him, he began to speak.*

*I hope you all learned something today about biology and about compassion for life. It is important to understand what different forms of life need to survive whether it be fish or animals or humans. I believe that if we could understand this better there would be fewer conflicts in the world such as wars, and we could make the earth a better place for both humans and animals. I am sorry that this region experienced a tsunami, but this devastating event didn't just hurt the people, it hurt the wildlife too. I hope you will remember from now on that where there are people, there is wildlife and both are important. I had a good time working with you today, I*



hope you enjoyed yourselves too! I will be back to Otsuchi next week to work on another eco-project, so please join me if you can! (Matsudaira 2011).

*At the conclusion of the talk, everyone clapped, as much for Matsubara-san as for all the participants. Then the local neighborhood association representative thanked everyone for coming, and working so hard. "As you know," the representative said, "Cleaning the stream was our priority in this neighborhood today, not working on the school. Thank you for helping us achieve our goal." Before saying goodbye, he invited any of us who could to stop by Kozuchi Jinja (Shrine) on Route 280 near the former Otsuchi Elementary School to enjoy the matsuri in progress on the way home, adding that he and the other association representatives were headed there next for a long awaited folk performance ritual (dentō geinō gishiki). We were invited to join them there if we had time. Unfortunately, our group by now was in a little bit of a hurry, so politely bid farewell to everyone, then boarded our bus for the two-hour trip up the coastal mountain pass to Hanamaki, where we were scheduled to spend the night.*

### Departing Otsuchi-chō

*It took a moment for me to make the connection, but Otsuchi Elementary was the school across the street from the bus stop where we had begun the day. As we passed Otsuchi Elementary, I could see Kozuchi Jinja to the left of the school building built quite a way back up into the hillside. As I squinted to try to see the structure as we passed by, Hasegawa sensei, another IPU professor on the trip, who I had happened to sit next to, said, "It was built far enough up on the hill so that the tsunami didn't touch it," as if he knew what I was thinking. I hadn't even noticed the shrine earlier that morning, but now the entire compound was lit up with colorful lights, and there were many, many food stalls set up. Flute and drum music could be heard faintly outside, even from inside the bus, and a large crowd was beginning to gather. "Next time, you definitely must go, sensei," he told me, judging from the look on my face how badly I wished we could stop.*

*"I'd like to," I said. And not wanting to waste the opportunity, decided to ask Hasegawa sensei, a history professor, if he knew anything about the folk performance ritual alluded to earlier by the neighborhood association representative. Knowing of my interest in Iwate folk culture, he then proceeded to give me quite a detailed explanation:*

Within the local hamlet culture of the Iwate coast, there is a traditional folk performance (*minzoku geinō*) called Mawari Kagura, in which the area's Shinto shamanic dance troupes visit specially selected *kominkan* (citizens halls) and *minka* (traditional [thatched roof] farm houses) along the coast during the early months of a new year, to perform special rites that bless local residents, protect them from misfortune, and help them pray for bountiful harvests both on land and at sea. Kuromori Kagura and Unotori Kagura from Miyako are the most famous. Other more local troupes also exist.

According to my relatives on the coast, since the *tsunami* on 3.11, special performances of Mawari Kagura have been commissioned in many coastal communities to help the inhabitants pray for healing and to console the spirits of the dead. Other folk traditions that contain prayer rituals have experienced a similar resurgence as well. This is how Iwate-jin (Iwate residents born and raised in the prefecture) traditionally responded to large-scale tragedy of all types. They look to the indigenous folk expressions of their ancestors for comfort and the strength to move on. Then they take this wisdom from the past and apply it to the present and pray for the future. For

anyone interested in how the communities on the Sanriku coast will deal with the *tsunami* disaster, I recommend paying careful attention to the way expressions of traditional culture that may have faded away in recent years begin to reappear and become reintegrated back into daily life within these coastal communities. (Hasegawa 2011)

### Final Thoughts

This was only one day spent on the Sanriku coast. Nevertheless, by interacting with the residents of Kamichō and Sakuragi-chō in the town of Otsuchi, several patterns useful for beginning to understand local, small town coastal perspectives on the *tsunami* disaster and its aftermath began to emerge. First, both relief workers familiar with the small towns on Iwate's Sanriku coast and the local residents we encountered in Otsuchi perceived that support efforts have been slower to reach this area and less refined than in other high profile parts of the disaster zone. Based on my observations in Otsuchi, there seemed to be some truth to this critique. Second, local residents both at the kindergarten and the stream cleanup demonstrated a strong desire to be active in the planning and implementation of their own recovery efforts, yet don't seem to be adequately consulted. A third pattern that emerged is that local residents we met in these two districts also sensed that local priorities are not clearly understood or valued by outsiders who come to help. This is why partnering with relief workers and volunteers familiar with (or at least sensitive to) small town coastal life (such as the IPU faculty, staff, and students, and Matsudaira-san) is so crucial in the long-term recovery effort, because they can advocate for local needs and help the rest of us to tune into local priorities. In this vein, relief volunteers might also consider making longer term commitments to the communities they work in so they can build in return visits, another local wish that seemed often to go unfulfilled.

Finally, Hasegawa sensei gives us some good advice about what is important to coastal locals when dealing with the *tsunami* or any major human disaster. In rural communities both in inland and coastal Japan, solidarity, unity, and trust among its members has historically been maintained in good times and in bad through collective participation in the rituals and festivities associated with a local guardian deity. What the locals residents we met in Otsuchi wanted most was not to be given a new future or a one-size-fits-all solution to the *tsunami* related problems they faced, but outside input to help them re-imagine (through a long-term relationship built on participation in their traditional culture) a way in which their local wisdom from the past can be combined with good ideas from the present and applied going forward for use over the long haul. As Hasegawa sensei said to me later that night as we soaked in an *onsen* in Hanamaki, "This is the Iwate-way, the Tōhoku-way, and perhaps the only way we know how to build a future, one day at a time." (Hasegawa 2011)

*The next day, on the Shinkansen ride Southwest to Tokyo, we knew what we had to do. We would have to find a way to get back to Iwate. In order to make the kind of difference most meaningful and long lasting to both Otsuchi residents and to ourselves, we will have to participate in building their future, with our IPU friends, one visit at a time.*<sup>5</sup>

See the video [Curtains of Love for Otsuchi](#).

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## Notes

<sup>1</sup> Kishida is a Japanese surname. Kachô is an administrative job title, which means, division chief. In this text, all Japanese surnames are pseudonyms and titles are disguised in order to protect the individual and collective privacy of everyone cited.

<sup>2</sup> Yoiko Kindergarten is a pseudonym to protect the privacy of the institution.

<sup>3</sup> *Tsunami Tendenko* is a Tōhoku folk phrase that represents local wisdom pertaining to tsunami that evolved in the Sanriku coastal communities after the Showa Sanriku Earthquake in 1933. Tsunami tendenko is an abbreviation of a concept that suggests, "When a tsunami is coming, don't try to look for your relatives. Don't try to help the elderly, your grandparents or your parents. Don't try to call your wife or your husband. Don't think about your children or your grandchildren" (Corkill 2011). It is best for the family, for the neighborhood, for the school, and the community, to escape to higher ground (even if by yourself) as soon as possible no matter what when a tsunami is thought to be coming, in order to cut down on the loss of life. In the tsunami that resulted from the 1933 and 1960 quakes that led up to the latest on March 11, 2011, many lives were lost unnecessarily by individuals who went looking for or waited for others they were with instead of escaping alone when the tsunami was known to be coming (Yamashita 2008).

<sup>4</sup> Three *tsunami* have hit Otsuchi since the late 19<sup>th</sup> century. They were produced by the Meiji Sanriku Earthquake in 1896, the Showa Sanriku Earthquake in 1933, and the Chile Earthquake in 1960. A fourth *tsunami*, larger than any of these, is thought to have struck the Iwate coast in the year 869 following an earthquake estimated to be a magnitude 8.6 (Mainichi Shimbun 2011)

<sup>5</sup> For further information about the OU – IPU Tsunami Relief Initiative, see Appendix.

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## **Appendix**

[Link 1.](#) OU Media story on this tsunami relief trip published September 21<sup>st</sup>, 2011.

[Link 2.](#) OU Senior Brandon Donor's original video about this tsunami relief trip made on September 27<sup>th</sup>, 2011.

[Link 3.](#) IUP Information Page report on the OU – IUP joint Tsunami Relief Project.

**"Science with a Skew: The Nuclear Power Industry After Chernobyl and Fukushima"**

Gayle Greene

January 2, 2012

<http://www.japanfocus.org/-Gayle-Greene/3672>

Greene's article explores more deeply the health dangers facing people exposed to long-term low dosages of radiation, as is inevitable for those near the Fukushima plant. An English professor, Greene developed interest in the health effects of low-level radiation when she authored a biography of the late epidemiologist Alice Stewart, who pioneered research in that field. Greene contends that the global media is downplaying these dangers, and she presents alternate studies that show that exposure to radiation following the Chernobyl disaster caused many medical problems. These extend beyond cancer; every human body system is harmed. She argues the pro-nuclear media in Japan is reluctant to connect Fukushima to Chernobyl because doing so would dampen enthusiasm for building new nuclear plants. The misinformation will exacerbate the dangers for Fukushima residents who may follow their government's lead and conclude that it is medically safe to stay there. Most at risk are fetuses and children, on whom the effects of radiation are much more severe.

One problem is the shortage of research on low-level radiation. Greene argues that the global media is too reliant on studies of radiation from Hiroshima, such as those conducted by the Radiation Effects Research Foundation (RERF). The RERF studies found little danger from being exposed to low levels of radiation. Greene is skeptical of these reports because later studies of radiation in other settings *do* suggest dangers from low-level exposure. Further, the Hiroshima exposure was a one-time, high-dosage blast of radiation, and so the results may not even be comparable. While there are problems with all of these studies, Greene argues that the Japanese government and media is ignoring the abundance of newer research. Studies of the Chernobyl disaster are much more relevant to predicting the results of Fukushima, she contends.

The article draws heavily upon the research of Alice Stewart, who studied the relationship between exposure to radiation and childhood cancer; her findings in the 1940s and 1950s clashed with the then-accepted idea that there were no long-term health impacts from exposure to low levels of radiation. Like Norimatsu, Greene explores the probability that the media, both in Japan and globally, and the Japanese government have spread misinformation about not only the levels of radiation from Fukushima, but also the risk of health damage from exposure to a given level. Greene shows that there is a history of downplaying the health damage following nuclear disasters, and the resulting "safety myth" made Japan (and the rest of the world) unprepared for another nuclear disaster, even after Chernobyl.

## Science with a Skew: The Nuclear Power Industry After Chernobyl and Fukushima

Gayle Greene

It is one of the marvels of our time that the nuclear industry managed to resurrect itself from its ruins at the end of the last century, when it crumbled under its costs, inefficiencies, and mega-accidents. Chernobyl released hundreds of times the radioactivity of the Hiroshima and Nagasaki bombs combined, contaminating more than 40% of Europe and the entire Northern Hemisphere.<sup>1</sup> But along came the nuclear lobby to breathe new life into the industry, passing off as “clean” this energy source that polluted half the globe. The “fresh look at nuclear”—in the words of a New York Times makeover piece (May 13, 2006)<sup>2</sup>—paved the way to a “nuclear Renaissance” in the United States that Fukushima has by no means brought to a halt.

That mainstream media have been powerful advocates for nuclear power comes as no surprise. “The media are saturated with a skilled, intensive, and effective advocacy campaign by the nuclear industry, resulting in disinformation” and “wholly counterfactual accounts...widely believed by otherwise sensible people,” states the 2010-2011 World Nuclear Industry Status Report by Worldwatch Institute.<sup>3</sup> What is less well understood is the nature of the “evidence” that gives the nuclear industry its mandate, Cold War science which, with its reassurances about low-dose radiation risk, is being used to quiet alarms about Fukushima and to stonewall new evidence that would call a halt to the industry.

Consider these damage control pieces from major media:

- The “miniscule quantities” of radiation in the radioactive plume spreading across the U.S. pose “no health hazard,” assures the Department of Energy (William Broad, “Radiation over U.S. is Harmless, Officials Say,” NYT, March 22, 2011).
- “The risk of cancer is quite low, lower than what the public might expect,” explains Evan Douple, head of the Radiation Effects Research Foundation (RERF), which has studied the A-bomb survivors and found that “at very low doses, the risk was also very low” (Denise Grady, “Radiation is everywhere, but how to rate harm?” NYT, April 5, 2011).
- An NPR story a few days after the Daiichi reactors destabilized quotes this same Evan Douple saying that radiation levels around the plant “should be reassuring. At these levels so far I don’t think a study would be able to measure that there would be any health effects, even in the future.” (“Early radiation data from near plant ease health fears,” Richard Knox and Andrew Prince, March 18, 2011) The NPR story, like Grady’s piece (above), stresses that the Radiation Effects Research Foundation has had six decades experience studying the health effects of radiation, so it ought to know.
- British journalist George Monbiot, environmentalist turned nuclear advocate, in a much publicized debate with Helen Caldicott on television and in the *Guardian*, refers to the RERF data as “scientific consensus,” citing, again, their reassurances that low dose radiation incurs low cancer risk.<sup>4</sup>

Everyone knows that radiation at high dose is harmful, but the Hiroshima studies reassure that risk diminishes as dose diminishes until it becomes negligible. This is a necessary belief if the nuclear industry is to exist, because reactors release radioactive emissions not only in accidents, but in their routine, day-to-day operations and in the waste they produce. If low-dose radiation is

not negligible, workers in the industry are at risk, as are people who live in the vicinity of reactors or accidents—as is all life on this planet. The waste produced by reactors does not “dilute and disperse” and disappear, as industry advocates would have us believe, but is blown by the winds, carried by the tides, seeps into earth and groundwater, and makes its way into the food chain and into us, adding to the sum total of cancers and birth defects throughout the world. Its legacy is for longer than civilization has existed; plutonium, with its half life of 24,000 years, is, in human terms, forever.

What is this Radiation Effects Research Foundation, and on what “science” does it base its reassuring claims?

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The Atomic Bomb Casualty Commission (ABCC), as it was originally called, began its studies of the survivors five years after the bombings. (It was renamed the Radiation Effects Research Foundation in the mid seventies, to get the “atomic bomb” out, at around the same time the Atomic Energy Commission (AEC) was renamed the Department of Energy (DOE). Japan, which has the distinction of being twice nuked, first as our wartime enemy then in 2011 as our ally and the recipient of our GE reactors, has also been the population most closely studied for radiation-related effects, for the Hiroshima and Nagasaki bombings created a large, ready-made population of radiation-exposed humans. “Ah, but the *Americans*—they are wonderful,” exclaimed Japan’s radiation expert Tsuzuki Masao, who lamented that he’d had only rabbits to work on: “It has remained for them to conduct the *human* experiment!”<sup>5</sup>

The ABCC studied but did not treat radiation effects, and many survivors were reluctant to identify themselves as survivors, having no wish to bare their health problems to US investigators and become mired in bureaucracy and social stigma. But sufficient numbers did voluntarily come forth to make this the largest—and longest—study of radiation-related health effects ever. No medical study has had such resources lavished on it, teams of scientists, state of the art equipment: this was Atomic Energy Commission (AEC) funding. Since it is assumed in epidemiology that the larger the sample, the greater the statistical accuracy, there has been a tendency to accept these data as the gold standard of radiation risk.

The Japanese physicians and scientists who’d been on the scene told horrific stories of people who’d seemed unharmed, but then began bleeding from ears, nose, and throat, hair falling out by the handful, bluish spots appearing on the skin, muscles contracting, leaving limbs and hands deformed. When they tried to publish their observations, they were ordered to hand over their reports to US authorities. Throughout the occupation years (1945-52) Japanese medical journals were heavily censored on nuclear matters. In late 1945, US Army surgeons issued a statement that all



ABCC examination of Hiroshima victim



people expected to die from the radiation effects of the bomb had already died and no further physiological effects due to radiation were expected.<sup>6</sup> When Tokyo radio announced that even people who entered the cities after the bombings were dying of mysterious causes and decried the weapons as “illegal” and “inhumane,” American officials dismissed these allegations as Japanese propaganda.<sup>7</sup>

The issue of radiation poisoning was particularly sensitive, since it carried a taint of banned weaponry, like poison gas. The A-bomb was not “an inhumane weapon,” declared General Leslie Groves, who had headed the Manhattan project.<sup>8</sup> The first western scientists allowed in to the devastated cities were under military escort, ordered in by Groves. The first western journalists allowed in were similarly under military escort. Australian journalist Wilfred Burchett, who managed to get in to Hiroshima on his own, got a story out to a British paper, describing people who were dying “mysteriously and horribly” from “an unknown something which I can only describe as the atomic plague... dying at the rate of 100 a day,” General MacArthur ordered him out of Japan; his camera, with film shot in Hiroshima, mysteriously disappeared.<sup>9</sup>

“No Radioactivity in Hiroshima Ruin,” proclaimed a New York Times headline, Sept 13, 1945. “Survey Rules out Nagasaki Dangers,” stated another headline: “Radioactivity after atomic bomb is only 1000<sup>th</sup> of that from luminous dial watch,” Oct 7, 1945.<sup>10</sup> There were powerful political incentives to downplay radiation risk. As State Department Attorney William H. Taft asserted, the “mistaken impression” that low-level radiation is hazardous has the “potential to be seriously damaging to every aspect of the Department of Defense’s nuclear weapons and nuclear propulsion programs... it could impact the civilian nuclear industry... and it could raise questions regarding the use of radioactive substances in medical diagnosis and treatment.”<sup>11</sup> A pamphlet issued by the Atomic Energy Commission in 1953 “insisted that low-level exposure to radiation ‘can be continued indefinitely without any detectable bodily change.’”<sup>12</sup> The AEC was paying the salaries of the ABCC scientists and monitoring them “closely—some felt too closely,” writes Susan Lindee in *Suffering Made Real*, which documents the political pressures that shaped radiation science.<sup>13</sup> (Other good sources on the making of this science are Sue Rabbit Roff’s *Hotspots*, Monica Braw’s *The Atomic Bomb Suppressed*, and Robert Lifton and Greg Mitchell’s, *Hiroshima in America*). The New York Times “joined the government in suppressing information on the radiation sickness of survivors” and consistently downplayed or omitted radioactivity from its reportage, as Beverly Ann Deepe Keever demonstrates in *The New York Times and the Bomb*.<sup>14</sup> Keever, a veteran journalist herself, writes that “from the dawn of the atomic-bomb age,... the Times almost single-handedly shaped the news of this epoch and helped birth the acceptance of the most destructive force ever created,” aiding the “Cold War cover-up” in minimizing and denying the health and environmental consequences of the a-bomb and its testing.

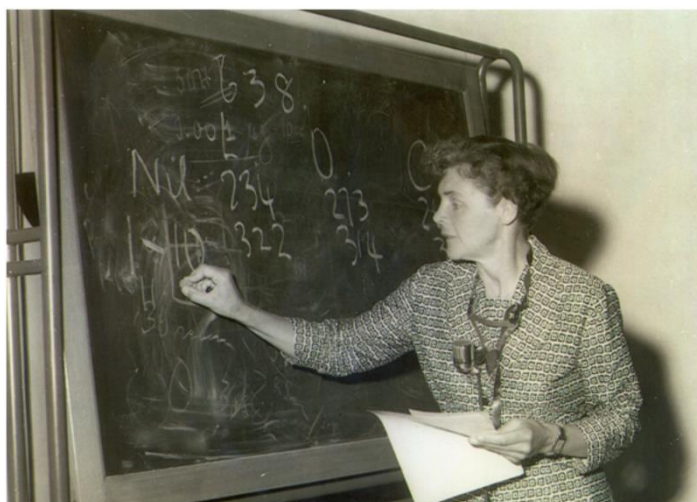
The Atomic Bomb Casualty Commission scientists calculated that by 1950, when the commission began its investigations, the death rate from all causes except cancer had returned to “normal” and the cancer deaths were too few to cause alarm.<sup>15</sup>

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“It’s nonsense, it’s rubbish!” protested epidemiologist Dr. Alice Stewart, an early critic—and victim—of the Hiroshima studies.<sup>16</sup> Stewart discovered, in 1956, that x-raying pregnant women doubled the chance of a childhood cancer: this put her on a collision course with ABCC/RERF



data, which found no excess of cancer in children exposed *in utero* to the blasts. Nobody in the 1950s wanted to hear that a fraction of the radiation dose “known” to be safe could kill a child. During the Cold War, officials were assuring us we could survive all-out nuclear war by ducking and covering under desks and the U.S. and U.K. governments were pouring lavish subsidies into “the friendly atom.” Stewart was defunded and defamed.



