VIEWPOINTS

Discussion of topical issues in urban morphology

Crisis in the typological process and the language of innovation and tradition

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This ‘viewpoint’ is a reflective exploration of the typological process as developed by Saverio Muratori, Gianfranco Caniggia, Gian Luigi Maffei, Giancarlo Cataldi and others.¹ Out of that exploration comes an argument about the language of tradition and innovation.

The germ of my argument lies in a combination of experiences. The first was helping with the translation of Gianfranco Caniggia’s and Gian Luigi Maffei’s Lettura dell’edilizia di base, published in English as Interpreting basic building.² The other experience was editing a selection of contemporary architectural writing.

While working on the translation of Lettura, a draft was circulated for comments and I was struck by two distinctly different responses to the language (the parole) emerging from the translation of Caniggia’s and Maffei’s text. One was surprise at what appeared to that person to be the obscure nature of some of the language, rendering parts of the text incomprehensible. The other response was one of enthusiasm.

The first person seemed to be saying, ‘surely you want to make the writing as clear as you can’. I, for my part, felt I understood the text and was, to the best of my ability, trying to capture both the content and the spirit of it – which is, of course, the duty of the translator. So why was one person openly welcoming the text as it was and the other concerned to iron out the prose?

Language and profession

Here are the facts of the case: one person was female, the other male, one British, the other American, one a geographer, the other an architect. My inclination was to look to the profession as the source of the riddle. This was reinforced by my time spent editing the writings of contemporary architects. A good percentage of architects who commit themselves to print seem to be attracted to fairly abstruse discourse. Ranked by frequency of citation by such architects, the likes of Jacques Derrida and Giles Deleuze would probably come quite high.

But, I have to say, as a solution to the riddle of the difference between the ways my colleagues responded, I do not find ‘profession’ satisfactory. It is too easy and begs too many questions. There must be something behind or underneath the sometimes wilful mutual misunderstanding between people who are fundamentally interested in the same thing.

Crisis and the typological process

At the same time as I was musing on this mystery I was also continuing to muse on the notion of the typological process of Muratori, Caniggia, Maffei, Cataldi and others. In particular I was dwelling on the central concept of ‘crisis’ – a word that tends,
for obvious reasons, to induce fear and take some mental energy to tame. Crisis is not, particularly in the context of the typological process, equivalent to catastrophe. It is not external events; rather it is a state of mind induced by events or circumstances. Crisis is a fundamental part of the typological process. Within the process it alternates with identifiable phases of cultural activity to form a series of phases separated by crises.

In broad and necessarily simplified terms, the process according to the Muratorian school is cyclical and within each repeating cycle, there are four phases: of logic, economics, ethics and aesthetics. The crises are transitions between the specific phases.³

Pondering on the various expressions of these ideas, there seems to be a disparity between ‘phase’ and ‘crisis’ in terms of the conceptions lying behind them. On the one hand, even though the phases have both abstract and concrete dimensions, they seem to refer more directly, and in more detail, to the physical result of the typological process – the diversity of urban form. On the other hand, ‘crisis’ is dealt with in a more general (if often extensive) way and refers, implicitly, to the mental state of humans involved in the process.

However, not only is crisis a state of mind, it is also diffuse and pervasive within a population; it is demonstrated, for example, by the feelings and thinking that have arisen in response to global warming and resource scarcity. A growing percentage of the population is becoming aware that some of the things we do are not working. There are some habits we have developed that we really need to break if we are to avoid damaging ourselves and the planet. There is a crisis and one of the main responses is the idea of sustainable development.

