

Nuclear Compensation: Hope, Responsibility, and Collaboration around Fukushima

Hirokazu Miyazaki, Northwestern University/Hiroshima University

Last week, I organized a virtual event to launch a new report, “Nuclear Compensation: Lessons from Fukushima,” through Northwestern University’s Roberta Buffett Institute for Global Affairs (Miyazaki 2021). The event, jointly sponsored with the Bulletin of the Atomic Scientists, featured Allison Macfarlane, former chairman of the Nuclear Regulatory Commission, several of the authors of the report, and a panel of distinguished experts on nuclear power and technology. The event also featured three victims of the nuclear disaster from the town of Namie. Namie was within the mandatory evacuation zone, and less than 10% of residents have been able to return to date. Two different groups of Namie residents have filed collective lawsuits against the Japanese government and Tokyo Electric Power Company (TEPCO), the operator of the Fukushima Daiichi Nuclear Power Plant, where three reactor cores melted and a series of explosions took place following the earthquake and tsunami of March 11, 2011.

In a prerecorded video message, Kazuhiro Yoshida, mayor of the town, stated the following in reference to one of the lawsuits filed by Namie residents seeking compensation for the loss of their community:

We painfully realized for the first time that it was in our everyday lives in our community, which we lost due to the nuclear accident, where we were supported by this invisible sense of security and where our existence was anchored. We strongly believe that compensation is due for the pain associated with the realization that we will never return to the life we knew.

Hidenori Konno is the leader of the plaintiffs in a lawsuit filed by a group of residents of Tsushima, a hilly and mountainous district of Namie, that seeks the decontamination of their forests. At the event, he stated:

Our goal is not to seek money or compensation. We are simply asking for our homeland not to be left contaminated. Our only wish is to recover the clean environment that used to exist and the peaceful life that we used to enjoy in our homeland. Our only hope is to spend the rest of our life peacefully, to share moments of joy and sorrow with each other, and to die in our rich natural environment, which includes the mountains and forests.

At the 10th anniversary of Fukushima, the “Nuclear Compensation” report seeks to draw attention to three facts: 1) that the nuclear disaster in Fukushima is still ongoing; 2) that compensation paid is unprecedented—9.7 trillion yen, or 92 billion US dollars, in total as of February 2021—but still inadequate, and that the transborder impacts and compensation frameworks need to be comprehensively reviewed. The report calls for the establishment of a forum for anticipatory, participatory, and transnational dialogues between experts and citizens with the aim of incorporating victims’ and potential victims’ perspectives and concerns into nuclear compensation and nuclear emergency response planning.

The “Nuclear Compensation” report is the result of five years of collaboration among anthropologists, science and technology studies scholars, legal theorists and professionals, and environmental and energy activists across three continents. It is also the product of ten years of continuous conversation about the crisis of expertise and expert

knowledge among scholars and professionals across the Pacific hosted by Meridian 180, a multilingual network and platform for cross-disciplinary and cross-professional collaboration. Meridian 180 was originally founded at Cornell University in the aftermath of Japan's triple disaster of March 2011 and is currently sponsored by Northwestern University.

Nuclear damage compensation is a peculiar and technically complex subject. Many of the current domestic and international frameworks that govern nuclear damage compensation are based on legal principles and regimes originally developed for the promotion of the civilian use of nuclear power during the Cold War. These legal principles and regimes were designed to encourage private corporations to enter the nuclear energy markets by limiting liability for power plant operators as well as for suppliers (of reactor designs, parts, and fuels), and making it easier for private insurers to underwrite coverage for nuclear power plants. Following the major accidents of Three Mile Island in 1979 and Chernobyl in 1986, many of the domestic and international nuclear damage compensation frameworks were updated to strengthen protections for nuclear disaster victims. Yet the rarity of major nuclear accidents leaves these frameworks largely untested. Additionally, there are multiple international conventions and instruments governing nuclear damage compensation, and some significant countries with nuclear power plants, such as China and South Korea, are not signatory to any of these agreements. Japan was also not signatory to them at the time of Fukushima.