**Alice Stewart**

She persisted in her criticisms of the Hiroshima data which were repeatedly invoked to discredit her findings, pointing out that there was no way the survivors could have returned to “normal” a mere five years after the atomic blasts. This was not a normal or representative population: it was a population of healthy survivors, since the weakest had died off. Her studies of childhood cancer had found that children incubating cancer became 300 times more infection sensitive than normal children. Children so immune-compromised would not have survived the harsh winters that followed the

bombings, when food and water were contaminated, medical services ground to a halt, and antibiotics were scarce—but their deaths would not have been recorded as radiation-related cancer deaths. Nor would the numerous stillbirths, spontaneous abortions, and miscarriages (known effects of radiation exposure) have been so recorded. Stewart maintained that there were many more deaths from radiation exposure than official figures indicated.

Besides, the survivors had been exposed to a single, external blast of radiation, often at very high dose (depending on their distance from the bombs), rather than the long, slow, low-dose exposure that is experienced by people living near reactors or workers in the nuclear industry. Stewart's studies of the Hanford nuclear workers were turning up cancer at doses “known to be too low” to produce cancer, too low as defined by the Hiroshima data: “This is the population you ought to be studying to find out the effects of low-dose radiation,” she maintained, not only because the workers have been subjected to the kind of exposure more likely to be experienced by downwinders to reactors and accidents, but also because records were kept of their exposures (the nuclear industry requires such records).

In the Hiroshima and Nagasaki studies, by contrast radiation exposure was estimated on the flimsiest of guesswork. The radiation emitted by the bombs was calculated according to tests done in the Nevada desert and was recalculated several times in subsequent decades. Researchers asked such questions as, where were you standing in relation to the blast, what was between you and it, what had you had for breakfast that morning, assuming that the survivors would give



**Worker with radioactive waste at Hanford**

reliable accounts five years after the event.

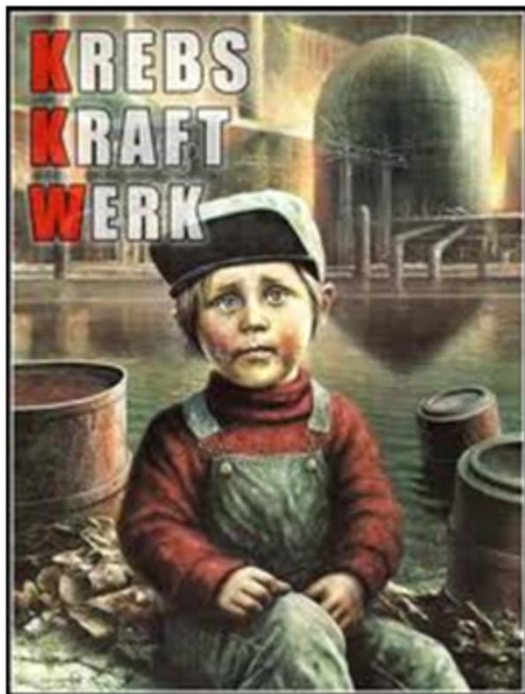
“Bible arithmetic!” Stewart called the Hiroshima data: “it has skewed subsequent calculations about the cancer effect of radiation, and not only the cancer effect, but many other effects – immune system damage, lowered resistance to disease, infection, heart disease, genetic damage. These are serious misrepresentations because they suggest it’s safe to increase levels of background radiation.” In fact, as the Hiroshima studies went on, they turned up numerous radiation effects besides cancer<sup>17</sup>—cardiovascular and gastrointestinal damage, eye diseases, and other health problems—which bore out her prediction. Stewart was also proved right on the issue of fetal X-rays, though it took her two decades to convince official bodies to recommend against the practice, during which time doctors went right on X-raying pregnant women. It took her another two decades to build a case strong enough to persuade the US government, in 1999, to grant compensation to nuclear workers for cancer incurred on the job.<sup>18</sup> (It helps, in this area, to be long-lived, as she commented wryly).

Twice, she has demonstrated that radiation exposures assumed “too low” to be dangerous carry high risk—two major blows at the Hiroshima data. Yet this 60-year old RERF data set continues to be invoked to dismiss new evidence—evidence of cancer clusters in the vicinity of nuclear reactors and findings from Chernobyl.

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More than 40 studies have turned up clusters of childhood leukemia in the vicinity of nuclear facilities, reckons Ian Fairlie, an independent consultant on radioactivity in the environment and a former member of the Committee Examining Radiation Risks of Internal Emitters (an investigatory commission established by the U.K. government but disbanded in 2004). Fairlie describes this as a “mass of evidence difficult to contradict”<sup>19</sup>—yet it continues to be contradicted, on the basis of the Hiroshima studies. Generally when a cancer cluster is detected in the neighborhood of a reactor, the matter gets referred to a government committee that dismisses the findings on the grounds that radioactive emissions from facilities are “too low” to produce a cancer effect—“too low, according to RERF risk estimates.”<sup>20</sup>

But in 2007, something extraordinary happened, when a government-appointed committee formed in response to the pressure of concerned citizens turned up increased rates of childhood leukemia in the vicinity of all 16 nuclear power plants in Germany. The *Kinderkrebs in der Umgebung von Kernkraftwerken* study, known by its acronym KiKK, was a large, well-designed study with a case-control format (1592 cancer cases and 4735 controls). The investigators—who were not opposed to nuclear power—anticipated they’d find “no effect... on the basis of the usual models for the effects of low levels of radiation.”<sup>21</sup> But they found, to their surprise, that children who lived less than 5 km from a plant were *more than twice as likely* to develop leukemia as children who lived more than 5 km away. This was inexplicable within current models of estimating radiation risk:<sup>22</sup> emissions would have had to have been orders of magnitude higher than those released by the power stations to account for the rise in leukemia. So the investigators concluded that the rise in leukemia couldn’t have been caused by radiation.



The findings are not inexplicable, explains Fairlie, when you understand that the data on which risk is calculated, the Hiroshima studies, are “unsatisfactory.”<sup>23</sup> Fairlie’s criticism of these data echoes Stewart’s: “risk estimates from an instantaneous external blast of high energy neutrons and gamma rays are not really applicable to the chronic, slow, *internal* exposures from the low-range alpha and beta radiation from most environmental releases.”<sup>24</sup> (my emphasis) Fairlie points out a further problem with the Hiroshima data: its failure to take into account the dangers of internal radiation. As Sawada Shoji, emeritus professor of physics at Nagoya University and a Hiroshima survivor, confirms, the Hiroshima studies never looked at fallout: they looked at “gamma rays and neutrons emitted within a minute of the explosion,” but did not consider the effects of residual radiation over time, effects from inhalation or ingestion that “are more severe.”<sup>25</sup> The distinction between external and internal radiation is important to keep clear. A bomb

blast gives off radiation in the form of high-energy subatomic particles and materials that remain as fallout in the form of radioactive elements such as strontium 90 and cesium. Most of this is likely to remain on the ground, where it will radiate the body from without, but some may be ingested or inhaled and lodge in a lung or other organ, where it will continue to emit radioactivity at close range. Nuclear proponents cite background radiation to argue that low-dose radiation is relatively harmless, asserting (as Monbiot argued against Caldicott) that we’re daily exposed to background radiation and survive. But this argument misses the fact that background radiation is from an external source and so is a more finite exposure than radioactive substances ingested or inhaled, which go on irradiating tissues, “giving very high doses to small volumes of cells,” as Helen Caldicott says. (Caldicott explains, when physicists talk about “permissible doses,” “[t]hey consistently ignore internal emitters — radioactive elements from nuclear power plants or weapons tests that are ingested or inhaled into the body,... They focus instead on generally less harmful external radiation from sources outside the body.”<sup>26</sup>)

The KiKK study “commands attention,” Fairlie insists.<sup>27</sup> But it got no mention in mainstream media in the U.S. or the U.K.—until *The Guardian*, in early May of 2011, gave this spin to it: “Plants have been cleared of causing childhood cancers,” declared the headline.<sup>28</sup> “Government’s advisory committee says it is time to look elsewhere for causes of leukaemia clusters.” What “elsewhere,” what other causes are cited for cancer clusters in the vicinity of reactors? Infection, a virus, a mosquito, socioeconomics, chance say the experts quoted in *The Guardian*. The U.K. government is now moving ahead with plans to build eight new reactors.

When new evidence comes into conflict with old models, reinvokethe old models rather than looking at the new evidence. The world is flat. So is it flat in Chernobyl.

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“There is no evidence of a major public health impact attributable to radiation exposure two decades after the accident at Chernobyl,” announced the New York Times, a few days after the Fukushima reactors began to destabilize (Denise Grady, “Precautions should limit health problems from nuclear plant’s radiation,” March 15, 2011) The Times bases this claim on a 2005 World Health Organization (WHO) study that found “minimal health effects” and estimated that only 4000 deaths “will probably be attributable to the accident ultimately.” The worst effect of the accident is a “paralyzing fatalism,” an expert tells the Times, which leads people to “drug and alcohol use, and unprotected sex and unemployment” (Elisabeth Rosenthal, “Experts find reduced effects of Chernobyl,” Sept 6, 2005). “Radiophobia,” this is called—an attitude problem.

The Times did not mention that the International Atomic Energy Agency (IAEA), which is mandated with the promotion of nuclear energy, has an agreement with WHO that gives it final say over what it reports, an entangling alliance much decried by independent scientists.<sup>29</sup> Nor did it mention two other studies that came out in 2006, “The Other Report on Chernobyl” and “The Chernobyl Catastrophe” by Greenpeace, both of which gave much higher casualty estimates than the widely publicized WHO/IAEA report.<sup>30</sup> Nor did it breathe a word about *Chernobyl: Consequences of the Catastrophe for People and the Environment*, by Alexey Yablokov et al., translated into English and published by the New York Academy of Sciences in 2009—which estimates casualties at 985,000, orders of magnitude more than the WHO/IAEA report.<sup>31</sup>

Yablokov et al. draw on “data generated by many thousands of scientists, doctors, and other experts who directly observed the suffering of millions affected by radioactive fallout in Belarus, Ukraine, and Russia,” and incorporate more than 5000 studies, mostly in Slavic languages (compared with the 350 mentioned in the 2005 report, most of which were in English). The authors are impeccably credentialed: Dr. Alexey Yablokov was environmental advisor to Yeltsin and Gorbachev; Dr. Vassily Nesterenko was former director of the Institute of Nuclear Energy in Belarus. Nesterenko, together with Andrei Sakharov, founded the independent Belarusian Institute of Radiation Safety BELRAD, which studies *—as well as treats—*the Chernobyl children. When he died in 2008 as a result of radiation exposure incurred flying over the burning reactor (which gave us the only measurement of radionuclides released by the accident), his son Dr. Alexey Nesterenko, third author of this study, took over as director and senior scientist at BELRAD. Dr. Janette Sherman, consulting editor, is a physician and toxicologist.

Comparing contaminated areas of Belarus, Ukraine, and Russia with the so-called “clean areas,” the studies document significant increases in morbidity and mortality in contaminated regions: not only more cancer, especially thyroid cancer, but a wide array of noncancer effects — ulcers, chronic pulmonary diseases, diabetes mellitus, eye problems, severe mental retardation in children, and a higher incidence and greater severity of infectious and viral diseases. Every system in the body is adversely affected: cardiovascular, reproductive, neurological, hormonal, respiratory, gastrointestinal, musculoskeletal, and immune systems. The children are not thriving: “Prior to 1985 more than 80% of children in the Chernobyl territories of Belarus, Ukraine, and European Russia were healthy; today fewer than 20% are well.” In animals, too, there are “significant increases in morbidity and mortality... increased occurrence of tumor and immunodeficiencies, decreased life expectancy, early aging, changes in blood and the circulatory system, malformations.”

Parallels between Chernobyl and Hiroshima are striking: data collection was delayed, information withheld, reports of on-the-spot observers were discounted, independent scientists were denied access "The USSR authorities officially forbade doctors from connecting diseases with radiation and, like the Japanese experience, all data were classified." With the "liquidators," as they're called, the 830,000 men and women conscripted from all over the Soviet Union to put out the fire, deactivate the reactor, and clean up the sites, "It was officially forbidden to associate the diseases they were suffering from with radiation." "The official secrecy that the USSR imposed on Chernobyl's public health data the first days after the meltdown... continued for more than three years," during which time "secrecy was the norm not only in the USSR, but in other countries as well."



**After Chernobyl.** Photo by Paul Fusco

But the parallels are political, not biological, for the Hiroshima data have proven to be an "outdated" and useless model, as Stewart said, for predicting health effects from low-dose, chronic radiation exposure over time. The Hiroshima studies find little genetic damage in the survivors, yet Yablokov et al. document that "Wherever there was Chernobyl radioactive contamination, there was an increase in the number of children with hereditary anomalies and congenital malformations. These included previously rare multiple structural impairments of the limbs, head, and body," devastating birth defects, especially in the children of the liquidators. The correlation with radioactive exposure is so pronounced as to be "no longer an assumption, but... proven," write the authors. As in humans, so in every species studied, "gene pools of living creatures are actively transforming, with unpredictable consequences": "It appears that [Chernobyl's irradiation] has awakened genes that have been silent over a long evolutionary time." The damage will play out for generations — "at least seven generations."



**Chernobyl legacy.** Photo by Paul Fusco

Such findings have provided radiation experts a chance to reexamine their hypotheses and theories about radiation effects, observes Mikhail Malko, a researcher at the Joint Institute of Power and Nuclear Research in Belarus.<sup>32</sup> But rather than using new evidence to enlarge their understanding, experts have found ways of dismissing these studies as "unscientific": they are said to be observational rather than properly controlled, "Eastern European" and not up to Western scientific protocols, and

inconsistent with the hallowed Hiroshima data. Radiation scientists denied that the thyroid cancer that increased exponentially after the accident could be a consequence of radiation: it manifested in only three years, whereas it had taken ten years to appear in Hiroshima, and it took a more aggressive form. They explained the increase in terms of improved screening, iodine substances used to treat the children, or pesticides—even though epidemiological studies kept turning up a link with radiation contamination. Finally in 2005, a case-control study headed by Elisabeth Cardis confirmed a dose-response relationship between radiation and thyroid cancer in children in terms that had to be acknowledged.<sup>33</sup>

Chernobyl does not usually provide the kind of neat laboratory conditions that allow such precise dose-response calculations. *But neither did Hiroshima*, where radiation exposure was guesstimated years after the fact and recalculated several times according to new findings. Yet scientists have accepted the Hiroshima uncertainties—all too readily—and have allowed this data to shape policy affecting all life on this planet, while citing the less-than-ideal conditions for studying Chernobyl as an excuse to ignore or discredit these findings, dismissing them according to a model more questionable than the data they’re discounting. The Chernobyl effects demonstrate that “Even the smallest excess of radiation over that of natural background will statistically...affect the health of exposed individuals or their descendants, sooner or later.” But as with Stewart’s findings about fetal x-rays and nuclear workers, as with the studies that turn up cancer clusters around reactors, so with Chernobyl—it can’t be radiation that’s producing these effects because the Hiroshima studies say it can’t. As independent scientist Rudi Nussbaum points out, the “dissonance between evidence and existing assumptions about... radiation risk,” the gap between new information and the “widely adopted presuppositions about radiation health effects,” has become insupportable.<sup>34</sup>

Chernobyl is a better predictor of the Fukushima consequences than Hiroshima, but we wouldn’t know that from mainstream media. Perhaps we would rather not know that 57% of Chernobyl contamination went outside the former USSR; that people as far away as Oregon were warned not to drink rainwater “for some time”; that thyroid cancer doubled in Connecticut in the six years following the accident; that 369 farms in Great Britain remained contaminated 23 years after the catastrophe; that the German government compensates hunters for wild boar meat too contaminated to be eaten<sup>35</sup>—and it paid four times *more* in compensation in 2009 than in 2007. Perhaps we’d rather not consider the possibility that “the Chernobyl cancer toll is one of the soundest reasons for the ‘cancer epidemic’ that has been afflicting humankind since the end of the 20<sup>th</sup> century.”

“This information must be made available to the world,” write Yablokov et al. But their book has met “mostly with silence,” as he said in a press conference in Washington DC, March 15, 2011.<sup>36</sup> The silence of mainstream media has stonewalled information about Chernobyl’s health effects as effectively as the Soviets’ blackout concealed the accident itself, and as the Allies’ censorship hid the health effects of the Hiroshima and Nagasaki bombings.

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"We need to quash any stories trying to compare this [Fukushima] to Chernobyl," "otherwise it could have adverse consequences on the market." "This has the potential to set the nuclear industry back globally... We really need to show the safety of nuclear," that "it's not as bad as it looks." These statements were made in a few of the more than 80 emails which the *Guardian* got access to, which were not intended for the public eye. "British government officials approached nuclear companies to draw up a co-ordinated public relations strategy to play down the Fukushima nuclear accident just two days after the earthquake and tsunami," reports the *Guardian*, "to try to ensure the accident did not derail their plans for a new generation of nuclear stations in the UK."<sup>37</sup>



Comparisons with Chernobyl have been conspicuously absent from mainstream media, even when Fukushima was upgraded, in early June, to a level on a par with Chernobyl, level 7, the highest. Even when Arnold Gundersen, a nuclear engineer turned whistleblower who has been monitoring Fukushima from the start, asserted that this accident may actually be *more* dire than Chernobyl. Gundersen, an informed, level-headed commentator who inspires confidence, points out that there are four damaged reactors leaking into the atmosphere, ocean, and ground in an area more populated than the Ukraine: "You probably have the equivalent of 20 nuclear reactor cores... that is 20 times the potential to be released than Chernobyl." (Fairewinds, June 16' 2011). But apart from the damage control piece it published March 15 (cited above) and Helen Caldicott's passing reference to "research by scientists in Eastern Europe" (op-ed, "After Fukushima: Enough is enough," December 2)—the Times has barely mentioned Chernobyl (and even Caldicott did not mention the Yablokov study by name). What Chernobyl has wrought, which has been documented so clearly by Yablokov et al., is simply too dangerous to give press to, undercutting as it does the nuclear industry's claims to safety and viability.

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The New York Times has done good reporting on Japanese blunders and corruption. It has described the way plant operators and government officials minimized the severity of the meltdown, the corporate and government cover-ups and irresponsibility (Norimitsu Onishi and Martin Fackler, "Japan held nuclear data, leaving evacuees in peril," August 8, 2011). It has pointed out complicity between industry and regulators (Norimitsu Onishi and Ken Belson, "Culture of Complicity Tied to Stricken Nuclear Plant," April 27, 2011). It has done pieces on citizens' opposition (Onishi and Fackler, "Japan ignored or long hid nuclear risks," May 17, 2011; Ken Belson, "Two voices are heard after years of futility," August 19, 2011) and on grass-roots initiatives to gather data where bureaucrats failed (Hiroko Tabuchi, "Citizens' testing finds 20 radioactive hot spots around Tokyo," Aug 1, 2011). Tabuchi even takes a swipe at the "tamelessness of Japanese mainstream media," which is commendable, though her statement is a model of "tamelessness" compared to Nicola Liscutin's denunciation of Japanese mass media as "little more than the mouthpiece of the government and TEPCO."<sup>38</sup> Human interest stories abound in the Times, as in other major media, stories of workers sent in to quiet the reactors, of people living in the vicinity of the reactors. In one such piece, "Life in limbo for Japanese near damage nuclear plant," May 2, 2011, Fackler and Matthew Wald refer to "a lack of hard data

about the health effects of lower radiation doses delivered over extended periods” – a “lack” that’s assured, as we’ve seen, by the stonewalling of evidence endemic in the media.