Habit and crisis

I use the word ‘habit’ advisedly because it provides the counterpart to ‘crisis’ by referring more directly to the human state that leads to phases. The periods of stability that we can call phases in the typological process are constituted by cultural habits. I also use the word ‘habit’ because it provides a way to see the typological process as a specific instance of a more general process and points to more general theories about change. Crisis can then be set within a sequence of habit – crisis – response – habit – crisis – response – habit, conceived of as a spiral chain in time. The spiral is fundamental to the process: there is both repetition and change through time. This model has its roots in the radical theory of habit as put forward by C.S. Peirce. For Peirce, the tendency to form habits or establish repeating patterns of behaviour is fundamental to perception, meaning and language. It is, as he puts it, ‘the one law of the growth of mind’.⁴

A necessary complement to habit is chance, which leads to variability. Variation in habit, along with the possibility of breaking habits, is the key to growth and diversity. So, if habit provides a general term for the periods of stability that give rise to identifiable historical phases in the typological process, what are more specific kinds of crisis? And what, if anything, does this have to do with solving the mystery of why my colleagues responded so differently to language?

Kinds of crisis

The connection between the two is state of mind. The central hypothesis of this point of view is that we can distinguish different kinds of crisis on the basis of cognitive factors that contribute to different states of mind. No two crises are the same but there are common factors that lead to a crisis – factors rooted in the capacities or incapacities of our perceptual equipment. A way into the matter is to ask, why do we break habits or change the way we do things? Three basic reasons spring to mind, though clearly they are not the only ones: need, curiosity and boredom.

A crisis of need is rooted in the instinct for survival. We sometimes change the way we do things in order to survive. In the present context, threats to survival include climate change, resource scarcity, and the threat of external attack. Responses include sustainable development, land reclamation, flood or tidal barriers, fortifications and anti-terrorist legislation.

A crisis of curiosity is rooted in the tendency to seek order. We want to find out how things work. In the face of complex stimuli, the eye and brain will tend to draw outlines and identify coherent, nameable objects. When confronted by an ambiguous image, the eyes scan across the image to find an outline. We seek new kinds of order and sometimes change the way we do things to take advantage of that order to get a better result in a more efficient, orderly and predictable way. This kind of crisis is stimulated by the perceived chaos of events and phenomena. The response is the enormous range of human culture: stories, religion, music, visual art, the sciences, technology and, of
course, architecture and urbanism. More specifically, one must include the different theories of architecture and urbanism, including the typological process.

A crisis of boredom is rooted in the phenomenon of desensitization and the compensating tendency to seek stimulus. Our perceptual equipment can only respond to difference. When confronted by a constant, uniform stimulus, our senses adjust or recalibrate and treat the constant stimulus as a zero point. Repeated exposure to the same image or stimulus has the effect of bleaching the image of meaning. In response, we sometimes change the way we do things in order to sustain our attention: the potentially pathological response is to increase the level of stimulus of the same thing.

The crisis of boredom or, less pejoratively, of desensitization, lies at the heart of play and sport, which fundamentally incorporate the element of chance and therefore unpredictable difference. The crisis of boredom is the converse of the crisis of curiosity. One works to unify, the other to diversify. So, within art and architecture, the response to the crisis of boredom is variation and diversity. Taken as a trend, it tends to be called such things as fashion, mannerism or the constant revolution of the *avant garde*. It is not necessarily superficial and negative. It can point the way to curiosity.

**Crisis and language**

To an extent, the distinction of different kinds of crisis solves the mystery of why my friends responded so differently to the translated text. The argument goes something like this. The different kinds of crisis are not mutually exclusive but any individual may be more prone to a particular kind of crisis. If you are prone to crises of boredom, one response is to seek ambiguity, uncertainty or complexity which, in turn, triggers a crisis of curiosity. The result, when faced with repeated exposure to the same subject or problem, is a kind of ‘alternating’ stimulus which sustains your attention. You like the variety but keep hunting for order.

I suggest that the difference in my friends’ responses to obscure language lies in one being more prone to boredom and the other more prone to curiosity. As to profession, it was, of course, the architect who liked the translation and, I would guess, more architects would like it than geographers. But the different sorts of crisis are not mutually exclusive even in the individual. Curiosity is prone to desensitization. As noted by the science writer Matt Ridley, ‘most scientists are bored by what they have already discovered’.

**Crisis, language and process typology**

Returning to the typological process, elaborating the different kinds of crisis begins to put crisis and phase or habit on a similar footing and, I suggest, makes the typological process a more powerful tool in seeking to understand how, and why, the built environment changes. It allows us to articulate more carefully the stages in the process from habit to crisis to response and the formation of new habits.

