

## Making STS Socially Responsible: Reflections on Japanese STS

Togo Tsukahara

© 2018 Ministry of Science and Technology, Taiwan

It's terribly sad to have to announce that a leading historian of Japanese technology, [Hitoshi Yoshioka](#) 吉岡齊, passed away on 14 January 2018 at the age of sixty-four. Yoshioka is probably best known for his contribution as an editor and author, together with [Shigeru Nakayama](#) and [Kunio Gotō](#), of the voluminous and definitive *Japanese Contemporary History of Science and Technology* series.<sup>1</sup> English speakers too will know him as a coauthor of English-language works on Japanese technology, along with Nakayama and Morris Low ([Low, Nakayama, and Yoshioka 1999](#)). Within the history of Japanese technology, he worked especially on nuclear engineering, and his *Social History of Japanese Nuclear Engineering* is the gold standard in the field.

Yoshioka was highly critical of nuclear energy and of Japan's nuclear policy, but he did not hesitate to take up various official positions and accepted membership in the National Commission for Nuclear Energy. Within the influential governmental advisory committee, he tried to take a firm hold on the reins of policy makers and the nuclear industry, self-defining as a “counter-technocrat”<sup>2</sup> whose function was apparently to change nuclear policy from the inside.

After the triple disaster of 3/11 in 2011, Yoshioka became more involved in the citizen's movement on nuclear energy, finally becoming a representative of the Citizens' Commission on Nuclear Energy (CCNE), a nonprofit advocacy, and chairing the summary of a revised policy advocacy paper in 2017 ([Citizens' Commission on Nuclear Energy 2017](#)). Regrettably, his commitment to the CCNE ended suddenly, and this became one of his last pieces of work.

What can those of us engaged in Japanese STS learn from Yoshioka; what are his lessons for Japanese STS? He was an excellent historian of contemporary technology, at the same time extending his analysis using the sociology of technoscience, and he was the most influential critic of Japan's nuclear policy. Toward the end of his life he became more engaged in the citizens' movement, facing as it then did the deadlock of

---

<sup>1</sup> These volumes, in Japanese, are the standard in the field. Yoshioka was a series editor together with Shigeru Nakayama and Kunio Goto. For details of Nakayama's works, see *EASTS*'s recent report in its news and events section ([EASTS 2017](#)). An English translation of part of this series is available ([Nakayama, Gotō, Yoshioka 2004–6](#)).

<sup>2</sup> As Yoshioka himself claimed in the essay attached to his 2000 Japanese translation (with Yukio Wakamatsu) of Landgon Winner's 1986 *The Whale and the Reactor* ([Winner \[2000\] 1986](#)).

the post-Fukushima landscape. Like his older mentor Nakayama, he also took part in various STS activities in Japan, and together with the leading sociologist of science, Miwao Matsumoto, he was a founding editor of the Japanese Association of STS *Annual Journal for STS* (JASTS, now the Sociology of Science Society of Japan). Yoshioka was also happy to host the last annual meeting of the Japanese Society for STS (JSSTS) in November 2017 at Kyushu University, where he was a former vice president.<sup>3</sup> He was due to give the keynote speech at Kyushu, but most unfortunately was unable to deliver this because he had become seriously ill and was already hospitalized. For most of us, any chance of meeting him had passed, and we know now that we shall miss him forever.

One thing we should note is that, although Yoshioka supported and actively participated in STS research activities and organization, he did not offer a free hand to the discipline and to Japan's particular STS practice: when it came to STS, he was as critical as when discussing nuclear energy.

And then there are his analysis of and remarks on the specific academic style of Japan's STS, within which he discerned four characteristics. I myself shall never forget Yoshioka's presentation of his analysis at the 2016 annual STS conference in Sapporo. He explained why Japanese STS-ers were not at all influential, especially after the 3/11 disasters: Japanese STS-ers, he argued, were for the most part unremarkable in their academic contributions, their sociopolitical effects as public intellectuals were limited and ineffective. There were, he said, four reasons for this. First, Japanese STS-ers were reluctant to become interested parties in any socially controversial issues. Unlikely to be committed to any social movement, they preferred to remain a neutral third party, trying to behave as if they were mediators in a conflict or communicators of conflicting issues. Second, Japanese STS-ers were not knowledgeable or fully informed enough to be involved and committed as a concerned party in social conflict. They were unwilling to make the necessary effort to acquire socioscientific knowledge and instead stuck with their so-called "STS expertise" and clung to being non-professional bridge-makers and mediators. Next, Japanese STS-ers were, in general, too distant from professional scientists and engineers. Most hesitated to engage in scientific debate with these groups and kept their distance from professional expertise, not challenging scientific authorities. Instead of examining scientific expertise, Japanese STS-ers were only too willing to become arbitrators, mediators, and communicators among scientists, engineers, and experts on the one hand and the public on the other. Finally, Japanese STS-ers never thought of fighting against the government.