As laudable as some of the Times coverage has been, what it targets is the ineptitude and corruption of the Japanese, what happened *over there* as opposed to what goes on here, where our own dirty linen remains unwashed, as it were, and out of sight. How much easier to criticize the lax regulatory mechanisms and lack of transparency of the Japanese than to shine a light on ourselves, on the insidious but largely invisible working of the nuclear lobby and lobbyists in this country, on the complicity of our own government and media with the nuclear industry.

A fascinating expose by Norimitsu Onishi, “Safety myth left Japan ripe for nuclear crisis” (June 25, 2011), invites comment along these lines. Onishi investigates the “elaborate advertising campaigns” led by Tepco and the Ministry of Economy to convince the public of the safety of nuclear power. Hundreds of millions of dollars were spent to rally support: “Over several decades, Japan’s nuclear establishment has devoted vast resources to persuade the Japanese public of the safety and necessity of nuclear power. Plant operators built lavish, fantasy-filled public relations buildings that became tourist attractions.” In one of these, “Alice discovers the wonders of nuclear power. The Caterpillar reassures Alice about radiation and the Cheshire Cat helps her learn about the energy source”.

Lest we feel smug, recall the promotion of “the friendly atom” by Walt Disney’s book and film, *Our Friend the Atom*, read and viewed by millions of schoolchildren (when they weren’t doing “duck and cover” drills).

What Onishi describes as happening in Japan happened in the U.S. as well— perhaps Onishi means to evoke such resonances— where a powerful propaganda campaign was launched, with hundreds of millions of dollars behind it, to promote “Atoms for Peace,” the new energy source “too cheap to meter” (though there was nothing “cheap” about it: it required enormous government subsidies, and still does). This propaganda machine is described in the 1982 study *Nukespeak: The Selling of Nuclear Technology in America*: “Beginning in the mid-1950s, the AEC conducted a huge public relations operation to promote the vision of Atoms for Peace,” using “a wide range of PR techniques, including films, brochures, TV, radio, nuclear science fairs, public speakers, traveling exhibits, and classroom demonstrations” (traveling AEC exhibits with names like “Power Unlimited,” “Fallout in Perspective,” and “The Useful Atom”).<sup>39</sup>



“Millions of kits of atomic energy information literature were distributed to elementary, high school, and college students.” The public relations departments of reactor manufacturers such as Westinghouse and General Electric were also mobilized to prepare communities for nuclear facilities coming soon to their neighborhoods and to prime the general population to welcome the new technology. The connection with mainstream media could hardly be more direct, since “Westinghouse owned CBS for many years, and General Electric, NBC,” as Karl



Grossman points out.<sup>40</sup> This same PR apparatus has been busy, in recent decades, conjuring the “nuclear renaissance” from the ashes of Chernobyl, selling nuclear power as “clean, green, and safe.”

The Times coverage of Fukushima has raised hopes in some quarters that this current disaster may have opened a space for public debate in mainstream media about nuclear power. But how real is this debate, when so many fundamental issues remain hidden? How open a discussion can this be, when Chernobyl and the German reactor study go unmentioned, when we have to turn to alternative media to learn that the Yablokov study even exists—or to learn that, as Alexander Cockburn reports,<sup>41</sup> Obama was the recipient of generous campaign contributions from the nuclear industry (which may cast some light on his enthusiastic support of nuclear power)? How open a discussion is this, when the ABCC/RERF radiation risk assessments that enable the industry to exist remain unaddressed? A serious consideration of the Yablokov study and the German reactor study would reveal them to be “skewed” and useless, as we’ve seen; but rather than go this route, the Times calls on RERF experts to do damage control for the industry. So RERF reassurances about radiation risk remain unchallenged and in place as the invisible buttressing of the nuclear industry, as the basis of radiation safety standards throughout the world.

Contrast the response of U.S. media to the response of the German press: “Fukushima marks the end of the nuclear era” (Spiegel, March 14, 2011); “Germany can no longer pretend nuclear power is safe... it is over. Done. Finished.” (March 14, 2011) To Spiegel, Fukushima is a warning that cries out for an end to nuclear power; to the Times, Fukushima is a warning that we should build our reactors more efficiently and regulate them more carefully, rather than cease building them at all (Editorial, “In the wake of Fukushima,” July 23, 2011). In the months after Fukushima, “Spiegel’s most popular online feature as the drama unfolded was an evolving digital map of the ‘radiation plume,’” observes Ralph Martin;<sup>42</sup> “the German electorate made nuclear power their top concern—they made Fukushima theirs,” whereas “the reaction of American media...[was to] regard the events as yet another story, without any larger social ramifications,” without much relevance to ourselves. And so nuclear power marches on: “Alabama nuclear reactor, partly built, to be finished,” Matthew Wald, August 19, 2011; “Two utilities win approval for nuclear power plants,” Matthew Wald, December 23, 2011 (neither of these is a particularly long or noticeable article, and neither is front page).

There has been precious little mention in U.S. mainstream media of the plume Spiegel was tracing, except to whisk it away as presenting “no health hazard” (Broad, cited above), though the worldwide fallout from Fukushima has occasioned much discussion on the Web. Gundersen<sup>43</sup> cites evidence that the early releases, which were revealed to be more than double what we were initially informed, contained “hot particles” of cesium, strontium, uranium, plutonium, cobalt 60 that have turned up in automobile engine filters, and according to what’s been detected in air filters, a person in Tokyo was breathing about ten hot particles a day through the month of April. A person in Seattle was breathing about five, that same month.

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Not to worry: “The effects of radiation do not come to people that are happy and laughing. They come to people that are weak-spirited, that brood and fret.” So says Dr. Yamashita Shunichi,<sup>44</sup> who has been assigned to head the official study of radiation health effects in the Fukushima population. Yamashita was sent by the Japanese government from Nagasaki University, where

he was part of the RERF studies, revered for their long experience with the A-Bomb survivors. Mandated with addressing the concerns of the citizens and correcting their misconceptions, Yamashita rallies the population with stirring words: “The name Fukushima will be widely known throughout the world... This is great! Fukushima has beaten Hiroshima and Nagasaki. From now on, Fukushima will become the world number 1 name. A crisis is an opportunity. This is the biggest opportunity. Hey, Fukushima, you’ve become famous without any efforts.”

We’re in good hands.

*Gayle Greene is Professor of English at Scripps College. She is the author of The Woman Who Knew Too Much: Alice Stewart and the Secrets of Radiation, a biography of pioneering British radiation epidemiologist and anti-nuclear guru Alice Stewart, and “Alice Stewart and Richard Doll: Reputation and the Shaping of Scientific ‘Truth’,” Perspectives in Biology and Medicine, autumn 2011, 504-31.*



Alice Stewart (right) and the author

*Her work has been published in scholarly journals such as Signs, Contemporary Literature, and Renaissance Drama, and in popular venues such as Ms Magazine, The Nation, The Women’s Review of Books, and In These Times.*

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**“Fukushima Children at Risk of Heart Disease”**

Chris Busby and Mark Selden

September 26, 2011

<http://www.japanfocus.org/-Mark-Selden/3609>

This article expands on Greene’s thesis, providing more information on the dangers of exposure to low levels of radiation. Mark Selden introduces the transcript of a speech given by Chris Busby, a British chemical physicist known for his research on the negative health effects of low-dose ionizing radiation.<sup>2</sup> While Busby is a controversial figure within scientific circles, his conclusions are deeply disturbing even if they turn out to be overstated. Most alarmingly, Selden explains that Busby’s findings in Ukraine show that amounts of radiation that may be acceptable for adults are lethal to children and developing fetuses.

Radiation has long been known to cause cancers such as leukemia, but Busby shows that children exposed to low levels of radiation actually often develop heart disease before any cancers develop. Because one radioactive particle can damage twenty percent of a small heart (lethal because heart tissue repairs itself relatively slowly), Busby recommends that the Japanese immediately evacuate all children near the stricken nuclear complex. Needless to say, this has not happened.

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<sup>2</sup> The video of Busby’s talk is available at <http://www.youtube.com/watch?v=E4Kkuo-IK-A> [accessed 4/4/13].



## Fukushima Children at Risk of Heart Disease

Chris Busby, Introduction by Mark Selden

### Introduction

In the six months since the March 11 earthquake tsunami and nuclear power meltdown, a large body of evidence has been produced (and much suppressed) documenting the vast quantities of radiation emitted from the Fukushima Daiichi nuclear power plant as well as other contaminants from ruined factories and farms: into the air, into the water, and into the soil in the vicinity of the incident, throughout Northeast Japan and beyond. For example, on April 11, the Nuclear Safety Commission announced that the Fukushima Daiichi plant, "in the first hours after the accident, was emitting as much as 10,000 terabecquerels of radiation per hour (one terabecquerel = one trillion becquerels)." On September 9, the *Asahi* cited a preliminary report by the Japan Atomic Energy Agency that between March 21 and April 30 the plant emitted more than 15 quadrillion becquerels of radioactivity into the sea. The figure was three times that provided earlier by TEPCO. The report concluded further that 11.4 quadrillion becquerels of iodine-131 and 3.6 quadrillion becquerels of cesium-137 had been leaked into the sea.<sup>1</sup>



**Radioactive water leaks into the sea April 2 from a crack in a pit wall near the water intake of the No. 2 reactor at the Fukushima No. 1 nuclear power plant. (TEPCO)**

The most serious emissions have been found in the danger zone surrounding the plant, but radiation does not conform to the logic of concentric circles or evacuation zones decreed by the state. Hot spots are found both within and beyond the state's 20-kilometer evacuation zone. Nor does radiation hew to national borders. It flows with wind and water currents to areas ranging from the Japanese and Chinese seacoasts to the west coast of North America. High levels of radiation have been found not only in humans but in such foods as rice, tea, beef, and fish, as well as in soil, leaves, trees, and cattle fodder.

The Japanese Nuclear and Industrial Safety Agency, which had initially rated

the Fukushima meltdown disaster as a level 4 incident on the International Nuclear Event Scale, one month later raised the level to 7, the highest level along with Chernobyl, based on the amount of Iodine-134 and Cesium-137 released.<sup>2</sup>

As in the case of Chernobyl, however, the fiercest debate rages over the *consequences* of the data for the contamination, illness and death of humans, wildlife and nature from multiple radiation and other sources. This is particularly evident in the competing claims concerning cancer deaths caused by radiation. For example, an influential 2005 report by the World Health Association and the International Atomic Energy Association, *Chernobyl's Legacy: Health, Environmental and Socio-Economic Impact*, concluded that the Chernobyl disaster had produced only fifty additional cancer deaths as of 2004. It projected an eventual total of four thousand additional

cancer deaths. By contrast, the study edited by Russian and East European scientists, Alexey V. Yablokov, Vassily B. Nesterenko and Alexey V. Nesterenko, *Chernobyl, Consequences of the Catastrophe for People and the Environment* (New York: New York Academy of Sciences, 2009), based on an exhaustive review of thousands of local hospital reports in the most affected areas, documented extensive deaths, injuries and disabilities from multiple factors resulting in high rates of heart disease, brain damage, blood and lymphatic diseases, and birth defects, with infants and children most severely affected. What attracted most international attention and sharp criticism, however, was not their assessment of these dire malignancies, but their projection of approximately 980,000 additional cancer deaths.<sup>3</sup>

Viewed in light of the earthquake tsunami and nuclear power meltdown which has stricken Fukushima and Northeast Japan, however, it is not the debate over projected cancer victims, but the immediate effects on the health of residents, above all children and pregnant women, that should be the focus of immediate discussion: measuring and reducing the risks of radiation and other forms of contamination, moving those at risk out of danger, and treating the injured and wounded.

We have detailed data on the dead and missing from the multiple earthquake tsunami meltdown disaster. Official figures place the numbers at 20,000 dead or missing, 80,000 homes destroyed, 100,000 people evacuated from the twenty kilometer exclusion zone around the Fukushima plant, 400,000 displaced people; 158,000 lost jobs in the three hardest hit prefectures of Iwate, Miyagi and Fukushima, and official recognition that it might be years before areas near the plant could again become habitable.<sup>4</sup> Moreover, the twenty kilometer zone was set by the Japanese government not with an eye to fully insuring the safety of radiation victims, but to avoid the heavy costs of evacuating people in nearby cities such as Fukushima City. With Fukushima rated with Chernobyl as a 7.0 disaster on the international scale (the highest level), it is sobering to recall that a quarter century after the Chernobyl disaster, the large area from which 400,000 people were evacuated remains uninhabitable.

The above-mentioned figures for deaths and destruction are the product of the earthquake and tsunami. While evacuations and job losses are also the product of the Fukushima plant meltdown, there has been no official data released on deaths and injuries resulting from radiation, with the exception of a small number of workers in the plant. While much attention has focused on cancer risk from both the Chernobyl and Fukushima disasters, there has been little discussion and documentation of the immediate and short-run health effects even beyond official assessments. An important exception to this is Chris Busby's commentary on the impact of radiation on heart disease among children.

Busby in the talk presented below does two things of great importance. First, he conducts a mental exercise, assessing the probable impact of Fukushima-level radiation on the hearts of infants on the basis of information about radiation levels at Fukushima and the literature on the effects of radiation on the heart. Second, drawing on the work of Yu I. Bandazhevsky ([link](#)) and others, he documents the heavy impact of radiation on the hearts of Chernobyl children while noting other immediate effects such as brain damage and birth defects. This data, and other data from Chernobyl, make plain that the health effects of radiation go far beyond cancer.

Bandazhevsky reviews nine clinical, instrumental and laboratory studies of children from infancy to 15 years of age ranging in sample size from 76 to 255 each, in multiple localities affected by Chernobyl. The central finding was "a high frequency of electrocardiographic modifications in



all groups as a function of the amount of radioactive cesium in the organism of children. . . In the areas with level of  $^{137}\text{Cs}$  contamination more than  $15\text{ Ci/km}^2$  and its concentration in organism more than  $80\text{ Bq/kg}$  electrophysiological cardiac modifications appear in the organism of more than 80 % of children.“ (p. 4) The studies involved control groups, and further laboratory studies were conducted on albino rats which revealed  $^{137}\text{Cs}$  –induced diseases of heart, liver, kidneys and lungs (p. 11). Bandazhevsky concluded that radioactive caesium in excess of  $30\text{ Bq/kg}$  could lead to serious cardiovascular consequences, especially for children, and was one of the leading causes of cardiovascular diseases among Chernobyl children. (p. 27).

Bandazhevsky notes that Belarus was earlier subject to dangerously high doses of cesium radiation detected in milk and other foods. This was the result of Soviet nuclear testing. Radiation levels fell sharply after 1963, then reached comparable dangerous levels again following Chernobyl. His research documents the high incidence of cardiovascular disease and deaths following the Chernobyl disaster.

Busby's work, drawing in part on Bandazhevsky, highlights the importance of immediately assessing and publicizing the health consequences of the Fukushima meltdown to determine whether further evacuation or other methods are imperative, particularly for infants, children and pregnant women. This should be done for people who were living throughout the twenty kilometer evacuation zone. Equally important, it should be done for people, above all children, who continue to live in hot zones nearby or beyond the evacuation zone.

*Mark Selden*

### **Fukushima Children, Radiation, and the Danger of Heart Disease**

I'm Chris Busby, I'm a specialist on the health effects of ionizing radiation. And I want to talk to you about Fukushima and Chernobyl. What I want to say is that the models that are used to determine the effects of radiation always concentrate on cancer and leukemia. And so, the current risk model will say how many cancers are expected after Fukushima and how many cancers are expected after Chernobyl, and so forth. But we know from Chernobyl that radiation causes a whole range of diseases and one of the diseases that it seems to cause is heart disease. I want to talk to you about heart disease effects on children.

Now, a colleague of mine, Professor Yuri Bandazhevsky, became quite famous, because he studied the cesium  $^{137}$  exposure of children in the areas that were contaminated by the Chernobyl accident in Belarus. In the late 1990s, he discovered that the children who were contaminated to the extent of having only 20 to 30 becquerels per kilogram of cesium  $^{137}$ , which is not very much, were suffering cardiac arrhythmias, that is, the heart wasn't beating properly, and they were suffering heart attacks and dying. It's a very serious matter.

So it wasn't a question of leukemia and cancer in these children, although that occurred as well, but there were very high rates of heart diseases. So children were manifesting heart diseases, which are normally only found in old people.

And this got me thinking about how this could be at what appears to be low-levels of contamination. So I started looking into this and what I found was truly extraordinary. I shall share it with you.

The heart of a child at the age of about two to five is about this size (see video), and the age of about ten it's about this size, and we know from measurements to be made, how many cells there are in the heart of a child.

A five-year-old has a heart which is approximately 220grams in weight. A lot of it, of course, is blood. So if you take the blood out and leave the muscle tissue, there's about 85 grams of muscle tissue in the heart of a child aged five. This is all data.

Now we actually know also the size of the heart muscle cells, so we know how many heart muscle cells there are in the child's heart. There are about three billion muscle cells. Three billion. And what we can do is we can put 50 becquerels per kilogram of cesium 137 in a thought experiment, we can put this into the heart muscle. A becquerel is one disintegration per second, so we can see how many disintegrations or electron tracks come from the cesium 137 in a period of about a year.

And when we do this, I mean it's really simple it can be done on the back of an envelope, what we find is that there are many more electron tracks traversing the cells than you can imagine. And in fact it works out that if only one percent of those cells were killed by the electron tracks of that level of cesium 137, if only one percent were killed, you would lose 25% of all the muscle cells in the heart.

And this is very serious because the heart is an extraordinary organ, the muscle cells in the heart are autonomous, they just contract and contract for the whole period of life of the individual. And every day they pump seven thousand liters of blood through the body. Truly extraordinary. And we live for seventy years so this heart beats away continuously for the whole of your life span. But of course these cells are non-replaceable by and large.

It turns out that only 1% of these cells can be replaced in a year. So if these cells get damaged, or if a particular number of these cells gets damaged, they cannot be replaced in a short period of time. So a year's exposure to 50 becquerels per kilogram of cesium 137, and incidentally cesium 137, we know from experiments, binds to muscle so this is where it goes, just as iodine goes into the thyroid gland, strontium goes into the bones and goes to the DNA, cesium 137 goes to muscle. It will concentrate in the muscle tissue of a heart.

So this child's heart, after one year of exposure to that level of cesium, which is quite a low level, will have approximately 25% of its cells destroyed. Now, we would therefore expect to find effects, the same effects that were found by Bandazhevsky. And it does seem, from what people have been telling me about, in Fukushima, the affected area, that they are actually suffering heart attacks.

So, there are two things that follow from this, which are terribly important.

The first thing is that children in that area should immediately be scanned using ECG, electrocardiograms. All hospitals have this device, so see that they have this. Because the first manifestations of this damage to the heart muscle cells would be conduction problems which can be shown on these ECGs, in fact this is how Bandazhevsky found this. Incidentally, when he reported it, he was sent to jail.

The government wouldn't believe it and accused him of scare mongering. So they sent him to jail. He was in jail for several years until eventually Amnesty International and the European

Parliament issued him with an international passport, one of only twenty-five that have been issued, and got him out of jail. ([Link](#))

I worked quite closely with Bandazhevsky, who was a hero. He received the Edward P. Radford Memorial Prize for Radiation Biology at the Lesvos Conference where he gave the paper that showed these increases in heart diseases in the children.

