

# Book Review: Social Ecology in the Digital Age: Solving Complex Problems in a Globalized World by Daniel Stokols

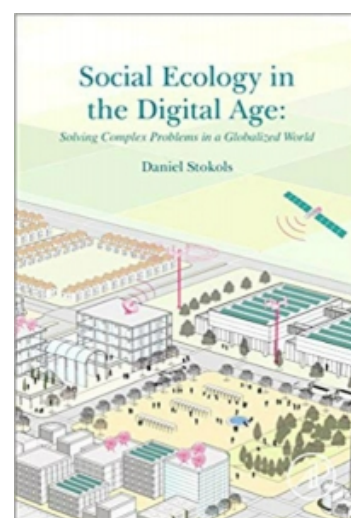
*In Social Ecology in the Digital Age: Solving Complex Problems in a Globalized World, Daniel Stokols offers a comprehensive account of social ecology as a transdisciplinary field of research and shows how contemporary social-ecological dilemmas can be better comprehended and ameliorated. This is an engaging, motivating book, writes [Diana Hummel](#), that is highly recommended to students, scholars and practitioners interested in sustainable transformations.*

***Social Ecology in the Digital Age: Solving Complex Problems in a Globalized World. Daniel Stokols. Academic Press. 2018.***

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Social Ecology is on the move, both in the US and internationally. It is increasingly recognised as a powerful tool that helps to meet the scientific and societal challenges of our current epoch – [the Anthropocene](#). At the core of this emerging scientific field is the historical insight that nature can no longer be comprehended without society, and society cannot be understood without nature – a hypothesis that the German sociologist Ulrich Beck already formulated in 1986 in his study, *Risk Society*. Studying how society-nature interactions develop over time both in their material and symbolic dimensions is thought to unravel the dynamics of the current social, political and ecological crisis and consequently offer possibilities to develop the means to overcome it.

[Daniel Stokols](#), Research Professor and Chancellor's Professor Emeritus of Social Ecology at University of California, Irvine (UCI), is one of the most renowned experts in this field of science. With his current book *Social Ecology in the Digital Age*, he again proves to be an ingenious thinker who has advanced Social Ecology time and again with innovative theories, concepts as well as approaches to empirical research. By conceiving Social Ecology as a transdisciplinary field of research, Stokols provides a comprehensive account of how twenty-first-century social-ecological dilemmas can be better comprehended and subsequently ameliorated.



From a first-person narrative, the book is written in a very engaging and motivating way, and provides a lot of biographical experiences and personal insights, detailing Stokols' own four-decade academic journey. It is therefore useful both for experts of sustainability science and politics, but also for students who are at the beginning of their academic careers and are interested in issues such as sustainable urban planning, sustainable consumption, environmental justice and theoretical concepts of society-nature interactions.



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In the American tradition, Social Ecology evolved from the micro-perspective of individuals and groups with a focus on how their behaviour and wellbeing depend on interactions with their independent social, built and natural environments. Stokols provides a practical and pragmatic approach to the field when he illustrates the core principles of Social Ecology (65f.): a multitude of interdependent factors must be analysed, and so the objects of study are material and symbolic features, physical and sociocultural components, natural and built elements as well as place-based and virtual domains. Moreover, various temporal and spatial, but also social scales – ranging from individuals and groups to societies and international entities – must be considered. Investigating these complex interactions requires a systemic, multi-level contextual approach:

Environments and their inhabitants are dynamic systems where individuals and groups react to changes in their surroundings and, in turn, actively modify the environment to better suit their needs (65).

Therefore, the author argues for a transdisciplinary action research approach ‘where academic and nonacademic perspectives are combined to better understand and manage environmental challenges’ (66).

The book illustrates people’s interactions with their social and physical surroundings, and how these influence individual wellbeing and public health. Here, the author offers different examples such as traffic congestion, crowding and information overload. Social Ecology as a transdisciplinary science means that different scientific cultures – natural sciences, social sciences and humanities – must be linked: something that seems to be self-evident when confronted with social-ecological problems such as the chemical contamination of soils and rivers and their impacts on the health and living conditions of dwellers.

