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Cartographies for Feminist STS: Celebrating the Work of Sharon Traweek

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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. The Bernal Prize is awarded annually to individuals who have made distinguished contributions to the field of STS. Prize recipients include founders of the field of STS, along with outstanding scholars who have devoted their careers to the understanding of the social dimensions of science and technology. In this essay responding to Traweek's Bernal lecture, Subramaniam explores Traweek's mentorship in her own work as a feminist STS scholar in biological sciences.

Keywords

map; feminist STS; de-filters; Sharon Traweek; Mary Wyer

Introduction

"I Prefer the Map," Sharon Traweek asserts in the title to her acceptance lecture after being awarded the Bernal Prize, a well-deserved and overdue recognition. Sharon Traweek is one of the foundational scholars who helped shape the field of feminist STS. By bringing together the natural sciences, social sciences, and humanities, her interdisciplinary approaches revolutionized how we understand the construction of scientific knowledge, insights that continue to frame the field. Her work as a scholar, and her generous support as an informal mentor were important to my own interest and engagement with feminist STS. As an aspiring researcher, I have been repeatedly struck by challenges of interdisciplinary work. I have found that even after many years after graduate school, my academic "instincts" have been irrevocably structured by my primary training in the biological sciences. Disciplines, I have grown convinced, really do "discipline" our critical faculties—shaping our instinctive reactions, and subsequently our inclinations towards certain kinds of questions, theories, epistemologies, methodologies, and methods. In short, these instincts and inclinations coalesce and shape our approaches to research. Disciplinary approaches and instincts are compelling forces that firmly ground and scaffold the structures of disciplinary power. Sharon Traweek in her work offered a different path—by demonstrating the transformative power of feminist STS and its claims to renewed accounts of objectivity, scientific knowledge and truth, she opened up new vistas for interdisciplinary visions. And yet, I found that it is profoundly challenging to "unlearn" my disciplinary

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training and its disciplinary repertoire towards engaging with the natural world. In order to interrogate old modes of thinking, and learn to explore new modes of research, I have created my own personal feminist STS "de-filters." These "de-filters" force me to rethink my disciplinary training—a check-list of sorts to re-orient my instinctive responses. These "de-filters" I would like to think are the angels on my shoulder, who force me to stop my instinctive reactions, and then remind me to step back and consider the many aspects of knowledge making claims that my scientific training ignored—politics, culture, identity, structures of power (race, gender, class, ability, sexuality among others), transnationalism, political economy, and critical material practices of the scientific laboratory/field. Sharon Traweek is one of my angels, and her work has grounded my work from my early years, and has created a roadmap I've faithfully followed. I am, always, eternally in her debt.

If Sharon Traweek prefers the map, her maps helped create new cartographies for feminist STS. I was introduced to Traweek's work through another brilliant scholar and mentor, Mary Wyer, now at North Carolina State University. I met Mary as I was trying to process my experiences as a graduate student in the biological sciences. Early on, I recognized the politics of invisibility and insecurity that plagues those relegated to the margins—what Traweek refers to as the "imposter syndrome." Feeling the "imposter" who will be imminently found out is a singularly precarious existence. Introduced to the literature in feminist studies, I came to recognize the phenomenon in its theoretical instantiations. I began to understand that my story was more the norm than the exception, a revelation that was profound and reassuring. However, in practice, I remained a helpless victim in the drama of graduate school, without power or knowledge to actually change the conditions of my education. It was then that I began reading the literature in feminist STS in earnest. In my early reading, I saw three distinct areas of research, each with a robust but non-overlapping literature with the other areas. I would broadly characterize these areas as the sub-fields of women in the sciences, cultures of science, and the production of scientific knowledge.

It was a profound moment when Mary Wyer introduced me to Traweek's influential book *Beamtimes and Lifetimes* (Traweek 1988). In an instant, the book suddenly opened doors and windows into worlds I had not recognized, a profound "Aha!" moment—suddenly a flood of light moved between the three sub-fields to reveal a vista I'd never seen before. *Beamtimes and Lifetimes* is an illuminating ethnography of the world of high energy physics and physicists (ibid.). More than thirty years later, it remains important and influential. In one of the more memorable phrases in feminist STS, Traweek characterizes the culture of the sciences, as a "culture of no culture." As she argues, scientific culture claims to be objective, neutral and value free—a world without culture. How would a culture that eschews culture look like? That, she argues in her description, is precisely what scientific culture is. In her detailed descriptions, Traweek explicates with deep care, affection, respect and careful deliberation the workings of the scientific laboratory. It was a somewhat familiar science - I had experienced some of it, but had never seen it put down so clearly on paper. To see your world put into words is a revealing moment. Suddenly I began observing my own world—my own departmental culture, hallway conversations, lab group meetings, scientific deliberations, disagreements, scientists showing off, peer interactions, and advisor-student relationships. In particular, I was struck by how they were shaped by gender, race, class, sexuality, and nationality. Suddenly, I was no longer a helpless victim in the unfolding drama of graduate education, but a researcher with newfound tools to understand

the world around me. All the theory I had read was now translated into a world I could observe in practice. I came to understand, that it was not "me," not only my abilities and inabilities—but it was the culture that shaped gendered and race(d) expectations. Indeed these expectations had cemented the experiences of people like me for a long, long time. I cannot stress strongly enough that Sharon Traweek took an enormous weight off my shoulder. It was no longer "me"—my inability, my incapacity—but rather understanding how the culture functioned. I should hasten to add that this did not render me the hapless "victim" on whom scientific culture inflicted its age-old scripts. Rather, Traweek's work helped me recognize the scripts, and allowed me to shed the ghostly shadows in which all marginalized scientists live.