In the US, Japan, and many other countries in which nuclear power plants are in operation, all nuclear damage compensation claims are channeled through nuclear power plant operators, which are often utility companies. In Japan, where the atomic bombings of Hiroshima and Nagasaki had heightened the national sensitivity to radiation exposure, the Nuclear Damage Compensation Act dictates that nuclear power plant operators bear unlimited liability. In practice, however, as Fukushima has shown, this simply means that the central government is expected to play an unspecified role in ensuring that the demand of compensation claims be met. After the disaster in Fukushima, there was a brief debate about whether the specific clause in the Japanese law exempting the nuclear power plant operator from liability in case of an accident caused by a natural disaster of an unprecedented scale should be invoked, but the Japanese government decided not to apply the clause out of a variety of political considerations. Given that the demand for compensation was likely to exceed TEPCO's financial capacity, however, the government needed to act quickly to prevent the crisis of the world's largest utility corporation from impacting the entire Japanese economy. The government devised a mechanism for keeping TEPCO solvent. The Nuclear Damage Compensation and Decommissioning Facilitation Corporation (originally established as the Nuclear Damage Liability Facilitation Fund) has served as this mechanism through which public funds, as well as funds pooled from other utility companies operating nuclear power plants, have been injected to enable TEPCO to cover the costs of damage compensation.

The reasons that I, as an anthropologist specializing in exchange, finance, futurity, and hope, have focused my engagement with Fukushima on this highly technical subject are three-fold. First, Fukushima was, and still is, a financial disaster as much as a nuclear disaster, and the issue of compensation immediately became a central concern of my interlocutors in Japan's financial markets, my ethnographic research topic at the time of the disaster. Before the disaster, TEPCO was the largest issuer of corporate bonds in Japan. TEPCO bonds, generally rated as safe investments almost equivalent with Japanese Government Bonds, comprised of nearly 10% of all corporate bonds issued by Japanese corporations in Japan, which meant that all Japanese mega banks, insurance firms, and pension funds were heavily invested in TEPCO (Miyazaki 2014). Following the nuclear disaster, it immediately became clear that TEPCO was already practically insolvent. TEPCO's sudden fall meant a threat to Japan's major financial institutions and to the entire Japanese economy. A financial solution to this threat needed to be found without jeopardizing victims' interests. The current mechanism for processing damage compensation has saved TEPCO, and ostensibly the entire

Japanese economy, from collapse. In this context, the issue of nuclear damage compensation surfaced as one of the most technical and yet the most broadly socio-economically consequential issues arising from Fukushima.

Second, the issue of nuclear damage compensation has exposed layers of inequality surrounding nuclear power. Fukushima has once again shown that legal systems are indifferent to the unevenness with which injuries affect individuals, risks are socially distributed, and access to justice is organized (Jain 2006). Many common issues related to industry disaster damage compensation schemes have been rehearsed in Fukushima. Artificial boundaries, such as evacuation zones within a concentric circle of 20 kilometers (with some later minor adjustments), were drawn and have created fissures and divisions among victims of the disaster in terms of eligibility for compensation. The uneven distribution of funds for compensation, decontamination, and reconstruction in the region also has created additional layers of inequality (cf. Green and Baird 2016; Mayer, Running, and Bergstrand 2015). Sometimes because of misinformation concerning damage compensation, many victims have faced discrimination and unfair treatment in places to which they have relocated. Moreover, the difficulty of access to legal expertise in rural areas of Japan, like Fukushima, has further complicated victims' pursuits of rights and damages.

Third, the issue of nuclear damage compensation has also exposed a distinctive set of challenges to the temporality of conventional legal practices and mechanisms. As Kim Fortun has shown in her study of the Bhopal disaster, all toxins have unpredictable temporalities, and in her ethnographic engagement with the disaster and advocacy work surrounding it, she deploys the notion of the "future anterior"—"the future [that] inhabits the presents and yet ... has not yet come" (Fortun 2012: 450)—to capture the unexpected, random, and continuous way in which the disaster unfolds over time (see Fortun 2001). She thus draws attention to the need for "continuous liability" (Fortun 2000). The health risks of low-level radiation exposure are uncertain, potentially long-range, and difficult to discern in the context of a variety of other risk factors involving individual lifestyles and the environment in which individuals find themselves. As a result, victims of past major accidents in Three Mile Island and Chernobyl faced almost unsurmountable challenges in proving the causal relationship between radiation exposure and the various ailments and symptoms they were experiencing (see Alexievich 2013; Mitchell 2021; Petryna 2002).

