Introduction

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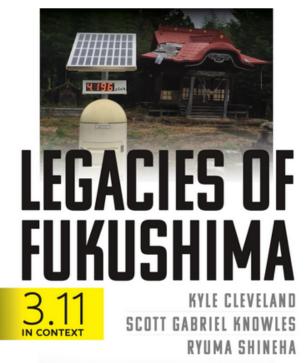




Fig. 1: Legacies of Fukushima.

Abstract: This special collection of papers reflects the work of contributing authors to the newly released book Legacies of Fukushima: 3.11 in Context (University of Pennsylvania Press, 2021). The edited volume addresses the Fukushima nuclear crisis in Japan, taking a

multi-dimensional, cross-disciplinary approach to understanding this epic disaster. The book is an intersectional collaboration that is unique in that it incorporates the work of Japan-area scholars, journalists, nuclear experts and Science, Technology and Society (STS) scholars from Japan and abroad, who discuss the trajectory of the Fukushima nuclear disaster in the first decade since its inception. There are 19 authors whose work is included in the book; this special edition of selected papers for The Asia-Pacific Journal: Japan Focus evokes that work, and while they do not entirely represent the scope of the material included in the edited volume, these papers delve into issues that any disaster studies scholar or student of the Fukushima nuclear disaster will find compelling.

Keywords: Fukushima, disaster, Olympics, COVID-19, nuclear energy, accountability.

The 3.11 disasters were an implausible convergence of events, the massive 9.0 earthquake (the largest on historical record in Japan), a tsunami that took nearly 20,000 lives, which put the Fukushima Daiichi nuclear power plant underwater, leading to 3 nuclear reactors in meltdown, the most convoluted nuclear disaster in history. When the tsunami pushed ashore onto the coast less than an hour after the earthquake, it swamped the Daiichi plant, inundating the reactors and taking out the electrical backup generators, causing a total station blackout. With no power to run instrumentation or take remedial actions, the Daiichi nuclear power plant descended into chaos. The Fukushima crisis was the first multireactor meltdown and the only total station blackout (the only time this had happened in the history of nuclear energy). This "beyonddesign-basis" event was unprecedented in the history of nuclear energy, and it was considered so unlikely that it left nuclear authorities wholly unprepared to deal with the crisis as it cascaded out of control. TEPCO (the utility that ran the doomed plant) has since maintained that they should not be held legally accountable because these conjoined events, taken together, were the ultimate "Black Swan" disaster. As Charles Casto, a former plant manager and high-ranking administrator in the U.S. Nuclear Regulatory Commission, who was the chief liaison for the U.S. government during the crisis and who worked closely with the operational staff at the Daiichi plant put it: it was comparable to having the San Francisco earthquake, the Three Mile Island nuclear accident and the Katrina hurricane all happening on the same day.1

Yet as unlikely as they would seem to be, the Tōhoku earthquake and tsunami were hardly unprecedented. Japan is roiled by earthquakes constantly, and while the magnitude of the 3.11 quake was unique, in the months that preceded and followed this event there were clusters of smaller quakes, many in the 7 magnitude (Richter Scale) range, that would be significant outside the context of the penultimate quake of 3.11. And the Sanriku coast in Northeastern Japan has been inundated by tsunami often enough that oral tradition among inhabitants of coastline communities has produced a cautionary mindset in which tsunami have always loomed large in the collective imagination. Under the harsh scrutiny of nuclear critics, scholars, journalists, and industry and governmental officials who were by necessity compelled to address its consequences, a more nuanced and critical perspective eventually took hold and Fukushima, much like Chernobyl, Three Mile Island and other nuclear disasters, seems now in retrospect to be all too predictable, and,

avoidable.2

Scandals now buzz around Fukushima like parasites on a dead thing, and a withering indictment of nuclear energy in Japan prevails. Corporate collusion, precursors ignored, lessons unlearned, the failure of regulatory oversight, and a lack of accountability have become commonplace in discussions of the nuclear enterprise in Japan. This is not only a scathing indictment of the hubris that brought Japan to this point in the first place, but it reveals a lack of foresight and analytical rigor that sustained the nuclear authorities in their wishful thinking that such an outcome was unimaginable. March 11, 2011, was a day of reckoning and yet the manner in which the disaster has been addressed betrays a callous disregard for human suffering in the aftermath, as communities have been destroyed and people have been offered little solace nor justice by the institutional authorities who were charged with looking after their best interests.³

