

# Book Review

## Explaining Society: Critical Realism in the Social Sciences

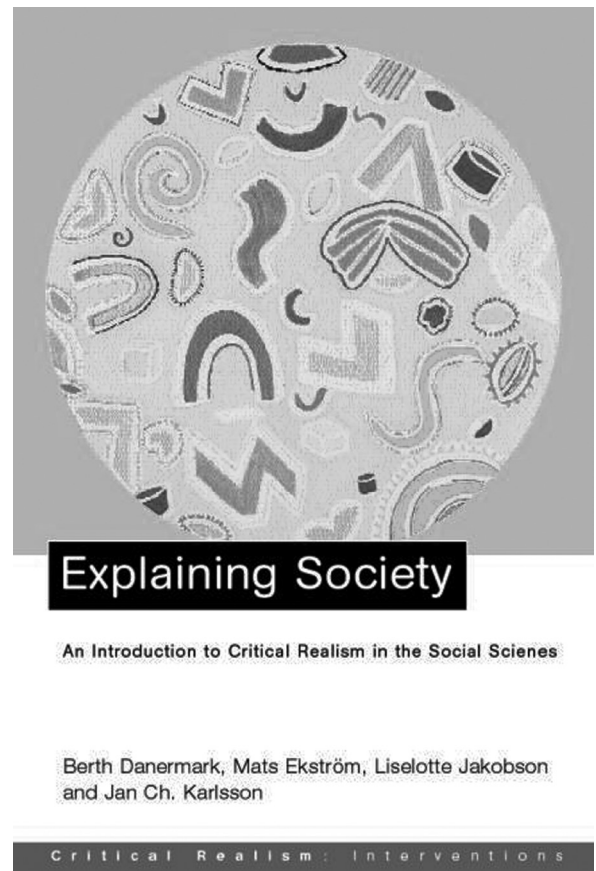
Danermark, B., Ekström, M., Jakobsen, L., & Karlsson, J. Ch. (2002)

Oxon, New York: Routledge.

221 pp.

Different paradigms of the philosophy of science influence the perception of reality, and by extension the logic of research processes, strategies and outcomes. Among the theories of social science, there have been a variety of paradigms with their own specific ontologies, epistemologies and methodologies, like positivism, hermeneutics, critical tradition, etc. The book of Danermark et al. introduces the key and fundamental elements of critical realism, which is a metatheory developed since the mid-1970s based on the criticism of the positivist position. However, the scope of the book is not to develop the arguments of critical realism at a philosophical level, but to discuss the methodological implications of its basic ideas for social science. Therefore, this book is particularly appropriate for undergraduate and postgraduate students, as well as researchers who have no advanced knowledge of philosophy of science but would like to reflect on their research studies from this perspective.

This book includes eight chapters organized into two parts. The first part of the book, comprising chapters 2 and 3, introduces the elementary components of the ontology and epistemology of critical realism. Critical realism perceives reality as independent existence of the human mind and further identifies three domains of reality: the empirical, the actual and the real. The world consists of structures and mechanisms stratified across different levels. Critical realism understands causality as the tenden-



cies or liabilities that an object has. Whether a specific causal power will manifest itself or not is contingent on circumstance, with various mechanisms reinforcing or counteracting each other. This perception of causality is regarded as a crucial point of critical realist ontology. In this section, the concepts of abstraction, open and closed systems are also introduced.

In line with critical realist ontology and epistemology, the second part of the book makes a thorough examination of the methodological implications for social science in terms of generalization, scientific inferences, explanation, research methods, and the relation between social science and practice. Chapter 4 presents critical realism's understanding of generalization, which is in relation to the structures and mechanisms in a deeper domain, rather than the empirical extrapolation of events. Besides, four modes of inference as ways of reasoning in scientific work are distinguished: induction, deduction, abduction and retrodution. Among others, retrodution is presented as an essential trait of critical realism, which means that through transcendental argumentation the basic conditions of certain phenomena are reconstructed. Then, based on the discussion above, an explanatory research model is provided.

Chapter 5 examines the role of theory in social science methodology and demonstrates how theories can be used in social scientific research. This chapter provides insight in integrating theories into research in a fruitful way. Chapter 6 deals with methodology issues. In line with the ontological and epistemological positions, critical realism favors methodological pluralism. A combination of extensive and intensive research design is proposed. While extensive analysis identifies common patterns by collecting quantitative data and statistical analysis, intensive study is conducted in order to gain causal explanation of the production of a certain event through a qualitative analysis. These two research strategies are not mutually exclusive.

Chapter 7 addresses the relationship between social science and practice. The dominant position in the tradition of critical realism tends to reject the possibility of making predictions about social matters, because social phenomena represent an open system where the potential for combination among various generative mechanisms increases. In this sense, the significance of urban planning in intervening in the

urban development process, in protecting the natural environment, in increasing social equity and so on will be largely undermined, since certain degrees of prediction on the impacts of spatial arrangement are needed in order to make planning efficacious. In my opinion, critical realism has the advantage of explaining why a social phenomenon takes place, but has neglected to a certain extent the importance of making predictions in scientific activities. However, in many contexts, it will not suffice just to understand the causality, like in the case of social planning. Danermark et al. further discuss how many social systems are partially-closed, producing some degree of regularity and predictability.

