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From Atomic Fission to Splitting Areas of Expertise: When Politics Prevails Over Scientific Proof

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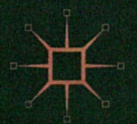
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EDITED BY CHRISTOPHE THOUNY & MITSUHIRO YOSHIMOTO

Planetary Atmospheres
and Urban Society
After Fukushima



"Carrying the reader across a varied terrain—from the operations of capitalism and politics, to the physical ground of everyday life; from sign systems and the status of the image to love, and the affective organization of life—*Planetary Atmospheres and Urban Society After Fukushima* critically reveals these as part of a common assemblage of processes in which we are all implicated. In an argument for relation without limits or end, Fukushima Japan can here be seen as central to the contemporaneity of our world, now."

—**Thomas D. Looser**, Associate Professor, Department of East Asian Studies, New York University, USA

This collection examines the event of Fukushima in Japan in terms of urban sociology and cultural politics to portray the triple catastrophe of March 2011 as both a planetary event and a dual economic and environmental crisis which indelibly marked Japan and the wider global community. The contributors examine how this new situation has been expressed in particular cultural forms (literature, film), political discourses, and urban everyday life in Tokyo and Fukushima, arguing for an imperative need to redefine the national frame of analysis in terms of the concept of the planetary. Building on recent debates in ecocriticism, *Planetary Atmospheres and Urban Society After Fukushima* deconstructs the spatial logic of containment that reduces the event of Fukushima to a place-bound object to instead reinscribe this event within an open narrative of the planetary. This we believe will allow us to redefine our topologies of attachment to local places beside national discourses of unity, resilience, and global strategies of risk management, and open the way to a radical rethinking of Japan's cultural politics after March 2011.

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From Atomic Fission to Splitting Areas of Expertise: When Politics Prevails Over Scientific Proof

Cécile Asanuma-Brice

“Hiroshima is everywhere,” wrote Günther Anders, and everything suggests that, despite all manner of humanist discourse, mankind has not yet chosen that it be any other way. During the commemoration of the seventieth anniversary of the atomic bombing of Hiroshima, the Japanese Prime Minister, Shinzo Abe, omitted a key phrase from his speech in homage to the victims, namely, the three principles of nuclear non-proliferation reaffirmed each year by his predecessors: [Japan] “will not possess, produce, or import nuclear weapons” (*koku heiki wo motazu, tsukurazu, mochikomozu*).¹ The omission was no mere oversight, for his government has just made a unilateral decision to revise the constitution so as to allow for Japan to carry out military operations abroad, as well to facilitate nuclear agreements on the commercial side. We will very likely be accused of confusing two distinct notions: nuclear energy and nuclear weaponry, as if, passing from a civil to a military function will change its fundamental nature.² A review of the history of the nuclear industry’s beginnings, though, will quickly dispel such naive arguments³; and, of course, it must be remembered that it is from our “peaceful” uranium plants that the military is able to acquire its plutonium.⁴ That it is in fact the same entity that is reinforced

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by the government's actions: the drive to pave the way for Japan's return to armed conflict has been accompanied simultaneously by a concerted effort to put the Fukushima disaster into the past, and as quickly as possible. Capitalizing on the fact that, although the effects of the catastrophe are still being dealt with, the menace is more and more a familiar, even annoying, presence, the government made the decision to resume operations at the Sendai nuclear plant on Kyūshū on August 14, 2015.⁵

But irrationality and contradictions that strain belief also play a large role in nuclear matters, as evidenced by another change in government policy. Just as an important international study announced its results showing a clear link between leukemia and long-term exposure to low-dose radiation, the Japanese government—with the support of the International Atomic Energy Agency—increased the acceptable dose for nuclear workers from 100 to 250 msv/year in cases of emergency.⁶ It is worth recalling that this same norm had been set at 20 msv/year prior to the explosion at Fukushima Daiichi, and was then raised following the accident to 100 msv/year for nuclear workers and 20 msv/year for the civilian population.

Because this threshold is used as the basis for all measures protecting and managing the population, its importance surpasses the purely epidemiological domain to have multiple and wide-ranging consequences.