What Sharon Traweek allowed me to see was how scientific culture worked. Early on in graduate school, I could see the favorite students emerging—the future stars, the students who had the "spark." It was never quite clear what this "spark" was, or how to develop it. It was something you had or didn't have—something mysterious and innate! But it was clear that it was important. Sharon Traweek's work took this apart—it demystified a rarified culture by naming and describing the world around me. This was a scaffolding of a "culture of no culture." The rules were clear if you knew how to observe them, but scientific culture did not believe it had rules or a culture! Scientific culture claimed a meritocracy – if you were brilliant, you would necessarily shine. The historian, David Noble added another important insight for me – the notion of the "ideal" scientist emerges from western science's roots in the Christian clerical tradition. Being a good scientist meant developing monk-like qualities (Noble 1992). Great scientists showed a singular dedication and passion for their work to the extent of being asocial, asexual, and oblivious of social and affective cues of the world around. Being good advisors, mentors or teachers were not part of scientific training, although critical to the profession. Understanding these historical legacies, allowed me to understand that the qualities of an "ideal" scientist were rather arbitrary. It was a historical legacy, not necessarily the qualities that produced the best students, or indeed scientists. When Mary Wyer received an NSF grant to study graduate education, she hired me as her research assistant. Inspired by Traweek, in one exercise, we asked faculty and graduate students to name the "Unwritten Rules" of academia. Were there rules that were never written down but clearly in evidence in departmental culture? The students enumerated a vast list—they saw rules all around them, and they made long lists. In short, these were rules that taught them to perform their role of the ideal scientist. The faculty in contrast saw few, and some saw no rules at all (Subramaniam and Wyer 1998). As feminist standpoint theory suggests, those with the least power can best describe the workings of power. This project showed me how Traweek's work was a powerful prism through which to engage with the "culture of no culture"—to engage scientists in rediscovering the world's they lived in. It was a profound discovery for some more than others. But for me it was utterly transformative. Indeed, Sharon Traweek's work enabled me to stay on in graduate school and finish a PhD in evolutionary biology, even while I continued to engage with feminist STS. It is her work that helped me develop the tools and ambition to continue working in the intersections of the biological sciences and feminist STS (Subramaniam 2014).

Traweek's work also highlights the transnational dimensions of scientific culture. Her work has taught me to always attend to the material culture of science. Always asking: who is at the table, how do they work together, why do they work on particular questions, and what knowledge do they produce? Traweek's work

forces us to contend with the notion that the "culture of no culture" can never be universal. "No culture" as a term is always contextual, located in the culture in which it seeks to negate itself! As she powerfully demonstrates the cultures of the laboratory in Japan and the US are completely different, even contradictory. As a transnational scholar, this insight was immensely transformative for me. Traweek forced me to engage with postcolonial, indigenous, and queer science studies. The angel on my shoulder, Traweek forever reminds me that the negation of "no culture" is a profound negation of many things. It forces one to carefully engage with the structures of scientific culture—to question all normative ideals—sex, gender, race, class, sexuality, nationality, ability, religion among so many others. Traweek's work forever unsettles any notion of a model or ideal science, scientist, epistemology, methodology or method in science. In short, it is a singular critique that upends science as an oracle of the natural world, but opens up a vast and productive space to understand the critical importance of science as a mediator to understanding the world around. In short, her work has always provided a honing academic beacon to the key elements of science—who does science, the culture in which it unfolds, and the knowledge it produces. I should also note that Sharon Traweek's focus on the physical sciences, and in masculinist terms the "hardest" of the sciences remains significant. Feminist STS scholarship remains dominated by the biological sciences. Perhaps the "culture of no culture" is more profound, more stark in the context of the physical science. But in my many engagements with scientists in "women in science" projects, Traweek's continues to provide a significant and critical lesson in the culture of science, one that they instinctively recognize.

Finally, any tribute to Sharon Traweek must recognize the phenomenally generous mentor she has been to so many. I am not her student. I met her when I spent two years as a postdoctoral fellow at the Humanities Institute at UCLA. As a recent PhD from the biological sciences, STS was a new and intimidating world. Sharon was approachable, patient, encouraging, gracious, and infinitely generous. I still remember the terror of academic conferences where I knew no one. Walking and sitting alone while others chatter on is singularly disquieting and alienating. In my early years, I remember Sharon's generosity. As a senior scholar, I was always amazed that she remembered me, and I still appreciate the time she takes to have a conversation. For an aspiring academic, the recognition of an eminent scholar is pure gold! Sharon is one such scholar. While she was never formally my mentor, through her words, her advice at many critical times of my career, and her generosity throughout, she has been a mentor in the real sense of the word. I am honored to be invited to contribute to this forum, to share my admiration of what an incredible and influential scholar, mentor, and human being Sharon Traweek is. She is one of the senior scholars who has made feminist STS such an engaged and productive site for scholarship for so many of us. She has created new maps for the field, opening up new cartographies of travel, and new vistas for exploration. Thank you!

Author Biography

Professor Subramaniam originally trained as an evolutionary biologist and plant scientist. Subramaniam's pioneering research in Feminist Science Studies has made her a leader in the field. Her work explores the philosophy, history, and culture of the natural sciences and medicine as they relate to gender, race, ethnicity, and caste. Her latest research rethinks the field and practice of botany in relation to histories of colonialism and xenophobia and explores the wide travels of scientific theories, ideas, and concepts as they relate to migration and invasive species.

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