But now we get to the heart of the matter and the real point of my argument about language. We have to remember that the idea of the typological process was itself a response to a crisis – the crisis of architectural language and urbanistic practice in the mid-twentieth century. In very broad terms, the response was to turn to tradition – but critically. To a large extent it was, for the likes of Muratori, a crisis of curiosity, though tinged perhaps with disillusionment. He wanted to get a better understanding of the process in order to get a better result.

But process typology and urban morphology have grown and developed over the past 50 years. More recently they have been strengthened by bringing together the different strands or schools from different countries. The evidence lies in the work brought together through ISUF.

Out of this there arises a question. Can urban morphology and process typology continue to grow if they remain focused on the original crisis? More particularly, can typomorphology continue to be effective as an approach to design if it remains tied to particular traditions? We should remember the 1970s and 1980s. Then, typology and morphology were in fashion. They fed what turned into a crisis of boredom. And, inevitably, people’s attention shifted. The fashion came and went.

More fundamentally, it is time finally to come clean and stop trying to dodge the naturalistic fallacy. We must step up to G.E. Moore and David Hume and openly acknowledge that there is no connection of necessity between what is and what ought to be.

If we make a distinction between different modes of language, it should not be between innovation and tradition but between description and prescription. And, at its core, typomorphology is about description. But I would argue that we are,
paradoxically, in a stronger position to use typomorphology to support design proposals if it is independent of a specific design approach and, so to speak, brought to bear from outside the rhetoric of design prescription.

Towards a general nomenclature of urban form

The typological process itself suggests that if typomorphology is not to be discarded as an accessory of a passing fashion it has to establish a language that is not tied to a particular crisis and does not privilege any particular habit of design. It must be agnostic about history and should not in itself attribute value to any particular period in history. It must use the same terms to describe new and old, tradition and innovation.

Certainly we need the languages of prescription and inspiration – the language of persuasion. But we also need a nomenclature that can cut through the self-justifying ‘evolve-or-die’ rhetoric of pseudo-evolutionary necessity dished out by snake-oil salesmen passing off old forms for totally new. We need terms that can expose those who pander to a false consciousness of history by camouflaging the globalized machinery of modern life with a dusting of tradition.

Then typomorphology can become a tool that cuts two ways. In one direction it can identify with great precision both basic relationships and viable design solutions embodied in the built environment to make much more effective use of that legacy. In the other direction it can inform innovations with a clear idea of the structure of what is introduced and how it fits into wider structures and processes. More importantly, it can provide the means to understand and potentially channel the habits and dynamics of the formation and transformation of the built environment not just for the limited purposes of townscape management or conservation but as a basic background and framework for urbanism.

Urban morphology needs to pull itself out of its niche and demonstrate its wider relevance. To do that, the language of urban morphology and process typology cannot be the language of tradition or innovation; it must be a language common to both. We must show the strength of our common conceptual foundations and build a general nomenclature of urban form.

Notes
1. A version of this viewpoint was delivered as the keynote address at the joint ISUF/INTBAU Symposium, 27 August 2005, in London.

The morpholograph and the spirit of place

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Town planning is about the control of use and form to create ‘sustainable’ places. One interprets sustainable places as being functional, viable, useful, ideally non-consumptive, and, often overlooked, pleasant to be in. Making great places is why many of us are involved in the built environment field.

Unfortunately, town planning and the processes of modern city building have not been creating memorable, celebrated places for living and work. Modern places may be safe and clean, they may be functional, especially if you have a car, but they lack spirit of place. Indeed, modern planning has been a place-spirit destroyer of monumental proportions. Discordant insertions in the urban fabric of spirited places, mundane or monumental,
have been all too common. ‘Regeneration’ projects and major ‘re-designs’, for example associated with the Olympic Games, openly ignore the principles made so famous by Lynch (1960) or Jacobs (1961).

