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Vítor Oliveira

Urban Morphology

An Introduction to the Study of the
Physical Form of Cities

 Springer

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An Introduction to the Study of the Physical
Form of Cities

 Springer

Vítor Oliveira
Faculdade de Engenharia
Universidade do Porto
Porto
Portugal

and

Departamento de Arquitectura
Universidade Lusófona do Porto
Porto
Portugal

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*To my parents—Maria Teresa Araújo and
Manuel de Oliveira—my best friends...*

*To Cláudia, my wife, for sharing my life over
the past two decades.*

Foreword

Urban morphology as a field of knowledge has grown substantially over the past two to three decades. This is evident not only in the major increase in the number of articles on this subject and the range of journals in which they appear but also in the increase in the number and size of conferences with urban morphological themes. Most of the major conferences, together with the initiation of the international journal *Urban Morphology*, have stemmed from the foundation in 1994 of the International Seminar on Urban Form (ISUF)—the first international organization of urban morphologists. This has also been the catalyst for the formation of numerous national and regional organizations devoted to this field.

There has not, however, been a commensurate growth in the number of books on urban morphology. Indeed it is hard to identify a single book in the English language that could readily be identified as an urban morphology textbook. This lacuna poses problems for students seeking a concise introduction to the field, as well as for researchers moving into urban morphology and seeking an economical review of its objects of investigation, concepts and methods. This deficiency has now been rectified by Vítor Oliveira, who is one of the foremost current contributors internationally to urban morphological research, writing and editing, and also one of a group of academics who have done most to shape ISUF in the course of the second decade of its existence.

In assessing the recent flourishing of the study of urban form, it is important not to lose sight of the antiquity of the object of investigation—the urban area in all its physical manifestations, beginning with its fundamental place in the earliest civilizations. As a subject of study, these most intensively occupied areas of the earth's surface have very long histories, though, as in many other fields of knowledge, the appearance of this type of study in scholarly journals was rare until the end of the nineteenth century. The amount of the earth's surface covered by urban areas has in the meanwhile expanded enormously. Now occupied by over one-half of the world's population, it is no small task to encapsulate in a single short book a concise but wide-ranging account of the physical forms of these urban areas and their methods of study. But Oliveira achieves this by careful choice of examples,

minimal use of technical terms, and effective use of maps, diagrams and photographs.

Integral to the forms of urban areas are the agents and agencies that create and transform them—for instance, the developers, architects, builders, planners and politicians—and these too find a place in Oliveira's coverage. However, arguably one of the most important contributions of the book concerns its bringing together of material that all but established urban morphologists would find very time-consuming to assemble for themselves. The chapter on the different approaches to the study of urban form is a notable example. In addition to introducing 'classic' publications by major individual contributors to the field, summaries are provided of the historico-geographical approach, the process-typological approach, space syntax and pertinent types of spatial analysis. This leads logically to consideration of comparative studies that have been undertaken of different approaches.

There is much here that is expressive of Oliveira's personal sensitivity to the relationship that urban morphology has with various disciplines—geography, architecture and urban planning to mention three of the more important. It is particularly evident in the links he discusses between the explanation of urban form and the ways in which this can be put into practice, not least in urban planning. The reader benefits from the author's personal experience of applying an appreciation of urban form to practical challenges. The scales considered range from individual plots and buildings to intra-urban regions and entire cities. There is also a reaching out to address social, economic and environmental dimensions more widely, exploring urban morphology in relation to such matters as public health, social justice, heritage tourism and energy.

This book is described by its author as a manual. In fact it is more than that. It is true that it does provide a systematic treatment of basic attributes of urban morphology, and in this respect it is unique among books in the English language. However, it has an important place in the literature in another way. It inspires as well as informs. It argues for an approach that is investigative and widely applicable, including in dealing with practical problems, but it is also integrative. And this approach is not only sensitive to history and culture but also amenable to systematic application. The varying identities of urban landscapes are viewed as central to both research and practice. In this and other respects the gap is large between what is espoused here and the realities of planning practice as they have been uncovered in the real world of today. Underlying this problem, Oliveira argues, is the limited extent to which much that is currently being created in the urban landscape is informed by a sound grasp of urban morphology. Among its various merits, this book is a valuable step towards educating new and potential recruits to urban morphology in how they can help to rectify this serious defect.