Throughout the book and with the help of several case studies, Stokols illustrates impressively the specific problem structure of environmental problems. Human actions, decisions and omissions are so closely linked to ecological effects that they can hardly be considered separately. Furthermore, these complex interactions are marked by ignorance, uncertainty and contested knowledge. One study, for example, portrays conflicts arising from the impacts of a large waste disposal site in Val Verde, California. The local residents – the majority of them low-income Hispanic citizens – raised their concerns about the negative impacts of the landfill. They bear the main burden of the waste, which is mostly produced in distant places and then transported to their neighbourhood for disposal. Resident groups were, for instance, worried about the adverse health impacts of the landfill. These concerns were supported by epidemiologic evidence suggesting possible links between living and working near the toxic waste site and health problems such as higher rates of lung cancer, birth defects and psychological distress. This scientific evidence notwithstanding, the County approved the continuation and expansion of Chiquita Canyon Landfill’s operations.

The Val Verde case is a striking example of environmental injustice and shows how low-income populations and residents belonging to minority groups have been largely ignored in political decision-making processes. It reveals that better participation and continuous dialogue among competing stakeholders is urgently needed in such conflict constellations. As Stokols argues: ‘the prospects of resolving the dispute may hinge on whether the opposing groups can eventually achieve a shared view of the situation that bridges their conflicting interests’ (197). Here, a transdisciplinary research approach that integrates scientific knowledge and methods, but also practical knowledge of the different societal actors, could help to identify and negotiate the divergent problem perceptions, interests and needs. That way, it would be possible to jointly develop entry points for options of action: for example, through stakeholder workshops or participatory scenario processes.

A particular strength of the book is the detailed and critical discussion of the role of digitalisation. Stokols takes a look at the effects of cyberspace on psychological, social, health and sustainability outcomes and shows how digital technologies transform physical and social organisation from microlevel behaviour settings to larger societal units. For example, neighbourhoods and cities are restructured by technology not only in their infrastructure, but also with regard to consumption: for example, forms of sharing economy supported by the internet such as ridesharing or residential rental apps (126). Obviously, the impacts of digitalisation are manifold, but are still hardly systematically investigated with regard to sustainable development.

The debate on the obstacles of the cybersphere is characterised by weighing the risks and benefits of technologies. Stokols illustrates that communication technology may enhance collaboration and mutual understanding among people from different parts of the world, but he also emphasises highly problematic impacts such as the increasing propagation of fake news, bullying and the promotion of sexism, racism and nationalism. These critical issues are widely discussed in current debates, but Stokols’s approach to Social Ecology conceives ‘the virtual world as a distinct sphere of environmental influence that is closely interwoven with the built, social, and natural environment’ (119). What this means more precisely and how the effects of these interdependencies can be critically evaluated is not unequivocally answered in the book. However, it becomes clear that digitalisation is not a detached process in its own right, but it can and must be actively shaped and regulated by society. As the Scientific Advisory Panel of Global Change of the German Federal Government (WBGU) has [recently proposed](#), digitalisation should be explicitly geared to the service of global sustainable development. In this respect, Stokols’s book offers numerous arguments of what has to be taken into account.

In sum, *Social Ecology in the Digital Age* is a great read and highly recommended to students, scholars and practitioners interested in sustainable transformations.

- This review originally appeared at the [LSE Review of Books](#).

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*Note: This article gives the views of the authors, and not the position of USAPP– American Politics and Policy, nor of the London School of Economics.*

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## About the reviewer

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Diana Hummel is political scientist and member of the executive board of ISOE – Institute for Social-Ecological Research in Frankfurt am Main, Germany. Her research focuses on theoretical concepts of societal relations to nature, demographic changes, biodiversity and provisioning systems, and gender and the environment. She studied educational science, sociology, psychology and political science at Goethe University Frankfurt. She obtained her PhD in 1999 with a thesis on ‘population discourse, demographic knowledge and political power’. In 2009 she received her habilitation at the faculty of social science at Goethe University, where she is lecturer in political science.