It is of course shaming to be the target of such remarks, and as a self-proclaimed STS-er I was rather shocked by Yoshioka's analysis. Yet, it is not a matter of whether he was right or wrong—the very fact that he made such remarks is itself shocking. His remarks were not directed toward me personally, nor could I completely refute them readily. In fact, if I reflect on my work and on current Japanese STS, I find Yoshioka's observations are in some ways relevant.

Yoshioka's remarks are not the only sharp critique of Japanese STS. Particularly after March 2011, there was much criticism of STS in Japan, with commentators saying

<sup>3</sup> *Annual Report "Science, Technology, and Society" 年報 科学・技術・社会* is the journal for JSSTS published yearly since 1992. JSSTS later became the academic Sociology of Science Society of Japan 科学社会学会 in 2012.

that it was useless. STS-ers had been claiming themselves as experts and specialists in dealing with the problems occurring between science, technology, and society, but at a time of urgent need for such a field in the face of disasters, they proved to be not at all effective, having seemingly failed to put their expertise and specialism into practice.

So what happened to Japanese STS? When and where did we lose our way, and how did we make that mistake? Japanese STS had been an actively involved citizen, and since the 1990s had successfully mediated between technoscience and the public. Its culmination, both domestically and internationally, came in 2010, when Yuko Fujigaki hosted the annual meeting of 4S (Society for Social Studies of Science) in Tokyo. Various approaches to considering the citizen and science had been taken by Japan's STS-ers, and the so-called citizens' science for deliberative democracy and science communication were their most popular topics. Consensus conferences, science cafés, open forums between scientists and the public, and dialogues between scientists/experts and citizens had all become reality under the initiative of STS-ers. Quite ironically for STS' contemporary history in Japan, then, it was just after the 4S meeting in Tokyo in 2010 that the 2011 triple disaster devastated a socio-academic atmosphere that had optimized deliberative democracy. The Democratic Party lost power in the 2012 election, and deliberative democracy quickly disappeared in the aftermath of the explosions at Fukushima. Now, it seems, the days of peaceful, democratic dialogue between STS-ers and citizens has passed, and civic approaches that pointed the way to deliberative democracy have vanished as if drowned by the tsunami, as if paralyzed and contaminated by those exploding nuclear reactors.

What has appeared in their place is an old and familiar technocracy. Under the new Liberal Democratic Party government, technocracy has become revitalized and brutally resurgent just as in postwar Japan, with the Japanese chasing after that old dream (for some, a nightmare) of high economic growth. Unlike the postwar technocracy, though, public distrust in science prevails, social controls on technoscience are not at work, and military technology is highly encouraged, with Japanese universities financed to carry out research and development in military technology<sup>4</sup> now that it is a political goal of the Japanese government to promote the export of Japanese nuclear engineering and military technology. At the same time, the decommissioning and cleaning up of the Fukushima reactors has stagnated: not only do they remain in a state of dysfunction, but tons of contaminated water continues to pour into the Pacific Ocean every day. Against a background of public reluctance and worry over nuclear plants and a series of other problems, the Abe administration nevertheless decided to reactivate several nuclear plants. Worse, more than a hundred cases of thyroid cancer

---

<sup>4</sup> Research into military technology and related sciences at Japanese universities became the most debated issue in the Japanese Science Council (日本学術会議) and university administrations in 2017. Shigeo Sugiyama (2017) discusses this problem and offers historical perspectives in *A Post-War History of "Military Research."* A distancing from the arms industry and a ban on research into weapons of mass destruction has been taken for granted in postwar Japan, with its pacifist constitution, but this is changing in the post-2011 landscape of the Abe government, which is both pushed by and amplifying geopolitics in East Asia. In my opinion, this technoscientific militarism is the very issue that STS should be dealing with, and public concerns should be addressed. Given that we are admittedly living at a difficult time of remilitarization, with high-tech and with the most advanced IT and bio-neuro-robotic sciences, disarmament should have been a most serious topic for STS in Japan (and elsewhere) ever since the start of the 2010s.