Town planning’s failure has led to the invention of urban design, the modern champion of place production, focused on the physical outcome – not unlike town planning at its birth, in the era of Ebenezer Howard and Raymond Unwin (1909). In the quest to divine a credible place-based planning method focusing on ‘place spirit’ generation, eyes are cast on urban morphology: the repository of form-based urban knowledge.

For whom we plan

To get to the roots of place-making, one must understand the place-seekers: those for whom towns are planned. People prefer certain environmental shapes and conditions, and dislike certain others, for rational reasons. These are based on our psycho-physiological adaptations to evolving in a complex and dangerous world. Essentially, we like places that are good for us. Places that shelter, nourish, and protect create ease with our primitive limbic urges. Detecting dangerous environments is intuitive and we avoid them where we can. The more evolved parts of the brain entice us toward environmental opportunity and learning – suitable for a nomadic, feeble biped. That a balance of spatial legibility, for navigation, and mystery or ‘spatial opportunity’ is preferred in many cultures has been demonstrated experimentally (Nasar 1988a, b). Our evolved desire for new information drives us forward. The subtlety of anticipation – the mystery of what lies around the corner, the bend in the road, or behind the promising door – is totally overlooked in modern spatial construction. The duality of three-dimensional mystery and legibility may be too subtle for many, but it is integral to spirited place. Fortunately, urban morphology has assisted the conversion of the esoteric to the metric.

Spatial morphology

Kropf’s (1996) hierarchy of morphological elements inspired closer inspection of a structured method of urban analysis. However, an element was missing: the spirit of place lies not in form – but in space. It emerges in the gap between forms, inside and outside buildings. The spirit of place infuses the street or square – it is an outdoor, shared, subtle phenomenon that can disappear with a footprint in the wrong direction. This spatial structure needs to be a point of focus for urban morphology to contribute to modern planning method. Similarly, the central focus of urban design is the quality of public life and the public realm.

Urban design has ample to say on the spatial structure of the street, with recommended ratios for sections to elevations, to provide a sensation of enclosure and definition. This has been derived largely through observation of ‘what works’. Environmental psychology, too, is missing the opportunity to contribute to city-building. Not least there is the significance of rhythm: the punctuation along the spatial wall of accents, for example through edges, doors, ridgelines and trees, to add variety, pattern and complexity to the vertical plane.

For town planning to utilize a place-based planning method, a scientific and rational method had to be invented to ‘measure’ the attributes that encourage a ‘place spirit’. The morpholograph (Guy, 2001, 2005) was created for this purpose. Using the notion of ‘levels of resolution’ and applying them to ‘public space’, a rapid method of measuring spatial characteristics emerged.

The study site chosen to test the morpholograph, was a complex, diverse and multifunctional space, with an evident but eroded place spirit. Magdalen Street in Norwich, with a 2000-year history, was a century ago a hub of elegance – it was a place to be seen. Now, thanks to unenlightened modernist planning, it suffers from vacancy and dereliction – it is a place to avoid. Despite retaining some handsome features, the spirit of place has gone. After countless footsteps measuring forms and façades, the solution was identified in the spatial shape: the focus changed from form to space.

The shape of space emerges between enclosing forms – simply height by width. This was measured in plan and elevation for every plot. Added to this was rhythm, the vertical accents along the spatial edge. Each dimension was given a Cartesian plan and a matrix was created of the spatial variability along the street. Streetscape width is constant along streets and spaces, typically changing by under 10 per cent. Indeed, where width changes significantly, and consistently, a new spatial response is required to generate a sense of place. Spatial width is the foundation of spatial logic because it is the least malleable element. It is hard to change across a shared space. Width informs the required height and rhythm.

Spatial height is more malleable and typically
enjoys greater variety, often linked to the rhythm of the street-wall response. In more pedestrian spaces, a ‘faster’ rhythm becomes appropriate than that of spaces designed for vehicle speeds. But always ‘edges’ are required for a space to come into existence: without this we have objects on a plane, not space created by form.

