

## The Value of the Map and the Place of STS

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### Abstract

In the 2020 Prague Virtual Conference of the Society for Social Studies of Science (4S), Sharon Traweek was awarded the society's John D. Bernal Prize jointly with Langdon Winner, for her distinguished contributions to the field of STS. In this essay responding to Traweek's Bernal Lecture, I explore the continuing relevance of her work for Japan's STS community. Even though this community has grown rapidly since the beginning of the 2000s, I argue in this essay that her work, produced more than three decades ago, encourages us today to reflect how we may want to relate ourselves to the local organization of science and the politics of epistemic authority in the country.

### Keywords

Bernal prize; map; epistemic authority; Sharon Traweek; Japan

### Introduction

"I Prefer the Map" was the title of Sharon Traweek's 2020 Bernal Lecture. In it she stressed that she prefers the map of epistemic authority showing distribution of resources that sustains it over the power of allocating the resources and enjoying epistemic privilege herself. I was delighted to learn that she, along with Langdon Winner, is the recipient of the 2020 John Desmond Bernal Prize. She is known by many to be caring of junior scholars in our field, and I myself was one of those who greatly benefited from this. I first met her not so long after I completed my Ph.D. program in the UK and returned to Japan to take up a fixed-term faculty position at the Graduate University of Advanced Studies in Hayama, also known as SOKENDAI, where she had spent some time as a visiting scholar. The university is an interesting place not only because KEK, the national research institute where she conducted the fieldwork for her book *Beamtimes and Lifetimes: The World of High Energy Physicists* (1988), became part of it as one of its first Graduate Schools, but also because it was where the idea of establishing a center for science-and-society research was entertained for the first time in the country in the late 1990s (Ayabe 2020). These later developments exemplify the changes that happened to the national context of science in Japan since she produced the map of the social world of high energy physicists.

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In this essay I, as a Japanese STS researcher, discuss the importance for the Japanese STS community of the map that Traweek presented to us in her work. KEK and the local culture of high energy physicists in Japan were shown in the map, precisely because they were not at the center but at the margin. She explains that one of the reasons that she conducted the fieldwork in Japan was to acquire 'strangeness' to make sense of the culture of her other field site, that is, that of high energy physicists in the United States, with which she had already been familiar ([1988, 41](#)). Even so, her representation of the local culture in the late 1970s allows us to examine how it has changed since then. It has changed so much that I suspect no one would be able to update the map today. This observation also implies that STS in the country has been drawn into what she describes in her lecture as 'a dangerous game,' in which epistemic privilege is sought for. The map is valuable not only because it enables us to see differences between the center and the margins and how their relationship is sustained, but also because it allows those who live in the world that it shows to engage with the changes that are sometimes difficult to be aware of from the inside. For us, I argue, this latter aspect is particularly critical.

A premise that I start this essay with is that maps are political. A map is an artifact that shows the world but never is an objective representation of it. Its making involves various decisions, including what information to collect, how to collect it and which ones to be presented, and depending on who makes such decisions, it takes a different look and delivers a different set of information. For example, when I was a child, I was used to the Japanese version of the world map with Japan being located in its center. It was quite confusing for me to learn later that the country is said to be in the 'Far East,' even though countries like the United States, Canada and Mexico are located further east to it on such a map. Those in the Southern Hemisphere must have a similar experience, namely encountering 'wrong' maps of the world which to them look 'upside down.' As I already mentioned, KEK and the local culture of high energy physicists in Japan were shown in the map that Traweek produced because they occupied its margin, and it was important in its making that she was foreign to the local context at least when she started her research.

The fact that she was foreign to the context meant more than that in the process of her making of that map, however. In her account of how local scientists used their marginality strategically when they reported results of an experiment, she describes how they also made use of her presence, as an American anthropologist, at KEK ([Traweek 1992](#)). She also explains that some of them took advantage of her foreignness as an excuse to have conversations in English ([ibid.](#)), which allowed them to discuss sensitive issues that implicated their seniors without causing any major confrontation.