The first is the increase by the authorities of the radiation dose considered acceptable for the general population. Despite all the epidemiological evidence signaling the grave health risks of an environment below 100 msv/year, the political authorities are henceforth using this as a basis of reference, so as to stabilize the benchmark for the whole of the population at 20 msv/year.⁷

Other consequences appear in civil protection policies, since it is this threshold that is used to determine which zones should be evacuated for their health hazards and which not. From there derives the totality of measures for protecting residents, most notably the housing policy under which a government can control the movements of its population and where it is settled.

THE EPIDEMIOLOGICAL EFFECTS OF NUCLEAR EXPOSURE: EVEN INWORKS DOESN'T WORK

An international cohort study called INWORKS (International Nuclear Workers Study), on “ionizing radiation and risk of death from leukemia and lymphoma in radiation-monitored workers,” was undertaken to dispel

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the uncertainties regarding the connection of these diseases to protracted exposure to low-dose radiation. This study, carried out by 13 researchers in epidemiology, each from a different laboratory, was made public in June 2015.⁸ Its funding came from the Centers for Disease Control and Prevention (USA); the Ministry of Health, Labor and Welfare of Japan; the Institut de Radioprotection et de Sûreté Nucléaire, AREVA, Electricité de France; the National Institute for Occupational Safety and Health (USA); the US Department of Energy; the US Department of Health and Human Services; the University of North Carolina; and Public Health England. Financing was thus provided in part by those directly involved in the interests of the nuclear microcosm, but the authors of the study specify that at no time did they intervene in the either the research or its publication: their sole role was to allow access to data. This study consisted of following no fewer than 308,297 workers who had been employed in a nuclear facility for at least one year. The employers were as follows: in France, the Atomic Energy Commission (CEA), AREVA Nuclear Cycle, or the national electricity company (EDF); in the USA, the Departments of Energy and Defense; in the UK, nuclear industry employers listed in the National Registry for Radiation Workers. The method used to follow the health of the workers was Poisson regression, a linear model of logarithmic functions, in order to quantify the associations between the dose absorbed by bone marrow and the mortality rate for leukemia, lymphoma (tumors that develop from lymphatic cells), and multiple myeloma.

The principal source of information for evaluating the link between ionizing radiation and cancer has long been the body of data amassed through epidemiological monitoring of the survivors of the two atomic bombs dropped on Hiroshima and Nagasaki by the USA in August 1945. Their analysis proved the causal link between exposure to ionizing radiation and the development of leukemia. However, these results concerned only exposure to acute, high levels of radiation. Yet it is sustained or repeated exposure to low-dose radiation that is more and more an issue in today's society. It has been shown, for example, that average annual doses of ionizing radiation (from medical exposure) in the USA rose from 0.5 mGy per person in 1982 to 3.0 mGy per person in 2006. This phenomenon has also been observed in most other high-income countries.⁹ For its part, the study carried out by the team of INWORKS researchers proves the correlation between the risk of death from leukemia and prolonged exposure to low doses of radiation, through the monitoring of the subjects over a period of 60 years.

But since nothing stops those who insist on applying the cost-benefit norm ALARA—As Low As *Reasonably* Acceptable¹⁰—our lives depend less on any epidemiological evidence than on the notion of “reason.” In this way, demagoguery on the matter has led to the term “victim” being replaced by the less charged term “affected persons.” This change of terminology, notably in the documents of the ICRP,¹¹ is not without consequence: in psychology, *affect* is opposite to *intellect*, and as such engenders behaviors that are not rationally based. In psychology, too, *affectivity* is contrary to *cognition*, that is, the capacity for rational reasoning, although this dichotomous approach has become more nuanced over time. Additionally, the use of the term “affect” here alludes to the idea of *radio-phobia*, the irrational fear generated by a (nuclear) danger that is little understood, according to its defenders. Recently, the ICRP decided that the term “radio-phobia” as previously used was an error. According to their new approach, it is normal for people to be afraid, given their relative ignorance. Therefore, it is important to put into place a program of education to correct the widespread lack of knowledge. This logic, however, contradicts that developed by the same people in applying ALARA: “we don’t know scientifically what the health effects are of low levels of radioactivity, so we must just deal with the situation on the ground.” The key, therefore, is to find a way to teach what one does not know. This says a lot about the weight given to simple communication in the matter. Communicating does not equal informing; *communication* amounts to inculcation, through public relations, propaganda the goal of which is to make people accept a doctrine that has been politically (but not scientifically) established.

