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Book review

Urban ecology
Edited by J. Breuste, H. Feldmann and O. Uhlmann, Springer, Berlin, 1999, 714 pp., illus., ISBN 3-540-64617-5 (hardcover); US $109.00

Urban environments represent a diversity of important ecological systems that are drastically transformed by human activities. According to the United Nations, the world urban population was only a few percent of the global population in the 1800s, but increased to nearly 30% in 1950 and reached 50% in 2000. It has been projected that 60% of the world population will live in urban areas by 2025. Urbanization has profoundly transformed the natural landscapes everywhere throughout the world, inevitably exerting pervasive effects on the structure and function of ecosystems. Undoubtedly, the rapid global urbanization will have significant impacts on the environment as well as on economic, social and political processes at local, regional and global scales. While urban ecosystems are arguably the most important habitats for human survival, they are among the least studied and understood. Because of the complexity of the ecological and socioeconomic processes in urban systems and because of the diversity of research perspectives and traditions, urban ecology often means rather different things to different people in different or even the same disciplines. One may argue that urban ecology as 'ecology in cities' or 'human ecology' or 'social ecology' in urban areas is as old as ecology itself. However, much of the previous research in urban ecology has been more partial than comprehensive, more descriptive than explanatory, and more disciplinarily biased than interdisciplinarily integrated. The search for a much needed, multi-scale integrative paradigm, which allows us to study the 'ecology of cities' with a balanced emphasis on both ecological and socioeconomic components, has only just begun.

Urban ecology, edited by Breuste, Feldmann and Uhlmann, exemplifies the vastly diverse ideas, concepts, methods and questions in urban ecology. The book is the formally published proceedings of the International Conference on Urban Ecology held in Leipzig in 1997. The purpose of the book, as well as the conference, is to promote international discussions on the 'theoretical consolidation of urban ecology and the integration of differing scientific disciplines'. The book is organized into five parts: (1) ecological cities, (2) the integration of ecological, economic, social and cultural aspects, (3) land use and urban ecology, (4) ecologically responsible mobility, and (5) the integration of nature and landscape into urban development. Besides the five parts, two papers constitute the 'Introduction' of the book. Each part is then broken into groups of papers by the following categories: 'workshops' and 'posters'. With figures and tables included, workshop papers are each about five pages long and poster papers are even shorter — about 2.5 pages. Thus, almost all the papers are brief and sketchy. This is clearly a result of the page limit imposed on the authors, but it seems necessary in order for the book to include all the papers by over 200 contributors. Each part starts with one or two papers that are neither a part of the workshop nor the poster section. They do not seem to provide the background information for, or a summary of, the papers to follow, although, from their titles

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alone, one may guess they are supposed to. It is hard for the reader to figure out how the book is structured and what the logic or idea behind such an organization is for a book with 140 chapters, especially when the editors do not provide any clue.

Part one deals with ecological cities and 39 chapters discuss a variety of topics of urban environmental conditions, including environmental quality standards, urban climate, air pollution monitoring and assessment, and water management. Most of the chapters present case studies from different cities in, mostly, Germany and other European countries. However, a clear picture of what an 'ecological city' is does not seem to emerge from these chapters. Part two, with 43 chapters, discusses social, economic, policy, education, and citizen participatory issues in improving urban environmental conditions. The 14 chapters of part three focus on urban land use change and landscape planning and management. Part four, with 18 chapters, deals with transportation systems and traffic behaviors in urban areas — their efficiency, environmental impacts and planning issues. The final part of the book is composed of 24 chapters that are lumped together under the heading 'the integration of nature and landscape into urban development'. This is definitely the most 'ecological' part of the book from a biologist's point of view. Most of the chapters report on the surveys of flora and fauna in different urban environments, and discuss the issues of mapping and designing natural or green areas in cities.

Overall, the book contains much valuable information on urban ecology, and I especially recommend it to those who want to know how European (and Asian) scholars perceive what urban ecology is and what they do in its name. Several chapters, written by renowned scientists who have done ecological research in an urban environment for many decades, are excellent. There are also a dozen chapters reporting on some of the fascinating research programs in different countries. The only conclusion I can make — when the quality of all 140 chapters is concerned as a whole — is low mean, but high variance.

The book falls short in reaching its goal of having an international discussion on the 'theoretical consolidation of urban ecology and the integration of differing scientific disciplines'. First of all, the book lacks a comprehensive and integrative conceptual framework that holds all the pieces of information together in a logic and understandable way. As a result, instead of being illuminated about what urban ecology is, one can easily get more confused by reading the book. This criticism may not be fair, because many would argue that we all are still searching for such a framework. Secondly, the volume is not truly an 'international', but rather, a European (or predominantly German), product. Out of the total 208 authors (77%), 160 are from Europe (123 from Germany alone), as compared to 21 from Asia, 15 from Latin America, 6 from North America, 4 from Australia and 2 from Africa. About 61% of the 140 chapters are contributed by German authors. The majority of the literature cited in the book is in German, and it is obvious that English references are either rare or absent in many if not most papers. With such an unbalanced composition, it is hard to produce a collaborative and integrative synthesis on any subject matter at the international level.

It is interesting to notice that the pairs of quotation marks in many chapters are either aligned up diagonally or facing away from, not toward, each other. To some extent, this signifies some of the shortcomings of the book — although the individual chapters offer useful information, the book as a whole lacks cohesiveness and integration of disparate themes. However, this is not a problem just particular to this book, but an unfortunate predicament shared by many conference proceedings and volumes that evolve from them. Given the diversity and complexity in urban ecological issues, the editors deserve to be commended for their courage and diligence in putting all these immensely diffusive contributions together.

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