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The "Nuclear Compensation" report shows that in Three Mile Island, Chernobyl, and Fukushima, victims' experiences with and concerns about the distinctively broad, long-range, and unpredictable impacts of nuclear disasters have been systematically ignored. The report emphasizes the importance of "listening carefully to victims and incorporating their concerns into the design of a compensation scheme, especially one that reimagines compensation beyond monetary terms" (Miyazaki 2021). In this context, it is important to insist ethnographically that issues of compensation be investigated in the context of socio-cultural dynamism in which locally specific conceptions of agency, causation, and

retribution shape the meanings of compensation and responsibility (see, e.g., Strathern and Stewart 1998, 2000). The testimonies by Namie residents quoted earlier suggest this.

Yet, it is also important to note that the scope of nuclear compensation goes well beyond local communities directly affected by the disaster to the extent that it is part of a national (and international) “social contract” about the civilian use of nuclear power. In this context, places such as small coastal towns in Fukushima where nuclear power plants are located remain marginalized. Moreover, it is in this context that TEPCO emerged as the sole entity responsible for the disaster—a view that obscured remembrance of how the entire nation had embraced and benefited from nuclear energy. This social contract, a social pact for the promotion of the civilian use of nuclear power in which certain communities bear a disproportionate share of risk and nuclear operators bear all liability, is enshrined in the Nuclear Damage Compensation Act and other instruments that govern nuclear damage compensation. The report calls for a more comprehensive approach to nuclear compensation that addresses this implicit social contract by keeping in view the way nuclear risks and responsibilities are distributed, intersecting, and intertwined at multiple levels as well as across different temporal registers.

In this context, Yukiko Koga’s analysis of the intersections of macrolevel political economic concerns and microlevel personal and interpersonal concerns surrounding issues of compensation and reconciliation between Japan and China perhaps offers a helpful model for ethnographic engagement with nuclear compensation. In this work, Koga investigates the way economic, material, and moral debt is inherited and negotiated at macro- and micro-levels of postwar Sino-Japanese relations. Koga draws attention to the simultaneously moral and economic nature of compensation and its inter-generational ramifications. In Koga’s analysis, personal, interpersonal, national, and international relations, including her own personal and analytical relations to the issue as well as to her parents’ wartime experiences, appear deeply entangled, and it is in these entanglements in which moral and economic debt incurred during the war is rearticulated (Koga 2014, 2015).

Like the matter of compensation for Japan’s wartime aggression, nuclear compensation is a simultaneously moral and economic multi-scaler issue. If debt and responsibility serve as currencies in the moral economy of war compensation, risk and responsibility serve as currencies in the moral economy of nuclear compensation. What ultimately makes nuclear compensation an anthropological problem is this comprehensive vision of these intersecting risks and responsibilities as building blocks of a possible new social contract about nuclear power. In the remainder of this paper, I reflect on the collaborative work invested in the “Nuclear Compensation” report with a view to sketching a path toward this social contract.

Hope, Risk, and Responsibility

Meridian 180 was launched approximately one week after Japan’s triple disaster precisely to address the crisis of expertise and expert knowledge exposed by the nuclear disaster. Meridian 180 grew out of our collective and yet divergent sense of risk and responsibility around Fukushima.

On March 11, 2011 at 2:46pm, I was in my apartment in Shibuya, Tokyo with my partner, Annelise Riles, our then four-year old son, and his babysitter, when we all suddenly felt tremors. I had just picked up my son from kindergarten. Annelise and I were supposed to leave him with the babysitter at 3pm as we had a meeting scheduled nearby. As we watched the high-rise buildings along the main street sway to the left and to the right, I felt as if this might be the end of my life, our family, and everything else I had cherished. None of those things ended then. All of the residents in our

complex were told to leave our apartments and assemble at the lobby area on the first floor of the building. Our eyes were glued to a large TV screen in the lobby as we watched the tsunami swallow up cars, houses, and other buildings along the coast of Tohoku.