To go “as low as reasonably acceptable” (ALARA) also means, according to Jacques Lochard, speaking at a June 2015 symposium on the ethics of radioprotection, that “the right of refuge could not be one of the radioprotection rules. We have to accept the situation and deal with it.” Deborah Oughton (CERAD) added that “we must educate people as to the risks in order to make the risk more acceptable.”¹² What’s important is to know by whom this risk must be accepted and why. These couple of extracts, of talks chosen from among many others, lead us to question what is certainly one of the major preoccupations of society today, namely, the fact that those who actually do the risk-taking are rarely the ones who benefit from the risks taken, and as such the situation cannot be acceptable.

THE RESIDENTIAL EFFECTS OF NUCLEAR EXPOSURE:
 "BECAUSE HOUSING IS LIFE..."¹³

Who then, in the present case, are those who have taken the risk, and how have they managed this risk-taking?

The people who fled the territories contaminated by radioactivity, following the explosion at TEPCO's Fukushima Daiichi nuclear plant, have been classified into two groups: the 80,000 inhabitants of the 11 communities within the evacuation zone (see Figs. 6.1 and 6.2 below), and those who migrated of their own initiative, having received no government directives that might have protected them. (The evacuation zone extending 20–30 km around the plant covered but a paltry section of the contaminated land.) Our societies, which produce the illusion of control over social, natural, and human disasters by the use of measurement, thereby become producers of castes. In this way, a new category



Fig. 6.1 Refugees and their legal advisors demand the prolongation of their access to free housing before the Japanese Parliament, May 20, 2015 (Photo Cécile Asanuma-Brice)

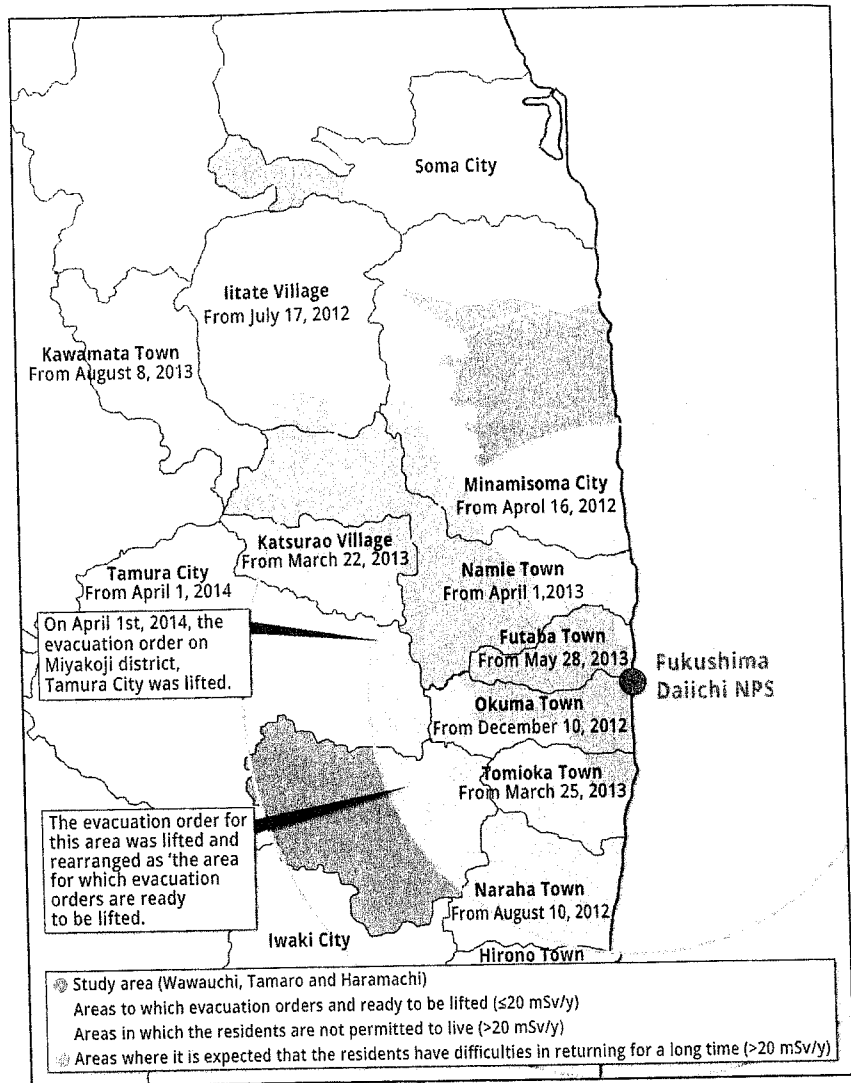
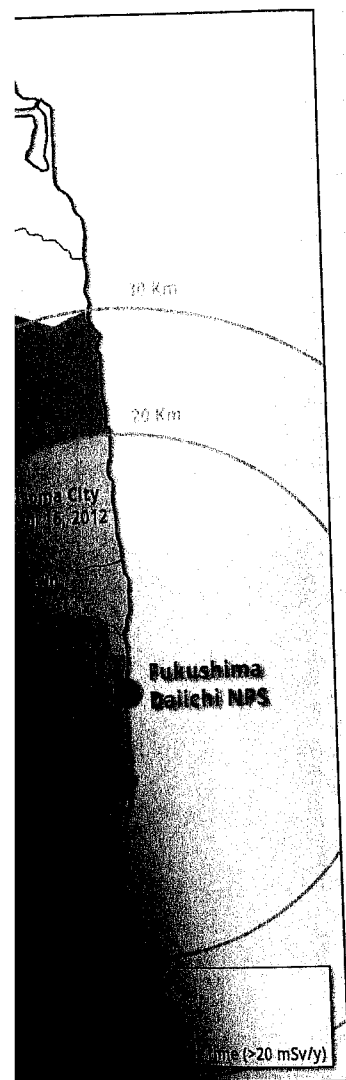