In an effort to restore its reputational damage, the government and nuclear industry alike have promoted a narrative of resiliency among those most egregiously affected, but the nuclear village itself has proven perhaps to be the most resilient of all: the government maintains a long-term nuclear agenda to restart most of the reactors, despite the humanitarian cost. Japan is invested in nuclear energy not only because it elevates the country's status as a member of the league of nuclear nations, but has offered, in its most idealistic construct, a potentially significant portion of its overall energy output, with the economic benefits that would entail. By 2011 nuclear power comprised roughly 30% of Japan's energy supply, but after the nuclear disaster the entire fleet of 54 reactors that were online in 2011 were shuttered to undergo testing and retrofitting under a newly established regulatory regime. Having replaced Japan's Atomic Energy Commission, the Nuclear Regulatory Authority set stringent new standards, and deemed that 33 reactors are

classified as operable. Of these only 9 units at 5 power plants (all in Western Japan) have restarted; another 16 are at various stages in the process of restart renewal. Two reactors are under construction but are stalled pending approval to move forward, and another eight reactors proposed to be deferred indeterminately. The government now plans for 20% of its energy supply to come from nuclear power by 2030 (at the time of this writing in summer, 2021 only 6.5% of Japan's electricity is nuclear generated).⁴

As the government seeks to return nuclear energy to a semblance of its former self, throughout the Tohoku region, and most especially in the evacuated villages in Fukushima adjacent to the Daiichi plant, a sense of foreboding remains and is unlikely to lift anytime soon. Much of the area most affected by the nuclear disaster is in a remote, mountainous region where agriculture and fisheries were major industries before the radioactive fallout irrevocably wrecked the Fukushima brand. A massive exit migration has depopulated towns (a process that was well underway in the economically stagnant rural areas, long before the Fukushima crisis accelerated this process), or resulted in an age stratified population that remains. Elderly landowners, with ancestral roots and property investments have remained, but those under 40, especially with young children, have sought safer domains, free of the worry of radiation exposure and with better long-term career prospects.

Moreover, not only has the agricultural economy and the Fukushima brand been irrevocably tainted by its association with radioactive fallout, but the shuttering of the nuclear plant itself has removed tens of thousands of jobs, as a skeleton staff remains to implement the plant decommissioning at Daiichi. In Tōhoku the nuclear plants had, in an earlier time, been the hub around which communities where organized, and the tertiary

industries that helped feed the beast have diminished to such an extent that many men (and in this culture, the nuclear industry is notably gendered) have had to resort to being employed in the emergent massive decontamination industry, essentially now being paid to clean up their own back yards, while subjecting themselves to continuous radiation exposure in the process. Claims that the true radiation exposure incurred in the process are minimal are cold comfort to those who long ago lost faith in the honesty of institutional actors, and it does not forbode well for authorities in their efforts to repair the reputational damage, however well-meaning their actions may be.

Trust in institutional authority is not a renewable commodity. The government and nuclear authorities are now left to reap the whirlwind sown in the toxic breeze of March 2011, as radiation was released on an ill-informed local population, that only days before could never have imagined such a calamity. Although as a matter of the normal regulatory process disaster protocols were in place, these had never been tested in extremis, and there was little concern among those within the nuclear industry and the locals whose communities were dependent on the nuclear plant's operations for their livelihood that such an event could happen.

