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## The Conceptual and the Empirical: Expanding STS -- A Special Issue of Science, Technology, & Human Values

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By Aaron Seaman



The journal [Science, Technology, & Human Values](#) has a special issue currently, entitled, "[The Conceptual and the Empirical – Expanding STS](#)." The details of the six articles composing the issue follow below:

### [The Conceptual and the Empirical in Science and Technology Studies](#)

*Christopher Gad and David Ribes*

It is the purpose of this special issue to acknowledge the shifting definitions and uses of the conceptual and empirical in the field of Science and Technology Studies (STS), and to explore the constructive potential of this condition. In this introductory essay we point to four formulations in STS for the relation between the conceptual and the empirical which do not figure them as binaries or opposites: (1) the empirical as a path to the conceptual, (2) the conceptual as practical and empirical, (3) the empirical as an instantiation of the conceptual (and the dangers of that view), and (4) a conceptual minimalism. We then point to some inspirations in contemporary thought for engaging creatively with the conceptual and empirical, and conclude by summarizing the contributions to this issue.

### [Continuous Variations: The Conceptual and the Empirical in STS](#)

*Casper Bruun Jensen*

The dichotomy between the conceptual and the empirical is part of common sense, yet its organizing force also extends to intellectual life more generally, including the disciplinary life of science and technology studies (STS). This article problematizes this dichotomy as it operates in contemporary STS discussions, arguing instead that the conceptual and the empirical form unstable hybrids. Beginning with a discussion of the “discontents” with which the dominant theory methods packages in STS are viewed, it is suggested that STS has entered a phase resembling Kuhnian normal science. Based on a discussion of the making of cognitive dissonance theory, it is then argued conceptual–empirical mixtures are unavoidable in actual research practice. This situation can be taken as an encouragement for more sustained exploration of conceptual–empirical relations and their inventive potentials. Invoking Deleuze and Guattari’s notion of “continuous variation,” the article concludes that STS as a discipline is well served by promoting an ethos of empirical and conceptual experimentation.

[The Ethnographic Machine: Experimenting with Context and Comparison in Strathernian Ethnography](#)

*Atsuro Morita*

Context holds a significant place mediating the conceptual and the empirical in ethnography. This modality of knowledge has also become a significant part of science and technology studies since the rise of laboratory studies. However, conventional modes of contextualization that locate the object of study within a whole—such as within a society or culture—have become a target of suspicion and criticism since the 1980s. This led to the radical alteration of the contextualizing strategies of actor–network theory (ANT) and multisited ethnography. Anthropologist Marilyn Strathern is also responding to this crisis by renovating the practice of ethnography in a way significantly different from both strategies. Since contextualization occupies a significant place in the formation of ethnography as a representation of a larger “out there” reality, her alternative contextualization requires a new characterization of ethnography other than representation. This article tries to expound the complicated, and often perplexing, ethnography of Strathern by making an analogy with objects familiar to most science, technology, and society scholars, namely, machines. By doing so, this article argues that Strathern is opening up a new way of dealing with context that is radically different both from ANT and from multisited ethnography.

### [The Empirical as Conceptual: Transdisciplinary Engagements with an “Experiential Medicine”](#)

*Mei Zhan*

Traditional Chinese Medicine (TCM) is often considered an “experiential medicine.” As such, it is seen as in need of conceptual elevation by scientific experiments and theorization, which actualize and undermine scientized forms of TCM. This essay argues that the predicaments of TCM are thoroughly modern and must be understood within the “Modern Constitution” in which the production and proliferation of asymmetries are both constitutive of and obscured by modern knowledge production. This essay dislodges these asymmetries through transdisciplinary engagements with TCM. This transdisciplinary approach, as I will show, allows us to animate the experiential in order to unsettle the relations between the empirical and the conceptual, the concrete and the abstract, and the contingent and the universal. Most importantly, it enables reconsiderations of the experiential and the empirical as conditions for thinking, doing, and being that insist on immanence, move analogously, and travel sideways. Thus, rather than wanting conceptual uplifting, TCM as an experiential medicine could not only work as a critique of the Modern Constitution but also force a conceptual disruption from within by insisting on the empirical as conceptual.

### [Seamful Spaces: Heterogeneous Infrastructures in Interaction](#)

*Janet Vertesi*

Understanding contemporary environments in the laboratory and elsewhere requires grappling conceptually with multiple, coexisting, nonconforming infrastructures which actors engage at the same time. In this article, I develop the analytical vocabulary of “seams” for studying heterogeneous, multi-infrastructural environments. Drawing upon six years of ethnographic fieldwork with two distributed science teams, as well as studies in Ubiquitous Computing, I examine overlaps among infrastructures and how actors work creatively with and across their seams. Rather than suggesting that actors are hemmed in or incapacitated by multiple infrastructural commitments, inclusions, and exclusions, I show instead how they work artfully to align them in ways concordant with membership and how this produces both consequences for their work and opportunities for analysis.

### [Who Killed WATERS? Mess, Method, and Forensic Explanation in the](#)

## [Making and Unmaking of Large-scale Science Networks](#)

Steven J. Jackson and Ayse Buyuktur

Science studies has long been concerned with the theoretical and methodological challenge of mess—the inevitable tendency of technoscientific objects and practices to spill beyond the neat analytic categories we (or their actors) construct for them. Nowhere is this challenge greater than in the messy world of large-scale collaborative science projects, particularly though not exclusively in their start-up phases. This article examines the complicated life and death of the WATERS Network, an ambitious and ultimately abandoned effort at collaborative infrastructure development among hydrologists, engineers, and social scientists studying water. We argue in particular against the “forensic imagination,” a particular style of accounting for failure in the messy world of large-scale network development, and against two common conceptual and empirical pitfalls that it gives rise to: defaults to formalism and defaults to the future. We argue that alternative postforensic approaches to “failures” like the WATERS Network can support forms of learning and accountability better attuned to the complexities of practice and policy in the real world of scientific collaboration and network formation.

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