Fig. 6.2 Map of the restricted area

was born to identify these people, thereafter designated “voluntary refugees” (*jishūhinan*). It is very difficult to determine their exact number, because most of them were not included in the prefectures’ registration system, which caused them to miss out on certain benefits (free medical monitoring, loss of possible indemnization, etc.). They have nevertheless been officially estimated at 36,000 people as of May 2015.¹⁴ To put into context, the Japanese government counts a total of 118,812 displaced people, 45,735 of whom left Fukushima, while the other 73,077 moved within the prefecture¹⁵; these numbers represent a decrease, as the official statistics posted a total of 160,000 people displaced in 2011, some months after the catastrophe.¹⁶

Not distinguishing between those designated by the government as voluntary refugees and those not, the Fukushima prefecture, obeying the law of assistance in the case of disaster, provided them, at no cost, with temporary housing in pre-fabricated buildings (*kasetsu jūtaku*), or 16,800 housing units in Fukushima prefecture alone, as well as apartments from the private sector (*minashi kasetsu jūtaku*), or 25,500 lodgings.¹⁷ The legal limit for residence in these apartments is two years, which has, however, been prolonged by one year on an annual basis. This situation lasted until the prefecture announced in the press on May 17, 2015 that this system would be discontinued as of March 2017, provoking a wave of protest within the refugee population. The possibility for people who had been ordered by the government to evacuate to continue to benefit from free housing is, it seems, still under discussion.

The government is behind this decision, which follows the announcement of the near total reopening of the evacuation zone to habitation in 2017 (only the most contaminated section close to the plant, termed the “zone of uncertain return,” is not concerned), some of the stricken communities have asked the prefecture to act to end the policy of housing allocation, the only one in place for refugees. They justify this position by their desire to have their former populations return to their homes, in accordance with governmental directives. They consider that the availability of free housing has hampered the return of migrants to their hometowns and has, moreover, led them to develop attachments to their new host communities, further undermining any eventual plan to return home. This stance is at odds with the wishes of the migrants themselves as expressed in various surveys: they believe that they cannot, and consequently do not want to, return to live in their home communities.¹⁸



As for the prefecture, it justifies its decision by the fact that extending refugee conditions acts as a brake on reconstruction. One might, however, question the pertinence of a reconstruction that would subject the population to low doses of dangerous radiation, as evidenced by the results of the INWORKS study previously discussed. Without waiting any longer, the Japanese government reauthorized, for the first time, part of the full evacuation zone to be habitable once more. The town of Nahara thus reopened its doors on September 5, 2015. Fewer than 10 % of the municipality's 7500 residents applied to return to the town, which lacks basic commercial and medical services.¹⁹

