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Planning Cities with Nature

Theories, Strategies and Methods



Springer

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Introduction

Dichotomies of man and nature, the city and the countryside and urbanity and the natural world have marked the way in which urban societies have constructed their presence in the world. This book is not about *either* (...) *or* (...), but of *both* (...) *and* (...). It is about balance. It is about the city, and it is about nature. In particular, it concerns the ways in which planning with nature can support both human and non-human life in face of current and predicted global challenges. The book sits within a tradition of planning thought that has centred its attention in the pursuit of harmony between anthropic and biotic environments. Examples of such attempts date back to Frederick Law Olmsted's writings, the Garden City tradition and more recently branches of environmental planning derived from Ian McHarg's seminal work *Design with Cities* (1969), such as Mohsen Mostafavi and Gareth Doherty's book *Ecological Urbanism* (2010) and Tim Beatley's *Biophilic Cities* (2011). In a period in which urbanisation rates are predicted to increase globally, leading to, in a scenario of non-action, further worsening of the ecological and environmental crisis, this book explores novel theories, strategies and methods for re-naturing cities.

There is today strong interest in the theme, since "naturalising" cities can help address a range of societal challenges and generate multiple benefits, such as the enhancement of health and well-being, sustainable urbanisation, provision of ecosystem services and resilience to climate change. There is, thus, a compelling case to investigate integrative approaches to urban and natural systems able to help cities address their social, economic and environmental needs. Questions though remain, such as how can we plan with nature? What are the precedents, models and approaches that can be used to develop more sustainable cities that provide high-quality urban green spaces? How to do so without leaving anyone behind? How to integrate such thinking into current planning practice?

To address these questions, this book brings together experts from a range of disciplines, such as town planning, urban design, urban ecology, biology, architecture, environmental planning and environmental law. Furthermore, while it is known that the effects of population growth and climate change will hit developing countries harder, perspectives from the Global South are often overlooked in the

discourses regarding re-naturing cities. This publication, instead, attempts to balance discourses and practices from developed and developing countries. The book explores top-down, bottom-up and mixed mechanisms for the development of systemic re-naturing of planned and existing cities.

The origins of this book can be found in the Newton Fund Researcher Links Workshop *Re-naturing Cities: Theories, Strategies and Methodologies* held in Goiânia, Brazil, in July 2017. Funded by the British Council and FAPEG, the workshop involved various Brazilian and UK researchers, as well as policymakers. Contributions from other authors are also included, broadening the geographical and thematic scope covered. The book is structured into four main parts and a section on the future of re-naturing cities.

Part I, entitled *Cities and Nature in History*, is composed of chapters that challenge or reconsider a dichotomist view of these concepts in history. It brings together contributions about perceptions of nature in cities, balancing urbanisation and nature, as well as radical visions for cities and territories in which nature played a key role. This part begins with Li and Mell's chapter presenting a comparative discussion of philosophical and historical views of nature from the perspectives of China and the UK. It brings attention to the importance of considering social values in contemporary re-naturing debates, often too preoccupied in ensuring that economic value is determined and presented to validate green and blue space interventions in cities. Balancing urbanisation and nature is the theme of Chap. 2, by Lemes de Oliveira. It presents the relevance of the green wedge idea in urbanism across the twentieth century, showing how the idea became the foundation of different urban models. It suggests that the idea is adaptable and can contribute to contemporary challenges such as the provision of intra-urban green space and urban sustainability. The following two chapters, by Melis and Martínez, bring to the fore the role of radicalism in considering man and nature, and city and country dichotomies through examples from Austria and Italy. The topic of university campuses as green islands is discussed in the last chapter of this part, showing how large civic institutions have engaged historically with the re-naturing agenda.