The testing

This hypothesis was tested in detail for the ‘skeletal’ level of spatial resolution along the several hundred metres, and the hundreds of buildings, of Magdalen Street. What was measured? The rows of the matrix related to plots, with one matrix for each side of the street. Streetscape widths were extracted, between each frontage unit, from a GIS program. Plot widths were likewise measured and tended to form the primary horizontal measure along the direction of the street (or around a square). However, this element of rhythm requires verification on the ground – some plots are clearly subdivided vertically through changing eaves or building height, changing building lines etc., while several plots can appear as one long unit – typical of shopping centre design, of which Magdalen Street has several examples. Thus it is the physical expression of the form that is of prime importance.

Height is always the most time-consuming element to measure, and all measures are to the nearest 0.5m. Brick counting and measuring by various trigonometric methods are used to measure the enclosing height of the built mass. Height is usually measured to the eaves, but sometimes to the ridge line where imposing roof structures are used. This simple process, when repeated, provides a matrix, and then a graph, of the spatial pattern of each element. This is the ‘morpholograph’. The graph reveals spatial harmony and aberration. Where the characteristic measure of a spatial element is out of the normal ‘range’ or pattern, the response is graphically obvious.

From this matrix, a succinct one-line spatial approximation is used to describe, or prescribe, the streetscape spatial skeleton. If a physical insertion in the street complies with this simple spatial algebra it will, at the least, not undermine the inherent place character. For Magdalen Street, the spatial formula proposed (where \( X \) is street width, \( Y \) is physical frontage length and \( Z \) is building height) (which can be referred to as Magdalen Street_{xyz}) is:

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10m \pm 1m (X) : 8m \pm 3m (Y) : 8m \pm 1m (Z)
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The idea was extended more widely within Norwich, to ensure it did not apply just to a particular street type. Each space of inner Norwich was prescribed a morphological equation from its fundamental spatial characteristics. Then each equation was translated to a planning zone, with the space at its centre and the defining buildings as its perimeter. About eight primary zones emerged, each having sub-types for more detailed levels of prescription. Examples are a river zone, high street, residential street, boulevard and ring-road zone. There is also a series of unique ‘squares’, from a large market square to minor non-linear spaces, which could also be described by changing the ‘width’ dimension to either two ‘widths’ or a ‘surface area’ measure.

In sum, a rational planning method for managing the structure of urban form, and space at the level of human perception of the street and square has been derived using the methods of urban morphology. The understanding of discrete urban elements, the concept of resolution levels, and the rational and quantifiable approach have been invaluable. Gaps have been bridged between the ambiguity of constructs from environmental and evolutionist psycho-physiology, the aspirations of urban design, and the day-to-day practicalities of town planning to provide a basis for discussions on how to build in a particular location in support of the local genius loci. By staying within the spatial character range of a particular space, one can be confident at the least of not undermining the local spirit of place. The land use is almost inconsequential other than in relation to nuisance and conflict. Indeed, the greater the diversity and the finer-grained the uses, the better at the human, especially pedestrian, scale.

By the same token, the architecture is also of limited interest. The spatial framework can be satisfied by any style or materials. This is why places with an array of architectural styles and building periods, for example a glass and steel insertion in a classical streetscape, can ‘fit’, provided they respect the greater spatial framework.

An offspring of this work is the creation of a research and development company, Urban Circus (www.urbancircus.com.au) to experiment further at the interfaces of urban morphology, design and planning.

References

University of Liverpool and John Moore’s University, 9-11 April.

Linking urban landscape characterization and urban morphology

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Two previous contributions to Urban Morphology have drawn links between the programme of urban landscape characterization being undertaken by English Heritage and the discipline of urban morphology.¹ Nick Morton drew attention to the lack of acknowledgement of established morphological concepts and methods in the English Heritage characterization programme as it existed in 2001, pointing out, however, the obvious parallels between the mapping of character areas and the mapping of morphological regions.² Recently Roger Thomas, the head of urban archaeology at English Heritage, noted, with regard to the methodology used in English Heritage Extensive Urban Surveys (EUS), the debt to M.R.G. Conzen.³

A still more recent indication of the growing dialogue between those involved in the English Heritage characterization programme and those engaged in the discipline of urban morphology was the featuring of a paper, given by Jeremy Whitehand, on urban morphology at the latest English Heritage conference on urban landscape characterization.⁴ For me, an urban morphologist, the presentations and discussions at this conference raised a number of points concerning the relationship between the English Heritage characterization programme and the discipline of urban morphology: where they come together, where they pull apart and the possible grounds for a constructive exchange of knowledge between the two.

