

The study of urban form: reflections on national reviews

Vítor Oliveira

Centro de Investigação do Território, Transportes e Ambiente, Faculdade de Engenharia, Universidade do Porto, Rua Roberto Frias 4200-465 Porto, Portugal.
E-mail: vitorm@fe.up.pt

Revised version received 5 May 2013

Abstract. *The series of articles published in Urban Morphology on the study of urban form in different countries is examined. After reviewing such aspects as the main disciplinary perspectives and theoretical and methodological approaches, it is concluded that four schools of thought are prominent. The impact of each of the articles is assessed. Matters that should be considered in future articles in the series are discussed.*

Keywords: urban morphology, disciplinary history, national comparisons, citations

In 1998, Joan Vilagrassa and Michaël Darin made the first two contributions in this journal to a series of articles on the study of urban form in individual countries. Their articles were on Spain and France (Darin, 1998; Vilagrassa Ibarz, 1998). Subsequently a further twelve articles have been written on countries spread over four different continents. This paper has three main goals. The first is to discuss the main constituents of the fourteen articles published to date. To what extent do they offer significant insights into the historical development of the field of knowledge of urban morphology in each country? To what extent do they contribute to a wider framework of thinking? The second is the impact of these articles. The third is to contribute to the value of future articles in the series by identifying important aspects that have hitherto received relatively little attention.

The contents of the articles

Over the past 16 years, articles in the series have been published on: i) nine European countries – Spain (Vilagrassa Ibarz, 1998),

France (Darin, 1998), Italy (Marzot, 2002), Germany (Hofmeister, 2004), Great Britain (Larkham, 2006), Ireland (Kealy and Simms, 2008), Sweden (Abarkan, 2009), Poland (Koter and Kulesza, 2010) and Portugal (Oliveira *et al.*, 2011); ii) two North American countries – United States (Conzen, 2001) and Canada (Gilliland and Gauthier, 2006); iii) one Asian country – South Korea (Kim, 2012); and finally, iv) one Oceanian country – Australia (Siksna, 2006). There was also an article by Kubat (2010) on Turkey, a country straddling two continents, part being in the Anatolian peninsula in Asia, and part in Thrace in South-Eastern Europe.

According to the articles, in all these countries the subject matter dealt with in urban morphology has been studied within a number of disciplines. In most of these countries there has been a recent growth of a morphological perspective in urban studies – sometimes accompanied by the emergence of research centres, establishing a more co-ordinated organizational structure from that in the past. In many countries, this interest in urban morphology seems to be part of a wider reaction to the loss of historical fabric.

The set of fourteen articles exhibits great

Table 1. National reviews of the study of urban form

‘Urban form’ and the ‘study of urban form’	1 Vilagrassa Conzen	3 Siksna Kealy and Simms Kim	5 Kubat
	2 Hofmeister Koter and Kulesza	4 Gilliland and Gauthier Larkham Oliveira <i>et al.</i>	6 Darin Marzot Abarkan
	Description and prescription		Prescription

diversity in contents and structure. Some focus almost entirely on the study of urban form but others give more attention to urban form itself. The number of references cited in each article ranges from less than 50 to almost 250. There is also some variation in the meanings attributed to ‘urban morphology’ and ‘urban form’.

The different perspectives

The fourteen articles can be divided into six groups according to (a) the extent to which they are concerned with description and explanation on the one hand or prescription on the other, and (b) whether they contain a significant amount of discussion of the actual urban forms present in the country being considered.

The articles in Group 1 (Table 1) contain a significant amount of material on urban form as well as the study of urban form and are largely descriptive and explanatory. The article by Vilagrassa (1998) is the only full-text article in *Urban Morphology* that so far has had a Spanish author. This accords with the generally low participation of Spanish

researchers in ISUF, notably since the premature death of Vilagrassa in 2003. In his article, Vilagrassa associates the various Spanish contributions to urban morphology with three main themes: the growth of towns, urban innovations, and foreign intellectual influences. He notes the international relevance for town planning practice of Ildefons Cerdà’s Plan de ‘ensanche’ of Barcelona and the key role of M. Terán in Madrid and M. Solà-Morales in Barcelona.