THE PROGRESSIVE REOPENING OF THE EVACUATION ZONE

Behind these measures lies a determination to reopen the evacuated zone, following the decision by the Japanese government to pursue its use of nuclear energy. The issue then is to show that a government is capable of handling a nuclear disaster, by minimizing its management of it, even though, in order to do so, it must put part of its population in danger. Add to that the decontamination policy, a colossal undertaking, which is just one more calamity given the damage it causes, and even then is only partially effective: it is impossible to clean all the foliage, mountains, and waterways. Tons of radioactive waste have been stored in sacks, some already torn, along the oceanfront, just waiting for the next tsunami to spread out again upon the continent. Thus, all the analytical elements line up together to demonstrate that the international political management of the explosion at the Fukushima nuclear plant is mired in a layer of conscious deception, built upon the fundamental infrastructure of all politics: the lie.²⁰

THE PSYCHOLOGICAL EFFECTS OF NUCLEAR ENERGY: A POINT OF NO RETURN

We established a first assessment in December 2014 of the number of victims of this management of the crisis, as disastrous as the disaster itself, accounting for 1170 deaths related to the explosion at the TEPCO nuclear plant.²¹ Contradicting the rumors circulated by some researchers, notably at the Fukushima Medical University, according to which cases of depression and suicide had multiplied within the refugee population due to their estrangement from their hometowns, a recent study led by

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professor Takuya Tsujiuchi, director of the Waseda Institute of Medical Anthropology on Disaster Reconstruction, on 16,000 refugees show that over 40 % of them suffer from post-traumatic stress disorder (PTSD). These results further indicated that the number of traumatized individuals was equivalent between those who had been ordered to evacuate and those who took refuge voluntarily. Professor Tsujiuchi, interviewed by the national broadcaster NHK on May 27, 2015, explained that to constrain these people to return to live in the place where their psychological disorder began, while its environment remains unstable due to current contamination levels and the decaying state of the nuclear plant, could have dramatic consequences. He points out that, in contrast to the results of post-traumatic testing following an earthquake, this study shows that the victims are not confronted by a single stress in managing their everyday lives, but suffer from genuine mortal anguish faced with the nuclear menace. According to Professor Tsujiuchi, “we act today as though the catastrophe is over, but that is not the case. We’re cutting housing aid, and then indemnities for psychological suffering, then financial compensation for loss of belongings.... Soon, there will be no more aid. The situation is very dangerous.”

The “voluntary” refugees are, for the most part, single-parent families, who worry about the health consequences of educating their children in contaminated areas. The loss of housing aid would thus greatly accentuate their already considerable vulnerability. Legal aid associations have argued that the law that limits refugees’ stay in the emergency housing units to two years is based on their instability due to hasty construction and the use of flimsy materials, yet this is not true of the *minashi kasetu jūtaku*, which are ordinary lodgings. In addition, the policy of reconstruction is advancing very slowly: the number of public housing units actually built on the refuge site is just 509 out of the 4890 that were planned. Yet despite three calls for applications, the occupation rate for these 509 units remains very weak. The principal reason for this resistance comes from the fact that the prospective inhabitants would not only lose their current rent-free arrangements, but they would have to live in collective housing. For this population, who were mostly farmers consuming the fruits of their own production, to accept such housing would mean entering into a costly system of consumption that they had always avoided; worse, in doing so, they would definitively give up hope of ever living again in a rich, natural environment as had been theirs. The words of Mrs. Monma, a 75-year-old

Buddhist nun from the town of Namic, put this in clear terms: “we simply want houses where we can farm the land (Fig. 6.3).”²²

The remarks of Ulrich Beck come to mind: “Risk societies uniformly place humanity in a situation where it puts itself in danger through the intermediary of civilization.”²³ This example shows us how this process of self-destruction is set up in our societies, which nonetheless continue to boast of their level of civilization achieved through the development of the system of economic production that sustains them. Likewise, the Japanese government calls for a return to life in the contaminated areas, all the while refusing the massive investment needed to reconstruct the depopulated countryside, an area that it had in fact already abandoned in favor of urban economic viability.

