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‘Urban challenges’:
Space and society in the contemporary urban world

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Urbanism today is a complex combination of what we have inherited from the past, what is happening at the present and what the world is going to be in the future. What is left from the past needs to adapt with the rapid transformations that are ongoing, or desperately needed for the future. These dynamics, plus the social and economic forces which push urbanism to its edges, create a set of major challenges that we have to face today. Currently, for the first time in human history more than half of the world’s population dwells in cities. According to the World Health Organisation, this will increase to 70 percent in 2050.¹ In some regions this is more than 80 percent of the total population (UN-HABITAT, 2006). Rapid urbanisation in many countries, such as China, is assimilating villages and rural settlements and putting more pressure on cities to provide accommodation and facilities for a larger number of people. According to some official figures, more than one billion people in the world at present are official slum dwellers (UN-HABITAT, 2003). Many experts estimate that an equal number of people live in similar conditions, but are not officially categorised as slum dwellers (Davis, 2006). Historic centres of many cities are physically and socially dilapidating. Many major urban developments that we have inherited from the past, such as housing estates or New Towns in the UK, are suffering from multiple problems (Karimi, 2009). Furthermore, cities are confronted with major environmental, social and economic crises. Fortunately, it is not all bad news. Cities are also becoming more resilient and positive things are happening everywhere. We are paying more attention to issues such as sustainability, social balance, public realm, environment and heritage. Since the mid 20th century, we have developed more efficient ways of assessing our cities. There is more data available than in any other time of our urban history. We are using these databases to understand the problems better and address them more efficiently. Urbanism is responding strongly to the challenges that have a determining impact on its future.

As urbanists, and by that I mean a wide spectrum including architects, planners, urban designers, transport engineers, infrastructure planners and urban economists, we need to urgently prepare for more challenges and more complex problems to resolve. It is essential to learn from what has or has not worked in the past and move towards ways of doing things that could reduce the possibility of future failures. As time goes by, failures are becoming too costly and increasingly unaffordable. It is therefore critical to develop theories, approaches, methods and tools that could enable us to tackle complex urban issues. It is essential today that we continuously scrutinise urban problems and respond to them in the most informed way. This not really a choice; it is a bare necessity.

To make a contribution to this field, we decided to focus on the issue of ‘Urban challenges’ in a thematic publication of JOSS. The response to the call for papers was so great that the editorial team of the journal has decided to extend this theme to the next issue. In the fashion of movie sequels we have decided to call this ‘Urban challenges-II’. This is such an important, diverse subject that if we keep extending it we might potentially beat ‘Star Wars’ in producing sequels. However, that is rather unlikely since there are also other important themes that we hope to feature in JOSS.

The current Issue of the journal is divided into two main parts: the thematic and non-thematic sections. In the thematic section, we have five academic papers around the theme of ‘Urban challenges’. In this section, we also feature an extended Forum section.

Notes:
¹ http://www.who.int/gho/urban_health/situation_trends/urban_population_growth_text/en/
in which we have three short articles on the City of Beirut. Unlike the academic papers, the Forum pieces are about the opinions of the authors, rather than their extensive research. The non-thematic section of the journal comprises one academic paper and another Forum piece.

Stephen Read, in his paper on ‘intensive urbanism’ (‘Intensive urbanisation: Levels, networks and central places’, p.1-17), takes a theoretical approach to address one of our most fundamental urban challenges: global urbanisation. His starting question is how we could elaborate the process of urbanisation to better understand this process at different scales and levels. By bringing together critical interpretations of ‘world-city network’, ‘sociotechnical system’ and ‘space syntax’, Read proposes a new interpretation of the spaces, scales and layers of urbanisation, and a model of urbanisation and central place formation that crosses these scale differences. He argues that the city is an effect of an overlaid world network or grid on different levels, and that urbanisation is a production not only of the networks and practices of global communications and movement but also of the networks and practices of walking and public transportation. In an ever rapidly globalised urbanisation process, Read’s theoretical proposition is a great step towards understanding the urban world as one thing. His work is also a good inducement for both space syntax and non-space syntax readers to examine the role of space syntax in this wider approach.

The second paper of this issue (‘Measuring urban maturation processes in Dutch and Chinese new towns’, p.18-37) attempts to contribute to the challenge of planning New Towns, based on the Dutch experience. The authors, Yu Ye and Akkelies van Nes, identify the root of the problem in that many normative post-war urban planning approaches shaped the densities and spatial configuration around the required functions, whereas in a natural urban process, the street network predominantly determines the density and functional mix. In order to investigate this issue, the authors developed a method based on quantifying the relationship between street network configuration, building density, and the degree of multifunctional land use built on a GIS platform. Their proposed method is a combination of ‘space syntax’, ‘spacematrix’, and ‘mixed use index’ (MXI), integrated into a single framework. The authors argue that the match rate between the three spatial variables is a linear index that increases during a town’s maturation process. They propose a matrix for their five cases that can evaluate their degree of ‘maturation’ over time and can point out the potential directions for urban development. This type of knowledge not only contributes to the planning of New Towns, if they are to be planned, but also to making strategies for the revitalisation of existing New Towns.