The other article in Group 1, by Conzen (2001) on the United States, adopts a similar perspective to that of Vilagrassa. It considers not only the nature of urban morphology and urban morphological theory but also discusses the physical dimension of North American cities. The distinctiveness of American physical form is explored as well as the underlying cultural values of American society (such as laissez-faire capitalism, individualism, and the element of anti-urbanism) and the evolution of town-planning practice. Conzen suggests that urban morphology in America is less organized and less ordered as a field of knowledge than in Europe, and that the schools of thought evident in Europe have less influence on American academics.

The articles in Group 2 – Hofmeister (2004) and Koter and Kulesza (2010) – share with those in Group 1 a perspective primarily from the discipline of geography, but their dominant focus is on the way in which urban form is studied. Hofmeister (2004) organizes his review of German research according to three main periods: the so-called ‘urban morphological epoch’ in the first 3 decades of the twentieth century, clearly centred on urban layouts and building fabric; the period from 1928 to the mid-1950s which was dominated by a focus on urban functions and urban structures; and finally, a period of innovative contributions developed over the second half of the twentieth century.

In their overview of Polish research, Koter and Kulesza (2010) describe the strong influence of German research during the first part of the twentieth century; the productive period after the Second World War – including the works of Dziewonski, Golachowski, Pudelko and, more recently, Koter; and finally, recent times in which the morphology of cities has been a subject of interest to a relatively small group of researchers located mainly in Wrocław and Łódź.

Group 3 – Siksna (2006), Kealy and Simms (2008) and Kim (2012) – can be distinguished from the former groups by its more balanced disciplinary coverage. It resembles Group 1 in the attention it gives to the urban landscape itself. The article by Siksna has similarities to that by Conzen, and comparison of these two articles makes apparent certain similarities between Australian and American urban settlements in their underlying societal values and many of their physical characteristics. Siksna describes urban morphological research in Australia since the 1970s, moving from studies of the initial plans of Australian towns and cities – prepared in the eighteenth and nineteenth centuries – to studies of the subsequent evolution of country towns, city centres and residential areas.

Two years after Siksna’s review, Kealy and Simms published their article on Ireland. They provide an overview of the histories of individual towns, highlighting the importance of the Irish Historic Towns Atlas, a project

started at the beginning of the 1980s as part of a wider European programme (see Conzen, 2008). Currently, the Atlas offers detailed cartographic and topographical information on 25 Irish towns within a chronological and thematic framework.

The article by Kim (2012) is the only full-length article published in *Urban Morphology* by a South Korean. His treatment of the most significant urban morphological literature produced since the 1970s recognizes five categories (moving from description to interpretation and thence to explanation): historical urban form; modern transformations; contemporary urban form; interpreting urban landscape; and finally, scientific inquiries.

Like Group 3, Group 4 has a balanced disciplinary coverage of the study of urban form. Gilliland and Gauthier (2006) organize their review of Canadian work according to a scheme that they published in the same number of *Urban Morphology* (Gauthier and Gilliland, 2006). They identify, classify and interpret ‘particular’ contributions, based on their theoretical or epistemological perspectives, in relation to a ‘general’ framework. They distinguish between ‘internalist’ and ‘externalist’ studies according to how urban form is considered – whether in terms of a relatively independent system or as a passive product of various external determinants. Within each of these two categories they distinguish between ‘cognitive’ and ‘normative’ studies depending on the main goal of the study – description and explanation, or prescription.

Larkham (2006) describes the origins and development of an indigenous British strand of research (influenced by, for example, the works of A. E. Smailes, H. Carter and G. Gordon). He also considers M. R. G. Conzen’s work, notably in relation to the decline and the resurgence of urban morphology. He provides a comprehensive review of the different approaches, directions of research, concepts and methods, discussing also the current role of computers and ‘humanistic’ research.

The study of urban form in Portugal is reviewed by Oliveira *et al.* (2011). After

considering contributions from the middle of the twentieth century, they focus attention on recent developments. Fundamental themes include the history of urban form (with key contributions by M. Teixeira and W. Rossa), the relationships between urban morphology and building typology, morphological techniques (including space syntax and particularly the work of M. Kruger), and the links between description, explanation and prescription.