Reactors at the Fukushima Daiichi Nuclear Power Plant were already in trouble that afternoon, but we were perhaps not paying attention to that issue in the news. We were all consumed by the incessant aftershocks and the traumatic view of the tsunami we just had seen on TV. We learned in more detail about the troubled nuclear power plant the following day. By Saturday afternoon we were keenly aware of the grave situation at the Fukushima Daiichi Power Plant. Our son was frightened, and given the potentially increased risks of radiation exposure for children, our family in the US strongly urged us to evacuate him from Japan, so we started thinking about what to do. We had tickets to Honolulu to attend the annual meeting of the Association for Asian Studies in early April, so we decided to change our tickets and leave Japan early. The airports in Tokyo were inaccessible at that time, but we were able to find a flight out of Chubu International Airport, near Nagoya. We took the Shinkansen bullet train to Nagoya Sunday night.

In the empty train, I was overwhelmed with conflicting senses of responsibility. Up until that point I had focused on safely evacuating my family out of Japan, and I had found a way to do so. Once that arrangement was made, however, I suddenly felt compelled to remain in Japan. Perhaps I felt guilty thinking of my mother, my brother and his family, close friends and colleagues of mine, and research collaborators and interlocutors who did not have the luxury of leaving Japan at this moment. I emailed everyone to let them know my family's decision to leave Japan temporarily. They all understood our decision, and we knew that we were going back to Japan soon especially given our various institutional responsibilities. Yet, I also felt a strong sense of professional responsibility as an anthropologist. I felt that I needed to stay with, observe, and perhaps help people. I did not have any concrete ideas about what I could do or whom I should help. Moreover, I was overwhelmed with a vague sense of responsibility for my country which found itself in crisis. This sense of responsibility toward my country strangely almost overwhelmed me as my family and I started boarding the airplane to Honolulu. I stopped in the middle of the boarding bridge and nearly decided not to go with my family when my four-year old son yelled at me: "Papa, get on the plane." I am not suggesting that there is anything ethnographically significant in this episode, but I want to draw attention to the intersecting responsibilities in my own decision-making process as a window into the interplay of risk and responsibility unfolding at personal, interpersonal, national, and international levels at that time.

In Hawaii, I began to talk on the phone with my family and close friends and colleagues back in Japan. Everyone I spoke with was under enormous stress. Some were depressed and in despair in light of news about contaminated tap water. Others were calling for national unity and solidarity with the victims in northeastern Japan. Some of them rushed to participate in rescue work.

Annelise and I were compelled to do something for these friends and colleagues we had left in Japan. We thought that the one thing we could do was to create a safe space for conversation across the Pacific in their own language. We launched a multilingual platform for closed online discussion forums on March 20 with two concurrent multilingual forums led by two Japanese public intellectuals. In the "Cry from the Scene" forum, Naoki Kasuga, a Hitotsubashi University-based cultural anthropologist, addressed the crisis of knowledge and information surrounding radiation and radiation exposure. University of Tokyo economist Yuji Genda kickstarted another forum with a comment called "A Grand Coalition for a Rise in the Consumption Tax is the Only Way" in which he urged Japanese politicians to unite and raise the consumption tax to cover the costs of reconstruction work in northeastern Japan. In both forums, the questions of risk and responsibility were at the heart of our conversation. Kasuga questioned some scientists' sense of

responsibility, which they had expressed in their wish to withhold some information about radiation risks from the public. Genda called on politicians to unite the nation and create a fiscally responsible decision for the future of the country, which in his view was on the verge of financial collapse. In these initial postings, both Kasuga and Genda revealed their own vulnerability. Kasuga made clear his loss of confidence in the analytical tools of science and technology studies which he would routinely deploy in his work. Genda sounded nationalistic in his call for unity and national sacrifice and anticipated that he would be criticized. Both took risks to which our friends and colleagues across East Asia and the US responded in a critical and yet emphatic and responsible fashion. I saw hope in these thoughtful online interactions in the midst of the unfolding crisis.