Part II, *Planning Models, Theories and Methods for Re-naturing Cities*, focuses on the roles that positive spatial planning and planning models have to play in fostering the re-naturing of cities. This part starts with Lemes de Oliveira's Chap. 6 on the development of a spatial planning framework for the re-naturing of cities. It analyses key planning models against re-naturing principles, arguing for hybrid approaches in order to maximise the delivery of ecosystem services in cities. Particular attention is given to thermal comfort and the enhancement of health and well-being in the following two chapters. Harbich and Iuorio show through quantitative methods how green infrastructure (GI) can be used for thermal regulation in urban areas. In turn, Alberto, Harbich and Li concentrated on a comparative analysis of discourses about the relationship between green spaces in health in China, UK and Brazil within Chap. 8. Hannikainen, in Chap. 9, discusses the paradoxes of the will to plan a green city and the contrasting need to accommodate population growth, using the case of Helsinki.

Competing interests and the democracy of green spaces permeate Part III, *The Right to Green: Multiple Perspectives*. It presents contributions concerned with the equality of green space access and use in cities, the democracy of these spaces, potential pitfalls of re-naturing strategies and issues of participation and stewardship. It brings together perspectives from the Global North as well as the Global South. Chapter 10 by Caputo, Donoso, Izaga and Britto addresses the inequality in the provision and access of quality green spaces often seen in cities. They analyse cases from Brazil and Europe and argue that a just provision of nature in cities can be a tool for the enhancement of democracy. Also covering examples from both areas, the chapter by Gearey, Robertson, Anderson, Barros and Cracknell in turn emphasises that a considered approach to re-naturing—one that not only acknowledges the benefits but also the potential adverse impacts of the presence of nature—needs to be adopted. The authors argue that such a position has significant implications for social and environmental justice. They propose that the availability of high-quality green infrastructure to all should be an essential element of sustainable cities. Chapter 12 by Sinnett, Calvert and Smith looks into how high-quality green infrastructure is considered in sustainable built environment assessment systems, evidencing that they do not encourage a comprehensive integration of GI in developments and disregard the additive effect of GI's multi-functionality. The question of payment for environmental services is explored in the following chapter. It discusses the polluter pays principle and the protector-receiving principle as mechanisms able to stimulate environmental protection and positive socio-economic transformation. The last chapter in this part discusses the contrasts in planning discourse and practice when it comes to the provision of green infrastructure. Analysing cases from Brazil and India, Izaga, Schutzer and Kantamaneni point out the frequent prevalence of a reductionist planning approach that does not integrate urban and natural systems. This is precisely what the following part aims to counter.

Part IV, *Systemic Planning for Resilient Green and Blue Cities*, addresses the need for a systemic planning of cities that considers simultaneously urban and natural processes. In particular, it addresses the integration of ecological principles in planning, the interactions between different dimensions of the planning process, water-sensitive planning and urban metabolism. In Chap. 15 Rumble, Angeoletto, Connop, Goddard and Nash explore the role of ecological thinking in re-naturing cities arguing that the interactions between plans, animals and humans must be thoroughly understood. The authors further defend that it is not sufficient to only provide “greenery” and expect that biodiversity and a range of benefits would necessarily follow. Instead, they maintain that the role of design in creating “functioning ecosystems”, underpinned by knowledge of urban ecological process, is crucial. The next chapter by Mell, Sant’Anna, Meneguetti and Leite present a framework that reconceptualises landscape and environmental planning. It articulates four categories identified in GI planning: People, Policy, Options and Scale (PPOS). Using Brazil as a case study, the authors apply the framework as a way towards a more effective delivery of GI. Chapter 17 defends water-sensitive planning as the bedrock to regulate land use and guide future development. In the face

of the predicted impacts of climate change, such as extreme droughts and floods, Emmanuela and Sales outline the application of sponge cities' principles as a new attitude towards urban sustainability and resilience. The last chapter in this part, by Perrotti and Iuorio, applies urban metabolism as a conceptual and analytical tool towards the management of sustainable resources and the provision of the multiple benefits of nature in cities.

The final part, *Conclusions*, reflects on the future of re-naturing cities and new planning approaches capable of responding to the key contemporary urban challenges.

Lastly, this book provides key thinking on planning cities in balance with nature, aiming not only at feeding further research, but also at impacting on the planning of contemporary cities and regions. It enables readers to advance current theoretical and empirical understanding in the field and learn from best practice. Valuable insight is offered on how planners and policymakers can apply this knowledge to their cities and regions.

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