Group 5 is a predominantly architectural perspective on Turkish cities (Kubat, 2010), giving attention to *inter alia* urban morphological theory and concepts. Topics addressed by Kubat include the rich history of urban forms in Anatolia (from Hellenistic, Roman and Byzantine to Ottoman and Turkish towns); urban morphogenesis; modernization processes and contemporary urban fabrics; and finally, GIS, space syntax and other computational approaches.

The last of the six groups comprises three articles – Darin (1998), Marzot (2002) and Abarkan (2009) – with a dominant architectural perspective and a clear focus on theory and research. Darin (1998) describes two ‘historiographical’ traditions in France, centred on the work of P. Lavedan and M. Poete, and research developed since the early 1970s in different schools of architecture. He offers a diverse picture of urban morphological research in France, considering not only the School of Versailles (familiar to the readership of this journal), but also other Parisian ‘schools’ (Belleville, organized around B. Huet; La Défense; and La Villette) and provincial schools of architecture.

The study of urban form in Italy by Marzot (2002) gives particular attention to the concept of ‘type’. He describes the different ideological positions in the typological debate and the conflicting interpretations of what the contemporary city should be, from the work of G. Giovannoni in the first decades of the twentieth century, to the Muratorian school and the work of a number of other Italian architects, such as A. Rossi, C. Aymonino and G. Grassi.

Finally, Abarkan (2009) reviews the study of urban form in Sweden. After identifying a

number of isolated contributions in the first part of the twentieth century, he describes various studies developed after the Second World War dealing with the concept of ‘type’. Two dynamic research groups are identified, the first working in the Blekinge Institute of Technology in Karlskrona – developing a typological approach – and the second hosted by the Royal Institute of Technology in Stockholm, developing space syntax theories and methods.

Schools of thought

The contents of this series of articles on the study of urban form support the view that four main schools of thought have developed in urban morphology since it emerged as a field of knowledge over 100 years ago: the German morphogenetic approach, the Conzenian school, the Muratorian school, and finally, space syntax.

Judging by the evidence provided by the authors of the fourteen articles, the earliest publications on urban morphology emanated from the German-speaking countries. These began to appear in significant numbers at the end of the nineteenth century – one century after the coining of the term ‘morphology’ by J. W. Goethe. The ‘urban morphology epoch’, described by Hofmeister (and also by Heineberg, 2007) developed around the work of some notable geographers in the first 3 decades of the twentieth century, namely O. Schlüter, F. Ratzel, H. Hassinger, W. Geisler and R. Martiny. Their analyses of urban form were mainly based on the town plan. This period was followed by several decades of little development and then, particularly from the 1970s onward, a resurgence of activity.

The influence of the German morphogenetic approach (particularly the research of Schlüter and Geisler) on the work of M. R. G. Conzen, and the influence of the Conzenian school – developed in the second half of the twentieth century – is familiar to the readership of this journal. Indeed, the Conzenian school seems to be a fundamental reference for researchers in ten of the countries represented

in the series of articles considered here: Spain, the United States, Germany, Canada, Ireland, Sweden, Poland, Turkey, Portugal and South Korea. However, the influence of this school has varied. Countries differ in the theories, concepts and methods to which they give attention – for example, the ‘burgage cycle’ concept has enjoyed a good deal of attention in Poland and the influence of J. W. R. Whitehand’s publications has been evident in Spanish research particularly through the work of Vilagrassa.

The Muratorian school of urban morphology and building typology – again well known to readers of this journal – was founded in the 1950s. One of its key features is the understanding of history as a means of recovering a sense of continuity in architectural practice. Muratori developed a framework to explain the creation and long-term transformation of urban form. The influence of Muratori, Caniggia and their colleagues was noted by the authors of seven reviews: those of Spain, France, Canada, Ireland, Sweden, Portugal, and South Korea. Nevertheless, a large number of these authors also refer to the significance of other Italian interpretations of urban form, mainly promoted by A. Rossi and C. Aymonino.