Meridian 180 subsequently grew rapidly, and its memberships quickly surpassed 200 and subsequently over 1,000. The project began to host a series of online conversations about the crisis of expertise. In preparation for the first Meridian 180 global summit held in Okinawa in July 2016, Meridian 180 formed a working group on nuclear energy. The working group included anthropologists, science and technology studies scholars, legal scholars, economists, lawyers, project finance specialists, and environmental activists from East Asia, Europe, and the US. The group first hosted an online forum on the future of nuclear energy and solicited input from a diverse group of experts on nuclear energy and nuclear technology. The group quickly decided to focus its attention on the social costs of nuclear energy, from nuclear accident damage compensation to decommissioning, nuclear waste management, and environmental and human impacts of uranium extraction (see, e.g., Hecht 2012, Oshima 2012).

After many rounds of discussion in Okinawa, the group ended up making the issue of damage compensation the focus of its collaborative work. A broad spectrum of members of the group showed interest in the subject for different reasons. After Fukushima, the cost of damage compensation proved to be significant, and the issue could not be ignored in the calculations of the overall cost of nuclear energy even for plant developers and investors. From either the antinuclear or pronuclear perspective, the issue of compensation would remain crucial and consequential, and in our view, the issue would interest the broadest possible range of stakeholders, including operators, suppliers, investors, emergence response planning specialists, and ordinary citizens as victims or potential victims, ratepayers, and taxpayers. The working group charged a subgroup to produce a comprehensive report on nuclear power plant accident damage compensation schemes. The group in turn decided to study the three major accidents in Three Mile Island, Chernobyl, and Fukushima with a sharp focus on damage compensation schemes developed for each. We also decided to do a comprehensive legal study of cross-border issues concerning nuclear damage compensation and international conventions that govern them.

The report released on March 10, 2021 ultimately calls for the establishment of a forum for broad deliberative conversations about nuclear damage compensation. The next step of this project is to initiate conversation between experts and citizens with a view to incorporating the latter's experiences and concerns into a new social contract about the use of nuclear power. The report calls for a more anticipatory, inclusive, and transnational approach to the issue of nuclear damage compensation. The group plans to organize these conversations in collaboration with a variety of institutions and individuals, including experts from the nuclear industry, nuclear regulators, medical professionals, energy policy experts, and citizens. Through this conversation we seek to reevaluate the future of nuclear energy and devise a more democratic distribution of nuclear risks and responsibilities.

Conclusion

In his 1995 essay, "The Concept of Responsibility: An Essay in Semantic Analysis," Paul Ricoeur analyzes the

“astonishing proliferation and dispersion of the uses of the term responsibility on the moral terrain” (Ricœur 2000: 27), which he argues is the result of decoupling the category of responsibility from the category of fault. According to Ricœur, this has resulted from the rise of risk-oriented thinking (Ricœur 2000). Ricœur’s analysis seems to respond at least in part to the rise of individualistic rhetoric of risk-taking and self-responsibility in neoliberalism (see also Miyazaki 2010), but his larger concern focuses on what he saw as the ultimately impractical and paralyzing sense of responsibility toward the vulnerable, the environment, and the distant human future. Instead, Ricœur seeks to rehabilitate a practical sense of responsibility in which “imputability, solidarity, and shared risk” (Ricœur 2000: 35) are brought together in a balanced fashion.

The 'Nuclear Compensation' report offers a focal point through which the diffused, conflicting, and confusing senses of risk and responsibility surrounding Fukushima gather together to displace TEPCO as the sole locus of responsibility. What occupies this focal point of responsibility instead is a new social contract in which operators, suppliers, regulators, and citizens, including past and potential victims of nuclear accidents, share risks and responsibilities.