In 2016 and again in 2018 I joined with several colleagues to interview the mayors of Namie, Tomioka, Kawauchi, Futuba and Minami-Soma, the evacuated towns most severely affected by the nuclear disaster as it unfolded in the first few weeks of the disaster. In far reaching interviews with the mayors and their administrative staff, the sense of abandonment and betrayal in those more dire times generated a level of animosity that was palatable. Years later, as the political discourse on Fukushima promoted heroic tropes of long-suffering TEPCO staff at the plant⁵ and the resiliency of locals who remained to rebuild

their lives, these feelings had only deepened as the confusion lifted and was given perspective by time and revelations that had not been known until much later, as secrets were revealed and investigative panels painted a more 3-dimensional picture of what had really unfolded in those darkest days. A lack of real-time support during the evacuations, brusque, tone-deaf messaging by TEPCO and the Japanese government, economic finagling that protected TEPCO from ultimate financial and legal accountability and a lack of sheer decency and empathy for those who had suffered the most was burned into the memory of the victims of Fukushima.

These wounds will be slow to heal and leave scars upon the psyche and land that will remain in the lived experience and subsequent oral tradition of this region, 6 irrespective of public relation ploys that attempt to downplay the impact of disaster and recast what is a still unfolding disaster into an artificially abbreviated narrative that celebrates recovery that is far from complete. As the 75-year anniversary of the atomic attacks on Hiroshima and Nagasaki were commemorated not long before the 10-year anniversary of the Tohoku disasters, it has been a time for reflection for the survivors of these historic tragedies. These survivors carry the weight of history in their experiences and serve as a reminder that the cost of state actions echo in the trauma endured by Hibakusha and those whose lives were disrupted by these disasters.⁷

The Tōhoku disasters - and the Fukushima nuclear crisis in particular, which captured the world's attention and resonated symbolically in a way the tsunami never could - served as a vehicle for Japan to reposition its national brand post-3.11. A decade into the still unfolding disaster, Japan hosted the Olympics in the summer of 2021, and the world's attention returned to Fukushima, with the torch relay beginning inside the previous evacuation zone, and the baseball games being

staged in Koriyama, the largest city nearby the Daiichi plant.

The Japan Olympics were essentially the ultimate consolation prize for the tragic events of 3.11, evoking sympathy for the loss of life, the destruction of a vast swath of infrastructure by the tsunami, and the toxic environment that people in Northeastern Japan have endured. By granting Japan the status of host nation, the IOC offered a symbolic gesture of good will toward Japan. Two generations after the 1964 Olympics helped usher Japan into the modern age, symbolically marking a pivot point in history following the devastation of WWII, which utterly devastated 67 Japanese cities through firebombing and the annihilation of Hiroshima and Nagasaki by atomic bomb attacks, the 2020 Olympics promised to cast Japan as an exemplar of long-suffering fortitude and civic-minded communitarian spirit. This was soft-power politics refracted through the prism of disaster and recovery rather than popculture consumerism.8 The Olympics hold out the prospect of being the ultimate exercise in soft-power and have often been employed as a form of nation building, an opportunity for the host country to showcase an idealized representation of itself. This was a difficult enough feat to achieve with resentment toward the government's inept response to the events of 3.11 still lingering in the collective memory, but the emergence of the COVID-19 crisis in 2019 largely eclipsed the grand narrative of Fukushima as the COVID-19 pandemic and the 2020 Olympics became inexorably linked.

The opening ceremony of the Olympics were an eerily sedate and symbolically resonant reflection on how COVID-19 had disrupted the normal operations of the Olympics, evoking confusion and alienation from inter-personal relations upon which the sentiments of Olympian solidarity are grounded. It was as much a commentary on the organization of the games as it was on the higher values the IOC and host nations strive to promote to sustain

the idealistic brand of the games.

By the time the Olympics were actually staged, the Japanese authorities had gone down a convoluted path of trying to manage a message that would sanctify the games and burnish Japan's reputation. Originally this was directed toward the powerful associations attached to the "Fukushima Olympics," which in the runup to the games was a central concern. Later, this would be almost entirely eclipsed by the COVID pandemic.



Fig. 2: "Dreams of Fevered Imaginations": MOCCO, the Fukushima Reconstruction Puppet.