François Dufaux and his colleagues in the third paper of this issue (‘The deadlock of technocratic planning: Quebec City’s urban form and transportation dilemmas’, p.38-73) deal with what they call the deadlock of technocratic planning in modern cities, such as Quebec in Canada. Their main concern is that the introduction of sustainable transportation modes, like a tramway service, bicycle paths and pedestrian trips, in order to be competitive, would require finer and more comprehensive planning than the conventional engineering methods that are currently applied. They explore how space syntax network analysis can provide a means to understanding the main traffic patterns and how the road network of the metropolitan area is tailored to serve cars. By using different scales of analysis in Quebec, they conclude that these methods can help the planners to make more informed decisions about a transport network which works closely with the spatial network on different levels.

The fourth paper of this issue (‘Suburban change: A time series approach to measuring form and spatial configuration’, p.74-91) focuses on
suburban development and the challenge of understanding better what the suburbs become after the initial phase of development. George Hallowell and Perver Baran argue that due to the permanence of spatial and formal configurations in our cities, it is essential to develop the appropriate tools to better understand and predict future patterns of growth and change. By combining and refining a hybrid of ‘Conzenian morphological techniques’ and ‘space syntax’ analysis, they show that formal and spatial characteristics of a suburb can be related to transformations of buildings and land uses across the time. They conclude that by combining recent GIS files with hand-traced historic information, changes can be tracked longitudinally in building inventory and land use. These changes then can be linked to morphological variables such as block size, plot size and building size, and to syntactic variables such as global integration, local integration, and connectivity. The result is a set of prediction tools that urban designers and planners can use for planning new developments, or enhancing existing suburbs according to different stages of their evolution.

The final paper in this series (‘The impacts of regulations and legislation on residential built forms in Tehran’, p.92-107) addresses the challenges imposed by planning laws on the built fabric of the city. By combining historical investigation with simple geometrical analysis of housing layouts, Homeira Shayesteh and Philip Steadman explore the role of planning controls and building regulations which have shaped Tehran, a rapidly growing capital city, and try to expose the role of planning codes in the emergence of house types. By drawing comparisons with cities such as New York, Paris and Hong Kong, the paper argues that simple planning codes could significantly affect the morphology and appearance of the city. A major finding of the paper is that although planning regulations are often intended to control planning issues such as density or environmental conditions, they generate indirect and unintended by-products which materialise in the cityscape, street facade and the interiors of the buildings. This is why planning regulations should be seen as an important apparatus to control not only the density and use, but also the morphology and form of the city. The authors have some specific recommendations to change the existing regulations in Tehran, but more importantly, they identify prospects for a systematic approach to the interactions between regulations and urban built form which can be implemented in many other cities where similar problems occur.

The thematic Forum section of this issue (p.108-135) presents three short articles and an introduction by four urbanists from different departments of the Bartlett Faculty of Built Environment, UCL. Using a Bartlett Grand Challenges Small Grant fund, the authors went on an informal, short mission to Beirut with the intention to explore how their collective expertise could join to form a soft methodology for understanding cities from the standpoint of visitors. These pieces are written in an informal and self-exploratory style and have not been intended to become full-scale academic papers. This is why we present them in a separate section, which I believe is very complementary to the main theme of this issue. Furthermore, in the non-thematic section of this issue, we have one academic paper and another Forum piece. Michael Ostwald and Michael Dawes take us from an urban scale to the interior of houses designed by Frank Lloyd Wright (‘Prospect-refuge patterns in Frank Lloyd Wright’s Prairie houses: Using isovist fields to examine the evidence’, p.136-159). The authors examine the proposition that there is an innate spatio-visual system in these houses which directly affects the way people navigate through and experience them. In order to test this concept, which is the core to several architectural variations of prospect-refuge theory, the authors use ‘visual fields’ of ‘isovist’ analysis to search for prospect-refuge related spatio-visual patterns in five
of Frank Lloyd Wright’s Prairie houses. The paper concludes that there is no clear evidence in these particular cases of the suggested pattern. The detailed analyses of five houses show that there are not adequate similarities to support the claim that such spatio-visual patterns exist. However, the paper suggests that the key spatial experience of Wright’s architecture may exist primarily in the third dimension and simply cannot be captured using two-dimensional isovists. While the paper demonstrates successfully that simple methods of analysis are very helpful to assess intuitive understanding of buildings, it acknowledges the need for the development of more advanced tools to measure complex spatio-behavioural concepts.

Finally, in the second Forum piece of this issue (p.160-164), we have a short but comprehensive review of formal design and spatial processes by Mark David Major, based on excerpts from his forthcoming work, Relentless Magnificence: The American Urban Grid. The author suggests that by focusing on ‘the static and dynamic relationships between form and process, and composition and configuration, in the design of the urban grid, a basic set of design decisions with formal and process implications for urban space can be identified’ (p.162). He describes this set as the essential DNA that could be used for all city types. In the author’s view, cities are not really complicated; it is our theoretical understanding of them that makes things complicated. Mark David Major’s short piece was not intended to contribute directly to the main theme of the issue, but in my view is very complementary to it, since it addresses one of our biggest urban challenges: how should we design our cities?

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References


