BOOK NOTES

Smart and digital cities. From computational intelligence to applied social sciences edited by *Vitor Nazário Coelho, Igor Machado Coelho, Thays A. Oliveira* and *Luiz Satoru Ochi,* Urban Computing book series, Springer Nature, Cham, Switzerland, 2019, 309 pp. ISBN 978–3–030–12254–6. In this book, data and information are seen as key for the next generation of urban planning where combinatorial optimization methods play a fundamental role. Throughout the book, two aspects of smart cities are highlighted. First, improving levels of safety, comfort, and especially efficiency of transportation systems and, secondly, promoting a more transparent and participatory planning approach. Most of the chapters, however, present advanced computational tools to contribute to more efficient transportation systems. The text that gives the best overview of the general topic addressed in the book is found in chapter 14, where the two main purposes of 'smart planning' are discussed: first, optimizing city services and secondly, understanding urban dynamics, including collaborative planning. Further, in this chapter, the problems with the exponential growth of information are discussed, causing 'overload, disinterest, infeasibility, frustration, and waste instead of improvement, progress, benefit, optimization, and enthusiasm'. However, it is stated that smart usage of technology such as Geographic Information Systems (GIS) can also help to answer or explore spatial questions and recognize patterns, trends, and conditions where maps are key. Readers interested in these more general ideas, and the pitfalls and potentials of smart cities should therefore start with chapter 14. Those interested in more computational details should continue with the other chapters where parts I and II focus on transport questions, part III focuses more on aspects of democracy and decision making and part IV is largely devoted to services and systems.

Authentic reconstruction. Authenticity, architecture and the built heritage edited by *John Bold, Peter Larkham* and *Robert Pickard*, Bloomsbury, London, UK, 2020, 331 pp. ISBN 978–1–3501–5430–8 (pb). This book addresses the issue of how to reconstruct towns and cities after war or natural disaster. It is not just a collection of essays like many other anthologies: the editors have done great work by introducing the topic, summarizing each part and concluding the whole. The book is intended to serve the dual purpose of providing guidelines for reinstating the built fabric after war or disaster *and* giving the opportunity to discuss the ways in which the built environment is perceived and appreciated by its users. It is thus not only about buildings as bricks and mortar, but also about perception and meaning. The book is arranged in four sections, discussing four themes that are not mutually exclusive, but overlap as do responses to reconstruction. In the first part, three essays discuss reconstruction of the old in traditional style and form with two examples of reconstructions after the Second World War (Germany and Poland). A more recent case is exemplified by the reconstruction of the historic bazaars in Gjakova (Kosovo). The essays in the second part deal with reconstruction in contemporary style where the process of decision making is much more related to the contemporary *Zeitgeist*, such as the rise of international Modernism following the Second World War. The third part focuses on reconstruction after natural disasters and includes one example of large-scale planned change in the Swedish mining town of Kiruna. Essays in the fourth part cover the political dimensions of reconstruction and its role for image building, such as the creation of a new city shaped by the 'socialist society' or the opposite, as in Skopje, where reconstruction after the 1963 earthquake was used to reposition the city on the international stage and suppress the perceived 'communist-socialist' feel. In the concluding chapter, the editors return to the purpose of the book and highlight the need to look beyond the examples and see the transferability of

methodologies, where digitalization, they argue, could play an important role.