The principle of urban landscape characterization is very similar to that of morphological regionalization. Both aim to describe objectively and map the character of a particular place; both see the character of the contemporary urban landscape as the product of, and therefore intelligible through, its historical development; and the envisaged application of both is to provide a guide to the long-term management of the urban landscape, especially with regard to its conservation.

In practice, however, urban landscape characterization and morphological regionalization tend to be realized in quite different ways. Thomas’s comment that “the debt to M.R.G. Conzen is clear, although EUS is necessarily very rapid and broad-brush” hints at a significant difference between the work of M.R.G. Conzen and the work on characterization currently being undertaken by English Heritage.⁵ In fact, the indeterminacy of character descriptions and imprecision of boundary definitions evident in some of the broad-brush approaches to characterization demonstrated at the English Heritage Urban Characterization Seminar stand in marked contrast to the meticulously detailed morphological regionalization of Ludlow produced by M.R.G. Conzen.⁶ Conzenian urban morphologists, such as myself, are more accustomed to promoting the value of the slow and rigorous survey than that of the fast and broad-brush survey.

Whilst to date no direct comparison has been
made of the process and product of a standard urban landscape characterization survey versus that of a standard morphological survey, it is likely that such a comparison would reveal further points of separation between the two. In principle, a character area and a morphological region represent the same thing: an area of coherent character, distinct from that of neighbouring areas. And the character that forms the basis for each may be viewed as a composite of town plan, building fabric and land use characteristics. However, this combination of town plan, building fabric and land use is strictly adhered to for morphological regions, whereas character areas often present an ambiguous mixture of the three.

A further difference between character areas and morphological regions concerns their scale. Morphological regions are typically seen to form a hierarchical structure, in which small-scale regions sit within a series of larger regions of increasingly generalized character, or put another way, large-scale areas have sub-areas and sub-sub-areas. Characterization studies, on the other hand, rarely recognize character areas of different scales and generalities of character. In this respect, urban morphology offers an approach to areal delimitation that might better represent the reality of an urban landscape that people engage with and comprehend in terms of areas of various scale, according to the activity that they are involved in at a given time.

However, presenting urban morphology is not easy. Plenty of others share the urban morphologist’s concern for the character of the urban landscape, yet for many the very word ‘morphology’ is immediately off-putting: urban morphology comes across as something esoteric. Nevertheless, the value of links between it and the English Heritage characterization programme is now acknowledged on both sides. For urban morphologists this provides an impetus to reflect on the effectiveness with which we communicate our theories and methods to others.

Notes
3. Thomas, op. cit. 129.
5. Thomas, op. cit. 129.

Anglo-Japanese post-war reconstruction

In September 2005 a small workshop on Anglo-Japanese post-war planning and reconstruction was held in Birmingham.

The first papers focused on individual towns: Tokyo by Junichi Hasegawa, and two papers by Michihiro Kita and Ayako Kita, one on Nagoya and one on Osaka. A second group combined the functions of giving national overviews of Japanese and UK reconstruction, and giving additional consideration to the development of post-war planning approaches in the two countries. Takashi Yasuda gave a broad overview of Japanese reconstruction plans and the post-war development of planning; Shun-Ichi Watanabe used Tokyo to comment on Japanese planning approaches; Peter Larkham reflected on British reconstruction planning; and Colin Wood reviewed recent changes in the British planning system.

The papers are now available as Working Paper 1 of the Faculty of Law, Humanities, Development and Society, UCE Birmingham, costing £5.00: contact the editor, Peter Larkham: peter.larkham@uce.ac.uk