

“I Prefer the Map”

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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. This essay comprises Traweek’s acceptance speech, delivered on Monday, August 17, 2020 at the virtual joint conference of the Society for the Social Studies of Science (4S) and the European Association for the Study of Science and Technology (EASST), and revised and submitted for publication in *Engaging Science, Technology, and Society* on Sunday, September 20, 2020. In this essay, Traweek explores “certainty” in academic ways of knowing.

Keywords

Bernal prize; meshworks; certainty; epistemic authority; classifications; borders; maps

Introduction

First, I want to mention the ecology in which we are embedded. When I delivered my virtual Bernal Lecture I was at home alone; I wish we could have been together in Prague. A pandemic has left many of us ‘sheltering in place’ for many months, while now realizing that might continue for another year. Where I live there also has been a series of historic heat waves with nearby wildfires intensifying the air pollution to emergency levels. Every week we see videos of more Black people being murdered in the name of our government. Global warming, financial collapse, structural inequalities and racism, plus the rise of fascism in many countries permeates our daily lives; catastrophes are both on the horizon and so close we smell and taste them, bitterly. We cannot say we had no warning. In the midst of these diurnal disasters, I remain grateful to be the recipient of the Bernal Prize and to be sharing it with Langdon Winner.

My whole career I have studied something that still mystifies and disturbs me: certainty. Clifford Geertz said common sense was recognizable by the “maddening air of certainty” with which it is always uttered. I remember my consternation when my mother would tell me I had to act a certain way “because that is the way it is.” Later I began to wonder about that maddening air of certainty among so many academic ways of

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To cite this article: Traweek, Sharon. 2021. “I Prefer the Map.” *Engaging Science, Technology, & Society* 7.2: 56–64. <https://doi.org/10.17351/ests2021.823>.

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making sense, also found in the voice of politicians, the police, and sometimes our neighbors. Now I am asking you to indulge me as I explore certainty by discussing four topics that seem abstract and austere: epistemic authority, enabling assumptions, classifications, and borders. I do take those foreboding topics, these four tropes personally, aesthetically, and ethically. Then I introduce meshworks as another strategy.

Epistemic Authority

As you might know, my work is about epistemic authority and privilege: where and what it is, how some people gain access to it and learn to feel entitled to it, while others do not, but recognize it when they see it. I also study how that epistemic authority changes, what happens when new kinds emerge, and old kinds lose their power. I ask who gets and loses it, how it circulates globally, and all the rituals and routines used to support and police it. I examine how it is sustained and how it wanes, and why some people want it so much, even to only approximate or fake it. I also remain intrigued by how similarly various kinds of privilege (epistemic, national, gender, class, race, etc.) are performed and enforced, intersectionally and necessarily, in different places around the world. I also notice when fault lines appear as some try to reinforce one kind of authority, while challenging another, not understanding the pathetic absurdity of their work. Different kinds of privilege require each other to work effectively.

Most people look for epistemic authority in formulaic texts and utterances where that authority presumably is most girded and monitored. At first that led me to study the philosophy of logic and the history of ideas, but I soon tired of those narratives. Eventually I began to study privilege ethnographically, participating and observing for decades in the everyday life of making that authority, studying the sausage factory, as it were, rather than buying, then slicing the sausage. Most importantly to me, I study the ever-changing practices for making authority and all the incessant, internal adjudication practices that it must endure before being presented to the world as fact. I also study the coating in which that sausage gets encased, just before it circulates: the rhetorical devices of epistemic authority.

At the beginning of my career I decided to study those people everyone knows have epistemic authority, at least in academia: high energy physicists and astronomers. I did not need to convince anyone they have epistemic authority, including them. They felt entitled to it and wear it comfortably; others recognize their authority, and many want to emulate it. I focus on the deeply embedded paradoxes of how so few people manage to gather enormous resources globally, generating so many kinds of promissory discourses, convincing so many people that they can and will find new certainties. I concentrate on how making this authority is not an individual task, conducted in one place, but how it must be an international, distributed, collaborative job across many domains and sites to make new knowledge that will be considered universal. They rhythmically coalesce and disperse, all while continuing to work together in great intimacy at a very few specific local places. All that close work is done within a profoundly hierarchical structure reenacted everywhere. All that holds too for universities as sites of epistemic authority.