have been discovered and operated on among children in Fukushima.<sup>5</sup> Some have become seriously ill, and cases of recurrence have recently been reported.<sup>6</sup>

What should STS do in this situation? Might it be the right time to abandon the discipline of this outdated field and jump headlong into journalism and activism to blow the whistle on the crisis? I myself still have reservations, and because I was involved and active in the field for the last two and half decades, I need to clarify the reasons why Japanese STS suddenly became viewed as so useless and ineffective. I still believe in the intellectual force that STS can have for the good, and that STS can be our instrument against militarism and totalitarianism and be a reliable rescue tool in times of crisis. One might say that Japanese STS has been corrupted, but in that case how and when did this start, and is it institutional or academic corruption, and where is the root cause and context of the problem? I cannot simply get out of the field, and before dumping this discipline and its scientific-journalistic community, I think it is necessary to see as an internal observer the reasons why Japan's STS is so ineffective and useless in the face of a crisis. I must consider things carefully, and even if I should ever leave the field, I have to figure out the reasons for its stagnation and help the discipline survive. To see things more clearly, I will briefly review and examine its contemporary history, alongside my personal involvement.

There was in fact a precedent for Yoshioka's remarks on and criticism of Japanese STS, with the late Osamu Kanamori 金森修 making similar points since around the turn of the millennium. As I noted in his obituary (Tsukahara 2016), even though he was a founding member, Kanamori left the JSSTS in the 2000s. Kanamori often said that he was disappointed with Japanese STS, which he thought compromised too readily with government policy and corporate capitalism. He argued that Japanese STS was losing its necessary critical mind and its quest for academic standards in order to analyze problems related to science, technology, and society, and that Japanese STS had never provided any substantial contribution that revealed the depth of the cultural-philosophical level of interaction between science/technology and society. He considered approaches to the so-called risk sociology and science communication to be a rather shallow job fit only for a mere enlightenmentist agency, for secondary followers of foreign sociologists and communicators/educators, and not a proper intellectual task for serious philosophers and academics. Public intellectuals, he thought, should look into the root causes and deep historical relationships of social issues related to science and technology and not merely choose the mediator's position among science, industry, government, and public.<sup>7</sup>

After Kanamori left the JSSTS, it was Hidetoshi Kihara 木原英逸 who tried to clarify the problems of Japanese STS within the framework of STS in the later part of the first decade of the twenty-first century. According to Kihara, Japanese STS had been demoralized by a neoliberal ideology (Kihara 2011a, 2011b). Also, the large governmental budget that mostly funded science communication projects and educational schemes was an important backdrop to Japanese STS being rendered meek and mild and less critical of societal conflicts related to technoscience. This affluence in

<sup>5</sup> Regarding Fukushima thyroid cancer and STS, see my comments in *Futures* (Tsukahara 2017).

<sup>6</sup> Eight cases of recurrence were reported while writing this essay in March 2018.

<sup>7</sup> I have written an essay review on Japan's postwar science studies, discussing Kanamori's remarks in detail, in a work coedited with Kanamori (Tsukahara and Kanamori 2016).

funding in the early 2000s coincided with the process of institutionalization and discipline formation of STS in Japan. I myself felt that affluence firsthand and even joked about budgets and projects as being some kind of “STS bubble,” just like the dot-com and bio bubbles that preceded it. Kihara observed and was critical of that same point: this most dubious circumstance was virtually created, with STS-ers all busily engaged writing budget applications and drafting new research and public-engagement projects. Ironically, it diminished any mindset of criticism of authority and resulted in a lack of reflection over the historical experience of environmental and social problems, such as Minamata and a series of medical trouble and food poisoning caused by big pharma and cooperate capitalism, as well as of social surveillance and military technology. Kihara argued that such a boom automatically fostered an ambiguous attitude within members of Japan’s STS community toward power relations; it was embedded within and coprosperous with the rapid rise of neoliberal capitalism not only in the political economy but also in academia. In short, according to Kihara, Japanese STS-ers were very quickly corrupted by serially successful funding—an STS bubble—and by a rapid growth in institutionalization. Even though there was a variety of genuine achievements, the most prominent being the hosting of the 4S in Tokyo, Japanese STS had its Achilles’ heel—its vulnerability to power and, of course, money and academic posts.