Space syntax, the fourth approach evident, was developed by B. Hillier and J. Hanson in University College London in the 1970s. It is a theory of space as an aspect of social life. It has a clear focus on the street system, using spatial accessibility – developed into a large number of syntactic measures, expressed in an axial map or a segment map – as the main criterion for analysis and design. Larkham (2006) refers to space syntax as having a burgeoning international following. Judging by the series of articles reviewed here, it has a significant influence in Turkey, Portugal, South Korea and Sweden. The development of space syntax in Sweden, in the Royal Institute of Technology in Stockholm (described by Abarkan, 2009) is of particular interest. A new method, place syntax, was recently proposed by the research group coordinated by L. Marcus, combining the space syntax focus on the accessibility of the street

system with an emphasis on the density and diversity of urban blocks and plot systems.

The impact of the series

The relative ‘impacts’ of the different articles reviewed here can be assessed by using citation analysis. However, any comparisons with citations of articles in other fields would need to be subject to numerous qualifications, not least because of the relatively small representation of urban morphology in the databases that facilitate such analysis. For the present series of articles Google Scholar recorded up to the end of 2012 the receipt of 113 citations, compared with 63 recorded by Scopus. Although relatively few articles in urban morphology are covered by Scopus, this is an increasingly used source of citations and at least provides a little food for thought about the fourteen articles considered here.

According to the Scopus data the average number of citations received per article in the series was 4.5, compared with 4.7 for other full-length articles published in *Urban Morphology*. As would be expected the number of citations received by the series as a whole has increased over time, rising from 24 citations received in 2003-2007 to 37 received in 2008-2012. Those articles published earliest have tended to accumulate the most citations. Conzen (2001) has been cited 13 times; Darin (1998), Marzot (2002) and Hofmeister (2004) 10 times each; Larkham (2006) 8 times; Vilagrassa Ibarz (1998) 6 times; Gilliland and Gauthier (2006) 3 times; Siksna (2006) twice; and Kealy and Simms (2008) once. The other five articles, all published in the last 4 years, have yet to be cited. The Google Scholar data yield significantly higher citations, but provide a similar rank order.

Almost half of the citing documents recorded in Scopus (47 per cent of citations) were published in *Urban Morphology*. Other citing documents were published in *Urban Design International* (13 per cent), *Environment and Planning B: Planning and Design* (8 per cent) and *Built Environment* (5 per cent), to name a few. The proportion of citing documents that were published in *Urban*

Morphology has fallen markedly over time, from 75 per cent in 2003-2007 to 30 per cent in 2008-2012.

Although the articles in the series rarely cite one another, they do tend to be cited relatively heavily outside the countries to which they specifically relate. The article by Conzen receives citations from authors in ten countries spread over three continents, that by Hofmeister from authors in nine countries in four continents, and that by Darin from 8 countries in three continents.

Comparison of the citations of articles in this series with those of articles about 'schools of thought' reveals contrasts. Marzot (2002) on the study of urban form in Italy has received a similar number of citations to the article by Cataldi *et al.* (2002) on the Italian school of planning typology. In contrast the number of citations of the article by Larkham (2006) on the study of urban form in Great Britain (8 citations) has been small compared with citations of the article by Whitehand (2001) on the Conzenian school (34 citations). The latter includes citations from authors based in twelve different countries and is the second most cited article in the journal after that by Moudon (1997) on 'Urban morphology as an emerging interdisciplinary field'. This tends to confirm the importance of the Conzenian school internationally.

Further comparison with other articles published in *Urban Morphology* reveals that Conzen's article on the study of urban form in the United States is the fifth most cited article in the journal, and the articles on the study of urban form in Italy, Germany, France, and Great Britain are ranked from eleventh to fourteenth. The relatively high citation of these articles may come as no surprise in view of the traditional importance of these countries in urban morphology. There would also seem to be encouragement here for extending the series.