So the first thing that has to be done is that the children have to be checked out for conduction problems with the ECG. They must be evacuated. And if any of them are suffering from these problems they must be immediately evacuated. But if any are suffering from these problems, ALL children should be evacuated. Because this means that there will be sub-clinical effects from the cesium 137 in heart muscle. And it will not be repaired. The heart cannot be repaired. Heart tissues cannot be repaired so these children will suffer for their entire life and they will die young. This brings me to the second point.

The second point is this; if you die from heart attack or from heart disease, you will not die from cancer, because cancer is essentially a disease of old people, so you get genetic damage and it goes on and on and eventually you get cancer. By and large what happens is that cancer rates go up very sharply as you get old.

But I can tell you that the heart disease effects go up very much more quickly, so what you will find in areas like Fukushima that are contaminated by these radionuclides is not necessarily enormous increase in cancer. There will be an increase in cancer, but you will find a big increase in heart disease.

When we look at Belarus, we find increase in cancer, but we find a big increase in heart disease, an enormous increase in heart disease. And as a result of this, the population of the Republic of Belarus has fallen sharply after the Chernobyl accident, and has now gone into negative replacement. So, in fact, if it goes on like this, the population of Belarus will disappear. And this is what we would expect to see in Fukushima. So I am warning you all now to start looking at heart disease, heart attacks and get children out there quickly.

This is all simple stuff, you can do these calculations, I've done these calculations and I produced a report which will be put on the internet shortly and you can have a look at it. And the European Committee on the Radiation Risk has also released the Bandazhevsky paper that he gave at the Lesvos conference. It is available [here](#).

Thank you for listening.

*The video of the original Busby statement is available [here](#).*

*See the film Chernobyl Heart documenting heart disease among Chernobyl children ([link](#)).*

*See [IPPNW report on the health effects of the Chernobyl](#) nuclear disaster, which discusses heart disease.*

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### Notes

<sup>1</sup> [Takashi Sugimoto](#), "Radioactive sea pollution from Fukushima may dwarf previous estimates," *Asahi Shimbun*, September 9, 2011.

<sup>2</sup> [Keith Bradsher, Hiroko Tabuchi and Andrew Pollack](#), "Japanese Officials on the Defensive as Nuclear Alert Level Rises," *New York Times*, April 12, 2011.

<sup>3</sup> Matthew Penney and Mark Selden provide a preliminary review of the debate in "[What Price the Fukushima Meltdown? Comparing Chernobyl and Fukushima.](#)" *The Asia-Pacific Journal*, Vol 9, Issue 21, No 3, May 23, 2011.

<sup>4</sup> [Justin McCurry](#), "Fukushima six months on: Japanese mark moment earthquake struck," *The Guardian*, September 11, 2011.

**"Fukushima in Light of Minamata"**

Timothy S. George

[http://www.japanfocus.org/-Timothy\\_S\\_-George/3715](http://www.japanfocus.org/-Timothy_S_-George/3715)

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The Fukushima disaster is not the first large-scale industrial disaster Japan has faced. In 1956, "Minamata disease" was discovered among residents of the city of Minamata. The strange illness was causing muscle weakness, numbness, damage to vision, hearing, and speech, and massive birth defects. Doctors and researchers from nearby Kumamoto University realized that the disease was caused by mercury poisoning, and it was a simple conclusion that a nearby factory, owned by the Chisso corporation, was to blame, as it had been dumping industrial waste (effluent) containing methyl mercury into Minamata Bay since the 1930s. Over time, the mercury had been collecting in the bay; the consumption of poisoned fish and shellfish from the bay caused these serious health problems to residents of the fishing community. However, Chisso refused to cooperate with the investigation and did not accept responsibility for poisoning Minamata's residents.

Minamata victims often struggled to receive even acknowledgment that pollution had caused their maladies; it was still more difficult to win compensation to help pay for treatment and medical fees, as victims needed official certification from the government declaring them eligible to receive aid. Thus, the Minamata residents are an earlier group of "abandoned people," who suffered from neglect as well as mercury poisoning. This was only the most famous case in which terrible health and environmental effects of pollution were routinely ignored by corporations and regulators for decades, except for occasional lip service.

Timothy George compares the Minamata disaster with Fukushima, examining both causes and responses. Even though Minamata disease was solely man-made by dumping effluent and Fukushima was in part caused by a natural disaster, humans in both cases exacerbated the problem. Likewise, in both cases the Japanese government eventually provided some compensation and assistance to those affected by the catastrophes, although not nearly enough to repair the damage done to their lives. George predicts that Japan has not learned from its mistakes in handling the Minamata crisis, and that victims of radiation released by Fukushima will have similar hardships in obtaining assistance. Only in the 2000s, half a century after the poisoning was first detected, have certification requirements for Minamata disease been loosened to what George feels is a reasonable level. George calls on the government to provide more help to Fukushima victims than was offered to the sufferers of Minamata disease, but he fears that current indicators signal a long struggle. Indeed, George points out that there are already unfortunate similarities, such as deliberate efforts to downplay dangers and to misinform citizens about the dangers of the two crises.

## **Fukushima in Light of Minamata**

**Timothy S. George**

**Abstract:** The mercury discharged into the sea by the Chisso factory in Minamata, and the radiation released by the Fukushima Daiichi nuclear power plant, are not entirely different “accidents,” although one was the result of a “natural disaster” and one not. Minamata offers hints of future developments as Japan attempts to respond to and recover from Fukushima.

### **Introduction**

Japan is still struggling to deal with the worst nuclear accident since Chernobyl, and will be for a long time. This makes the triple disaster of March 11, 2011 unlike anything Japan, or any other country, has ever experienced. The release of radiation from the Tokyo Electric Power (TEPCO) nuclear power plant in Fukushima, however, is not the first time Japanese people have been exposed over an extended period of time to a poison released into the environment by modern technology. The March 11 earthquake, tsunami, and radiation disaster (a bundle of tragedies referred to as the “Higashi Nihon daishinsai,” or Great East Japan Earthquake Disaster) occurred 55 years after the official discovery of Minamata disease and 79 years after the Chisso chemical plant in Minamata began releasing methyl mercury into the sea.<sup>1</sup> Although the two incidents differ in important ways, Minamata surely offers hints of possible outcomes as Japan attempts to respond to and recover from the nuclear disaster at the Fukushima Daiichi nuclear power plant. Minamata suggests that for decades the disaster will not be “over,” by any reasonable definition, and that human society and the environment will never return to its pre-disaster state. This essay will first survey the many “solutions” to Minamata, and then focus on two aspects of Minamata and the light they might shed on Fukushima: first, the company’s response to the disaster and government-company relations, and second, the environment itself and what human beings have done in response to the poisoning of the sea.

### **“Solving” Minamata**

The mercury poisoning “incident” in Minamata has been grandly pronounced resolved at least four times since the pollution began in 1932 and Minamata disease was officially recognized in 1956.<sup>2</sup> In 1959 the Chisso Corporation paid compensation to fishing cooperatives and “sympathy payments” to patients that required them to renounce all future claims against the company. It did not accept responsibility for the disease. At the same time, it also installed a “Cyclator” to purify its wastewater, without announcing that the Cyclator did not remove mercury. At a ceremony at the end of 1959, Chisso’s president publicly drank a glass of water from the Cyclator, without announcing that the wastewater from the acetaldehyde plant, which contained mercury, was not being run through the Cyclator. An eerily similar performance took place on March 24, 2011 when Tokyo’s Governor Ishihara Shintarō drank a glass of tap water on national television to “prove” that it was safe from radioactive contamination.



**Ishihara's televised tap water performance**

The second "solution" to the Minamata disease problem came in 1973 when the largest settlement a Japanese court had ever granted led to an agreement between Chisso and all certified Minamata disease patients, giving them substantial lump-sum and recurring payments. As of 2010, 2,271 patients had been certified and therefore made eligible for these payments, though over half were no longer living. This compensation under the 1973 agreement, however, was only for those certified as

"official" patients, and the court case considered only the responsibility of the corporation, not government.

A third solution put in place in 1995 and 1996 gave one-time payments to some 10,000 more people deemed "affected" by the pollution but not certified as patients—but in return, in an echo of 1959, they had to drop their lawsuits and agree not to apply for certification.

The system was thrown into disarray by a 2004 Supreme Court decision in a case pressed by patients who had refused to drop their lawsuit. The court found the government's certification standards too strict, and found the prefectural and national governments at fault for allowing the disease to spread after it was discovered. The government refused to relax its certification standards, and thousands more applied for certification or filed lawsuits. In 2010 the government reached agreement on a plan to compensate many more people—possibly bringing the total up to 35,000—but many lawsuits continue.

What does it mean that so many "final and complete" solutions have all turned out to be so incomplete and far from final? Minamata is complex, with medical, legal, political, economic, corporate, social, and environmental aspects. Can Minamata ever be truly "over," and if so, what would that mean? That all patients had finally died? What would it mean for the environment to be healed? Can any of this help us answer questions about how long it will take Japan to recover from March 11, 2011?

Minamata suggests that for decades the 2011 disaster will not be "over," by any reasonable definition, and that human society and the environment will never return to their pre-disaster states.

### **Company, Government, Citizens**

There were many reports in the wake of the Fukushima disaster of localities having second thoughts about their efforts to solve their problems by attracting nuclear power plants.<sup>3</sup> As Japan's rural population declined and farming and fishing became marginalized, nuclear power plants had seemed to many a reasonable gamble in order to keep their towns alive. In Minamata



**"No more Minamata" protestors during the 2010 court case**



in the early twentieth century, local leaders concerned with the loss of salt-making and transport jobs courted Noguchi Shitagau and persuaded him to build his new chemical plant in the town.

Responses by Chisso and the national and local governments to the poisoning that the factory later inflicted on the area taught people to assume that corporate and government leaders would hide, deny, or downplay their responsibility, and would attempt to move just in time, and just far enough, to head off serious damage. This should come as no surprise to anyone who has followed other companies in Japan and elsewhere causing pollution, or nicotine addiction, or mine disasters. Chisso did this in 1959 with its *mimaikin* sympathy payments. TEPCO did this with the tiny payments it quickly offered to residents and towns near its Fukushima power plant, and at least one local mayor rejected this money.

Government responses to pollution incidents have probably changed more over time than those of corporations. The central government, particularly the Ministry of International Trade and Industry (whose functions were absorbed into the new Ministry of Economy, Trade and Industry in 2001), may have been more unwaveringly on the side of corporations in the 1950s and early 1960s than now. But the government has continued to have particularly strong connections to the nuclear power industry.



**In 1977 Ishihara Shintaro, then Minister of the Environment and now a leading nuclear booster, apologized to Minamata victims after using his position of authority to attempt to discredit their quest for compensation. He said that many Minamata sufferers were “fakes” and that their court petition “looked like it had been written by a moron.”**

Government policy regarding domestic use of nuclear power in the wake of Fukushima is still in flux. But Japanese companies have continued to aggressively pursue foreign nuclear power contracts with the support of the government. Seven months after the disaster, Prime Minister Noda Yoshihiko said in a speech at the United Nations: “Many countries of the world are seriously exploring the use of nuclear power, and we have assisted them in improving nuclear safety. We will continue to answer to the interest of those countries.”<sup>4</sup> In Minamata, Chisso attempted to export its mercury waste to Korea but was blocked by union workers.

One common question in both the Minamata and Fukushima cases is what to do if the company is unable to survive if it has to pay all the costs but the government does not want to be seen as abandoning the “Polluter Pays Principle.” In the Minamata case, as the costs of the 1973 agreement burdened a declining Chisso, a deal

was brokered by the late 1970s to have Kumamoto Prefecture sell bonds to finance loans to Chisso, with the understanding that the central government would buy most of the bonds and that Chisso would not repay the loans. In 2010 a bill was passed to split Chisso into two companies, one doing business and one existing only to pay compensation, so that those debts would not drag it down.

It is too early to say what will happen with TEPCO, but in the first months after the disaster the government moved quickly to explore a range of ways to keep the company alive and able to pay compensation. Key differences will include TEPCO's attempt to argue that this was an act of God/nature, the greater extent of the damage and greater number of people involved, the vastly greater national and international coverage, and the fact that TEPCO is not likely to lose as much relevance to the national economy as Chisso did after the early postwar period. In comparison to Minamata, the government moved more quickly to explore ways to help TEPCO pay some of the costs of compensation payments, which will likely total trillions of yen. But as far as possible it has described much of this as assistance to TEPCO that will enable TEPCO to pay the compensation itself, and it seems to have backed away from rumored earlier plans to nationalize the company. So it has been looking for ways to preserve the Polluter Pays Principle, at least on the surface, where it can. But there are limits: it appears that the costs will be so great, and the nuclear power industry has always been so closely intertwined with government and bureaucracy, and citizen demands have been so unceasing, that the government has realized that it will be unable to avoid paying a significant portion of the cleanup and compensation costs directly.



**Noda and Vietnamese Premier Tan Dung forge a nuclear technology agreement**

### **Environment (and Bodies)**

In the case of the environment there are some great differences as well as some similarities between Minamata and Fukushima. One key difference has been noted above: TEPCO feels more able to blame the disaster on nature rather than on its own negligence. But of course it is also argued that the tsunami should not have been a completely unforeseen event, given what scholars of earthquakes and tsunami know of the history of Japan's northeast coast going back to the ninth century. In Chisso's case, it was argued that the company should have been aware of medical reports of organic mercury poisoning from the 1940s.

Human bodies are part of the environment, and the poisons put into the environment therefore also poison the human body.<sup>5</sup> In some ways methyl mercury and radiation as poisons are more similar than one might expect. Both organic mercury in seafood, and radiation in air, water, soil, and food are impossible to see, taste, or feel. Of course radiation fades away according to its half-life, but mercury remains in the environment and can only be reduced in concentration by being spread more widely. However, mercury does in fact have what one might call a half-life in the human body, which tends to expel it at a regular rate.

Some six months after March 11, a plan was announced for monitoring the health of several hundred thousand children living in the vicinity of the Fukushima plant throughout their lives for thyroid problems possibly caused by radiation. This plan was launched because thousands of cases of thyroid cancer are believed to have been caused by the 1986 Chernobyl accident in Ukraine. No true comprehensive health study has ever been done for Minamata and its environs,

but Minamata does remind us to pay attention to how much the subjects and others will be told of what is learned about their bodies. Kumamoto prefecture and its neighbor to the south, Kagoshima prefecture, tested mercury levels in human hair in 1960 and 1961 but did not inform the subjects of the results. Ten years later researchers looked for some of those whose hair had had the highest concentrations of mercury, only to find that a number of them had died. A significant number of these people had lived relatively far from the Chisso plant and had likely continued eating fish without realizing how contaminated they were.

Both Minamata and March 11 polluted the sea and took the lives or destroyed the livelihoods of many people who had depended on fishing, often for generations. Those who were still able to fish found themselves unable to sell their tainted catch.

Another similarity is in ways of dealing with polluted water. TEPCO has had to try to store the most radioactive water while finding ways to deal with it in the long term. In Minamata from 1983 to 1990, the sludge from the most polluted parts of the bay was dredged up and used to reclaim the innermost part of the bay. Chisso paid the bulk of the cost of creating this new land, which consisted of a top layer of “clean” dirt over a plastic sheet covering the material dredged from the areas of the bay where the concentration of mercury in the sludge was over 25 parts per million (ppm).



**Children measured for radioactivity following the March 11 disaster**

This reclaimed land illustrates the effects on the environment of human projects to “clean up” and prevent recurrences of pollution disasters. They can never return the “natural” environment to its pre-disaster state, much less to some sort of “natural” state, partly because virtually all of it had been significantly transformed by human activity for centuries before the disasters.

### **Fukushima and Minamata**

There are better and worse ways to respond to “natural” disasters, and perhaps Minamata does offer some lessons, positive and negative, to those in a position to decide, and some hints to observers of what we should watch for. The two disasters are not completely different, as some might assume because they see the Higashi Nihon daishinsai as a “natural disaster” and Minamata as manmade. Rather it is the mutual influences of human beings and nature on each other that make natural disasters.



**In Tohoku, seawalls and tetrapods were overwhelmed**

Earthquakes and tsunamis are dramatic natural processes, but not natural disasters, if they do not affect humans and their built environments. There is really no such thing as a “natural” disaster: only human presence, and human choices and actions and responses, make natural processes into “natural” disasters. Human actions, refracted through the environment of Minamata Bay and the Shiranui Sea, caused Minamata disease. Every part of Japan’s March 2011 triple disaster: the earthquake, the tsunami, and the nuclear crisis—faced the consequences it did because of what human beings did before and after the great earthquake. Some of those human actions were failed attempts to protect against disaster, such as the concrete seawalls

and tetrapods that lined so much of the shoreline. Others were planning errors, such as the emergency generators and fuel tanks at Fukushima Daiichi that were not placed out of reach of the tsunami.

Anger over Minamata and other major pollution incidents contributed to the flowering of citizen activism in the late 1960s and early 1970s, and helped force the government and the ruling Liberal Democratic Party to become more responsive. The Environment Agency was created. Laws were passed in a Diet session nicknamed the “Pollution Diet” to require meaningful reduction of at least some types of pollution, particularly air pollution. Japanese companies found ways to profit from the need for pollution controls, and consumers became better informed. By the 1990s Minamata was a national leader in recycling. Whether the disasters of 2011 will be a significant turning point, and the nation will redefine itself (perhaps by phasing out nuclear power and becoming more of a global leader in renewable energy), or whether March 11 will merely accelerate the slide of Japan’s global relevance and the depopulation and economic decline of its rural northeast Pacific coast, is yet to be seen.

To return to the question of when a disaster can be over: even if we wanted to, we cannot recreate or rebuild the past. Life in Minamata can never revert to what it was in 1932 when the mercury pollution began, or 1956 when Minamata disease was discovered. Minamata Bay will never be like it was then either, since so much of it has been dredged, filled in, and walled. Northeastern Japan, too, and to some extent the nation as a whole, will not be recovering their pre-disaster past but will be creating a new environment, society, and economy. That creation is a constant process, so the question is not when the disaster will be over



**Minamata named Japan's "Environmental Capital" in 2011**



and its problems solved. The disaster marked an end to many things, but also a beginning. But a beginning to what, we cannot yet say.

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## Notes

<sup>1</sup> The company's name was Nihon Chisso Hiryō K.K. from its founding in 1908 to 1950, Shin Nihon Chisso Hiryō K.K. until 1965, and Chisso K.K. from 1965, but for simplicity it will be referred to here simply as Chisso.

<sup>2</sup> For the details of the Minamata story, see Timothy S. George, *Minamata: Pollution and the Struggle for Democracy in Postwar Japan*, (Cambridge, MA: Harvard University Asia Center, 2001).

<sup>3</sup> See Daniel P. Aldrich and Martin Dusenberre (2011), "Hatoko Comes Home: Civil Society and Nuclear Power in Japan." *Journal of Asian Studies* 70(3): 1-23, for a study of such efforts in the 1980s in Kaminoseki, a town on the Japan Sea that is, ironically, relatively close to Hiroshima.

<sup>4</sup> Quoted in Hiroko Tabuchi (2011), "Japan Courts the Money in Reactors," *New York Times*, October 10, ([link](#)) , accessed October 11, 2011.

<sup>5</sup> See Brett L. Walker, *Toxic Archipelago: A History of Industrial Disease in Japan* (Seattle: University of Washington Press, 2010).