I have argued that those physical scientists, like some other academic subfields, are communities because they control their borders for their own reasons. I have claimed they are enacting cultures because they have

tightly maintained standards for their built environments, their arcane and ranked divisions of labor, their procedures for amassing and allocating resources, their disputation practices, their pedagogies and stages of a career, plus their canons, and how to revise them, as well as sanctions for violations. I have argued that their epistemic authority is firmly grounded historically in a global political economy that privileges knowledge of how to make weapons, even abstractly, just as other parts of the academy encourage us to contribute in other ways to the global political economy in which we all are embedded.

The two communities of particle physicists, astronomers and high energy physicists, are both similar and different in many profound ways. They define and enact their own cultures of space and time, while insisting they did not make it; they found it in spaces only they can access. Few from outside know all these processes, which protects these communities well from interference by any that seek to monitor or manage them, including those who fund their work and the places where they do that work. To the world, they are an 'invisible college,' so they are best seen from inside. I would say the same is true for the disciplines housed within universities, as well as the universities themselves. At universities it is our job to make and teach the epistemes, the categories, and the canons that enable our global political economy, including how to modify it.

Epistemic Assumptions:

Who can know, how can we know, and what do we need to do it?

Colleagues have often asked why I feel entitled to study those physicists and astronomers, pointing out that I probably do not know enough physics, math, Japanese, German, etc., to do the job properly. I have tried to leverage being the very interested outsider, the one clearly without epistemic privilege, the one who studies what's left after the big topics are taken. I am always returning, paying close attention, thinking carefully, willing to learn, ever curious, a perpetual and eager novice, a very good ethnographer.

One physicist watched me helping to organize cables linking a detector to a computer; he said, "You know how to do research." He explained that it takes dedication, commitment, determination, and passion, even when it is boring, which, of course, it often is. I learned it is only when novices have displayed all that convincingly do others begin to trust our data and trust our interpretations of those data, perhaps enough to allocate to us some scarce resources, like their time.

Once I wrote a description of aesthetic preferences among physicists, their taste in defining topics, designing devices, conceiving of experiments, and making sense of data. After showing it to some experimentalists, they said it was accurate, but had an odd tone, as if there were another way to think well, which they found odd. I said I was looking for exactly those edges; they thought that was a waste of time. One said patiently, I have to explain this to students all the time and handed back my essay, edited in red ink. He was monitoring the boundaries, kindly trying to teach me the way I needed to learn to want to think, and not.

I have spent my own career working in fields with much less epistemic authority than those physical scientists: I have held jobs in the fields of STS, history of science, anthropology, and gender studies. Until

the last few years few have realized that I also have been studying how epistemic authority and privilege coalesces in those fields where I work, as well as in HEP (High Energy Physics) and astronomy. My attention now is focused on universities as sites of knowledge making and how they have changed, as have particle physics communities, along with changes in the global political economy. Some fields and administrations have navigated that turbulence by intensifying their claims of epistemic authority. I find that epistemic authority projects have much in common. They define and amass resources, then police their allocation and access to them. In academia the resources and rewards are epistemic privilege, funding, positions, and curriculum. The costs are extremely high; I argue that those costs undermine knowledge making.

Like any infrastructure or order, epistemic authority takes a tremendous amount of work to maintain. Epistemic privilege can be a dangerous game with a lot at risk. Factions multiply and the conflict can be extreme, but rarely public. Once, as part of recruitment, I was allocated some resources; soon I realized it was being encroached. I asked many elders in different academic fields for advice. Every one of them said to “kneecap” the aggressors, gave instructions, and told me there were no alternatives. My mentors were shocked when I walked away from the resources. I had learned painfully that scarce, contested resources had narrowed my epistemic queries to territorial disputes. As we know, “the map is not the territory;” I prefer the map. Seeing who prefers to occupy the territory shows me the vast unexamined assumptions in their work. The correlations always are impressive, as are the kinds of ethics being performed. Gradually I have learned that the everyday territorial ethics are like a track of blood drops, leading to their aesthetic preferences, then their epistemic assumptions, and the required subject formations.