Extending the series

In extending the series a major consideration must be the filling of large gaps in the

coverage, notably in Asia, South America, Africa and Oceania. There is evidence that ISUF is in the process of overcoming the 'Euro-American myopia' from which the research world more generally is suffering. ISUF conferences have been successfully organized in China and Brazil and researchers in these countries are increasingly publishing in *Urban Morphology*. Costa (2006) has provided a foretaste of a review of the study of urban form in Brazil and, in *Progress in Human Geography*, Whitehand and Gu (2006) have reviewed the study of urban form in China. In both cases a full, updated treatment would be timely. Promising signs of diversification within Europe have come from Sweden and Portugal. ISUF regional networks have been created in these countries; the first encompassing Finland, Iceland and Norway; the second benefitting from the participation of other Portuguese-speaking countries, notably Brazil (Oliveira, 2012). Two of the most recent articles in the series on the study of urban form have come from these countries.

A key influence on the content of each review is the disciplinary perspective of its author. This series is quite diverse in this respect, ranging from reviews focusing exclusively on a single discipline to wide coverage of a number of relevant disciplines contributing to the study of urban form in a specific country. Larkham's and Gilliland and Gauthier's articles are significant examples of the second approach. While drawing upon three previous reviews (Whitehand, 1992, 2001; Whitehand and Larkham, 1992), Larkham's article is supported by reference to almost 250 publications. It covers a wide range of approaches in several disciplines – from geographers working in the Conzenian tradition to 'contextual' architects and others working within the space syntax approach. The study of urban form in Canada is the product of a joint venture between an architect and a geographer. This probably accounts for the fact that the article achieves a wide coverage of these two disciplines and a balanced insight into planning and history. Such co-authorships between researchers with different backgrounds are to be encouraged,

bearing in mind that urban morphology occupies more of a multi-disciplinary position than most fields of knowledge.

Another important aspect of the potential impact of the series is the inclusion of references to books and articles written in the English language. Although only a minority of countries represented in ISUF and in the journal are predominantly-English speaking, English is the most widely spoken medium of communication. The minimal reference in some articles in the series to work in the English language makes it more difficult for many readers to explore further particular topics that have been raised. Five of the articles currently in the series relate to predominantly English-speaking countries, while nine others do not. Within these others, the number of citations to books and articles written in English is generally quite limited. The only exceptions are Turkey (78 citations) and Portugal (29 citations, despite the authors' lament about the lack of publications in the English language by Portuguese researchers). Though the article by Hofmeister (2004) fulfils its goal of communicating the significance of the German morphogenetic approach, it is not that effective in encouraging further reading by non-German-speaking researchers as it includes only two references in English.

A major challenge that should be addressed in future contributions to the series is to ensure that the particulars of work in the country reviewed are set in a comparative context, referring where appropriate to previous articles in the series. Achieving this is not helped by the fact that urban morphologists have been slow to establish internationally a widely acknowledged set of terms and principles pertaining to the composition of urban form (Whitehand, 2012) that could help to provide a framework for each national review. Despite this, it is important that efforts are made to relate the consideration of work in individual countries to a wider framework of thinking.

Acknowledgements

The author would like to thank Professor Jeremy

Whitehand and three anonymous referees for their invaluable comments and suggestions.

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ISUF 2014: Our common future in urban morphology



Porto, the conference location (photograph by Vítor Oliveira).

The Twenty-First International Seminar on Urban Form (ISUF 2014), hosted by the Faculty of Engineering of the University of Porto, will take place in Porto, Portugal, from 3 to 6 July 2014. The theme of the conference is 'Our common future in urban morphology' and topics to be covered include:

- Urban morphological theory
- Urban morphological methods and techniques
- The evolution of urban form
- Agents of change
- Revisiting urban morphological classics
- Multidisciplinarity in urban morphology
- Comparative studies of urban form
- Integrated approaches
- Teaching urban form
- The relations between research and practice

(planning, regeneration, conservation)

The organizers and the Council of ISUF invite participation in the Conference by interested academics and professionals. Abstracts of proposed papers should be submitted by 31 January 2014. Authors will be notified whether their paper has been accepted by 28 February 2014. The deadline for registration and fee payment is 31 May 2014. Further information is available on the Conference website (isuf2014.fe.up.pt/).

Post-conference excursions will take place in Lisbon (including the Monastery of the Hieronymites and the Tower of Belém), the historic centre of Guimarães, and the Alto Douro wine region. All these places are represented in the World Heritage List.