**"Life-world: Beyond Fukushima and Minamata"**

Shoko YONEYAMA

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<http://www.japanfocus.org/-Shoko-YONEYAMA/3845>

Yoneyama analyzes the Fukushima and Minamata tragedies in the context of the "life-world," a concept coined by OGATA Masato. Ogata is a Minamata fisherman who has written and spoken on philosophical matters, drawing experience from his experience growing up in the wake of Japan's worst pollution disaster. Yoneyama recounts the struggle victims of Minamata disease, including most of Ogata's immediate family, have faced in receiving compensation.

Interestingly, Ogata gave up his own chance to receive compensation. He views his consumption of industrial products—such as the ones the Chisso corporation produced—as being part of the system that caused the problem, and so he does not feel it is right that he accept compensation as a victim. He has said that the general Japanese public is "another TEPCO" for using nuclear and fossil fuels, and so a switch to renewables would be "a step forward towards 'liberation.'"

The philosophical model behind Ogata's opinions is the concept of the "life-world," which is the belief that all living things—especially humans, animals, and plants—are connected and sacred. From the life-world perspective, it is necessary to recognize that Minamata and Fukushima affected more than just humans; each disaster wreaked devastating damage on animals and the environment. For Ogata, the life-world is more than a philosophical perspective; it is a spiritual framework and a guide to live one's life.

Thus, Ogata asserts that monetary compensation is an inadequate response to either catastrophe, because money supports only humans, but does little to address the damage to animals and the environment. Ogata emphasizes the idea of connectedness in responding to the two disasters, citing two slogans that symbolized this idea. The first, "mooring" (*moyai*), was generated by Ogata himself and borrows a term for tying boats together to highlight the connections between the Minamata residents and the national community. The second is the annual "word of the year" selected in December by a public opinion poll; respondents were asked which term best symbolized the year, and they chose "bond" (*kizuna*) in 2011. In his own life, Ogata has striven to build connections with other humans, with the environment, and with his soul, and he interpreted the selection of "bond" to mean that his efforts were being reciprocated by his compatriots.

The Minamata pollution posed questions of the soul and of sin to Ogata, and the answers are not rooted in the supernatural, but in the very real impact on humanity and nature in this world. The Fukushima disaster has renewed these questions: What is a moral response to the Fukushima disaster? What kind of response would account for humans and the environment? Is it enough to throw money at the problem? What is the best way to avoid such disasters in the future?

## **Life-world: Beyond Fukushima and Minamata**

**Shoko YONEYAMA**

### **1. Introduction**

German sociologist Ulrich Beck writes that Japan has become part of the ‘World Risk Society’ as a result of the 2011 nuclear accident in Fukushima.<sup>1</sup> By World Risk Society he means a society threatened by such things as nuclear accidents, climate change, and the global financial crisis, presenting a catastrophic risk beyond geographical, temporal, national and social boundaries. According to Beck, such risk is an unfortunate by-product of modernity, and poses entirely new challenges to our existing institutions, which attempt to control it using current, known means.<sup>2</sup> As Gavan McCormack points out, ‘Japan, as one of the most successful capitalist countries in history, represents in concentrated form problems facing contemporary industrial civilization as a whole’.<sup>3</sup> The nuclear, social, and institutional predicaments it now faces epitomise the negative consequences of intensive modernisation.

The stalemate over nuclear energy – the restart of Ohi reactors and the massive citizens’ protest against it – suggests that we are indeed at a significant crossroad. But what is the issue? A quick look at the anti-nuclear demonstrations shows that the slogan, ‘Life is more important than money!’, is ubiquitous, suggesting that many citizens see a problem not only with nuclear power generation but also with something more fundamental: the prioritisation of economy over life. The fact that such an obvious proposition has to be raised as a point of protest indicates the depth of the problem. How is this rather extreme dichotomy between life and the economy to be faced at this point of modern history? And what will be Japan’s contribution, if any, in envisaging a new kind of modernity?

This paper explores these questions by drawing upon the notion of ‘life-world’ presented by OGATA Masato,<sup>4</sup> a Minamata philosopher-fisherman whose ideas developed in response to the Minamata disease disasters in the mid-1950s.<sup>5</sup> It discusses this concept in order to reflect on the relationship between nature and humankind in an attempt to envision a new kind of modernity that does not generate self-destructive risks as denoted by the notion of ‘World Risk Society’.

### **2. World Risk Society Japan**

The relevance of the concept of ‘World Risk Society’ is obvious with regard to the disaster unleashed at the Fukushima Daiichi nuclear plant on 11 March 2011. There is no question that substantial radiation has been released from the stricken reactors. Tokyo Electric Power Co. (TEPCO) estimated, based on data collected at the plant, that 900,000 terra-becquerels of radioactive materials (iodine-131 and caesium-137) were released into the atmosphere,<sup>6</sup> which constitutes 17% of the fallout from Chernobyl;<sup>7</sup> as well as 150,000 terra-becquerels into the sea, in the first six months after the accident alone.<sup>8</sup> An international scientific collaborative study, on the other hand, estimated, based on data collected from across the globe, that caesium-137 equivalent to 43% of the Chernobyl emission was released into the atmosphere between 11 March and 20 April 2011, 18% of which was deposited over Japanese land areas, with most of the rest falling over the North Pacific Ocean.<sup>9</sup> Brumfiel in *Nature* suggests that the vastly different estimates may be complementary rather than contradictory because the data were collected at different, mutually exclusive locations.<sup>10</sup>



Experts fear that a catastrophe on an even larger scale could still occur. Koide Hiroaki, a nuclear scientist at Kyoto University, warns that Japan 'will be finished' if approximately 300 tons of spent nuclear fuel (4,000 times the size of the Hiroshima atomic bomb) kept at the spent-fuel pool in the badly damaged No. 4 reactor building, release radiation as a result of a cooling failure caused by, for instance, another earthquake.<sup>11</sup> If this happens, the entire Fukushima nuclear complex will become inaccessible, leading to radioactive emissions on a cataclysmic scale, perhaps 85 times as great as Chernobyl.<sup>12</sup> TEPCO reported previously that as of March 2010 there were 1,760 and 1,060 tons of uranium at Fukushima Daiichi and Daini, respectively.<sup>13</sup> A simple calculation, based on Koide's estimate above, suggests that this is equivalent to 28,000 Hiroshima bombs. A 'chain reaction' involving all six reactors and seven spent fuel pools at the complex was envisioned as the 'worst case scenario' by Kondo Shunsuke, Chairman of the Japan Atomic Energy Commission, in his report submitted to the government two weeks after March 11. The report, which was suppressed by the government, concludes that if the 'chain reaction' happens, the exclusion zone may have to be greater than 170km.<sup>14</sup> Tokyo is 220km away from the plant. Kondo's report thus is largely consistent with Koide's prediction, although they hold opposite positions on the question of nuclear power generation.



**Fukushima Daiichi Reactor No.4, May 2012.**

TEPCO insists that the No. 4 reactor building can withstand an earthquake equivalent to the quake of March 11,<sup>15</sup> and the Japanese government has accepted the utility's plan to start removing the spent fuel from the end of 2013, a task that would then take two years to complete.<sup>16</sup> But Arnie Gundersen, a former nuclear power industry executive, disagrees with TEPCO's risk assessment. He says that 'TEPCO is not moving fast enough and the Japanese Government is not pushing TEPCO to move fast enough either, [and] the top priority of TEPCO and the Japanese Government should be to move the fuel out of that pool as quickly as possible.'<sup>17</sup>

As if to highlight these concerns, the region has had an elevated frequency of earthquakes since March 2011.

Tasaka Hiroshi, a nuclear engineer and Special Advisor to the Cabinet in 2011, warns that a 'sense of unfounded optimism' among political, bureaucratic and business leaders 'presents the biggest risk since the government declared the conclusion of the nuclear disaster at the end of 2011'.<sup>18</sup> Likewise, Gundersen points out that the leaders of earthquake-prone Japan 'chose, in the face of serious warnings, to consciously take chances that risked disaster',<sup>19</sup> and that 'a dismissive attitude to the risks of nuclear accidents' is at the core of the problem.<sup>20</sup> On October 12, 2012, TEPCO's president for the first time stated that the utility could have mitigated the impact of the meltdowns if it had diversified power and cooling systems by paying closer attention to international standards.<sup>21</sup> In relation to the risk posed by the spent fuel pool in reactor No. 4 building, systemic inertia continues. Japan constitutes a potentially catastrophic risk to itself, to its neighbours, and to the world.

### 3. Sociological Theories on Late/Second Modernity and the Question of Ethics

The inability of TEPCO and the Japanese government to take effective action in the face of a nuclear crisis, however, is to be expected to some extent, if, as Beck maintains, world risk is an unfortunate by-product of modernity. After all, corporations such as TEPCO and nation-states such as Japan play a central role in pursuing economic development, which commonly correlates with maximising corporate profit. To the extent that Japan's modernisation was rapid and successful until recently, the risk it now carries is great. If indeed the nuclear accident is a by-product of modernity, prevention of future accidents will have to involve a transformation of the social system that is key to modernity.

The concept of world risk society represents the conundrum of the era in which we live: a highly industrialised society since around the 1980s, which sociologists variously refer to as 'late modern' (Giddens),<sup>22</sup> 'second modern' (Beck),<sup>23</sup> or 'liquid modern' (Bauman).<sup>24</sup> This era is distinguished from the earlier, 'first' or 'solid' modern in that in the late/second/liquid modernity individualisation of social institutions advances, and social bonds, which connected individuals to modern institutions such as the (predominantly nuclear) family, (reasonably stable) workplace and, and in the case of the West, (still influential) church, weaken. Instead, living one's own life, and pursuing individual life projects has become the common denominator of the late/second/liquid modern in the advanced industrial countries.<sup>25</sup> The question is what can provide an ethical foundation in the face of a world risk that can jeopardise our own existence, when the risk itself is the product of the social system in which we live.<sup>26</sup>

In order to explore this question, the report from the Ethics Commission for a Safe Energy Supply, which was convened by German Chancellor Angela Merkel immediately after 3.11, and of which Beck was a key member, presents a significant point of reference. It reads:

The progressive destruction of the environment has prompted the call for ecological responsibility – not only since nuclear accidents and not only in this area. It is a matter of how humans interact with the natural environment and the relationship between society and nature. A special human duty towards nature has resulted from Christian tradition and European culture.<sup>27</sup>

There are two significant points to note about this statement. One is that it draws upon a spiritual tradition – that of Christianity – as the foundation of its ethical position. The other is that it highlights Europe as the cultural basis of its ethics. While this ethical foundation may be suitable in the context of Europe, it leaves a question of what might be an appropriate ethical and cultural foundation in other world regions. Given the fact that Asia plays an increasingly significant role in relation to global warming and nuclear accidents, which are two key issues in the World Risk Society, it seems urgent to address this question at this critical juncture of human history. In the frame of this broad theoretical concern, this paper explores the specific question: what ethical foundation might Japan draw on to frame its future in response to the multiple crisis posted by the March 11, 2011 disaster?

### 4. Minamata and Fukushima in Japan's modern history

Figure 1 shows Japan's economic growth from 1955-2010 by GDP growth rate (shown by the red line with the corresponding percentage range on the left) and the nominal GDP (shown by the histogram with the scale on the right).<sup>28</sup> The different colours of the bar chart indicate three

distinct economic periods: the high economic growth period (1955-1973 indicated in pink), the stable growth period (1974-1990 in blue), and the post-bubble low growth period (1991-2010 in green). The graph begins in 1955, the final year of the postwar reconstruction period according to the then Economic Planning Agency; the beginning of Japan's rapid economic growth period; the onset of the '1955 system' (one-party rule by the Liberal Democratic Party which lasted until 1993); and the beginning of Japan's nuclear energy policy with the enactment of the 1955 Atomic Energy Basic Act.<sup>29</sup> The star on the left of the chart indicates the official 'discovery' in 1956 of Minamata disease, large-scale methyl-mercury poisoning caused by industrial effluent from Japan's leading chemical company, Chisso. The star on the right indicates the 2011 nuclear accident at Fukushima Daiichi. It occurred only days after China officially displaced Japan as the world's second largest economy.<sup>30</sup> The incidents at Minamata and Fukushima thus coincided almost exactly with the beginning and the end of Japan's period of rise as an economic power and its positioning as the world's second economic superpower, what might be called its period of super modernisation.

Figure 1: Minamata and Fukushima in Japan's trajectory of modernisation



Adopted from Ministry of Finance (2012) '*Zeisei ni tsuite kangaete miyo*' [Let's think about the tax system]

[http://www.mof.go.jp/tax\\_policy/publication/brochure/zeisei/02.htm](http://www.mof.go.jp/tax_policy/publication/brochure/zeisei/02.htm)

In 2012, 56 years after the 'discovery' of Minamata disease, with a sordid record of corporate denial, court battles by victims and supporters stretching over decades, and compensation for some victims, the Japanese government is determined to bring political closure to the Minamata disease problem by enforcing a strict deadline for applications for government compensation under a special law passed in 2009. Applications closed at the end of July 2012, and over 65,000 people have applied to receive 'relief measures'.<sup>31</sup> This number does not include about 3,000 victims who had been officially certified as Minamata disease patients before 2010, under the most stringent 1977 criteria,<sup>32</sup> and some 11,000 sufferers who received a payout in 1995, an earlier attempt to bring political closure to the Minamata disease problem. These figures are indicative, in the sense of the tip of an iceberg, of the vast devastation caused by the industrial pollution in Minamata.

In response to the government push to achieve a ‘final and complete’ solution yet again, individuals who have worked closely with the sufferers emphasise that Minamata disease will not be over.<sup>33</sup> Numerous people, including congenital Minamata disease patients across generations, some of whom now face the added challenges of advanced age, still suffer incapacity. Epidemiological studies by independent medical researchers, including one conducted in 2009, have repeatedly found expanding areas, and increasing numbers of people affected by Minamata disease.<sup>34</sup> The strongest sense of problem consciousness, however, comes from the realisation that the lessons of Minamata disease have not been learnt by those in power, either to prevent, or to adequately deal with the 2011 nuclear disaster: most notably, failure on the part of administration to take action to minimise harm and to adequately compensate victims. In the case of Minamata disease, it was not until 1968, twelve years after its official discovery, that the government took action to stop discharge of the effluent. The year 1968 was the year when the Japanese economy became No. 2 in the world. It was not until 1973 that the first victims received compensation after protracted court struggles.

The crisis in Fukushima is even more serious in many respects. In Fukushima, the level of devastation is extremely high, and as at August 2012, approximately 111,000 people have been forced to evacuate by the government with no or limited prospects of returning to their homes.<sup>35</sup> The impact of the nuclear crisis is global rather than regional, and in respect of the ecosystem, it is not yet possible to determine its ultimate impact. The underlying power structure of the Japanese ‘nuclear village’ is more formidable than that of Chisso. Its power is reinforced by close links to the international nuclear regime. The causal link between exposure to the poison and illness is much harder to establish in the case of irradiation: low level irradiation does not result in distinctive symptoms as in Minamata disease; it takes many years to manifest as cancer, the cause of which is difficult to single out; and impact upon the unborn, infants and young children is unknown.



**Namie became a ghost town**

Nonetheless, there are important similarities between Fukushima and Minamata: both involve wide-scale and irrevocable environmental destruction caused by humans; both occurred as a result of placing excessive faith in flawed science; both were driven by relentless pursuit of corporate profit and a warped vision of national development; both were promoted and supported by a collusive relationship among national and local governments, bureaucracy, industry, the mainstream-scientific community, and the media (the nuclear village); both marginalised critical scientists; both sacrificed the wellbeing of local residents, reflected a deep-seated discrimination

against rural people, and revealed the structure of dependence of the periphery on the core.<sup>36</sup> Moreover, neither methyl-mercury nor radiation can be detected through our five senses, and victims are obliged to be dependent on the government and the offending industry for the release of data crucial to their life, data which are often subject to manipulation.<sup>37</sup>



## 5. 'Connectedness' as the Legacy of Minamata and Fukushima

Seen from a different angle, the commonalities between Minamata and Fukushima can be summarised as a breakdown of connectedness at a multitude of levels: family (e.g. the impact of death or health impairment of a family member, loss of housing, land and other possessions); (loss of) work; food production (farming and fishing); traditional and local ways of life; and sense of connectedness with nature, past and future, ancestors and descendants. Both disasters caused deep schisms and paralysis in affected communities. Minamata disease caused many rifts in the community:<sup>38</sup> depending on one's position towards Chisso, e.g. whether or not one admitted to having Minamata disease, applied for certification as a Minamata disease patient, or pursued compensation. The nuclear disaster in Fukushima has also caused often invisible rifts in the community and within families, depending on one's stance on nuclear energy; whether to stay in Fukushima or not (especially between mothers with young children who wanted to leave and in-laws who wanted them to stay); whether to consume locally produced food or not; whether to work for TEPCO or not, etc. Physiologically, Minamata disease destroyed connectedness in the nervous system, whereas radiation severs the connectedness in DNA and cells. If one of the characteristics of modernity is the weakening connectedness (of bonds between people and society), both Minamata and Fukushima epitomise it to its extreme, not only sociologically but also biologically.

Is it any wonder then that connectedness emerged as a legacy of both Minamata and Fukushima? The devastation of the March 11 triple disasters met with overwhelming sympathy, abundant aid, and offers of volunteer work from other parts of Japan and all around the world. Within the affected districts, people strove to revive the spirit of the community, for example, by efforts to salvage traditional festivals and seasonal events. The disaster created a sense of cohesion in Japan. At the end of 2011, the word '*kizuna*' 絆 (bond/connectedness) was chosen as the kanji character that best symbolised the year of disasters.<sup>39</sup> Indeed, the triple disaster affected the people of Japan in profound ways. A public opinion poll conducted in 2012 by the Cabinet Office found that almost 80 percent of the 6,059 respondents indicated that they came to realise, after the 2011 disaster, the importance of connectedness with society to a greater extent than they did earlier.<sup>40</sup>



In the case of Minamata, the word '*moyai*' 舫 (mooring boats) has become its legacy,<sup>41</sup> although it took nearly forty years for it to emerge as a key concept. The word was first used officially in 1994 in a speech by the then Minamata Mayor, Masazumi Yoshii. It was Ogata Masato, a Minamata fisherman and Minamata disease sufferer, however, who first proposed the concept as a keyword for the future.<sup>42</sup> He is one of the 'creative and persistent small leaders' within the community with whom the 'Minamata patients have been blessed',<sup>43</sup> and one of the key persons in Minamata who can create new knowledge.<sup>44</sup> He writes:

We have an expression, *moyai*, which I hold close to my heart... It comes from the verb *moyau*, which means “to tie two boats together,” or “to moor a boat to a piling.” For instance, when we fished for sardines, two boats of the same size would drag a net between them.... If a storm should blow up while we were fishing, we would tie our boat together with another and head for port. This, too, is called *moyau*. The other boat didn’t necessarily belong to an acquaintance.... As we headed for port we would talk about our fishing villages, how the fish were running, and so on.... *Moyai* began as a fishing term, but it has been applied to other aspects of our daily lives.... It implies that a small group of people will go somewhere and also return together. Villagers enjoy going places together.<sup>45</sup>

As Beck points out, different phases of modernity: pre-modern, first-modern and second-modern, have coexisted in the process of the modernisation of Japan.<sup>46</sup> In post-3.11 Japan, Minamata presents a vantage point with which to survey this multifaceted modernity. For Ogata this multiplicity has been his lived history, and the foundation of a philosophy which is based on the notion of the life-world that puts the highest and absolute priority on life. As touched upon earlier, ‘life over economy’ is a phrase often seen in the recent anti-nuclear demonstrations, so that ideas resonating with Ogata’s may well be developed based on experiences of Fukushima. Meanwhile, as Beck points out, ‘we need a new frame of reference for the world risk society [from] non-Western countries’.<sup>47</sup> What is attempted below is to construct such a frame of reference by drawing on ideas that Ogata developed in his fifty year struggle with Minamata disease.

