morphology, perhaps it might be claimed that it is the perceived irrelevance of European urban morphology to urban design practice and theory as seen from the other side of the Atlantic that has led to its exclusion from the *Companion*. That this may be a too simple an explanation is suggested by a similar neglect of space syntax. The omission of any reference to urban morphology in the second volume discussed here is more serious because of its wider coverage. However, given that this work was produced by an American publisher, presumably with an eye to the internal market, it may be that, as with other commodities, the United States market is so large and dominant that products originating from outside are considered to be of minor interest.

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What is an urban morphologist?

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Superficially, the question 'what is an urban morphologist?' seems easy to answer: an urban morphologist is someone engaging in urban morphology! However, though there have for long been definitions of urban morphology as a field of knowledge, much less attention has been given to those who pursue that knowledge. They belong to many different disciplines: architectural history, architecture, art history, geography, history, sociology and urban planning, to name a few. In fact the variety of disciplines gives strength to urban morphology: manifold perspectives are brought together in a broad discourse. Urban morphology gains much, especially methodologically, by encompassing so many kinds of researchers. Indeed it may be seen as a vanguard scientific field, in which interdisciplinary and transnational work was characteristic long before it became fashionable more widely. Let me offer a few amplifications of this characterization.

The attribution 'urban morphologist' should reflect the scope of the work involved: urban form might be described as the result of numerous shaping processes in varying social layers at a given place through time. This description is indicative of the different academic disciplines that engage in urban morphology. It is even more indicative of the fact that urban morphologists encounter a variety of distinct and sometimes antithetical features, such as tangible form and intangible processes, present facts and reconstructions of the past, shared usage and individual creation**.** Moreover, the object of interest to the urban morphologist is a living phenomenon, comprising the products of a variety of agents and agencies with their varying ideas about life and the city.

At the same time an urban morphologist employs methods and develops techniques that facilitate the description and understanding of past

and present conditions, as well as potential futures, using both theoretical and practical approaches. Especially with respect to methods and techniques, this broad scope allows for drawing on the diverse resources of the different disciplines to which researchers belong. But not every method from every discipline is appropriate and there is not a satisfactory simple categorization or evaluation of cities. To attempt to render them in such ways is bound to end in shortcomings. It is necessary to set out clearly the scientific aim of the endeavour and make clear that the categories and criteria involved are inherent in the study rather than the study object.

This becomes evident especially in those cases where the more exact methods of the natural sciences are employed in a mistaken or misleading way. Examining urban form for its complexity, for instance, is a challenging task. While there is obviously the possibility of mathematically analysing aerial photographs, the benefit of such an analysis is still unclear. However, it is surely questionable to suggest that the 'fractal complexity' of a two-dimensional image fully captures three-dimensional urban form and its utilization. It is even more questionable to introduce numerical values for the description of this complexity and equate greater complexity with a better layout. Urban form cannot be satisfactorily reduced to numbers. Even a combination of various arithmetic or statistical parameters will not reflect its complexity. Moreover, a promisingly clear numerical table or graph relating to urban form might have disastrous consequences in urban planning or civic policy.

The complexity of urban life throughout urban history is reflected in urban form, and its full understanding requires methods from both the humanities and life sciences. When the research topic brings together academics of different backgrounds, it is necessary for those involved to consider the findings of their research both in their original discipline and more widely. Thus urban morphologists, more than most researchers and practitioners, need to transcend their academic backgrounds.

An illustration of failure to transcend academic background was provided at the Tenth International Conference on Urban History in Ghent in 2010 when a historian gave his personal report on the French President's commission to develop urban proposals for the metropolis of Paris in the twenty-first century – a task that was meant to compete with the 'Grand Travaux' of Sarkozy's predecessors in office. Unexpectedly, this Greater Paris plan was not entrusted to the usual planners and bureaucrats but became the subject of an international competition. For this competition each of the ten architects invited to compete created a working group, which included other architects, planners, landscape architects, geographers and sociologists, as well as historians – such as the reporting colleague. This historian, having pointed out the somewhat meagre planning results of the whole competition, harshly criticized the working together of the group members. He was especially vexed by the lack of respect for his expertise as a historian, which he felt gave him a significant role in evaluating the different proposals within his team. Unfortunately he had confused the worth of his academic expertise with the practical contribution he was expected to make to a *shared* planning endeavour concerning the future of Paris.