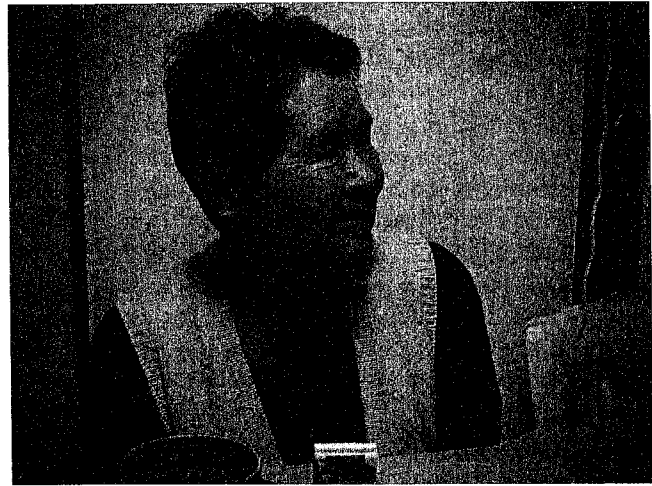


Fig. 6.3 Ms. Monma, a 75-year-old Buddhist nun from the town of Namic, living as a refugee in the village of Ōtama: “I went to demonstrate before the Parliament, I said to them..., we have lost everything..., we simply want houses where we can farm the land” (Interview conducted May 21, 2015; Photo Cécile Asanuma-Brice)

LIES AND PUNISHMENT

As we have seen through various angles of approach, the disconnect between reality and political acts is deepening, so a philosophical approach to the problem is needed if we are to understand, and thus better confront, the cause of such commitment to this self-destructive behavior.

What is the reality here? The reality is scientific proof of the dangers of nuclear radiation even at low doses (see the INWORKS study); the demonstration that social management of such an accident is impossible, no matter the level of wealth or education of the country involved; confirmation of the fact that nuclear energy is not economically cost-effective, that is, profitable or feasible (the soaring deficit at AREVA in 2014 reinforces the two reports of the Cour des Comptes, the French Auditor General's Office, which had already called into question the deplorable financial situation of the nuclear industry)²⁴; and scientific confirmation that nuclear energy is not the perfect solution to reducing CO² emissions, since it itself produces them, as for example during the extraction and processing of uranium. Therefore, nuclear production is not necessary—in the philosophical sense of the term, that is, what is and must not be—to life in our societies. It should also be noted that we possess today other means of meeting our energy needs, the performance of which could be rapidly increased if our governments decided to devote even a quarter of the budget that now goes to developing nuclear research.²⁵ Finally, our energy consumption could be considerably lessened, if we address the wastefulness—at the industrial level as much as among individuals (e.g., dependence on home automation)—that characterizes the modes of over-consumption in the rich countries of our planet.²⁶

What, therefore, are the motivations of those who, counter to all good sense, make the decisions to pursue and develop a form of energy that holds the ultimate power of *to be or not to be*?

WHEN THE DEATHS OF SOME BECOME A BULL MARKET
FOR OTHERS

As we noted in a previous article, Mitsubishi, the prince of Japanese home automation and electric cars, having expanded into the armament industry, participated for the first time in 2014 in the international armament exhibition Eurosatory. Mitsubishi Heavy Industries created a joint venture with AREVA under the name ATMEA, beginning in 2007, with the goal

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of developing sales of the EPR (European Pressurized Reactor) and the APWR (Advanced Pressurized Water Reactor). On May 3, 2013, Turkish Prime Minister Recep Tayyip Erdogan and Japanese Prime Minister Shinzo Abe signed a \$22 billion contract to construct the Sinop Nuclear Power Plant in Turkey. The owners of the power plant are Mitsubishi Heavy Industries and Itochu for Japan, who, together with the French AREVA and GDF Suez, account for 65 %, and the Turkish public energy producer EUAS with 35 %.²⁷ Political instability in the region can only increase our concern regarding the resolve of the Japanese government to do what is needed to join with the various countries of the coalition against the Islamic State (ISIL, Daesh) who came together in 2014, during the war in Iraq and the civil war in Syria, to intervene militarily against the Islamic State and the Al-Nosra Front in Iraq and Syria. These military actions, primarily undertaken by the Americans, involve 21 other countries, including France and the other principal countries of Europe, but also Canada, one of the world's primary sources of uranium. These wars are an arms market without end. For example, in February 2015, France sold 24 Rafale fighter planes to Egypt; in April, 34 to India; then Qatar decided to buy 24, for a total of 6.3 billion euros.²⁸ To make matters worse, the use of weapons and munitions containing depleted uranium in these various conflicts has yet to be regulated, the USA, UK, France, and Israel all rejecting a UN resolution on the matter in October 2014.²⁹