This author had the occasion to interview Ogata in Minamata on 15-17 January 2012 and again on 25 August 2012. What follows draws upon these interviews as well as his two autobiographies – *Rowing the Eternal Sea: the Story of a Minamata Fisherman* (1996 Japanese and 2001 English) and *Chisso wa watashi de atta* [Chisso within] (2001). By drawing upon these research materials, it is suggested below that:

- 1) Ogata’s philosophy of ‘life-world’ (いのちの世界・生命世界), developed from his critique of modernity, presents a notion of the world where humans are envisaged as part of the connectedness of all living beings, souls of the living and the dead, and animate and inanimate elements of nature;
- 2) the philosophy is based on Japan’s cultural tradition of animism and may provide a spiritual basis for Japan (and possibly other parts of Asia and beyond), constituting an ethical foundation equivalent to that of the ‘Christian tradition and European culture’; and
- 3) the philosophy has the potential to provide ‘a new frame of reference for the world risk society [from] non-Western countries’<sup>48</sup> by directly addressing the lacuna in (Western-made) social science: spirituality and nature.

## 6. A Critique of Modernity by a Minamata Fisherman, OGATA Masato

Ogata Masato was born in 1953, three years before the ‘official discovery’ of Minamata disease, the youngest child of Ogata Fukumatsu, a leader of local fishermen. His father died from acute Minamata disease when Masato was six. Masato’s parents, eight of his siblings and their children have all been officially certified as Minamata disease patients. Masato himself applied for

certification, and dedicated himself as a key member of the Minamata Disease Certification Applicants' Council for over a decade (1974-85).

Masato gradually became sceptical about the true meaning of compensation, however, withdrew his application for certification, which was a prerequisite for compensation, and left the movement. As a result, he was isolated and alienated from Minamata society. More than 25 years later, he explains his thoughts on compensation with extraordinary clarity:

The biggest problem I had was why everything was decided by money. There has been a massive devaluation of compensation. The first compensation [in 1973] ranged from 16 to 18 million yen per patient, but in 1995, it was 2.6 million, and then, 2.1 million (US\$26K). The amount went down. This is the case for the lung disease lawsuit (塵肺訴訟) and lawsuits over drug-induced suffering (薬害訴訟) as well. It was as if life is traded in markets and was devalued in the 40<sup>th</sup> (1995) and 50<sup>th</sup> markets [counting from the outbreak of Minamata disease]. With the compensation being slashed like this, the biggest problem is the very fact that the existence of life itself (本来的生命存在) is calculated and converted into a commercial value. The government sees compensation as a 'cost'. It is the same for TEPCO in relation to the nuclear disaster.<sup>49</sup>



**Ogata Masato confronts government officials with a banner that reads 'Are you telling us to wait until we die?' (circa 1983).** Adopted with permission from Oiwa and Ogata (2001) *Rowing the Eternal Sea*, p.86.

### 1) If not money, what?

This deep scepticism about money, especially in its relationship to life, constitutes Ogata's most fundamental critique of modernity. This led to an even more difficult question: 'If not money, what?'<sup>50</sup> The answer he gives is:

The original meaning of 'nintei' (認定 certification), I think, is to 'mitomeru' (認める certify) a person's existence. In the final analysis, the question is whether or not the person's existence is cherished (存在が愛されているか) in an equal dialogical relationship in which you ask a question and get a response (受け答えの関係). What sufferers want essentially is proof that they are cared for. But such matters as certification of patients and environmental pollution are turned into a question of criteria. If the existence of sufferers is cherished, we wouldn't have been left alone suffering to begin with... My father died within two months of onset of the illness. When I think about what my deceased father would have wanted to say, I think that it would be 'I am human!' (おらあ人間ぞお). He wouldn't have wanted to be certified as a Minamata disease patient!<sup>51</sup>



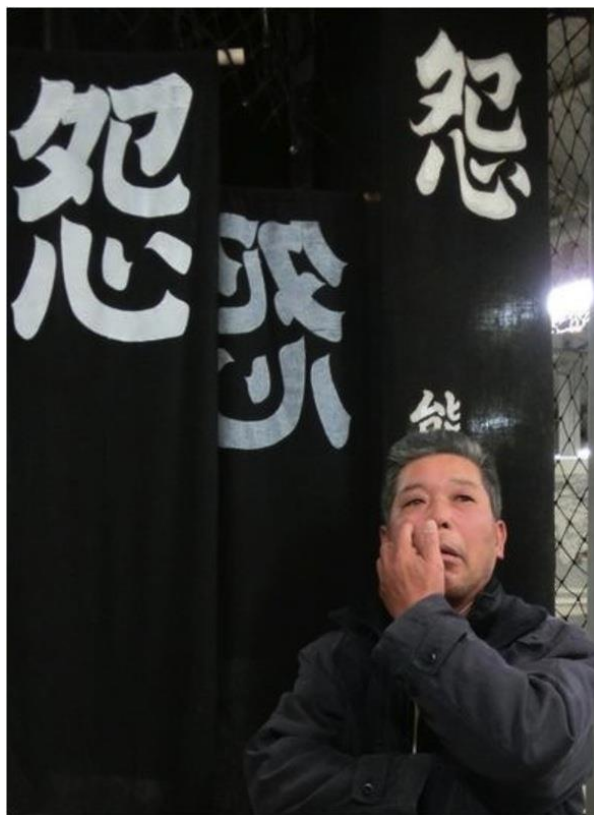
Ogata's scepticism about money, however, does not make him simply an advocate of a pre-modern life style, or an outsider to modern life. Quite the contrary. He definitely sees himself as part of the system of modern society. Moreover, he realises, reflexively, his own position in relation to Chisso, the perpetrator of the disease. This realisation did not come easily to him. It meant shifting his position completely from the safety of being a victim-sufferer-patient-plaintiff who expects and accepts the responsibility of others, to someone who admits to being on the side of the 'accused', the system that caused the Minamata disease. It turned his life upside down to the extent that it caused him to have a nervous breakdown. In retrospect he writes:

What Chisso represented is a question we must ask ourselves today. This may sound abrupt but I think that Chisso might have been another me, myself....

The age we live in is a period driven by 'affluence', such as money, industries, and convenience. Our everyday life is part of a large and complex system which is extremely difficult to get out of. We

are very much dominated by the values of the era that caused Minamata disease. In the past forty years, I myself bought a car and started to drive, and at home we have a television and a fridge, and the boat I use for work is made of plastic. Many things in my home are made of materials from chemical factories like Chisso. Fifty years ago most of the PVC (polyvinyl chloride) used for water pipes was made by Chisso. More recently, they make LCs (liquid crystals). We are very much in a 'Chisso-ish' (チッソ的) society. If we narrow our thinking to only Minamata disease, Chisso is responsible. However, in a historical sense, we are already 'another Chisso'. *This society which has pursued 'modernisation' and 'affluence' has been ourselves, has it not? A big question seems to me how we can break ourselves from our own spell and liberate ourselves* (emphasis added).<sup>52</sup>

Ogata thus re-positioned himself in relation to Chisso by recognising his own position in the broader historical context of modernisation. This re-positioning is highly relevant today in relation to the nuclear crisis and energy consumption. Unless we find ways to live independent of electric- and nuclear power-generating utilities such as TEPCO, we can be regarded, strictly speaking, as 'another TEPCO' in Ogata's words. Here, he asks an important question: how can we break ourselves from our own spell and liberate ourselves? In relation to energy, recent developments in Japan and elsewhere to switch to renewable energy, may represent a step forward towards 'liberation'. As will be discussed later, Ogata sees the potential of renewable energy to provide an economic system that enables us to live more in tune with the 'life-world'.



Ogata Masato at the Minamata Disease Centre Soshisha 16 January 2012. Photo by S. Yoneyama

Whether it be chemical products (produced by companies such as Chisso) or energy (produced by corporations such as TEPCO), however, there remains a conceptual knot in the relationship between modern human existence and nature that is beyond a technical solution.

Ogata says his realisation that he is 'another Chisso' led to an even more fundamental shift: namely, to reposition himself from within human society alone, into a broader system of the 'life-world' of which human society is part.<sup>53</sup> He says:

'Then my eyes opened to nature. I was awakened to the life of nature. That was it!'<sup>54</sup>

He writes:

I was beginning to see that everything is interrelated.... Grass, trees, birds, the sea, fish, human gestures, and words – expressions of nature to which I had grown indifferent – all seemed to offer subtle hints.... I was drawn to the hills. When I spoke to the trees, they would answer. Of course, they didn't use human words. It was more like the voice of the wind, explaining to me in a different way what it meant to be alive. I was participating in a communion of living spirits, in an exchange of feelings unencumbered by words.<sup>55</sup>

This awakening of his senses became the foundation of Ogata's philosophy of the 'life-world'.

## 2) Being human in the life-world

It was not just humans who suffered and died in the Minamata incident. Vast numbers of other creatures, including fish, cats, birds, and domestic pigs,<sup>56</sup> died, and rich ecosystems such as tidal zones were destroyed.<sup>57</sup> These 'other lives' have rarely been part of the mainstream Minamata discourse.<sup>58</sup> Ogata points out that it is the same with regard to the nuclear disaster in Fukushima. The damage humans inflict upon other living things is rarely discussed, and if it is mentioned, it is primarily as 'trouble': the trouble caused by a loss of their commercial value, the danger we face as a result of contaminated food, or the nuisance associated with life that needs to be 'destroyed'. It has been reported that almost 3,000 cows, 30,000 pigs and 600,000 chickens as well as numerous pets were left behind in the nuclear exclusion zone at Fukushima to starve to death.<sup>59</sup> A recent international study found that there has been 'a negative consequence of radiation for birds immediately after the accident on 11 March'.<sup>60</sup> After shifting his position from that of a victim of industrial pollution to that of being part of the social system that caused it, Ogata began to think about the responsibility of humans towards other living things. He writes:

[Compensation] does not mean anything to the sea. It means nothing to fish or cats. The truth is that compensation does not mean anything to the dead either. So how can we take responsibility? I think that it is by being aware of the *tsumi* ('sin') of having poisoned the sea, by facing the fact itself. I myself am confronted with the question of responsibility.<sup>61</sup>

Ogata's sense of responsibility as a human being came with a sense of loss of connectedness with the life-world.<sup>62</sup> He ponders:

When I considered Chisso as offender, I thought that I had nothing to do with it. I thought that it was just a company, with power in the system. But when I began to perceive myself as 'another Chisso', I experienced a sense of crisis that I myself was moving away from the connectedness of life.<sup>63</sup>

Underlying his notion of life-world is the tradition of animism which is epitomised by the word *gotagai*, a word from the Minamata dialect which means; ‘we’re all in this together’. It is a name given to the sense of connectedness with all life within nature. Ogata continues:

[*Gotagai*] doesn’t mean simply that we humans rely upon each other for our existence but that plants and animals are also partners in this life. *Gotagai* includes the sea, the mountains, everything. Human beings are part of the circle of *gotagai*; we owe our existence to the vast web of interrelationships that constitute life.<sup>64</sup>



Starving cows in Fukushima

What we see here is not an image of humans controlling other living things from above, but something more humble, a vision of people as being on an equal basis with other life forms, constituting part of a complex and mutually supporting web of life. Underlying this notion of *gotagai* is a cultural tradition of animism and pantheism:

Beyond the pale of [institutionalised] Buddhism were local gods like Ebisu [god of the sea and fishing] and the gods of the hills. These were the gods important to the villagers’ daily lives.<sup>65</sup>

Placing faith in life and treating it with reverence and gratitude is at the core of this philosophy of the ‘life-world’,<sup>66</sup> and underlying it is the way of life of fishing villages in Minamata:

[In the lost world of Minamata fishermen] we caught lots of fish every day, and we lived on them. We were nurtured by the fish and the sea. We would wring a chicken’s neck a few times a year to eat them, and once every few years we might also have caught a mountain rabbit to eat. We lived by killing creatures. There was a sense that we were given life by other lives. In this way of life, I think people knew the depth of the sin of killing.<sup>67</sup>

Ogata’s ‘life-world’ is perhaps best portrayed by the image of ‘Biohistory’ which illustrates: ‘the history and diversity of life which came into being over the course of a four billion year period’ (<http://www.brh.co.jp/en/>).<sup>68</sup> The image was created based on the idea of Nakamura Keiko, Director General of the Biohistory Research Hall, whom Ogata invited to the 50<sup>th</sup> Anniversary of the Official Acknowledgement of Minamata Disease. In her presentation Nakamura stated that all living beings share the same origin (genome), that human beings are only one of the diverse species which share the same history of development over 3.8 billion years (instead of being at the top of the pyramid), and that human beings are *in nature* (not outside it). Nakamura also stressed the importance of regaining our sense of being living things (生き物としての感覚をとりもどす).<sup>69</sup> Nakamura’s call to regain our sense as living beings resonates with Ogata’s idea of regaining the memory of living things. According to him:

In the age of “modernity”, we standardised, institutionalised and mechanised many things in the name of modernisation. In the process, we reclaimed the sea of Minamata<sup>70</sup> that

was full of life saying that it was polluted by mercury. But perhaps it was not just the sea we buried. We have perhaps created a system of concealment to continue institutional and mechanical burying. That can be summarised as the creation of a "false memory system" (偽りの記憶装置). By doing so, we have perhaps moved away from the essence of life, and the memory of the essence of life. I cannot help but feel that various social problems we face today happened because we have lost the "memory of life" (命の記憶).<sup>71</sup>

Ogata's Minamata discourse thus developed into a critique of modernity from the standpoint of the life-world. It addresses the change in our perceptions and senses, what Nakamura calls the loss of 'the sense of being living things', or what Ogata calls the loss of our 'memory of life', that has been shared for billions of years with other living forms. Ogata's philosophy is a call to regain our sense of connectedness with this vast world of life.

In order to understand his notion of life-world, however, it is necessary to discuss yet another layer of connectedness, that is, connectedness with the soul. This is the dimension of his Minamata discourse that challenges most deeply the current modes of perception, analysis and evaluation of social phenomena in mainstream Western social science.

### 3) Connectedness with the 'Soul' (*tamashii* 魂)

Further pondering the meaning of the Minamata disease incident, Ogata writes:

The Minamata disease incident has left a question that cannot be dealt with as a political issue. Actually, it is the biggest and most fundamental question. In other words, there is a question that cannot be transformed into a question of policies or institutions. That is the question of the soul.<sup>72</sup>

The question of soul is difficult to address in social science language. It is a question that may belong to the realm of what Lyotard calls 'paralogy', the basis of a new kind of knowledge which produces not the known but the unknown, widening the imagination and opening it to possibilities of an 'unknown' knowledge. Lyotard argues that the possibility of paralogy lies in 'little narrative(s)', like the story of Ogata Masato. Beck, on the other hand, points out that the 'enrichment of the soul' through the spiritual quest for a 'God of One's Own' has been one of the strong trends in spiritual culture since the 1960s.<sup>73</sup> Ogata's discourse on the soul is thus not necessarily alien in the context of social science. He writes:

I feel that we need to express what soul is more substantively and in a way that is easier to understand. I have been thinking lately how we can convey what soul is, and what we can say about the soul.... Previously I stated that it is another name for life, but in a way, I think it can also be called 'the stamp of humanity' (*ningen no akashi* 人間の証). Especially after the war, various things have been modernised and mechanised so they can be integrated into the system society (*システム社会*). *This has devoured the soul, which is the basis for the connectedness among people, between humans and other living things, and between humans and the sea, rivers and mountains....* I think that the promise of being human is to sense life (*inochi o kankaku suru* いのちを感覚する) and to manage life (*inochi o tsukasadoru* いのちを司る). Humans exist with this duty. We will never be an existence that can be mechanised and institutionalised (emphasis added).<sup>74</sup>

Ogata's critique of modernity in the deepest sense is that modernisation (including mechanisation) has 'devoured the soul', the very basis of connectedness. For him the soul is the essence of life that enables humans to be connected with other living things and with nature. He considers it the duty of humans to use this sense of connectedness to preserve and maintain the life-world. His notion of soul can then be understood as something like the energy that connects people with other living things and with nature, which altogether constitutes the whole of the life-world.

It is with this holistic notion of the relationship between humans, soul, other living things as well as inanimate nature in the life-world that Ogata and sixteen other Minamata disease sufferers established the 'Association of the Original Vow' (Hongan no Kai 本願の会) in 1995. The "Original Vow" for them is a spiritual concept. The statement of the Association begins:

Once Minamata Bay was the treasure chest of our sea. Here schools of fish came to spawn. The young fry matured here and then returned to repeat the cycle. The bay was like a womb. In what is now landfill between Hyakken Port and Myojin Point, the silver scales of sardine and gizzard shad shimmered in the sunlight. Mullet leapt. Shrimp and crab frolicked in the shallow.<sup>75</sup>

Landfill was used to cover the area where pollution was most severe. Fish from the area, which were contaminated with high-concentration methyl-mercury, were caught and stuffed in 2,500 oil drums and buried underneath the landfill as 'polluted fish'. For Ogata, this landfill symbolizes 'the depth of human sin'.<sup>76</sup> On the field of the reclaimed land, members of the Association have enshrined small stone statues of Buddha and other deities, including 'Totoro,' as a special Minamata deity for deceased children and other young lives lost. The statement of the Association continues:

On this land reclaimed from the Sea of Sorrow, we vow to enshrine small stone images. Bowing down before [the stone Buddhas], we will clasp our hands in prayer, contemplate the sins of man, and pray for the salvation of those souls lost to organic mercury. It is our deepest wish that this land of disease and death be transformed into a Pure Land of the spirit, where all creatures may be consoled.<sup>77</sup>

From this position of recognising our *tsumi* ('sin') and praying to find spiritual consolation, Ogata reflects on the significance of the Minamata disease incident. He writes:

I think that the question Minamata disease poses to people ... [is] essentially, the meaning of life. It was the incident which destroyed a world where we could catch lots of fish, octopus, shellfish and prawns from the sea in front of us, collect bracken, *tsuwabuki*<sup>78</sup> and ferns from the mountains behind us, and harvest vegetables from the fields where insects were hovering around us, and birds were soaring above.<sup>79</sup>

In the past, we were permitted to live in this world and we had a variety of practices that helped us to feel the connection. Each one of us was connected as a living life with various other lives. We lived it out.... When I was involved with the Minamata movement, I thought, deep in my heart, that I was living on my own. But when that sense crumbled, I realised that I live, and am allowed to live by being connected to various other living things.<sup>80</sup>



Ogata's sense of connectedness is not only towards nature and the souls of the deceased but includes connectedness among people; all of which he calls his 'spiritual community':

The spiritual community is like an old-fashioned country stew, in which each person has a different face, physique, character, and age. Some would be disabled. But regardless of their characteristics, all would have valuable roles to play. No one would be dispensable. In such a society there would be no discrimination. To acknowledge each other's differences is to acknowledge our essential equality.<sup>81</sup>

The strength of Ogata's notion of spirituality is that it is not 'other worldly'. Instead, his concept of spirituality is firmly rooted to this world, which includes not only intangible but also observable aspects of nature and people. The spiritual community Ogata describes above epitomises it. It depicts a community where each individual is accepted and cherished for their very existence (存在そのものが愛される) regardless of physique, quality and ability, including disabled Minamata disease sufferers.

