

**New Natures: Joining Environmental History with Science and Technology Studies**, edited by Dolly Jørgensen, Finn Arne Jørgensen, and Sara B. Pritchard. Pittsburgh: University of Pittsburgh Press, 2013. 292 pp.

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Building on the emerging conversations of the past two decades, *New Natures* is a collection of essays that demonstrates the fruitfulness and transformative potential of interdisciplinary work between the fields of environmental history and science and technology studies (STS). Distinguished by its concern for fostering a theoretical dialogue, this collection explores how STS theory and concepts can both facilitate and extend the work of environmental history and yield wider insights about the power, values, and politics underlying our constructions of and relationships with nature. Though the introductory chapter acknowledges the mutual give-and-take between the two fields, *New Natures* specifically foregrounds the contributions of STS to environmental history. This emphasis reflects an overarching call for the more overt use of theory in the field of environmental history, in order to thicken or strengthen empirical studies and narratives as well as spur new developments and analysis.

Though the collection covers a variety of topics, including farming, trade, forestry, offshore drilling rigs, pollution, and outer space, Dolly Jørgensen, Finn Arne Jørgensen, and Sara B. Pritchard group the essays in *New Natures* into three often-overlapping sections. In STS fashion, all sections share an underlying concern for issues of power and the political. Part one consists of four essays that explore the construction and management of knowledge. In “The Natural History of Northeastern America: An Inexact Science,” Anya Zilberstein, concerned with approaches for describing rapid environmental change, proposes that eighteenth-century American naturalists deliberately wrote vague historical and geographical accounts in order both to guard their work against obsolescence and accusations of incompetence and incompleteness, as well as to encourage “ideas about the dynamism of nature,” particularly for reasons of economic development (35). In “Farming and Not Knowing: Agnotology Meets Environmental History,” Frank Uekotter states that ignorance, like knowledge, is constructed socially, as demonstrated by the production of ignorance in the development of German corn monoculture. In “Environmentalists on Both Sides: Enactments in the California Rigs-to-Reefs Debate,” Dolly Jørgensen argues that it is the differing values and enactments of nature, not knowledge, at the root of the rigs-to-reef controversy. Interested in why some controversies close and others do not, Jørgensen’s goal is to expose the

two enactments in order to better understand how both parties can claim to be pro-environmental. In “The Backbone of Everyday Environmentalism: Cultural Scripting and Technological Systems,” Finn Arne Jørgensen, through his analysis of Norwegian bottle recycling programs, argues that environmental action be embedded within effective sociotechnological systems, that consumers need to be enrolled, and that effective environmental action needs to be scripted.

The three essays of part two examine the construction of environmental expertise and its impact on environmental policy and human interaction with nature. In “The Soil Doctor: Hugh Hammond Bennett, Soil Conservation, and the Search for a Democratic Science,” Kevin C. Armitage suggests that the environmental movement can utilize technological frames to remove expertise from its “ivory tower,” placing it, instead, “outside, active, and created in conjunction with constituents” and making science a more public and democratic practice (89). In “Communicating Knowledge: The Swedish Mercury Group and Vernacular Science, 1965–1972,” Michael Egan explores science’s place in environmental politics. He states that reactive, uncertain science is “reduced” to part of a larger conversation in which it holds no special authority over other participatory groups (116). In “Signals in the Forest: Cultural Boundaries of Science in Bialowieza, Poland,” Eunice Blavascunas argues for the importance of locals, especially their role in the creation, stabilization, and overturning of scientific facts: “If we want to learn something about the way science works, the answers will be found by looking not only at the labs and practices of scientists but at which facts are trusted by the people whose lives are affected” (130). Blavascunas questions what counts as science in environmental history when science practices are challenged, especially by non-scientists.

In the third part, consisting of five essays, the contributors directly engage with questions of networks, mobilities, and boundaries. In “The Production and Circulation of Standardized Karakul Sheep and Frontier Settlement in the Empires of Hitler, Mussolini, and Salazar,” Tiago Saraiva offers a “transimperial narrative” that demonstrates the materialization of the expansionist ambitions of fascist governments (136). Saraiva moves past established disciplinary calls for the detailed examination of knowledge production by examining those laboratory processes in the context of social and economic spheres. In “Trading Spaces: Transferring Energy and Organizing Power in the 19<sup>th</sup> Century Atlantic Grain Trade,” Thomas D. Finger argues for the importance of using both actor-network theory and systems thinking as analytical categories in order to more closely and fully analyze the relationships among sociotechnological arrangements and the scope and scale of environmental change. In “Situated Yet Mobile: Examining the Environmental History of Arctic Ecological Science,” Stephen Bocking explores the tension between locality and circulation. Bocking uses Arctic research history to illustrate how science can be both situated

and mobile, providing a way to understand the relationship among scientific practices, knowledge, and nature. In “White Mountain Apache Boundary-Work as an Instrument of Ecopolitical Liberation and Landscape Change,” David Tomblin demonstrates how boundary-work can be reframed as a liberatory tool in order to understand “socially unjust distributions, applications, and consequences of science and technology” (181). His case study also provides an example of how local communities can resist, react, or adapt to the introduction of environmental technologies. In “NEOecology: The Solar System’s Emerging Environmental History and Politics,” Valerie A. Olson argues that near earth objects (NEOs) have become matters of concern, functioning as boundary objects, helping us to perceive outer space as connected to our Earthly environment and enabling environmental interpretations of cosmic history and human futures. More than just boundary objects, Olson is concerned with the political and social reasons for managing near/far Earth ecologies, as demonstrated in the language of the policies and petitions surrounding NEOs.

The collection closes with a positive look forward in Sverker Sörlin’s epilogue, “Preservation in the Age of Enlightenment: STS and the History of Future Urban Nature.” A renovation of both preservation and nature is happening, Sörlin argues, redefining and reviving them as entangled in the social. Nature’s value, as shown in cities and other examples of cohabitation, is derived from this entanglement, rather than discounted because of it. With an emphasis on urban ecology, he conflates the old and tired boundaries between city and nature, suggesting new models and ways of thinking about nature, environmental policy, and humanity: “Nature should rather be seen as part of precisely that entanglement that becomes ever more characteristics of what it means to be human, which in turn means to be more and more part of the nonhuman” (223).

*New Natures* is a particularly valuable text for STS scholars and environmental historians as well as wider communities, including policy makers and other stakeholders. Within the field of rhetoric and composition, this collection of essays may also be useful and appropriate for rhetoricians of science and technology, environmental rhetoricians, and ecocompositionists. Though not directly related to teaching or the classroom, compositionists may also be interested in drawing parallels between the text’s consideration of hierarchies of knowledge and expertise to their own work in composition theory and writing pedagogies. In so far as the essays cover a wide range of topics and STS theory, the book is perhaps not suitable as a primary text; however, its breadth is particularly useful for demonstrating the productivity of and potential avenues for interdisciplinary work, particularly between STS and environmental history, just as its title suggests. Contained within these covers are thirteen distinct and varied models of the deliberate application of theory

from one field to empirical material in another, a move both valued in many fields and hailed by the editors as necessary for environmental historians. For academics and non-academics alike, the lucid prose, practical case studies and examples, and engaging style of the authors makes *New Natures* an insightful, pleasureable read.

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