On The Tokyo Organising Committee of the Olympic and Paralympic Games website, MOCCO is characterized by its creators in this way:

"The local dialect where I was born in Miyagi includes the word 'Odazumokko', which refers to a popular person who is lively and mischievous. An example sentence is 'the only son of the family who runs the stationery shop has always been

an incorrigible odazumokko, but he's made it to Tokyo and is doing shows there.' The word 'mokko' originates from a word for carrying a basket, so we used this word for MOCCO to express that he travels bearing people's thoughts and ideas." (Kudō Kankurō, scriptwriter, director, actor)

"MOCCO appears abruptly out of nowhere. Neither adults nor children are afraid of him and while he might look a bit scary, it is kind of a cute scariness. There is lively talk about MOCCO all over and everyone has respect for him, which he fully realizes. Everyone knows that MOCCO carries with him dreams and hope, so while you're having fun with him you should make a wish in your heart. Stomp stomp stomp, MOCCO is here!" (Arai Ryōji, picture book creator, illustrator).

"MOCCO is with you when you are happy or sad, and is somewhere in your tender memories. MOCCO is there when you don't know what tomorrow holds. MOCCO is always together with everyone". (Kameda Seiji, music producer of Tōhoku no Sachi).

The design was revealed in May 2019, but the full-motion final rendering of the puppet was performed in Iwate Prefecture, Tohoku, 50 days before the anticipated start of the 2020 Olympics, and then debuted in Tokyo on July 17, 2020, and was thereafter put on display in Tokyo throughout the duration of the Olympics. Conceived as a collaborative project between children and the puppeteers, who discussed their artistic scribblings of the disaster with the puppet creators, MOCCO looks to be a skeletal bricolage of tsunami debris, rendered in human form. In its dramatic unveiling, MOCCO comes to life bellowing smoke from its mouth, knocking the puppeteers to the ground. Did they imagine this represented the radiation plume? Lacking the redeeming qualities of



kitsch that animated the radiated lizard, MOCCO seems nothing less than a modern-day Godzilla for the 3.11 disasters. It immediately reminded me of the grotesquerie of Gunther von Hagen's platinated human corpses, that were put on display in his exhibit "Human Body Worlds," discomforting audiences around the world.

Although inspiration may have been provided by children whose lives were disrupted by the Tōhoku disasters, MOCCO seems less the product of an idealist vision of future hope and recovery than an embodiment of their nightmares of having lived through a disaster beyond their imagining. The French playwright Philippe Néricault, (a.k.a. Destouches), famously said: "La critique est aisée et l'art est difficile" (Criticism is easy and art is difficult) and so it is perhaps a cheap shot to parody the intentions of these well-meaning artists who brought this vision to life and paraded it in front of the victims of 3.11 in service of the grand notions of resilient nationalism. But art resonates in our collective unconscious in ways not easy to articulate, and it is hard to imagine that this 10-meter animated puppet comprised of tsunami flotsam on a skeletal frame would be a comforting presence for those who recall the vision of the devastation that lay strewn before them as the tsunami destroyed everything in its path.

Billed as "The Reconstruction Olympics," Japan was selected as the Olympics host partly in sympathy for the impact the 3.11 disasters had on Japan (the most expensive set of conjoined disasters in world history) and as a form of nation branding in service of a narrative of resiliency, not only with regard to the people of Tōhoku who endured the worst of it, but also of the Japanese nation itself. It is ironic, but hardly surprising, that a kind of political alchemy has rendered the suffering of the victims of the nuclear disaster as a symbol of long-suffering fortitude, while implicitly endorsing the structure of collusive interests

which sustain the nuclear village, which set the conditions for the disaster in the first place. For those on the receiving end of this, there has been a withering retrospective accounting of disaster management after 3.11 and hard-earned suspicions about the State's ability to protect public health while promoting the reactor restarts under the guise of recovery on an Olympics timeline.

The Olympics long ago lost their idealistic luster as representing the epitome of "amateur" athletics and have become a marketing juggernaut and form of symbolic nation branding, providing incentive to hold the games irrespective of the long-term costs they lay at the feet of the hosts. Although the host nation may bask in the short-term glare of world attention and the adoration of their athlete stalking horses, the collusive interests between marketing conglomerates, the International Olympic Committee, and nationstates, they ultimately inherit the economic burdens created by cost overruns and infrastructure projects whose functional use is short-lived and cause for regret as the transient games are played out and the host nation is thereafter left to settle accounts.