Grids of Chinese ancient cities. Spatial planning tool for achieving social aims edited by *Adriana Toti* and *Zhaohe Yang*, Altralinea Edizioni, Firenze, Italy, 2019, 589 pp. ISBN 978–88–4869–64–4. This book would have fitted in the book review published in the last edition of this journal (24.1) where four atlases were discussed and compared. As in *Urban grids*, one of the atlases reviewed there, *Grids of Chinese ancient cities* is not about a singular form of urban grid, but about its basic rules that remain unchanged through time. The definition of the grid is given on pages 24–5, where the basic component of the grid is its boundaries that divide space and thereby facilitate and regulate social structure. The book also shows similarities to *Urban being*, also an atlas reviewed earlier, through its focus on categorization; in this case in Chinese ancient cities grouped as commercial, military and political cities. The book is in two parts. The second part presents 301 cities and the first part links the grid with the aims of governance, roughly divided into functional and ideological goals. Also in the first part the formal components of the grid are introduced, including their geo-condition, hierarchy and centrality ('forms of foci'), overall configuration ('direction'), city shape and dimension and forms of partition (plot size, plot shape and street pattern). In the next step, these are used to describe the most common grid components of cities with primarily functional goals (further divided into military and commercial cities) and ideological goals (political cities), summarized in a table on pages 204–5. The ideal grid, according to the editors and based on the data of 301 cities, is situated on plains with a chessboard grid form, inclined direction, one unique focus and a rectangular plot and city shape. The main difference between cities with various aims of governance is that commercial cities are often situated on plains, mountain slopes and along rivers and shores, while military and political cities are mainly found on plains. This book gives a rich and systematic overview of these ancient Chinese cities but would benefit from a more advanced analysis of variance in the data to arrive at more robust conclusions of type.

Layered morphologies and latent structures. Reading, decoding and rewriting to enhance historic rurban landscape by *Laura Anna Pezzetti*, Tongji University Press, China, 2019, 293 pp. ISBN 978–7–5608–8800–2. This book could be read as an advanced handbook promoting a renewed notion of built heritage using the famous Chinese historical and cultural town of Fenghuang as a case study. The introductory chapter, however, highlights the critical-theoretical approach rather than the book's value at the operational level, though this is mentioned. The methodological reference adopted has its roots in the work of Muratori and the Gruppo Architettura (Aynomino, Canella, Rossi and others), which makes the book highly relevant to readers of this journal. It highlights the importance of context to read the site with an understanding of its historical and cultural origins and development, emphasizing the relationship between architecture, settlement and landscape and also between design, history and tradition. This is in stark contrast to the current dominant approach to heritage conservation planning in China which, as discussed in chapters 1 to 3, focuses merely on museified preservation, frozen and isolated from the real living arrangements. Chapters 4 to 6 provide an overview of how the morphological analysis could support the reading of sites as living arrangements at various scales. Readers who are more interested in the operational level of heritage are recommended to start with chapter 6, where many ideas of the book are included with references to the earlier chapters if one wants to read more. Furthermore, this chapter provides a description of the various steps needed to identify the morphological structures ('lines of force') defining the units that can be enhanced by conservation and/or further development. In other words, instead of adapting the fabric to an impossible 'original' style, this method allows for transformation within a set of rules. Examples of such transformation are given in the last chapter, showing results of various student projects.

The syntax of city space. American urban grids by *Mark David Major*, Routledge, New York, USA, 2018, 242 pp. ISBN 978–1–1383–0156–6. This book is about the urban form of American cities and uses space syntax as the main method of analysis and the main theory

to discuss its social effects. It gives a narrower definition than many of the books on urban grids reviewed recently and argues that there is a finite set of concepts combined in regular grid planning: 'principally rectangularity of blocks and parallel/perpendicular streets based on the right angle' (p. 51). Despite the simplicity of this definition, the book convincingly shows that regular grids are robust mechanisms for generating a seemingly infinite variety of plan compositions in real-world examples. The book is composed of three sections. The first is a historical review of the regular grid that has been a standard part of the town planning vocabulary for more than 4500 years. The second and third sections link the urban grid to space syntax. Differences and similarities between American and European urban grids are discussed as well as the effect of grid expansion and deformation on the spatial pattern of American urban grids. In chapter 8, this is linked to the concept of 'cities as movement economies', introduced by Bill Hillier in 1996, describing the role of street configuration and urban attractions on pedestrian movement patterns. In addition to the three-section structure, the book is dotted with 'text boxes' introducing general concepts used in space syntax. For those not familiar with space syntax, these could have been informative, but they suffer from a lack of integration with the main body of the text. It is almost a book on space syntax within a book on American urban grids. It might have been more effective to focus on the latter point, using space syntax as a tool to highlight existing variations within seemingly regular grids

