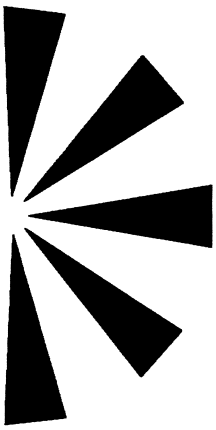

# VIEWPOINTS

Discussion of topical issues
in urban morphology

## Sustainable urbanism: the role of urban morphology

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Hitherto, sustainable architecture has been viewed very largely through the lenses of technology and energy performance, remaining at the margins of architectural culture. But for a substantial portion of the earth's population the technologies of raw earth, wood and stone still represent not only the present, but most probably the future. It is unrealistic, therefore, to concentrate almost exclusively on sophisticated high-tech systems of environmental control. Such systems are economically prohibitive and culturally unacceptable in some parts of the world. Time-honoured building traditions are still strongly linked to climate and local materials. These building cultures, these architectures, were able to satisfy the social and cultural demands arising from a particular civilization. They are the 'concrete' manifestation of those societies. Such societies are linked to their land, climate and local materials. They are also open to comparison and innovation, because innovation leads to progress, and progress often means survival.

This leads us to consider an important aspect of sustainability: *authenticity* (Maretto, 2013). 'Authentic' literally means done by 'one who does things himself', and therefore made according to conscious procedures and logic. A structure is therefore 'authentic' when it is 'recognized' by the society that introduced it; when the culture of that society is able to understand it and make it its own; and when the technology of that culture is able to reproduce it and, if necessary, develop it.

Why urban morphology, then? (Marat-Mendes, 2013). Morphological analysis of urban fabrics allows us to understand the logic of their transformation. It allows us to plan, with 'authentic' awareness, interventions within the process of change. Morphology can thus be a valuable tool connecting the technological aspects typical of sustainable strategies to the various cultural, social, civic and formal aspects of urban design and architecture. This tool can be used according to a comprehensive and complex idea of sustainability that can only be fully accomplished through a renewal of civic awareness, a different use of resources, and a different pattern of settlement.

However, the information revolution is already radically transforming the very foundations of the 'fossil city', exponentially increasing opportunities for exchange in the new global society. A 'virtual' macro-urbanism will intersect with an 'actual' micro-urbanism, physical and concrete, determining the form of the new urban environment. Within the binomial of macro- and micro- urbanism, urban morphology identifies an interesting socio-building scale that can serve as the basic strategy for sustainable city planning in the twenty-first century. This is a strategy that involves, on the one hand, a scalar sequence of physical forms related to aggregation and spatial organization (from houses

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all the way up to districts); and, on the other, a complementary sequence of forms related to civil organization (from families to urban communities). These are sequences that find in the concept of *social-building neighbourhood* the lowest common denominator of sustainability: that 'sustainable unit', on which urban strategies of environmental control on a larger scale can be based.

Morphology thus becomes the necessary 'plug-in' for registering the different 'networks' that characterize the contemporary city – from IT and 'smart' devices to energy and environmental systems. The aim is to translate these networks into building practices for the physical city – to translate them into 'fabrics' on which the planning of sustainable cities will be based. The city is not a 'zero emission settlement machine'. On the contrary, it is the expression of complex and stratified social, economic and cultural fabrics. The constant interaction of these – their innovation and transformation over time – is what determines, to a large extent, the success or failure of an 'authentically' sustainable urban experience.

**References**

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# Open space and urban morphology

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Open space performs important functions in the human environment (Lynch, 1995). Examination of this type of space can provide valuable insights into urban form, as pioneering urban morphologists have indicated.

M. R. G. Conzen traced in detail and mapped precisely the changing ground plan of Alnwick. Open spaces were an integral part of this work, forming important components of his fringe-belt maps for six dates from 1774 to 1956 (Conzen, 1960, pp. 57-93). Open spaces in Alnwick increased to a major extent following the expansion of institutional land use in the late-nineteenth century.

Caniggia and Maffei (2001) reveal open spaces arising in both basic and specialized urban tissues. Aggregations of basic tissues along 'matrix routes' constitute one type of open space – an organic or incidental type (pp. 128, 136, 151). Specialized tissues, for example at convergences of break-through routes, tend to be associated with spaces conceived specifically for particular purposes (pp. 120, 122, 137, 149).

The methodology and comprehension of open space can be developed by building on these two classic studies. Besides meticulous mapping, Conzen's townscape hierarchical analysis based on plot investigation provides an integrated framework to decode open space changes in an urban context. Caniggia and Maffei's concept of basic and specialized tissues suggests the need for typological thinking on planned and incidental open spaces, which would also be pertinent to the contextualization of open space changes in the typological process of urban tissues.

More perspectives on, and knowledge of, open space can be found in other urban morphological research, especially that adopting a Conzenian approach. Fringe belts are a key to understanding successions of open spaces and other spacious land uses in the rhythm of urban development (Whitehand, 1988; Whitehand and Morton, 2003). The identification of fringe belts provides cultural and ecological bases for urban landscape management (Conzen, 2009; Whitehand *et al*., 2011). Other concepts, such as townscape and development cycles, also relate to the contextualizing of open space evolutions in urban settings at various scales (Whitehand, 1994, 2005). Open space and related topics have been selected as specific themes at several ISUF conferences.

However, urban morphological approaches to open space are still under-represented and, more particularly, quite rarely referred to in studies of