As I was about to finish drafting this essay, I was informed of the good news about *EASTS* winning the 4S Infrastructure Award. It reminded me of the meeting I organized in Tokyo in 2005 at one of the JSSTS get-togethers, where then-leading figures like Shuichi Tsukahara, Jun Fudano, Hideto Nakajima, and Osamu Kanamori and young scholars like Yasushi Kakihara, Kato Shigeo, Hironori Ayabe, Masashi Shirabe, and Masaki Nakamura were all present. It was around this time that we started discussing an idea to launch an English-language journal for East Asian STS (one of the very rudimental ideas that eventually became *EASTS*). It was also in the same year that my proposed project on the historical research of the former Japanese colonial Imperial Universities was accepted to receive JSPS (Japanese Society for Promotion of Science) funding, and this topic actually became a feature issue in the second volume of *EASTS* in 2007. The intellectual origins of Japanese STS and its development upon networking with other communities, notably with regard to *EASTS*, will be addressed in another essay.

## References

- Citizens’ Commission on Nuclear Energy (CCNE) (2017). *Road Map for a Society without Nuclear Power Plants 2017* 原発ゼロ社会への道 Tokyo: CCNE.
- EASTS* (2017). “News and Events.” *East Asian Science, Technology and Society* 11: 101–5.
- Kihara, Hidetoshi (2011a). “Neoliberal Transformation of Techno-Science Policy: The Democrats’ Government and Japanese STS” 科学技術政策の新自由主義的変質: 政権交代と日本の STS. *Kagakushi Kenkyu* 科学史研究 第11期 50, no. 257: 52–55.
- Kihara, Hidetoshi (2011b). “Neoliberal Orientation of STS” 科学技術「社会」論の新自由主義的偏向. *Gendai Shiso* 現代思想 39, no. 18: 121–35.
- Low, Morris, Shigeru Nakayama, and Hitoshi Yoshioka (1999). *Science, Technology, and Society in Contemporary Japan*. Cambridge: Cambridge University Press.
- Nakayama, Shigeru, Kunio Gotō, and Hitoshi Yoshioka (2004–6). *A Social History of Science and Technology in Contemporary Japan*, vols. 1–4. Melbourne: Trans Pacific Press.

- Sugiyama, Shigeo (2017). *A Post-War History of "Military Research"* (軍事研究の戦後史). Kyoto: Minerva Press.
- Tsukahara, Togo (2016). "News and Events." *EASTS* 10: 475–80.
- Tsukahara, Togo (2017). "The Challenge of Quality, Examining the Discrepancies and Incongruities between Japanese Techno-Scientific Policy and Citizen's Science Movement in Post-3/11 Japan." *Futures* 91: 84–49.
- Tsukahara, Togo, and Osamu Kanamori (2016). *Controversies over Science and Technology* 科学技術をめぐる抗争 (vol. 2 of *Readings on Post-War History of Thought*). Tokyo: Iwanami.
- Winner, Langdon (2000 [1986]). *Kujira to Genshiro (The Whale and the Reactor)*. Translated into Japanese by Hitoshi Yoshioka and Yukio Wakamatsu. Tokyo: Kinokuniya Shoten.
- Yoshioka, Hitoshi (2011). *Genshiryoku no Shakaishi* 原子力の社会史. Rev. ed. Tokyo: Asahi.

**Togo Tsukahara** was born in Tokyo in 1961 and studied chemistry at Tokyo Gakugei University for his MA before going to the Netherlands in 1987 to get his PhD from the Faculty of Medicine at Leiden University in 1993. He was a junior research fellow at Needham Research Institute, University of Cambridge, UK, between 1990 and 1994. He worked for Tokai University from 1994 to 1998 and, from 1999 onward, at Kobe University. His field of interests include history and philosophy of science (chemistry and meteorology in particular), science and empires, and East Asian STS. He currently serves as an associate editor of *EASTS*.