Iconic planned communities and the challenge of change edited by *Mary Corbin Sies*, *Isabelle Gournay* and *Robert Freestone*, University of Pennsylvania Press, Philadelphia, USA, 2019, 544 pp. ISBN 978–0–8122–5114–2. This book, edited and written by well-known experts in planning and urban history, explores the twenty-first-century fortunes of planned communities around the world. Drawing on interdisciplinary perspectives, the editors and contributors examine what happened to planned communities after their glory days had passed and they became vulnerable to pressures of growth, change, and even decline. Beginning with Robert Owen's industrial village in Scotland and concluding with Robert Davis's neotraditional resort haven in Florida, this book documents the effort to translate optimal design into sustaining a common life that works for changing circumstances and new generations of residents. Basing their approach on historical research and practical, on-the-ground considerations, the authors argue that preservation efforts succeed best when they build upon foundational planning principles, address landscape, architecture, and social engineering together, and respect the spirit of place. The book contains 23 case studies located in six continents, each considering how to preserve the spirit of the community and its key design elements/physical forms, and the ways in which those elements can be adapted to contemporary circumstances and changing demographics.

PhD notes

Retail distribution and urban form street-based models for the French Riviera by *Alessandro Araldi*, unpublished doctoral thesis, CNRS, l'Université d'Avignon, France, 2019, and **Towards a theory of natural occupation. Developing theoretical, methodological and empirical support for the relation between plot systems and urban processes** by *Evgeniya Bobkova*, unpublished doctoral thesis, Chalmers University of Technology, Sweden, 2019. Two recent PhD theses study the distribution of retailing in cities in relation to urban form. They show strong similarities in their approach by classifying urban form in types using advanced spatial analysis and statistics. This enables them to study these retail patterns on an unprecedentedly large scale. Despite these similarities, there are important differences, such as the unit of analysis and the factors included in the typology. In Araldi's thesis, the *street* is used as main unit of analysis, while Bobkova uses the *plot*. Furthermore, Araldi develops morphological types, including many different physical factors such as density, street width and curvilinearity of streets. This results in a typology that captures the streetscape form of the entire French Riviera impressively well. The statistical methods applied are advanced in relation to the state of the art in

urban morphology. Bobkova also develops types, focusing on the plot as the unit of analysis. Factors included in the typology are variables that characterize the plot, building on the works of Conzen, Kropf, Marcus, Moudon, Scheer, Siksna and Vialard. The aim is to understand the role of the plot in creating conditions for economic vitality and not, as in Araldi's thesis, to understand retail patterns through the complete composition of streetscapes. This is an interesting distinction. As her starting-point is the plot, Bobkova contributes to the core of urban morphology where in line with the burgage cycle concept of Conzen (1960), she provides the methodological framework for the theory of natural occupation, developed by Marcus (2001). Araldi's work, starting from the phenomenon of retail distribution, results in better predictive power of this phenomenon, but does not necessarily contribute to the core morphological theories. He does relate his work to the 'theory of natural movement' (Hillier *et al*., 1993) where the configuration of streets plays a crucial role, but shows that, in addition, other morphological aspects should be considered. Bobkova develops this further with a focus on plots and by doing so, contributes to the 'theory of natural occupation'. These two theses thus contribute to some core theories in urban morphology and show how new methods can be beneficially used to test these theories on large territories.

References

Conzen, M. R. G. (1960) *Alnwick, Northumberland: a study in town-plan analysis* Institute of British Geographers Publication 27 (George Philip, London).

Hillier, B., Penn, A., Hanson, J., Grajewski, T. and Xu, J. (1993) 'Natural movement: or, configuration and attraction in urban pedestrian movement', *Environment and Planning B* 20, 29–66.

Marcus, L. (2001) 'The impact of land-division on long-term occupation – the possibility of such a thing as 'natural occupation' ', in Peponis, J., Wineman, J. and Bafna, S. (eds) *Third International Space Syntax Symposium* (A. Alfred Taubman College of Architecture and Urban Planning, University of Michigan, Ann Arbor) 38.1–38.11.