At the time of the 10-year anniversary of the 3.11 disasters, competing discourses muddied the waters of institutional memory. The cruel timing of the emergence of the COVID viral pandemic, right on the cusp of the initial scheduling of the Olympics to start in the late summer of 2020, eclipsed the previous focus on Fukushima as the defining motif of these times. Having been saddled with the economic cost of the Tōhoku disasters (the most expensive in world history) the COVID-19 viral pandemic undermined the feel-good rhetoric of the Olympics, which had been branded as the "recovery" and "reconstruction" Olympics, an ode to the protracted efforts of the government to dig itself out of the scurrilous association with its inept response to the crisis. But with COVID-19 running rampant and Japan at the

end of the line for vaccinations (with the lowest rate of implementation among affluent countries, in the single digits as of summer 2021), the Olympics were initially postponed and then reluctantly held in defiance of public sentiment (at one point nearly 80% of Japanese citizens opposed holding the Olympics) while Japan imposed a de facto immigration firewall against foreign contagion, a longstanding trope of Japan as an insular, island nation unnerved by the threat of foreign invasion. This was entirely antithetical to the notion of universal inclusion that defines the Olympic mission, and it undermined Japan's efforts to construct an artifice of salutary resiliency in the face of adversity.

It is difficult to gaze upon the spectacle of the 2020 Japan Olympics being undone by the COVID-19 pandemic and not see this through the lens of the Fukushima disaster response. Karl Marx wrote that "Hegel remarks somewhere that all great, world-historical facts and personages occur, as it were, twice. He has forgotten to add: the first time as tragedy, the second as farce." 10

There are obvious parallels between the manner in which the Tohoku disasters were handled and the Japanese government's response to both the COVID-19 viral pandemic and the Olympics. These are all epic, culturetransforming events that are historic in scale, and they cast into stark relief all the deficiencies of the State in its inability to address disasters at this scale. Major disasters expose the weakness of governmental institutions to address multi-dimensional complex disasters effectively. While certain aspects of Japanese culture were complicit in this, culture alone cannot account for the systemic failure of institutions, especially when in calmer times these same institutions are held up as exemplars of bureaucratic competence. One of the most shocking things about the Tōhoku disasters is that it highlighted a yawning gap between the stereotype of Japanese hyper-competency and the abject failure of institutions to effectively address the immediate needs of the moment as these severe disasters wreaked havoc, and it exposed an inability to care for people in their darkest hours of need.

In the nuclear crisis, a lack of governmental coordination left local authorities to fend for themselves, playing catch-up in a reactive mode that left them feeling embittered and abandoned. With the COVID pandemic response, a similar dynamic has played out. Despite having experienced at close hand the SARS-COVID outbreak in 2002/2003—which, like the 2019 SARS-2-COVID pandemic, broke in China—and having been reminded by the glancing blow of the 2009 H1N1 ("Swine Flu") and the MERS Coronavirus crisis of 2012, Japan remained woefully unprepared at a national level to deal with this emerging pandemic. Although comparatively benign "lock-downs" (largely in name only, with no strict enforcement sanctions) limited the spread of the virus, the Japanese authorities doggedly refused to implement wide-spread testing to monitor the pandemic progression, and relied primarily on a local level response whereby medical clinicians were left to their own devices to assess patients, often with no COVID testing to verify their diagnoses, except in the most extreme cases.¹¹

Japan has no national level coordinating body for infectious disease (comparable to the WHO or Centers for Disease Control and Prevention in the U.S.), and thus little guidance was given to medical authorities as to what actions were necessary. The political messaging also reflected this, with the government providing periodic announcements while remaining obstinately reactive to the pandemic as it worked its way through the population. With the penultimate date of the Olympics approaching, the Japanese authorities dithered until they were eventually forced to concede to reality and cancel the Olympics. As the COVID



pandemic was amplifying in 2020, this may have been the most prudent decision, but then having had this dress rehearsal and a year-long intermission before the Olympics were set to restart in the summer of 2021, the most obvious mitigating action of vaccinating the population was delayed. A couple of months shy of the start of the 2020 Olympics, Japan still had not implemented a wide-spread testing regime or distributed vaccines. Only 3% of the population had been vaccinated by this time – the lowest among affluent countries by far – and what vaccines that had been given targeted those over the age of 65.