FROM THE ILLUSION OF CITIZEN PARTICIPATION TO SHAKING THE DEMOCRATIC SYSTEM

The reflections that follow carry on from the works of Günther Anders, Hannah Arendt, and Hans Jonas on the subject. They put forth the idea that man had arrived at a stage where knowledge and thought had become disconnected in the face of the impact, in a distant future, of what he produces. The enormity of the consequences over the long term—and in the short, as the influx of migrants fleeing Syria demonstrates—of what we produce, weakens our capacity to represent those consequences, faced with a capacity to produce that is quasi-immediate. Accompanying this temporal dislocation, modern science allows domination of nature to take the place of its contemplation, establishing a technological power that sets itself up as an invincible opposite to nature's vulnerability. In this way, humanity becomes aware of its power to influence the planet's entire biosphere, thereby generating a new approach to the principle of

responsibility. Furthermore, the existence of ethics constrains prescient knowledge to the recognition of ignorance, in that it is slight in comparison with technical knowledge. The managers of nuclear matters have well grasped the necessity of an ethical showcase to mollify public disquiet, and will go to the lengths of promoting ignorance, even scientific falsification, as a means to ward off potential attacks on their actions.

As Hans Jonas remarks in *The Imperative of Responsibility*,

The sacrifice of the future is logically no more open to attack than the sacrifice of the present for the future. The difference is only that in the one case the series goes on, and in the other it does not.... However, the new imperative says precisely that...we do not have the right to choose, or even risk, nonexistence for future generations on account of a better life for the present one.... [The statesman's] endeavor is to create a viable political structure, and the test of viability is in the enduring of his creation.³⁰

Nuclear industrialists thus assume an untenable right and, by doing so, unleash an imperative of responsibility that is much too heavy to be borne by its holders alone. It is the reason that the nuclear sector introduced the participative system, so that rather than minimizing the risks, it ensures that they are accepted, and even that the responsibility for them is shared, by giving the parties concerned the illusion that they participate in the decision-making process. But another characteristic of the nuclear industry is that its increased stature—which is purely a product of public policy—enables it effectively to ignore the opposing masses to which it accords but a semblance of meaningful involvement. This dictatorial nature is inherent in the nuclear establishment, which makes a mockery of the democratic system, pushing it to the outer edges, as we can see in this photo taken in October 2014, while the Japanese government was deciding to restart the country's first nuclear operations (at the Sendai plant on Kyūshū) in four years, even though the population energetically expressed its opposition (Fig. 6.4):

A small number of Japanese politicians thus made the decision to relaunch Japan's nuclear power plants, despite intense and increasing volcanic and seismic activity (the two being closely linked).³¹ And yet, as we have shown, the epidemiological, residential, and psychological effects of nuclear power cannot be managed, so one must question what drives the determination to persist on this path. It seems that the only remaining motivation is the ultimate power, the right of life or death over the

PARTICIPATION

SYSTEM

of Günther Anders, put forth the idea that thought had become a future, of what he meant by long term—and in what he illustrates—of what consequences, faced by the world accompanying this kind of nature to technological power and vulnerability. He saw the planet's principle of



Fig. 6.4 Scene of the vote deciding to restart the Sendai (Kyūshū) nuclear power station: Minister of Trade Y. Miyazawa, in reading out the decision, got the name of the plant wrong, thus betraying his disinterest and lack of involvement in local affairs, to then declare: “The committee is in unanimous agreement for restarting the power plant.” This scene shows how, in democratic systems, the participation of the public is respected, indeed required, even if their opinions are not taken into consideration. One of the characteristics of the nuclear state is that it stages such demonstrations of the democratic process. (NHK News, October 2014; Photo Cécile Asanuma-Brice)

whole of the earth’s ecosystem. This quasi-divine right assumed by certain politicians is bolstered by an institutional system that contains enough safety valves to allow the strongest tensions to escape along the margins and ensure that the current system, democratic in name only, is self-sustaining.