All grand epistemic projects, along with all the grand narratives, imposing postures, and competing voices of authority that accompany them, continue to intrigue me, like all the other kinds of certainty. Although I study epistemic authority, I have never felt any envy or desire for it. To the consternation of some colleagues and students, I always say I will not teach canons, but I will teach in a middle voice how they are made, reproduced, wax, and wane. I will teach about that embodied voice of authority, but I do not perform it. I prefer a world of uncertainty and complexity, matched with curiosity and a dogged determination to find emerging and recurring patterns, plus the differences that disturb them. That is another kind of knowledge making.

We always hear that authority of any kind is fragile, easily shaken by a good laugh, as emperors without clothes putatively have learned. However, we know that privilege usually is protected fiercely, even as it is claimed as natural and entitled. In my experience, every kind of privilege is a toxic, complex mixture of epistemic authority, sexism, racism, nationalism, ableism, ageism, classism, colonialism, and imperialism. Understanding that the mix enables the privilege can then expose the assumptions, essentialisms, exceptionalisms, and misplaced concreteness in all those categories used in concocting the intoxicating authority. I still do not understand why we keep drinking that deadly brew. We can think and know and act without it.

Epistemic Classifications

Feminist epistemology requires that we challenge and examine the assumptions embedded in authoritative rationality, including the binary, gendered categories of objectivity and subjectivity, as well as how those categories are cast as oppositional and what is enforced by those categorical imperatives made into hierarchies. Furthermore, feminist theorists remind of us the dangers of categories, seen as both social and natural, essentialist and exceptional identities. All those categories, essentialisms, identities, and reified assumptions represent misplaced concreteness: the ideologies of classification. They are tools for making authoritarianism, not for making resilient knowledge.

We academics know a lot about ‘imagined communities’ and the ideological projects those imaginaries support, including imperialism, colonialism, and authoritarianism. I would say epistemic authority is another ‘imagined community’ as are the disciplines. They are canons to be performed, worlds of categories and identities to be assumed, never challenged. Disciplined STS and disciplined gender studies are oxymorons. We can all recite the catechism that without the epistemic policing of disciplines there would be no intellectual rigor. We all remember the pedagogies of that policing, teaching us to feel authoritative by sadistically standing on the necks of other scholars, the endless repetition in graduate seminars of the famous Stanford Prison Experiment.

I claim that all of us, like physicists and astronomers, make knowledge every day instead by a long iterative process, laced with curiosity, determination, commitment, diligence, and passion, alongside many others engaged in the same process. As STSers showed long ago, scientists try to make sense of their data by cycling and recycling through every known model of analysis and interpretation, not just the familiar canons. Some of us do that sorting with a meshwork of colleagues who help us at every step to improve our ideas, just as many helped me to write this Bernal Lecture. Others see their mentors, colleagues, and students as competitors eager to stand on their necks; they are energized by those confrontations and want to make them compulsory. Many of us find those abusive practices offensive; that does not make us less capable of making good and useful, even excellent ideas.

By definition, categories undermine their own claims of sameness and exclusion. They must exclude what they are not, but then a lot is left outside the taxonomies. Those of us repetitively shoved to the margins can report on the violence of all that sorting. Rather than learning to avert our eyes and minds, socialized about what to never ask, we must remember what we knew all along: the detritus is more interesting than what is enclosed. Outside the taxonomy of objectivity and subjectivity, induction and deduction, essentialisms and identities, lie abduction and the middle voice, neither active nor passive, neither inside nor out. Those are my preferred epistemological moves.

If I have an extended epistemic family in STS it is hybrid. I have been inspired by decades of STS scholarship on epistemological, theoretical, and methodological reflexivity. I also claim relation to the same kinds of challenges raised by decades of long, immersive participant-observation, autoethnography, and action research. I remain fascinated by scientometrics and applaud their Leiden Manifesto, lamenting the awful damage done in their name. I am embedded in the part of feminist STS that challenges epistemic

assumptions and exposes the harm done by them. I stand among those who insist that technologies are stunning devices, not applied sciences. I both study and practice transdisciplinary and transnational STS, constantly challenging all the presumptions of metropolises and peripheries, putatively bound by diffusion and dependencies, including in our own fields. My best work is always collaborative and distributed, even when I sit alone typing. My STS heritage is decidedly mixed, just like my epistemologies, my multi-sited ethnographies, and my life.