Japan enforced a strict exclusionary policy of closing the borders for immigration, allowing only Japanese nationals and long-term residents with occupation-specific visas to enter the country. At the same time, it was obstinately committed to holding the games despite every indication that it would be a logistical shambles and public opinion polls showing that 80% of the population was opposed to holding the Olympics, it was prohibiting immigration, with the result being that no foreign fans were present. As the virus continued to spread, it was decided that even local Japan-based fans could not attend except in limited circumstances and venues. Japan had great incentive to act decisively on "bestpolicy" practices and had all the essential information to make informed decisions, both to package the Olympics in a coherent and safe manner, and to protect its population from this insidious disease. And yet, with a series of embarrassing off-brand mishaps that highlighted the tone-deaf messaging of the Tokyo Organising Committee, it let opportunity after opportunity slip by with an almost fatalistic concession to circumstances as though they were beyond their control. They weren't. Now, as with Fukushima, it is a time of reckoning, and an occasion to reflect on lessons unlearned, a lack of institutional accountability and reform and the consequences of governmental dysfunction and neglect.

In his classic work on suicide, the sociologist Émile Durkheim discussed anomie, a state or condition of normlessness, in which social values and norms are disrupted by social change, leading to a state of moral confusion. This well characterizes the decade following the 3.11 disasters in Japan: the economic disruption, loss of faith in government and legal authority, the disorientation of survivors, a spike in suicide and a general malaise as the Tōhoku region recovers from the tsunami and the Fukushima area is decontaminated and warily reinhabited by returning evacuees. Written over a century ago, Durkheim's work seems prophetic as it encapsulates the anomic times Japan has experienced through the 3.11 disasters and the COVID viral pandemic, with the sideshow of the Olympics failing to provide the grand narrative of recovery that might have helped redeem State authority and mark a transition point to a return to normalcy. In this light, Durkheim's words seem not only an indictment of the pursuit of economic solutions to social problems, but a commentary on the 2011 triple-disasters on top of the de facto triple-disasters of 3.11, COVID and the Olympics. Durkheim writes:

"The sphere of trade and industry... instead of being still regarded as a means to an end transcending itself, has become the supreme end of individuals and societies alike. Thereupon the appetites thus excited have become freed of any limiting authority. By sanctifying them, so to speak, this apotheosis of well-being has placed them above human law. Their restraint seems like a sort of sacrilege. So long as the producer could gain his profits only in his immediate neighborhood, the restricted amount of possible gain could not overexcite ambition. Now that he may assume to have the entire world as his customer, how could passions accept their former confinement in the face of such



limitless prospects?... From top to bottom of the ladder, greed is aroused without knowing where to find ultimate foothold. Nothing can calm it, since its goal is far beyond all it can attain. Reality seems valueless by comparison with the dreams of fevered imaginations; reality is therefore abandoned..."¹²

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This article is the introduction to **The Special Issue: Legacies of Fukushima: 3.11 in Context.** Please see the Table of Contents.



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Notes

¹ Casto, C.A., 2018.

² Funabashi, Y., 2021.

³ Johnson, D.T., Fukurai, H. and Hirayama, M., 2020.

⁴ World Nuclear Association, 2021.

⁵ Kadota, R., 2014. Kadota was the only journalist to interview Daiichi plant manager Yoshida Masao before his untimely death by cancer (not attributable to the Fukushima disaster, according to TEPCO). Kadota's book promotes a narrative of epic heroism by "The Fukushima 50," a self-selected group of operational staff at the plant who elected to stay on to fight the battle despite facing the prospect of lethal radiation doses if they remained. This was the basis for a major production film as well.

⁶ Erikson, K.T., 1995.

 $^{^{7}}$ Ruiko, M., and Field, N., 2020.

⁸ Ronalds, P., 2019.

⁹ Sakaki, A. and Lukner, K., 2013.

¹⁰ Marx Engels Internet Archive, 1995.

¹¹ Haruta, et al., 2021.

¹² Durkheim, E. 1951, p. 279.