Chapter 8 – the last chapter – ends the book by summing up the key points of what has been discussed in the previous chapters. This chapter provides a brief and clear-cut overview of the main essence of the book as well as critical realism.

Compared to positivism, hermeneutics and other paradigms, the strength of critical realism lies in that it is ontologically less restrictive and thus avoids reductionism in research. Critical realism's differentiated and stratified view of reality, its conception of events as the results of combined mechanisms in operation in certain contextual conditions, as well as its methodological pluralism, show its fruitfulness in tackling the complexity of social reality, not least the field of urban studies. Urban issues like transport, housing, land use, environmental protection, infrastructure, demographic changes, etc. are not isolated but interrelated. Urban policies addressing a particular social, environmental or economic aspect also influence the performance of other issues at the local, regional and even global level. For instance, policies increasing per capita dwelling consumption in already rich cities will undermine the possibilities of equitable resource distribution between rich and poor cities and therefore sacrifice the chances of increasing the living standards of poor populations. To grasp the complexity of urban issues requires a research

approach with an inclusive and holistic perspective: this kind of deeper understanding of urban issues could be obtained through the lens of critical realism. In summary, the book provides a good introduction to the theory of critical realism and its methodological implications in the social sciences. Since it is jargon-free and understandable, it is valuable for

preliminary readers of philosophy of social science. In particular, the introduction of this book to researchers dealing with urban issues, such as urban planners, could provide them with a meaningful grounding in critical realism, thus promoting interdisciplinary study and so enhancing urban research.

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## **Water Sensitive Urban Design – Principles and Inspiration for Sustainable Stormwater Management in the City of the Future**

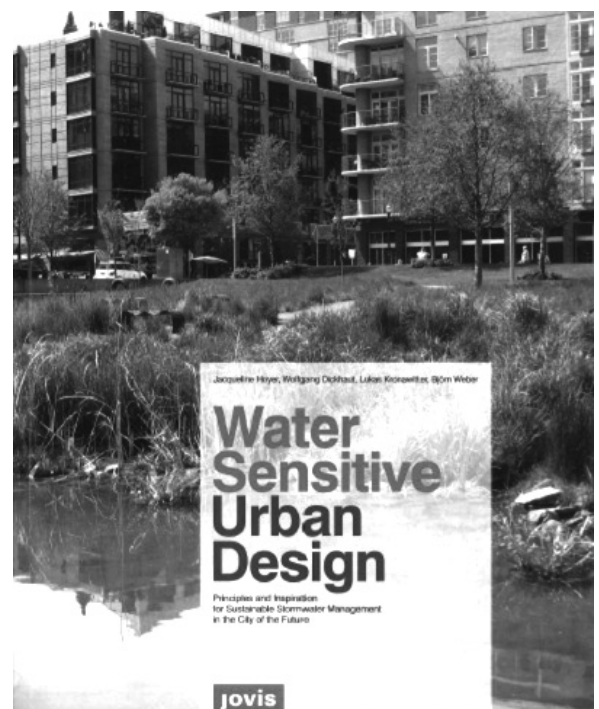
Hoyer, J., Dickhaut, W., Kronawitter, L., Weber, B. (2011)

Berlin: Jovis

144 pp.

One of the essential challenges of contemporary sustainable design is to allow humans and nature to coexist in mutual respect, combining the best aspects of the built landscape with the dynamism and beauty of the environment. Integrating the functionality of stormwater management with urban and landscape design is, therefore, a good example.

Over many years, climate change, urban growth and a lack of public space have made the handling of stormwater in cities an urgent issue that needs to be addressed in more intelligent ways than merely through engineering solutions. One approach to this problem is Water Sensitive Urban Design (WSUD). Originally developed in Australia, WSUD focuses on smarter stormwater management for the city of the future. Its central principle is the integration of water management, architecture, urban design and



landscape architecture in order to create a healthy ecosystem, sustainable lifestyles and attractive liveli-hoods.

In contrast to the conventional centralized city stormwater management that has predominated in the past, WSUD argues for decentralized smarter stormwater management applied throughout all stages of the urban water cycle. The proposed methods include techniques for water usage, treatment, detention and infiltration, conveyance, and evapotranspiration.

The book “Water Sensitive Urban Design – Principles and Inspiration for Sustainable Storm-water Management in the City of the Future” is the manual developed by the HafenCity University of Hamburg within the European SWITCH research project. It gives an overview of the WSUD approach and how its principles can be applied.

The first two chapters provide an overview of sustainable stormwater management as well as a comparison of water cycles in natural systems and urban areas. The problems with conventional storm-water management, such as reduction of ground water infiltration, negatives effects on local climate, and increased risk of flooding, are also discussed briefly.

The third chapter defines water-sensitive urban design and sustainable stormwater management. It also provides a list of technical solutions as well as examples of applications in Europe, Australia, and the USA.

The fourth chapter sets out the principles for successful water sensitive urban design, highlighting five topics including water sensitivity, aesthetics, functionality, usability, as well as the public perception and acceptance of sustainable stormwater manage-ment.

The last chapter presents a selection of small-, medium- and large-scale examples that demonstrate successful applications of WSUD. Each case study outlines the main problems in the study area and its primary aims to demonstrate the principles of successful water-sensitive urban design.

The book is illustrated with a series of images and diagrams that explain the issues clearly. This should inspire a fresh approach to sustainable storm-water management and design not only among engineers, architects, urban designers and landscape architects, but also policy makers and developers.

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