Her foreignness served to her advantage too, even though many of the Japanese scientists to whom she talked had studied or worked abroad before ([Traweek 1988](#)). Most importantly, it gave her access to the kind of information that she might not have had otherwise. But it is important to note that she was not a mere foreigner to the local scientists but was a foreigner visiting the margin of the world from the center. Some therefore interpreted her request of conducting an interview with them as a sign of their importance ([ibid.](#)). Similarly, her decision to stay and be treated in Japan when she faced a major health problem was considered by some as evidence of her trust in the quality of local medicine and that of science ([Traweek 1992](#)). And it was particularly important for her anthropological study that the local scientists were keen to know how

those in the center managed their resources. She was hence perceived as a potential source of such valuable information as they hoped ‘to participate as equals in the international high energy physics community’ (Traweek 1988, 14) and to move Japan from the margin of its social world toward the center. Therefore, the map she produced is undoubtedly political in the sense that it reflected the nature of the relationship between the local scientists living at the margin and the foreigner visiting them from the center.

As Traweek explains, what contributed to her foreignness were not limited to her nationality, appearance and gender but also the fact that there was ‘very little sociology of science’ in Japan at that time (*ibid.*, 15). Yet, this circumstance has now changed. A local academic society for STS was established in 2001, and Japan became the first country to host an annual meeting of the Society for Social Studies of Science outside North America and Europe in 2010 (Fujigaki 2009). This rapid growth of the local STS community was made possible to a large extent by the change in the country’s science and technology policy in the 1990s. The burst of the economic bubble in the beginning of the 1990s seriously impaired Japan’s industry-centered innovation system which was crucial for its economic growth in the 1960s and ’70s (see Freeman 1987; Johnson 1982). On enacting the 1995 Science and Technology Basic Law, the government decided to make better use of national universities and research institutes as places to produce technological seeds and for the country’s economic recovery. Since then, its policy stresses its role as the key investor in science and technology, and the resources began allocated unevenly across research areas based on their perceived economic potential. This strategy of ‘selection and concentration’ is prominent in many of its science and technology policy particularly since the turn of the millennium. It was also in the early 2000s when the government started calling for dialogue between science and society, as if it ensures accountability of the government for its investment decisions. It was in this national context that the local STS community grew rapidly, and it did so primarily by responding to the government’s call and trying to facilitate the dialogue.

KEK was by no means unaffected by this policy change. KEK was founded in Tsukuba in 1971, and when Traweek visited it in 1976 its accelerator was still incomplete and was not in action yet (Traweek 1988). The political decision to build a science city in Tsukuba was made in the early 1960s when Japan was still in the midst of its economic growth, and KEK was the first National Inter-University Research Institute, whose aim is to function as shared infrastructure for researchers across the country and to help its science to advance. Although she noted that local ‘universities were trying to prevent physics graduate students from getting degrees for research at KEK’ because of its marginality within the field of physics in the country (*ibid.*, 460), as I mentioned earlier, it became one of the first Graduate Schools of SOKENDAI when the university was founded in 1989, along with several other national research institutes. The discussion to set up this graduate university started in the early 1980s when Japan was still trying to become the world leader in technological development and increase its public support for science to upgrade its innovation system (Ayabe 2017). However, as the country’s economic situation changed dramatically in the early 1990s, ‘big’ basic sciences such as high energy physics were not given top priority in the government’s new science and technology policy. To improve efficiency in allocation of resources in the research area, in 1997 KEK merged with its major competitor and one of the centers of Japanese high energy physics research, the Institute for Nuclear Study at the University of Tokyo. And in 2004, along with other national research institutes, it was even separated out from the government and started its new history as an independent research corporation.

With these changes, we can expect KEK and the local culture of high energy physicists now to be quite different from those presented in the map that Traweek produced. And one might well ask how they are different. Despite the rapid growth of the local STS community in the last two decades, however, answering this question can be a challenge. A discussion to establish a center for science-and-society research at SOKENDAI took place in the late 1990s when the national context of science underwent a major change, and underlying this discussion was the belief that such research would increase the relevance of science for society and make it worthy of public support, just like the way the government saw the role of dialogue between science and society. That was why the national graduate university consisting of National Inter-University Research Institutes was suggested to be an appropriate place to host the first center of the kind in the country ([Ayabe 2020](#)). This indicates that what local scientists perceived ‘foreign’ in the 1970s had begun to assume a role in resource allocation in the country in the late 1990s. STS—be it by facilitating dialogue between science and society as the government calls for or by studying and trying to improve their relationship—now finds itself in the position where it has a certain influence on the value of science in the country, or the dynamic of what Traweek describes in her Bernal Lecture as ‘epistemic authority projects.’