Borderlands

Receiving this amazing award has challenged my lifelong self-perception as a marginalized outlier, saturated with imposter syndrome, not properly socialized anywhere. Over my many decades I have cultivated a certain ironic style, presuming that I live at the edge of tolerance, convention, and epistemic order. I once described an outlier in physics and claimed that he served to mark the community boundaries to novices, informing them that you can go that far, but no farther. I watched how disorienting it was for him to be yanked inside when he got a Nobel Prize, until he realized he was still an outlier, but now could help others more than he had been able to do earlier. Of course, he enjoyed privilege too, as I do. I live in an affluent area of a rich state in a rich country. I have studied and worked at powerful universities, and I have had teachers who are world famous. My whole life almost everyone has treated me like a white person, sadly still a mark of exceptional status in some of the worlds I inhabit, bestowing far more safety and opportunity than those not considered white. Those conventional sites of privilege are part of me and my work too, along with the many other signifiers that I am not entitled. I am at the margins of privilege, not utterly outside it. Most of us are on some spectrum of in/exclusion, locally and globally, with frequent reminders of where we fit, and do not. We all know the annoying signs, but perhaps not what to do about it.

STS and gender studies (sometimes named women's, feminist, sexuality, or queer studies) began in disciplinary borderlands without the privileges bestowed on categorical thinking; that has made them very interesting to me. I have been troubled by the moves of some STS and gender studies colleagues who increasingly want the authority of disciplines, defining canons and engaging in the awful, abusive pedagogic work of enforcing them. The epistemic border police will not stop building walls and screening aliens. However, STS reflexivity requires that we investigate both the distinctive assumptions of those we study, as well as our own; then we must learn from the juxtaposition of those sets of assumptions. To do our best work we must be epistemic hybrids, theoretically and methodologically. Like Bateson showed, we need multiple epistemologies to think well. We need to know how to navigate when the assumptions and foundational practices in one are challenged in another, and so on. Those of us who do not fit have an advantage; we have always learned far more than one way to think and act.

Gloria Anzaldua, Jacques Derrida, Sandra Harding, Audre Lorde, and Chela Sandoval, among many others, have taught us that embracing our mixtures, borderlands, and margins also can provide an excellent stance for examining the assumptions and practices of privilege, entitlement, authority, and expertise, because it is presumed to be elsewhere and certainly not ours. We can easily find "good trouble," as the late John Lewis recommended. I prefer to live outside the hierarchies of privilege, supported instead by webs of relationships, rhizomatic *meshworks* of mutual aid. I like to live on the epistemic *faultlines* where conceptual

ruptures appear both routinely and unexpectedly. I have learned over the years that ‘normal’ and ‘certainty’ never last very long; trying to act as if they do leads to an obsessive, repetitive ordering, unhealthy in people, violent in societies, and bad in epistemologies.

As I was trying to write my acceptance statement and the lecture for this prize some friends told me this was not the occasion for my usual middle voice, mixed with irony, self-deprecating humor, and quiet fury, underscored by a profound appreciation for the many outliers in the world. With this award you have taught me that my epistemological queries were not marginalized as I had thought. Now I must reexamine those assumptions, a challenge I accept. I deeply appreciate the respect I believe this award represents and am eager to share it. I am truly grateful for this great honor, although I do not know now how to wear it and most likely never will. I do hope we all find new ways to think through, with, and beyond the catastrophes that surround and saturate us now.

Meshworks

I will conclude by thanking these collaborators, my *meshwork*, who have made all my work possible and improved it in so many ways. Meshworks are our webs of relations, the rhizomatic tendrils linking us to resources and other ways of making sense. They share care. They give us maps around barricaded territories. They offer strategies for making new kinds of sense when we encounter the walls of categories, the exclusionary practices that stifle care and flexible thinking. They help us to weave lattices of support when the faultlines of assumptions begin to rupture.