Ogata writes elsewhere that he remembers his father welcoming intellectually-disabled people to his house, people who otherwise would have nowhere to go. He cherished (*kawaigaru* かわいがる) them by protecting them from being bullied.<sup>82</sup> Ogata's notion of the spiritual community also reminds the author that congenital Minamata sufferers – many in wheelchairs with severe disabilities – have often been called 'treasure children' (*takarago* 宝子) in Minamata.<sup>83</sup>

Minamata, however, is also a place where discrimination against such sufferers has been strong and many rifts occurred in the community, as discussed earlier. Ogata's notion of a spiritual community, where other people's differences are appreciated as their essential qualities, is like his prayer. And with this 'prayer', he uses the word '*moyau*' [to moor] to say, '*moyatte kaeroo*' [Let's us moor together to return].<sup>84</sup>

But where does he want to return? He writes:

Was not the crux of the Minamata struggle a call from the spiritual world of Minamata fishermen and victims? It seems to me that the heart of the Minamata question lies in their call to live together in a world where life is revered and connected.<sup>85</sup>

Here lies the essence of Ogata's philosophy of the life-world: *to regain the sense of living together in a spiritual world where life is revered and connected.*



**A Stone Buddha on the reclaimed land in Minamata. Photo by S. Yoneyama**

The question remains, however, as to how to reconcile this notion of the life-world with the reality of highly materialistic late-modern society? Is such a notion compatible with the everyday life of an advanced industrialised society? Or is it possible only by pursuing a hermit-like '*hikikomori*' life, after denouncing aspirations, comforts, and sense of progress, which are key to modern living? Asking these questions leads us back to the questions raised at the beginning of this paper:

- How is the dichotomy between 'life' (*inochi*) and economy to be faced at this point of modern history? Is it a matter of either-or, ultimately?

The final section of this paper addresses this question in relation to Ogata's philosophy. It also addresses three other questions.

- Might there be some Asian principle of environmental ethics that corresponds to Angela Merkel's 'Christian tradition and European culture' of the West?
- What is the significance of Japan in the post 3.11 era in regard to envisioning a world beyond the 'World Risk Society'?
- How is it possible to overcome the shortcomings of modernity, its 'self-reflexivity', the tendency to turn the Earth into a 'World Risk Society' like octopuses which have a reputation of consuming their own tentacles?

## 7. The Life-world for a New Modernity

### 1) The Life-World and the System-Society: Dialogue

'How [can we] break ourselves from our own spell and liberate ourselves' from the spell of the 'system-society' driven by the pursuit of affluence? -- Ogata asks. By system-society he means a composite of legal and institutional systems that support modern society.<sup>86</sup> He does not suggest that we should give up living in the system-society in pursuit of living in the life-world. Rather, he sees the relationship between the two as 'right foot and left foot': both are indispensable for walking. The question is how to live within this potentially contradictory dual structure.

We need to think how to live with the dual structure. In the global-capitalist-market economy, we are controlled by a view of the world dominated by the economy and we cannot escape from it. It is a world regulated by clock-time, and we feel as if everything is controlled by the overwhelming power of the economy and politics. But precisely because of this, I think it is necessary to have our own time in 'cosmic-time', in order to relax and refresh, and find and regain a sense of our true selves. I think that each person is like a small universe and that it is possible for each of us to find our own way, existentially, to connect to the cosmic-time where life is eternal. It seems to me that living this duality provides a very important hint for us to remain and regulate ourselves as humans. To put it differently, we work in the system-society to earn our living, and we live in the life-world to live our life. It's like doing two-sword fencing, or having two different, top and bottom, streams of wind, or a double helix structure in one's life.<sup>87</sup>

For Ogata, to recognise this duality meant to understand that he himself was part of the 'Chissoish' society and to recognise that he was 'another Chisso' as discussed earlier. Ogata emphasises, however, the importance of knowing where each of us 'stands', i.e. 'where you put your centre of gravity' (重心) and 'where you put your soul'.<sup>88</sup>



Sadly, I myself cannot escape from the money economy or the economic system. I use my mobile phone and my boat is equipped with GPS, for instance. Although I cannot escape from the system, I am still resisting stubbornly. What is it that I am defying? *There is only one point ultimately. It is where you put your 'trust' (どこに信を置くか shin as in shinrai 信頼). In the end, it is the question of where you place your trust, the system-society or the life-world.*<sup>89</sup>

For Ogata, the life-world presents an absolute, ethical frame of reference in which, he as human being, has a sense of responsibility to nature even though he is living in the system-society. In this sense, Ogata's notion of the life-world may sound somewhat similar to what Turner<sup>90</sup> calls the 'centre' or what Birkeland<sup>91</sup> calls the 'north' in their work on pilgrimage; an inner space which constitutes a separate 'place to be' independent of socially constructed morals and values. Ogata's life-world is no doubt *his* 'place to be' and it provides *him* an absolute ethical frame of reference.

The significance of his thoughts, however, goes far beyond his personal sphere, beyond a spiritual quest of his own god/centre/north, which may be interpreted as a postmodern quest for spirituality. Instead, Ogata presents a philosophy, a foundation for environmental ethics that addresses human responsibility vis-à-vis nature at this particular point of history when the globalising world faces the life-threatening reality of 'self-reflexive' modernity.

## 2) Intangible Heritage: Animism

The strength of Ogata's philosophy lies in its dual historical backgrounds. One is the history of contemporary Japan through which he has lived, from Minamata to Fukushima, a period of radical modernisation which now faces an undeniable turning point. The other is the cultural tradition of Japan inherited and transmitted for centuries: animism. His philosophy is based on what UNESCO calls an 'Intangible Heritage'. It is similar to the Okinawan value of '*Nuchi du takara*, the affirmation of the supremacy or sanctity of life',<sup>92</sup> as well as the ancient Shinto<sup>93</sup> whose polytheistic/pantheistic world accommodates an infinite number of *kami* (gods or deities) as 'a natural force or manifestation of energy or life-force within given objects or places, and spirits and signs of spiritual energy within the world'.<sup>94</sup> In this tradition, nature is spirituality, and spirituality is nature. Not at all solemn or abstract, Ogata's spiritual world is crowded with many types of spirits, living and dead, human and others, including plants and inanimate entities in nature such as mountains, rivers and the sea. It is an eternal world full of diversity, all connected by the soul.<sup>95</sup>

Animism is not unique to Japan. Its primordial-indigenous tradition merged with Daoism from China that constitutes a strong cultural heritage of East Asia and beyond. Ogata's philosophy can be considered as a late-modern version of this cultural heritage and thus has a potential to provide environmental ethics that is widely relevant in Asia. If, as the German Ethics Commission for a Safe Energy Supply points out, environmental ethics should be drawn from a spiritual tradition, an animistic culture might be as appropriate in the East as Christian tradition and European culture is in the West.

In the animistic tradition of pantheism, the relationship between nature and humankind is very different from that in (mainstream) European culture. In Ogata's view of nature, for instance, there is not the slightest hint that humans are above other living things. The image of humankind is humble. The responsibility of humans, who nonetheless have the power to destroy nature,

emanates from within the 'life-world', rather than from the position external to it. This notion of a life-world is very different from the discourse on 'human rights' and 'animal rights', which are often used as keywords in the discourse on environmental ethics.

This cultural heritage, however, has not been part of Japan's intensive modernisation as seen above. As a consequence, we see a situation where many people in Japan feel as if they are compelled to make an unreasonable choice between 'life' and the economy. It is at this historical crossroad that Ogata sees a new possibility emerging, a possibility of redressing the conflicting relationship between the life-world and the system-society. It is through the systematic introduction of renewable energy.

### 3) Renewable Energy

According to Ogata, the tension between the life-world and the system-society is the problem of the relationship between nature and contemporary human civilisation as a whole.<sup>96</sup> With the triple disaster of earthquake-tsunami-nuclear meltdown in 2011, this tension came to a head, but, he remarks, there has been 'a historical push' (時代の後押し) to redress the problem, i.e. people came to realise how important it is to live with a sense of safety. Today, Ogata sees a possibility of reducing the tension further by shifting towards green energy. He says:

I think it is possible to change the existing paradox between economy and life to make them more compatible. If people look back 50 or 100 years from now, it will probably be clear that we have been going through a stage of evolution, a type of new industrial revolution. Previously, 'economy' meant manufacturing and industry, but it has gradually changed. From about 20 years ago, the environmental business became part of the economy. Eco-tourism, for instance, sells the environment to attract tourists. And now we reach a stage where we cannot sustain ourselves without maintaining a balance with nature. We cannot but realise that the tipping-point is near. This is not just the case in relation to the nuclear crisis. It is also the case with global warming, depletion of the ozone layer, water pollution, *kosa* (airborne sand) from China's spreading deserts, and photochemical smog, etc. With these global issues, how to maintain a balance with nature has become an economic question. Before, economy and nature were conceived separately, but now, nature has become the first thing to consider for the economy.

Renewable energy, Ogata says, increases the compatibility of the life-world and the system-society. He is particularly interested in the alternative energy project advanced by Son Masayoshi, who is one of the key proponents of green energy in Japan.<sup>97</sup> Ogata is particularly positive about solar energy which, unlike wind, has no conceivable harm to humans: in his words, there are 'no worries about pollution' (公害の心配がない). He also sees the positive impact it might have towards local autonomy.

Mr. Son constructively engages himself with renewable energy and many heads of local government endorse his view. I think his project will eventually promote local autonomy and local sovereignty. The nuclear accident has threatened life in a broad area, not only in Fukushima. Because it is an issue directly related to survival, sovereignty should be with local residents, and not with the central government. Decisions about the matter of life should be made by the local people themselves.

Ogata is also interested in the international scope of Son's project, which covers a vast area of Asia from Mongolia to South East Asia. He continues:

Mr. Son brings the whole of Asia into his perspective, collaborating with other parts of Asia to create mutually beneficial relationships. Because issues such as air pollution and nuclear crises have impact beyond national boundaries, I think their counter measures must also be thought about beyond national boundaries. In that sense, I find his ideas very interesting.

Ogata, however, is apprehensive about the system-society that is supported by alternative energy. He says:

In my neighbourhood, contracts have been signed to build two mega-solar stations. One is on reclaimed land that has been left idle because some factories moved overseas. The other is a pasture used as a cattle farm before. Because agriculture cannot be sustained economically, rice paddies, mountains and fields have been neglected and gone wild. Building solar power stations usually means just putting solar panels on the land that is least valuable. Now, it feels as if nature is being integrated into the commodity economy (商品価値化する) in a different way. Increasingly, nature, mountains and the sea, are been looked at through economic lens, and it feels as if our sense of awe of nature is weakening (畏怖の念が弱体化). Maybe it can't be helped, but I fear that our reverence towards nature is fading away.... I am a fisherman and I see myself as a kind of 'thief' who 'takes' from nature. In a sense, fishermen and farmers are all thieves. That's precisely why, it's important to treat nature with dignity and respect (仁義を通す).

He implies that the same thinking should apply to renewable energy. If greater commodification of nature indeed leads to a diminished sense of awe, there is perhaps more reason to treat nature more mindfully with dignity and respect. In Ogata's philosophy, this means to feel connected with the life-world and to have a sense of responsibility towards it from within. This suggests that no matter how compatible the system-society becomes with the life-world, the *raison d'être* of the life-world is to provide ethical and spiritual dimensions that are not covered by the system-society.

In fact, the duality of the 'life-world' and 'system society' does not mean that they simply co-exist. During our interview, Ogata repeatedly talked about the significance of maintaining *dialogue* (対話的關係): for one person to ask a question and for the other to respond. For Ogata, the 'Chisso within' has been a significant 'other' with whom he maintains a dialogue, while Chisso Corporation avoided dialogue with sufferers at all costs. For Ogata, it is such a dialogue that makes humans human. The life-world is like a sounding board with which individuals can hold inner dialogues, raise existential questions, and seek ethical references to live more meaningfully in a highly industrialised, late-modern world. At the same time, the life-world is not just an abstract spiritual world. It is nature that exists in the tangible world, as birds, fish, grass, trees, rocks, water, wind, sunlight, etc. The uneasiness Ogata expresses about the diminishing sense of awe to nature is a cautionary note from the life-world, a composite of spirituality and nature, towards the commercialisation of nature.

#### 4) Spirituality and Nature: the Lacuna of Social Science

Ogata's philosophy of the life-world is, more than anything else, a critique of modernity. He questions the two most fundamental premises of modernity. One is the dominance of money-centred social values as discussed earlier. The other is the exclusion of matters related to spirituality. There seem to be three interrelated levels in the incongruity between modernity and spirituality. The first is empirical. Namely, there is a sense, to quote Ogata again, that modernisation and mechanisation have 'devoured the soul' from everyday life. To put it differently, modernity has a capacity to 'de-spiritualise' cultures.<sup>98</sup> The second is historical, that is, one of the key features of modernity has been to pursue freedom from the oppressive power of religious institutions, as epitomised by the Nietzschean claim that 'God is dead'. And, the third is epistemological, which is most relevant in the context of this paper.

Social science, and sociology in particular, is a product of modernity and has operated with secularism as its basic assumption, putting spiritual matters outside its boundary. Spirituality is understood to be something belonging to an 'other reality' as against 'this world'.<sup>99</sup> Issues of animism, among other things, have been treated in sociology 'with the utmost reserve, if not disdain'<sup>100</sup> as if it is 'magic'. The elimination of 'magic', according to Max Weber, is 'one of the most important aspects of the broader process of rationalization,'<sup>101</sup> that is to say, the key to modernity.

On the other hand, the critique of modernity has been presented within social science itself as one feature of postmodernism. For Lyotard, in particular, incredulity towards a metanarrative, in this case the fundamental premises of social science, is the very definition of the postmodern.<sup>102</sup> He sees in the 'little narrative' the potential to produce a new kind of knowledge which opens up our imagination to the unknown, something which has been outside the epistemological boundaries of existing knowledge.<sup>103</sup> The 'little narrative' denotes the kind of knowledge that has been outside the legitimate sphere of (social) scientific knowledge. The 'little narrative' of Ogata presents this possibility of creating a new knowledge as discerned long ago by Tsurumi Kazuko.<sup>104</sup> Founded upon the intangible cultural heritage of Japan that is shared with other indigenous cultures, it directly addresses problems of modernity based on his first-hand experience as a key person in the historic Minamata movement, that is, on *the very frontline* where modernity and the indigenous culture of Japan collided.

Connectedness – *moyai* (tying boats together) and *kizuna* (bonds) – emerged as a response to the devastation in Minamata and Fukushima at the beginning and end of radical modernisation in Japan. This is a response from the ancient cultural wisdom to the reckless aspect of super modernity that brought Japan not only affluence but crises. In the post-3.11 world, the indigenous tradition expressed in late-modern Japan may open new epistemological possibilities in social science.

The sense of 'connectedness that an individual feels to everything that is other than self' is spirituality.<sup>105</sup> And enriching one's soul by having one's own god has been a definite trend in the modern world.<sup>106</sup> Ogata's philosophy is very much in line with this trend in a world which might be called 'postmodern'. In his philosophy, however, this connectedness is not based on a one-to-one relationship with one's own particular god. Rather, it is based on a strong sense of being connected organically to a rhizome-like life-world. In that sense, it presents a philosophy that is counter to the reality of 'individualization',<sup>107</sup> and 'new individualism',<sup>108</sup> in the globalising late-

modern world. Precisely because of this, it is possible, paradoxically, that there will be a greater need to restore a sense of connectedness at a different level in everyday life.

Every philosophy and every social theory is culturally and historically specific. While the impact of the increasing economic power of Asia is felt all over the world, as yet no ethical framework to support its sustainable development has been identified. Ogata's philosophy may provide a first step for us to start imagining a new way of perceiving everyday life for a different kind of modernity. And to do this may demand an epistemological change in the social sciences. But perhaps there is nothing new in that. Sociology did not exist before Durkheim established the concept, and *the existence*, of social phenomena '*sui generis*' that are independent of the actions and intentions of individuals in society.<sup>109</sup> Would it be going too far to say that recognition of the existence '*sui generis*' of the life-world might be the pre-condition for a new modernity where sustainable development is possible?

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**Minamata Bay in winter.** Photo by S.Yoneyama

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## Notes

<sup>1</sup> Beck, Ulrich (2011) 「福島、あるいは世界リスク社会における日本の未来 [Fukushima, or the future of Japan in the World Risk Society], in Sekai, July, pp.68-73.

<sup>2</sup> Beck, Ulrich (1999) *World Risk Society*, Polity, Cambridge.

<sup>3</sup> McCormack, Gavan (1996) *The Emptiness of Japanese Affluence* (first edition) New York: M.E.Sharpe, p.5.

<sup>4</sup> All Japanese names (except the author's) in this paper are presented in Japanese order: family name first.

<sup>5</sup> The term, 'life-world, has been used in philosophy and sociology to refer to the subjective and conscious dimension of everydaylife (Husserl) including the phenomenological aspects (Merleau-Ponty), which is sometimes posited vis-à-vis the 'system-world' (Habermas). Ogata's discourse can be called phenomenological and he also talks about the dichotomy of the 'life-world' and the 'system society' (システム社会). With these similarities, it will be interesting to examine Ogata's philosophy in relation to the western philosophical tradition. This, however, is well beyond the scope of this paper, and will have to be left to a later date.

<sup>6</sup> TEPCO (2012) Press Release 24.05.2012 「東北地方太平洋沖地震の影響による福島第一原子力発電所の事故に伴う大気および海洋への放射性物質の放出量の推定について（平成24年5月現在における評価」 [here](#) (accessed 29.05.2012)

<sup>7</sup> Obe, Mitusuru (2012) 'Tepco's Estimate Of Radiation Rises', *Wall Street Journal Asia*, 25.05.2012, p.5.

<sup>8</sup> NHK News Web (24.05.2012) 「東電90京ベクレル放出を発表」 [here](#) (accessed 29.05.2012).

<sup>9</sup> Stohl, A., Seibert, P., Wotawa, G., Arnold, D., Burkhart, J.F., Eckhardt, S., Tapia, C., Vargas, A., and Yasunari, T.J. (2012) 'Xenon-133 and caesium-137 releases into the atmosphere from the Fukushima Dai-ichi nuclear power plant: determination of the source term, atmospheric dispersion, and deposition', *Atmospheric Chemistry and Physics*, 12, pp.2313-2343.

<sup>10</sup> Brumfiel, G. (2011) 'Fallout forensics hike radiation toll', *Nature*, 478, pp.435-436. [here](#) (accessed 29.05.2012).

<sup>11</sup> Koide, Hiroaki, Selden, Kyoko. (trans.) (2012) 'Japan's Nightmare Fight Against Radiation in the Wake of the 3.11 Meltdown', *The Asia-Pacific Journal: Japan Focus*, 1 April 2012. [here](#)

<sup>12</sup> Burnie, Shaun, Matsumura Akio and Murata Mitsuhei (2012) 'The Highest Risk: Problems of Radiation at Reactor Unit 4, Fukushima Daiichi', *The Asia-Pacific Journal: Japan Focus*, Vol 10, Issue 17, No. 4. [here](#) (accessed 29.05.2012).

<sup>13</sup> Kumano, Yumiko (Nuclear Fuel Cycle Department, TEPCO) (2010) 'Integrity Inspection of Dry Storage Casks and Spent Fuels at Fukushima Daiichi Nuclear Power Station', PowerPoint presentation, slide 4, presented at the Third International Seminar on Spent Fuel Storage (ISSF) 第3回中間貯蔵使用済燃料国際セミナー, at Central Research Institute of Electric Power Industry 電力中央研究所, 15-17 November 2010. [here](#) (accessed 19.05.2012).

<sup>14</sup> Kondo, Shunsuke (25.03.2011) 「福島第一原子力発電所の不測事態シナリオの素描」 [here](#) (accessed 31.05.2012). The report was originally suppressed by the Cabinet Office.

<sup>15</sup> TEPCO (26.04.2012) 「4号機原子炉建屋は傾いておらず、燃料プールを含め地震で壊れることはありません」 [here](#) (accessed 31.05.2012)

<sup>16</sup> Asahi shimbun (26.05.2012) 「廃炉作業阻むがれき 福島4号機・建屋内部を初公開」 [here](#) (accessed 3.06.2012)

<sup>17</sup> Gundersen, Arnie and Gundersen, Maggie (12.05.2012) 'Fukushima Daiichi: The Truth and the Future', video presentation, Fairewinds Energy Education, [here](#)

(accessed 3.06.2012).