Ricœur’s diagnosis of the expansive uses of responsibility in the contemporary world describes the diffused interplay of risks and responsibilities at the personal, interpersonal, national, and international levels that I have chronicled around the Fukushima nuclear disaster and the issue of nuclear damage compensation. My intention is to contrast this view of intersecting risks and responsibilities with the social contract about nuclear power which concentrates responsibility on nuclear power plant operators precisely in order to obviate nuclear risks. As briefly described above, because of the risks associated with nuclear technology, all nuclear accident damage compensation claims are channeled through power plant operators regardless of whether they are at fault. In other words, the operators’ responsibility is explicitly decoupled from fault and focuses on being an administrative channel for processing compensation claims.

In the trajectory of my own journey into understanding nuclear risks and responsibilities since March 11, 2011, the “Nuclear Compensation” report offers a focal point through which the diffused, conflicting, and confusing senses of risk and responsibility surrounding Fukushima gather together to displace TEPCO as the sole locus of responsibility. What occupies this focal point of responsibility instead is a new social contract in which operators, suppliers, regulators, and citizens, including past and potential victims of nuclear accidents, share risks and responsibilities. This sharing may make nuclear energy appear too expensive, both socially and financially, to sustain. Or, in contrast, the sharing may make nuclear energy appear slightly more bearable, both socially and financially. Either way, the lesson of Fukushima is this: Fukushima calls for a new social pact that would distribute nuclear risks and responsibilities in a more equitable, just, and sustainable fashion.

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Discussion Comments

by **Kathryn E. Goldfarb**, University of Colorado Boulder

Hiro, it's a pleasure to think alongside this paper. Thank you for this opportunity, and for sharing with us the work of Meridian 180.

I'm struck by this notion of a corporation, in this case the Tokyo Electric Power Company (TEPCO), as having unlimited liability. We talk about the notion of "corporate personhood," which exemplifies a personal responsibility model in which a corporation itself can be viewed legally as an individual, independent entity bearing rights and responsibilities that shield the corporation's shareholders in the case of a legal suit. Should we perhaps consider the notion of a corporation having *unlimited liability* as a form of "corporate deification"? What sort of entity, other than a god, actually could be presumed to have unlimited liability, unlimited responsibility for compensation in the face of a total (or triple) disaster? Of course, as Hiro shows us, belief in the deity of an unlimitedly liable corporation is undone when it becomes clear that the corporation is situated firmly within richly networked relationships across society, such that it seems as if practically everyone in Japan, if indirectly, owns TEPCO stock. TEPCO's own capacity for compensation is enabled by the Nuclear Damage Compensation and Decommissioning Facilitation Corporation, which funnels public and privately pooled funds to TEPCO, allowing it to continue acting as an ostensible individual in fulfilling compensation claims.

Thinking about this strange notion of a corporation with unlimited liability, I am reminded of the words of Donna Haraway: it matters what thoughts you think thoughts with.¹ The thoughts of corporate personhood and the notion of a corporation with unlimited liability, are thinkable only within a neoliberal world view of personal responsibility. Similarly neoliberal is the notion that *only* non-distributed responsibility would provide the proper incentives to work to prevent nuclear accidents. Having one entity liable entirely, without limit, is seen as the most secure way toward safety. In other words, as Hiro shows us, by decoupling responsibility from fault, such that a nuclear operator would be on the hook for reparations even if the cause of an accident was identified more as an "act of God" rather than a failure of man, is a worldview made possible by thinking thoughts of responsibility

¹ Haraway, Donna J. 2016. *Staying with the Trouble*. Durham: Duke University Press.

through thoughts of neoliberalism.

The Meridian 180 “Nuclear Compensation” report asks us to do something different. It matters what thoughts you think thoughts with. What if, in contrast, we thought about risk and responsibility through a different world view, like that of actor-network theory? Actor-network thoughts bring us to Marilyn Strathern’s reminder to focus on *relationships* as units of analysis.² If relationships are the unit of analysis, the myth of a single corporation with unlimited liability immediately appears as conceptually incoherent as it is in reality. Instead, we see the networked relationships between atomic particles and Tokyo politicians and sea water and stock holders and urban electrical outlets and old growth forests. We see the community ties that anchor people’s “invisible sense of security,” in the words of the Namie mayor. Thinking with those thoughts, we might begin to think outside the box.