Usually we thank our teachers and I remain profoundly indebted to all of them, especially the late Gregory Bateson and the late Hayden White, both epistemic transgressors. Herman Blake recommended me for my first fellowship. Thomas Rohlen taught me how to study, but not necessarily obey the rules of academia. Triloki Nath Panday explained that I could survive in academia without joining a faction, the only cost being power. Thomas Kuhn asked so many difficult questions and Jehane Kuhn taught me to write while she edited *Beamtimes and Lifetimes*.

However, now I would like to invert that genealogy by thanking my contemporaries and those coming after me. This is the right time to say many of their names, if not all. I want to thank:

- Two friendships that began at Berkeley many decades years ago, with Wendy Martin and Judith Benet Richardson, who are still helping me to understand the ways of the American middle and upper classes, as well as academia.
- Four physicists: the late David W.G.S. Leith and the late Martin Perl for encouraging me to return to graduate school, and then Yasuke Takahashi, along with Hirotaka Sugawara, for encouraging me since then to take the next step.
- Eight friends from graduate school: Chela Sandoval, Mariko Fujita, Misha Adams, Katie King, Sandy Stone, Zoe Sofoulis, the late John Salter, and the late Frank Dubinkas; we all learned to live well in the margins.

- Three other outliers who keep showing me how to do important work from the edge of privilege: Pnina Abir-Am, Karey Harrison, and Smadar Lavie.
- Susan Winter, then an NSF funding program officer, who called me one day to say stunningly, “I hear you have untested hypotheses.” I always do.
- Several previous holders of this prize who have mentored me at crucial moments in my career, including Emily Martin, Donna Haraway, and Karin Knorr; another Bernalist, Sandra Harding, has advised me at nearly each stage, including this one.
- Joan Fujimura who taught me long ago how to laugh at the jerks, and Mike Fortun who reminds me to care.
- My current collaborator, Knut Sorensen, who continues to surprise, impress, and inspire me.

Over the decades several postdocs, graduate, and undergraduate students have touched my heart and changed my mind, many times over; they are my mentors too. Those with whom I have worked most closely include: Atsushi Akera, Maria González Aguado, Jonathan Banfil, Olaya Daki, Ann Marie Davis, Peter Darch, Joe Dumit, Brad Fidler, Karen Flint, Fernando Gomez, Akiko Kodaka Koh, Peter Lu, Nashra Mahmood, Sook Jin Min, Hiromi Mizuno, Esha Momeni, Luis Felipe Murillo, Anindita Nag, Maria (Mia) Ong, Karen Oslund, Helena Pettersson, Pamela Gwen Mango Ramos, Samar Saif, Sam Shah, Kalpana Shankar, Ramon Solorzano, Michiko Takeuchi, Yuki Terazawa, Vivian Wong, and L. Wynholds.

During the best and most difficult times in my work and my career Kim Fortun and Jarita Holbrook are the ones who continue to inspire me to get back to work. Diane Yu Gu, Ariel Hernandez, and Nadine Tanio have taught me how to live and think well during the pandemic and before that, too. There are many others with whom I did not work so long or closely, but who also have touched my heart and mind, however briefly, and stay with me. Finally, I offer my gratitude to the Bernal Prize committee and all of you who have helped me so much along the way, including Langdon Winner, with whom I happily share this prize. When I was first hired as an assistant professor, Langdon, who had been a faculty member at the same place, walked with me and explained the institution’s pathways and performances. We are very lucky when we are mentored in ‘corridor talks’ like that one.

Rather than me taking the space here to cite the resources for all the ideas, practices, and people I have invoked, please find the links yourself through your favorite search practices. Be sure to notice what is next to what you search; it might be more interesting.

Author Biography

Professor Sharon Traweek teaches in the Department of Gender Studies at the University of California, Los Angeles. She has also been on the faculties of UCLA’s History Department, Rice University’s Anthropology Department, and MIT’s Program in Anthropology and Archeology and Program in Science, Technology, and Society. In 2015 she was invited as visiting researcher at the Max Planck Institute for the History of Science in Berlin. She has held visiting faculty positions at Lund University, the Mt. Holyoke Five College Women’s Studies Research Center, the Anthropology Department at the University of California at San Diego, the

Program in Values, Technology, Science, and Society at Stanford University, and the Sokendai Graduate University for Advanced Studies in Japan.