The central role of deception in all of this initially revolted my naive self, but a reading of the works of philosophers of the 1970s—which emerged out of two of the most terrible episodes of twentieth-century history, that is, World War II and the Vietnam War—taught me to temper my anger in order to transform it into more productive reflection. Hannah Arendt wrote on this subject:

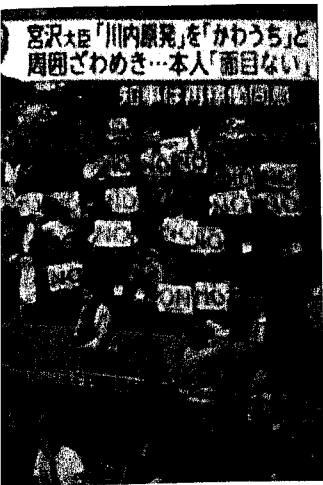
Secrecy – what diplomatically is called ‘discretion’, ... – and deception, the deliberate falsehood and the outright lie used as legitimate means to achieve

political ends, have been with us since the beginning of recorded history. Truthfulness has never been counted among the political virtues, and lies have always been regarded as justifiable tools in political dealings.⁵²

The process of lying goes hand in hand with the disconnection between knowledge and thought previously evoked, because it is necessary to extract our thinking from our environment so that it might imagine another, invented world (whether conceiving a better alternative or constructing a web of deceit). This removal of thought from the present reality is also, according to Arendt, what permits action. As action is the foundation of politics, so deception is inherent to political action. Nevertheless, that does not mean that one must accept the lies, cease denouncing them; on the contrary, it enjoins us to not be deceived by the elaborate political strategies of our different governments, nor to just passively await improvements in the situation that will never come.

NOTES

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4. Gabrielle Hecht, *The Radiance of France: Nuclear Power and National Identity after World War II* (Cambridge, MA: MIT Press, 2009).
5. "Japan Regains Nuclear Power Supply under Post-Fukushima Regime," *Mainichi Shimbun*, August 15, 2015, <http://mainichi.jp/english/english/newselect/news/20150814p2g00m0dm013000c.html>.
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Sendai (Kyūshū) nuclear power plant. The decision, got the name of lack of involvement in local consensus agreement for restarting the systems, the participation of opinions are not taken into account. The state is that it stages such a protest, October 2014; Photo

assumed by certain that contains enough along the margins and is self-sustaining. I admitted my naive self, which emerged from my history, that I am angry. Hannah Arendt

ception, the to achieve

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8. Klervi Leuraud et al., "Ionising Radiation and Risk of Death from Leukaemia and Lymphoma in Radiation-Monitored Workers (INWORKS): An International Cohort Study," *The Lancet Haematology* 2, no. 7 (2015): e276–81.
 9. The INWORKS authors do not mention the databases collected and analyzed following the accident at Chernobyl.
 10. The precautionary principle with regard to radioprotection when there is uncertainty as to the dose-effect connection.
 11. As may be seen in the documents of the Symposium June 2–3, 2015 at the Fukushima Medical University: workshop on questions of ethics in the area of radioprotection, organized by the Fukushima Medical University and the ICRP.
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 13. Interview with a refugee mother, by Cécile Asanuma-Brice, May 18, 2015.
 14. "Jishu jinan jūroku teikyō, ninengoni shūryō he Fukushima-ken ga hōshin" (Fukushima prefecture plan to end housing for voluntary evacuees in two years), *Asahi Shimbun*, May 17, 2015. <http://www.asahi.com/articles/ASH5J5H83H5JUTIL00M.html>
 15. Results of a survey of the Fukushima Prefecture, January 30, 2015.
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 18. NHK realized a survey between November and December 2014 on 5000 inhabitants of the Fukushima prefecture. 1154 answered to three questions: *Are you thinking of returning?* 42.5 % no. *Have you stayed in touch with your former friends/neighbors since the accident?* At 46.4 %, *these ties have largely disappeared.*) <http://www3.nhk.or.jp/news/shinsai-movie/>
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