The major problem in this team work was that the academics involved were not able to communicate effectively with each other. They did not acknowledge one another's expertise. Nor did they appreciate the different contributions that could be made for the benefit of the project. Different academic backgrounds can enrich discussions and generate different approaches. But it is not so much the value that those approaches provide individually that is important. More important is the basis they provide for joint work. There is little to be gained by retreating into particular academic niches. Urban morphologists more than most gain strength from intensive exchange.

Recent contributions to this journal on 'understanding place' suggest that there remains a need for urban morphologists to broaden the dissemination of their findings across a range of disciplines and fields of practice. This perspective accords with the ideas of Ivor Samuels, who has pointed out the shortcomings of an English Heritage publication on the principles and practice of historic area assessments, and criticized its lack of interdisciplinary communication (Samuels, 2010, p. 122). It also accords with Hiske Bienstman's plea for a 'much more rigorous methodology' based on urban morphology in similar work in The Netherlands (Bienstman, 2011, p. 75).

Within our changing scientific world there is an imperative beyond the learning and employment of new methods, and beyond the acknowledgement of different backgrounds and approaches. Urban morphologists need to not only share their ideas on urban form but to engage in collaborative projects to work effectively in an interdisciplinary way. This is not just a matter of the increasing size of

research projects, involving large numbers of participants. Smaller projects also benefit from multidisciplinary expertise and such collaborations appear to be particularly necessary where practical applications are involved, and are increasingly important in obtaining research funding.

What is an urban morphologist? As one begins to explore behind this question, a large field for discussion and collaboration opens up.

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Urban morphology in planning practice

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The development of sound linkages between morphological explanation and planning prescription needs to be grounded in an assessment of current practice. Three issues in particular need assessment. First, what morphological aspects are already integrated? Secondly, what is the 'demand' for new morphological support? And, thirdly, what can urban morphology in fact offer to planning practice and development control (Oliveira, 2011) – what is the 'supply'? Although it might be expected that there would be contributions on this subject in the literature, systematic surveys of planning practice from the standpoint of urban morphology are actually quite rare (Hall, 2008).

A recent survey of Portuguese planning practice provides the basis for a discussion of the first of the three issues identified above. This survey involved an assessment of the municipal plans – the so-called *Planos Directores Municipais* (PDM) – of the main cities of the eighteen districts of the mainland of Portugal. These cities are: Aveiro, Beja, Braga, Bragança, Castelo Branco, Coimbra, Évora, Faro, Guarda, Leiria, Lisboa, Portalegre, Porto, Santarém, Setúbal, Viana do Castelo, Vila Real and Viseu. The PDM is the main instrument of the Portuguese planning system. It establishes the model for the spatial structure of the municipal territory and defines the strategy for local development, including all the relevant national and regional policy guidance and investment commitments. This plan is composed of a regulatory code, a number of maps defining the different land uses, urban systems, and priority areas for operational planning and management, and another map with local rights of way and planning restrictions.

The assessment of the plans in force in these eighteen Portuguese cities (summarized in Table 1) reveals the incorporation of morphological aspects in most of these planning documents. Nevertheless, five cases were identified (Braga, Castelo Branco, Évora, Guarda, and Vila Real) in which the morphological dimension did not exist at all. However, the plans for Lisboa and Porto (particularly the latter) do exhibit a solid integration of morphological aspects.

The analysis of the different parts of each plan revealed that this process of incorporation is more difficult in some parts than in others. Indeed, it proved quite difficult to find concern for the physical form and structure of these cities in the goals and objectives of plans. Certain morphological criteria seem to be more readily integrated: for example, guidance on street width, plot width, depth and degree of land permeability, building coverage, building height, width, depth and type, and certain architectural elements. Nevertheless, this does not mean that these criteria were used in the definition of planning zones and their boundaries – a crucial theme recently explored by Larkham and Morton (2011) and Whitehand (2009) in this journal. Nor does it mean that widely applicable morphological methods and techniques have been used in the delimitation or regulation of these zones.

The results from this survey do not seem to have a straightforward rationale. While the year of preparation of plans (the sample includes PDMs prepared and concluded between 1994 and 2010 under the framework of three different decrees) does not seem to influence the presence of a morphological dimension, three other factors seem to affect (but not determine) it. The first factor is the geographical location of cities. Cities along the Portuguese coastline seem to have better plans (in