And thinking outside the box is precisely what the “Nuclear Compensation” report works to do. Hiro tells us that the ultimate proposal is to convene a forum “for broad deliberative conversations about nuclear damage compensation,” a forum that brings together “a variety of institutions and individuals” including both past and possible future victims of nuclear disaster. The goal would be nothing less than the articulation of a “new social contract” for more equitably sharing risks and responsibilities.

I wondered whether the model proposed in the “Nuclear Compensation” report has concrete precedents. Is there an example in the world that will act in some way as a blueprint? Hiro compares the discussions surrounding nuclear disaster reparations to the work of wartime reparations. If we are thinking about reparation, we might also consider slavery reparations, or reparations to Native communities. Would the proposed forum look, perhaps, like a truth and reconciliation commission? Would it be designed in a restorative justice model? To what degree would it be transnational? These questions lead me to wonder, too, whether responsibility and accountability would lie along predictable lines, or whether these, too, would be conceptualized anew. It seems to me that we need to cultivate new thoughts for thinking responsibility in this context. If one entity does not bear ultimate responsibility for reparative work or for preventing disaster, what protects against ending up in a situation in which no one is responsible? These musings highlight, to me, the unfortunate ways in which dominant frameworks for thought hew in such binary terms: responsibility lies in the one or the none. The work of the Nuclear Compensation forum would presumably be to produce an expansive but rigorous framework for thinking responsibility in the interstices, responsibility as a connective tissue rather than living within seemingly isolated nodes of power and action.

The argument that everyone has benefitted from nuclear energy, but some have been disproportionately harmed by it, is a familiar but contestable claim. Hiro works to destabilize this argument by situating this view as part of an old social contract. In his closing words, which are well worth repeating here, Hiro notes that a new social contract in which risks and responsibilities are shared equitably “may make nuclear energy appear too expensive, both socially and financially, to sustain. Or, in contrast, the sharing may make nuclear energy appear slightly more bearable, both socially and financially.” But I would like to push this argument a bit further. If nuclear compensation might be compared to war reparations—or, for example, to slavery reparations—then I argue that it is worth further destabilizing the conventional view that “everyone” has benefitted from nuclear energy, while some have been disproportionately harmed. This framing seems still rooted in deeply problematic utilitarian logic, in which harms to some are “worth” the benefits to many. Can something that has so profoundly harmed, and continues to harm, a portion of the world community be truly understood as having benefitted “everyone,” even if unevenly? As an anthropologist whose research focuses on relationality and well-being, I am encouraged and inspired by the work to place risk and responsibility into deeply relational context. It matters which thoughts we think thoughts with.

² Strathern, Marilyn. 2005. *Kinship, Law and the Unexpected: Relatives Are Always a Surprise*. Cambridge: Cambridge University Press.

Thank you again for this paper, Hiro, and I look forward to the discussion!

Hirokazu Miyazaki is currently the Kay Davis Professor and Professor of Anthropology at Northwestern University. Miyazaki has extensively published on theories of exchange, futurity, and hope. His current research focuses on a variety of forms of activism surrounding the uses of nuclear power. He is the author of *The Method of Hope: Anthropology, Philosophy, and Fijian Knowledge* and *Arbitraging Japan: Dreams of Capitalism at the End of Finance*, and has edited or co-edited *The Economy of Hope, Peace through the U.S.-Japan Doll Exchange* (in Japanese), and *Nuclear Compensation: Lessons from Fukushima*.

Kathryn Goldfarb is Assistant Professor of Anthropology at the University of Colorado Boulder. Kathryn explores how social inclusion and exclusion shape holistic well-being and embodied experience. Her work brings together three domains that generally are understood separately— kinship, medical anthropology, and semiotics—to examine how past and present social relationships are experienced in visceral, embodied terms. She has published in *Japanese Studies*, *Medical Anthropology Quarterly*, and *Social Analysis*, among other journals, and is the author of the forthcoming book *Fragile Kinships: Child Welfare and Well Being in Japan*.