January 2016

J.W.R. Whitehand
Urban Morphology Research Group
University of Birmingham, UK

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Writing this book was made possible by the *Centro de Investigação do Território Transportes e Ambiente* (CITTA) granting me a considerable period of time for writing in 2015. I wish to express my deep gratitude to Paulo Pinho, the director of the research centre and the supervisor of my M.Sc. and Ph.D. thesis concluded in 2004 and 2008, respectively. I would also like to thank another of my former professors, Alfredo Matos Ferreira, who recently died. Back in the mid-1990s, in the *Faculdade de Arquitectura da Universidade do Porto*, Matos Ferreira has shifted my architectural focus from 'buildings' to 'cities'. Over the past 20 years, the passion on cities continued to be part of our conversations.

A number of colleagues in the International Seminar on Urban Form (ISUF) has influenced my morphological thought: Ivor Samuels, Susan Whitehand, Michael Barke, Peter Larkham, Karl Kropf, Michael P. Conzen, Kai Gu, Giancarlo Cataldi, Giuseppe Strappa, Nicola Marzot, Marco Maretto, Paolo Carlotti, Paul Sanders,

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Abbreviations

ABM	Agent-Based Models
CA	Cellular Automata
CAMUSS	Automata Modeling for Urban and Spatial Systems
CASA	Centre for Advanced Spatial Analysis
CISPUT	<i>Centro Internazionale per lo Studio dei Processi Urbani e Territoriali</i>
CITTA	<i>Centro de Investigação do Território Transportes e Ambiente</i>
COP	Conference of the Parties
DCP	Department of City Planning
ENPAS	<i>Ente Nazionale di Previdenza ed Assicurazione Sociale</i>
EUR	<i>Esposizione Universale Roma</i>
INA	<i>Istituto Nazionale delle Assicurazioni</i>
IPCC	International Panel on Climate Change
ISSS	International Space Syntax Symposium
ISUF	International Seminar on Urban Form
JOSS	The Journal of Space Syntax
LUBFS	Land Use and Built Form
LUTI	Land Use Transport Interaction
PNUM	Portuguese-language Network of Urban Morphology
POS	<i>Plan d'Occupation des Sols</i>
UCL	University College London
UMRG	Urban Morphology Research Group
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization

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Chapter 1

Introduction

Keywords Cities · Disciplinary history · Manual · Urban form · Urban morphology

1.1 Motivation

Very few things give me as much pleasure as walking, for the first time, through the streets of a city. The moment when I leave the hotel in the first morning, usually carrying a map, a sketchbook and a camera, has an intense meaning for me, representing the beginning of the discovery of the city... this magnificent creation of mankind. That particular morning and the following days are of intense learning. I try to leave the hotel as early as I can, and to arrive as late as possible. In the numerous walking trips I take some photographs, quick sketches and brief written notes. Leaving a city is always sad, even knowing that my beloved city, Porto, will always be waiting for me. Sometimes, I return to the visited city earlier than I have expected. When returning, I always take the map that I have used in my first visit, and continue to 'draw all the visited streets'. It is good to know that there are always new lines to be drawn...

As my passion for cities continued to grow, taking an increasingly central place in my academic and research work, I have realized, with some perplexity, that there were not many textbooks on the study of the physical form of cities. Initially, I thought that this was lack of knowledge, but quickly, through my research work and through contacts with Portuguese and foreign colleagues, I have acknowledged that there is indeed an absence of manuals on urban morphology.

This book has that particular goal, to be a manual... a manual that be able to introduce the reader into the wonderful world of the study of the physical form of cities. In this sense, the book is first directed to researchers, academics and students of M.Sc. and Ph.D. courses where urban morphology is a fundamental theme, including geography, architecture, planning, engineering, and also history, archaeology and sociology. It is also directed to professionals that, in a systematic way, deal with the physical form of cities: planners, architects, engineers and others.