<sup>18</sup> Tasaka, Hiroshi (2012) *Kantei Kara Mita Genpatsu Jiko No Shinjitu: korekara hajimasu shin no kiki* [The Truth About the Nuclear Accident as Viewed From the Prime Minister's Office: The real crisis is expected in future], Kobundo shinsho, pp.20-23. Emphasis added.

<sup>19</sup> Fairewinds Energy Education (2012) 'Lessons from Fukushima', [here](#), p.7.

<sup>20</sup> Fairewinds Energy Education (2012) 'Lessons from Fukushima', [here](#), p.5.

<sup>21</sup> "Tepco finally admits crisis was avoidable," *Japan Times*, October 12, 2012 [here](#). To be sure, the admission was made in a bid to gain permission to restart its closed plants.

<sup>22</sup> Giddens, Anthony 1991 *Modernity and Self-Identity: Self and Society in the Late Modern Age*, Stanford University Press.

<sup>23</sup> Beck (1999) *World Risk Society*.

<sup>24</sup> Bauman, Zygmunt 2000, *Liquid Modernity*, Cambridge and Malden, Polity Press.

<sup>25</sup> Beck, U. (trans. Ito, Midori) (2011) 「個人化の多様性 [Diversification of individualisation] in Beck, U., Suzuki, M. and Ito, M. (eds.) 『リスク化する日本社会』 岩波書店 p.21.

<sup>26</sup> Beck (1999) *World Risk Society*, p.9.

<sup>27</sup> Ethics Commission for a Safe Energy Supply, 2011, 'Germany's Energy Transition – A collective project for the future'. Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Germany, [here](#).

<sup>28</sup> The blue line indicates the inflation rate, which was included in the original chart produced by the Ministry of Finance but not relevant in this context.

<sup>29</sup> Yoshioka, H (2005) 'Forming a Nuclear Regime and Introducing Commercial Reactors', in S Nakayama (ed.), *A Social History of Science and Technology in Contemporary Japan*, Trans Pacific Press, Melbourne, pp.80-103.

<sup>30</sup> Guy, Robert (15.02.2012) 'It's official, China is No.2', *The Australian Financial Review*.

<sup>31</sup> Asahi shinbun, 31 August 2012 「水俣病救済策、6万6千人申請、想定2倍、潜在被害多く」 [here](#).

<sup>32</sup> 環境省総合環境政策局環境保健部特殊疾病対策室 2010 「公害健康被害の補償等に関する法律の被認定者数（水俣病申請処理状況）平成22年3月末現在」 [here](#).

<sup>33</sup> George, Timothy (2012) 'Fukushima in Light of Minamata', *The Asia-Pacific Journal: Japan Focus*, Vol 10, Issue, 11, No. 5, 12 March; George, T. (2001) *Minamata: Pollution and the Struggle for Democracy in Postwar Japan*, Harvard University Asia Centre, pp.264-5; Harada, M. & Ishimure, M. (2012)

「水俣病、終わらんよ 原田正純さん・石牟礼道子さん対談」朝日新聞2012年6月13日



- <sup>34</sup> Takaoka, S. (2011) 「水俣から福島への教訓」 『診療研究』 470号 August issue.
- <sup>35</sup> Reconstruction Agency 復興庁 15 August 2012 「復興の現状と取組」 p.37, [here](#).
- <sup>36</sup> Harada, Masazumi (08. 09. 2011) 「原田正純医師に聞く 天災ではなく、人災」 東京新聞 Tokyo Shimbun.
- <sup>37</sup> George (2012) *Japan Focus*; Smith, Aileen (2012) 'Anti-nuclear activist sees commonalities between Minamata and Fukushima', *The Mainichi Daily News*, 4 March; See also, Smith, Aileen Mioko (2012) 'Post-Fukushima realities and Japan's energy Future' (an interview), *The Asia-Pacific Journal*, 10 (33) no.2, August 13.
- <sup>38</sup> 栗原彬 (2000) 『証言水俣病』 岩波新書 pp.10-11.
- <sup>39</sup> The kanji was chosen in the annual poll for the kanji character conducted by Japan's Kanji Aptitude Testing Foundation. BBC News Asia, '[Japanese public choose "kizuna" as kanji of 2011](#)', 24 December 2011.
- <sup>40</sup> Respondents were over 20 years of age and were randomly selected from 350 also randomly-selected cities, towns and villages in Japan. Cabinet Office of Japan 内閣府 (2 April 2012) 社会意識に関する世論調査 [here](#). (accessed 28.06.2012).
- <sup>41</sup> George (2002) p.178. Tsurumi, Y 2007 'Minamata's *moyainaoshi* movement and sustainable development: Recovery from division', The ESD Study Group for the Asia-Pacific Region, *Education for Sustainable Development*, Tokyo. Available at [here](#) (viewed 28 June 2012).
- <sup>42</sup> Interview with Ogata Masato, 16 January 2012.
- <sup>43</sup> George (2001) *Minamata*, p.284.
- <sup>44</sup> Tsurumi, Kazuko 鶴見和子(1998) 『鶴見和子曼荼羅VI 魂の巻 水俣・アニミズム・エコロジー』 [Tsurumi Kazuko Collection Mandara VI Minamata: An Approach to Animism and Ecology], Fujiwara Shoten, Tokyo, p.39.
- <sup>45</sup> Oiwa & Ogata 2001, p.173.
- <sup>46</sup> Beck, Ulrich (2011) 'Postscript: Individualizing Japan and Beyond: Comment on Comments', in Beck, Ulrich., Suzuki Munenori, Ito Midori (eds.) *Risukuka suru nihonshakai: Ulrich Beck tono taiwa 『リスク化する日本社会』* Iwanami Shoten, p.252.
- <sup>47</sup> Beck (1999) *World Risk Society*, p.3.
- <sup>48</sup> Beck (1999) *World Risk Society*, p.3.
- <sup>49</sup> Interview conducted with Masato Ogata, 15 January 2012, Minamata.
- <sup>50</sup> Oiwa and Ogata, p.98.
- <sup>51</sup> Interview.
- <sup>52</sup> Ogata 2001, p.49, my translation. All quotations from this volume have been translated from Japanese to English by the author.

<sup>53</sup> Ogata's terminology, '*seimei sekai*' (生命世界) or '*inochi no sekai*' (いのちの世界), becomes 'life-world' when translated into English, which happens to be the same phrase as used by Habermas. Both are the same in that 'life world' is conceived as an antithesis of the 'system world/society'. While the 'life world' of Habermas refers to everyday life of humans, however, Ogata's notion of 'life world' covers a much wider spectrum including the biological, ecological and spiritual world of all beings living and dead.

<sup>54</sup> Interview.

<sup>55</sup> Oiwa and 2001, p.99.

<sup>56</sup> Ogata 2001, p.66

<sup>57</sup> Oiwa & Ogata 2001, p.164.

<sup>58</sup> Except the work of some Minamata residents: Ogata Masato, Ishimure Michiko and Sugimoto Eiko.

<sup>59</sup> *Yomiuri Shimbun*, 19 April 2011.

<sup>60</sup> Moller, A., Hagiwara, A., Matsui, S. and others (2012) 'Abundance of birds in Fukushima as Judged from Chernobyl', *Environmental Pollution*, 164, p.36.

<sup>61</sup> Ogata 2001, p.68.

<sup>62</sup> Ogata 2001, pp. 64-5.

<sup>63</sup> Ogata 2001, p.66.

<sup>64</sup> Oiwa and Ogata 2001, p.164.

<sup>65</sup> Oiwa and Ogata 2001, p.171.

<sup>66</sup> Oiwa and Ogata 2001, p.164.

<sup>67</sup> Ogata 2001, p.62.

<sup>68</sup> See the homepage of Biohistory Research Institute for the image of 'Biohistory' at [here](#).

<sup>69</sup> Nakamura, Keiko (2007) 'Seimei kagaku: Ikimono kanaku de kangaeru' 「生命科学：生き物感覚で考える」 [Bioscience: To think about it with senses of a living creature], in 水俣病公式確認50年事業実行委員会 『創世紀を迎えた水俣：未来への提言』 [Minamata which Entered a New Period for Life and Creativity] (*souseiki o mukaeta Minamata*)

<sup>70</sup> This was done as a solution to the pollution caused by the organic mercury.

<sup>71</sup> Ogata 2001, p.63.

<sup>72</sup> Ogata 2001, p.67.

<sup>73</sup> Beck, Ulrich (2008) *A God of one's own*, Cambridge, Polity, p.27.

<sup>74</sup> Ogata 2001, pp.192-3, emphasis added.

<sup>75</sup> Oiwa & Ogata 2001, p.122.

<sup>76</sup> Oiwa & Ogata 2001, p.122.

<sup>77</sup> Oiwa & Ogata 2001, p.122.

<sup>78</sup> *Farfugium japonicum*. Its leaves look like shiny *fuki*, but it is not *fuki* and it has small yellow flowers in autumn. It is evergreen and often seen in Japanese gardens, next to stones.

<sup>79</sup> Ogata 2001, p.74

<sup>80</sup> Ogata 2001, p.75

<sup>81</sup> Ogata and Oiwa 2001, p.172.

<sup>82</sup> Ogata 2001, p.10.

<sup>83</sup> Ogata and Oiwa 2001, p.162. A strong counter-example to this would be the case of the 14-year-old 'school killer' in Kobe in 1998 who murdered a small child and displayed his decapitated head at the gate of his school, in order to demonstrate to society how his 'existence has been erased' (存在が消された) by the 'school society, an incident that has had a prolonged empathic impact among Japanese youth ever since. Yoneyama, Shoko (1999) *The Japanese High School: Silence and Resistance*, London, Routledge, pp.1-17.

<sup>84</sup> Oiwa and Ogata 2001, p.173.

<sup>85</sup> Ogata 2001, p.63.

<sup>86</sup> Ogata 2001, p.48.

<sup>87</sup> Interview with Ogata Masato, 25 August 2012.

<sup>88</sup> Ditto.

<sup>89</sup> Interview with Ogata Masato, 16 January 2012.

<sup>90</sup> Turner, Victor (1973) 'The Centre Out There: The Pilgrim's Goal', *History of Religion*, 12 (3): 191-230.

<sup>91</sup> Birkeland, Inger (2005) *Making Place, Making Self: Travel, Subjectivity, and Sexual Difference*, London: Ashgate Publishing.

<sup>92</sup> McCormack, Gavan (2009) 'Okinawa's Turbulent 400 Years', *The Asia-Pacific Journal*, Vol.3-3-09, 12 January 2012.

<sup>93</sup> This is a far cry from state-*shintoism* which has been in place since the Meiji period.

<sup>94</sup> Reader, Ian (2001) *Shinto*, Simple Guides, London, pp.40-41. See also, Kagawa-Fox, Midori (2010) 'Environmental Ethics from the Japanese Perspective', *Ethics, Place and Environment*, 13 (1): 57-73.

<sup>95</sup> This image of this spiritual world has been adopted in many ways, including anime films by Miyazaki Hayao, most notably in 'Spirited Away' (2001) and 'Ponyo on the Cliff by the Sea' (2008). A strong feature of Miyazaki films is the presence of numerous spirits and (mostly lovable) monstrous beings that live in the unseen world, especially in nature. There are other famous Japanese manga and anime films such as 'GeGeGe-no-Kitaro' by Mizuki Shigeru, and

more recently, 'A Letter to Momo' (2011) by Okiura Hiroyuki, where beings from the invisible world play central roles. The animistic tradition is perhaps best expressed in 'Tales of Tono' (1912), a presentation of folk legends by Yanagita Kunio in literature, as well as by woodblock print artists such as Munakata Shiko and Naka Bokunen in art.

<sup>96</sup> All quotations in this section, unless otherwise indicated, are from an Interview with Ogata, 25 August 2012.

<sup>97</sup> Son Masayoshi and Andrew DeWit (2011) 'Creating a Solar Belt in East Japan: The Energy Future', *The Asia-Pacific Journal*, Vol 9, Issue 38 No 2, September 19.

<sup>98</sup> Flanagan, Kieran (2007) 'Introduction', in Flanagan, K. and Jupp, P., *A Sociology of Spirituality*, Ashgate, Farnham, p.1.

<sup>99</sup> Berger, Peter, L. (1969) *A Rumor of Angels: Modern Society and the Rediscovery of the Supernatural*, Doubleday & Company, New York, p.2.

<sup>100</sup> Flanagan 2007, p.1.

<sup>101</sup> Persons, Talcott (1930/1974) 'Translator's note', Chapter IV, Endnote 19, in Weber, Max (1930/1974) *Persons, T. (trans) The Protestant Ethic and the Spirit of Capitalism*, Unwin University Books. Parsons 1930/1974, p.222.

<sup>102</sup> Lyotard, J.F. (1979) *The Postmodern Condition*, University of Minnesota Press, Minneapolis. Lyotard 1979, p. xxxiv.

<sup>103</sup> Lyotard 1979, pp.60-67.

<sup>104</sup> Tsurumi, Kazuko 鶴見和子 (1998) 『鶴見和子曼荼羅VI 魂の巻 水俣・アニミズム・エコロジー』 [Tsurumi Kazuko Collection *Mandara VI Minamata: An Approach to Animism and Ecology*], Fujiwara Shoten, Tokyo, p.39.

<sup>105</sup> De Souza, M, Francis, L.J., O'Higgins-Norman, J., and Scott, D. (2009) 'General Introduction', in De Souza et al (eds.) *International Handbook of Education for Spirituality, Care and Wellbeing*, Volume 1, Springer, p.1.

<sup>106</sup> Beck, Ulrich (2008) *A God of one's own*, Cambridge, Polity, p.27.

<sup>107</sup> Beck, U., Beck-Gernsheim, E. (2001) *Individualization*, London, Sage.

<sup>108</sup> Elliott, A., Katagiri, M. and Sawai, A. (2012) 'The New Individualism in Contemporary Japan: Theoretical Avenues and the Japanese New Individualist Path', *Journal for the Theory of Social Behaviour*, Online: 30 May 2012.

<sup>109</sup> Durkheim, E. (1895) *The Rules of Sociological Method*. See Jones, Robert, *Emile Durkheim: An Introduction to Four Major Works*. Beverly Hills, CA: Sage Publications, Inc., 1986. pp. 60-81.

### ***Asia-Pacific Journal* Articles Recommended for Further Reading**

#### **Japan's 3.11 Earthquake, Tsunami, Atomic Meltdown**

*The Asia-Pacific Journal*

<http://www.japanfocus.org/Japans-3.11-Earthquake-Tsunami-Atomic-Meltdown>

*The Asia-Pacific Journal* has compiled a comprehensive list of articles related to the Fukushima disaster: readers can find here articles about the impact the catastrophe had on Japan's people and environment, many visuals, and accounts of the responses of governments, corporations, citizens, and artists to the disaster.

#### Global Historical Context

#### **"Understanding the Ongoing Nuclear Disaster in Fukushima: A 'Two-Headed Dragon' Descends into the Earth's Biosphere"**

Fujioka Atsushi, translated by Michael K. Bourdaghs

September 12, 2011

<http://www.japanfocus.org/-Fujioka-Atsushi/3599>

Fujioka Atsushi assesses the Fukushima nuclear disaster in light of Hiroshima and Nagasaki, Hanford, Chernobyl, Three Mile Island, and the nexus between nuclear weapons and nuclear power.

#### Minamata

#### **"Minamata at 50: The Tragedy Deepens"**

Eric Johnston

May 7, 2006

<http://www.japanfocus.org/-Eric-Johnston/1994>

Johnston commemorates the 50<sup>th</sup> anniversary of the 1956 Minamata disaster in this brief article. He describes some of the ways the disaster has been memorialized, as well as the propaganda and negligence Chisso employed to avoid the financial burden of assisting the Minamata victims. He summarizes the major lawsuits that finally brought some aid to those harmed. Interestingly, at a May 1<sup>st</sup> anniversary ceremony (five years prior to the Great East Japan Earthquake), some Japanese already linked Minamata and nuclear power; in attendance were government officials from the village of Tokaimura, where a 1999 nuclear accident occurred which killed two people.

**"Contamination: From Minamata to Fukushima"**

Christine L. Marran

May 9, 2011

<http://www.japanfocus.org/-Christine-Marran/3526>

Marran compares the response to contamination from the Minamata pollution and the Fukushima radiation. Where efforts to prevent mercury poisoning after Minamata were by all means a failure, the response to Fukushima has received mixed reactions: some see efforts such as widespread food bans as an overreaction, but others think that the government has not gone far enough. Marran focuses mainly on food safety, but also discusses clean-up efforts, the importance of disseminating reliable information to the public, and the relationship between humanity and the environment.

Those interested in the relationship between humans and the environment in Japan—for the environment is often neglected or "abandoned" too—are encouraged to read the *Asia Pacific Journal* course reader no. 2, "**Environmental History.**"

Health Risks of Radiation**"The Dangers of Low Dose Radiation"**

Ian Goddard

May 6, 2012

<http://www.japanfocus.org/events/view/146>

Independent researcher Ian Goddard provides a brief survey of various studies on the dangers of exposure to low dosages of radiation, providing a short summary of each and links to the full studies.

Responses to the Fukushima Disaster**"Mismanaging Risk and the Fukushima Nuclear Crisis"**

Jeff Kingston

March 19, 2012

<http://www.japanfocus.org/-Jeff-Kingston/3724>

Risk is inescapable with nuclear power plants. Kingston discusses how this risk can best be managed to minimize the damage from disasters, and analyzes where TEPCO and NISA went wrong in assessing risks and how their actions ultimately led to an environment where the Fukushima disaster could happen.

**"The Fukushima Nuclear Crisis and the Fight for Compensation"**

David McNeill

March 5, 2012

<http://www.japanfocus.org/-David-McNeill/3707>

McNeill discusses the compensation and aid residents of Fukushima have received since the disaster. McNeill argues that the aid granted is not enough; some people who deserve compensation for the disaster will receive nothing, and those who are compensated often do not receive enough to make up for what they lost. In other words, the victims are still "abandoned."

**Recommended Articles from Other Sources**International Context

Sharon M. Friedman, Carole M. Gorney, and Brenda P. Egolf, "Chernobyl coverage: how the US media treated the nuclear industry," *Public Understanding of Science*, July 1992; vol. 1, 3: pp. 305-323.

This article examines the media coverage of the Chernobyl coverage in the United States. Readers can compare the information presented in this article with the media coverage of the Fukushima disaster.

Risk Perception

The following three articles examine risk perception and nuclear power, a topic Yoneyama alluded to in her article analyzing Ogata's concept of "life-world." Even in the best of circumstances, people living near a nuclear power plant face the danger of radiation exposure. Since the 1990s, there has been a growing body of research on the strategies such individuals employ to suppress these anxieties. Some might even suggest that the "abandoned people" are not entirely abandoned, having previously accepted the risks associated with living near a nuclear power plant. Is it fair to begin their story post-disaster? That is, do the "abandoned people" bear some responsibility for choosing to live, or continuing to live, near nuclear power plants? How else should we think about this issue? Understanding the factors that influence the decision to live near nuclear power plants can help determine how to better communicate the dangers of living in such areas and how to better respond to future disasters; the following three articles examine risk reception regarding nuclear power.

Visschers, V. H. M. and M. Siegrist, "How a Nuclear Power Plant Accident Influences Acceptance of Nuclear Power: Results of a Longitudinal Study Before and After the Fukushima Disaster." *Risk Analysis*. 2012.



Doble, John, "Public opinion about issues characterized by technological complexity and scientific uncertainty." *Public Understanding of Science*, April 1995; vol. 4, 2: pp. 95-118.

Hinman, G. W., Rosa, E. A., Kleinhesselink, R. R. and Lowinger, T. C., "Perceptions of Nuclear and Other Risks in Japan and the United States." *Risk Analysis*, 13: 449-455. 1993.