And as she emphasizes, the privilege of occupying such a position closer to the center comes with costs. Seeing us, local STS researchers, as ‘locals’ in the organization of science rather than its foreigners, for example, few scientists now would tell us about the importance of being away from their lab and spending time in Tokyo to maintain ‘good relations’ with bureaucrats (see [Traweek 1988, 98](#)). This is because we are more likely to be perceived by scientists today as ‘assessors’ of the value of their work to society, informing the public particularly about its problems, than before. The policy strategy of ‘selection and concentration’ assumes that some areas of science are more valuable for society than others, and it is important for many scientists to avoid negative advertisements. The presence of STS researchers therefore can be a potential risk for them. And the recent emphasis by the government on the need to consider ethical, legal and social implications (ELSI) of science and technology can further reinforce this tendency (see [Mikami et al. 2021](#)). If we are not their friends uncritically communicating their values to the public, we are potentially enemies damaging their reputation. Because our STS community grew not just in size but also in its visibility, we seem to have lost the capacity to observe the politics in science and update the map that Traweek drew in her work.

Thus, the social context of science in Japan has changed considerably since Traweek conducted the fieldwork in the late 1970s and produced the map of epistemic authority in the world of high energy physics, in which KEK and its local culture were shown at its margin. The change might mean that the map has gotten old but it can still be of considerable importance to us, the Japanese STS community today. Because it necessarily reflects the relationship that Traweek, an American female anthropologist interested in the question of epistemic authority, had with the local scientists at the time when it was produced, it urges us to examine not only how the context has changed but also how STS and its relationship to science have changed since then. The community grew rapidly in the 2000s largely by responding to the government’s policy change, but seems today to be caught in epistemic authority projects and in politics of resource allocation. Traweek suggests that there are costs to pay for being in such a position, and that they may be extremely high. There

is certainly some cost to it but I would expect my local STS colleagues to respond to her by suggesting that the cost may be worth paying for because STS can and should play an important role in shaping the organization of science and the social order it creates. It is high time for the local community to take seriously this question of how it sees desirable relationship between science and STS. The old map therefore is valuable for us today because it shows how the relationship was like in the past and provides us with some perspectives in answering this important question.

### Author Biography

Koichi Mikami is an assistant professor at the Department of Foreign Languages and Liberal Arts within the Faculty of Science and Technology, Keio University, Japan. Mikami is interested in intersections of science, technology, and society, with a particular focus on life sciences and biotechnologies. His current research concerns scientific endeavors to turn cells and organisms into tools useful for producing biological knowledge and/or tackling societal challenges—as well as modes of governance scientific endeavors demand locally and globally.

### References

- Ayabe, Hironori. [2017](#). “Posuto Reisenki Nihon no Kagaku Gijyutsu Seisaku (Science and Technology Policy in Post–Cold War Japan).” In *Posuto Reisen Jidai no Kagaku/Gijyutsu (Science and Technology in the Post–Cold War Era)*, edited by Hideto Nakajima. 93–118. Tokyo: Iwanami Shoten.
- . [2020](#). “Kagakushi to STS no Setten (Common Grounds between History of Science and STS).” In *Kagaku Gijyutsu Ron no Chousen 3: Tsunagu, Koeru, Ugoku no Houhouron (The Challenge of STS 3: Methodologies for Bridging Plural Fields and Sites)*, edited by Yuko Fujigaki. 114–142. Tokyo: University of Tokyo Press.
- Freeman, Christopher. [1987](#). *Technology Policy and Economic Performance: Lessons from Japan*. London: Pinter Publishers.
- Fujigaki, Yuko. [2009](#). “STS in Japan and East Asia: Governance of Science and Technology and Public Engagement.” *East Asian Science, Technology and Society* 3(4): 511–518.
- Johnson, Chalmers A. [1982](#). *MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925–1975*. Stanford, CA: Stanford University Press.
- Mikami, Koichi, Arisa Ema, Jusaku Minari, and Go Yoshizawa. [2021](#). “ELSI is Our Next Battlefield.” *East Asian Science, Technology and Society* 15(1): 86–96.
- Traweek, Sharon. [1988](#). *Beamtimes and Lifetimes: The World of High Energy Physicists*. Cambridge, MA: Harvard University Press.
- . [1992](#). “Border Crossing: Narrative Strategy in Science Studies and Among Physicists in Tsukuba Science City, Japan.” In *Science as Practice and Culture*, edited by Andy. Pickering. 429–465. Chicago, IL: Chicago University Press.