British urban morphology: the Conzenian tradition

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Abstract. *This paper describes the origins, development and characteristics of the school of urban morphological thought that is grounded in the work of M.R.G. Conzen. After considering the early influences of Schlüter and Geisler, attention is given to the concepts Conzen developed, such as the burgage cycle, the fringe belt, the morphological frame and the morphological region. In the second half of the paper three examples of current research that builds on foundations laid by Conzen are illustrated: namely, micromorphology, the relationship between morphological periods and the typological process, and the link between decision-taking and urban form.*

Key Words: Conzen, morphological concepts, German influence, micromorphology, fringe belt, United Kingdom

Within the United Kingdom the term 'urban morphology' is applied to a number of different types of investigation. Though they nearly all focus on the physical forms of urban areas, each has until recently been pursued by a largely separate group of researchers. Within architecture the typomorphologists have tended to work independently of those employing space syntax. Similarly within geography those working in the Conzenian tradition have had little contact with the adherents of spatial analysis. The lack of integration within disciplines has been paralleled by the low level of communication between architects and geographers. There is a need for the different schools of thought to set out their stalls if the intellectual trade that was showing signs of beginning in the last years of the twentieth century is to gain momentum. This paper describes the development and characteristics of the Conzenian school and gives examples of recent and current research in this tradition, including some that would benefit from closer co-operation with the adherents of other schools of thought.[1]

The antecedents of M.R.G. Conzen

The Conzenian school of thought, founded by M.R.G. Conzen, has its immediate antecedence at the end of the nineteenth century. The early work of Schlüter was particularly important, notably two papers published in 1899, one on the ground plan of towns[2] and the other his views on wider aspects of settlement geography.[3] The latter was important because of its programmatic character. The former, which drew on the earlier work of Fritz,[4] suggested among other

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things the scope that existed for recognizing within town plans the stages in their development. It was in this respect a forerunner of the far more sophisticated morphogenetic approach which was much later to become a hallmark of Conzen's work.

In addition to the impact of his own work, Schlüter exerted influence through the dissertations that he supervised at the University of Halle. The most significant of these for the development of urban morphology was on Danzig by Geisler, published in 1918.[5] The map of inner Danzig that it contained distinguished in colour land and building utilization and the number of storeys in residential buildings. This too had an influence on Conzen. It was evident in his *Staatsexamen* dissertation, submitted in 1932 in the University of Berlin, in which he mapped in colour the building types in twelve towns in an area to the west and north of Berlin.[6] More importantly, it was to influence the coloured maps he produced of Whitby in east Yorkshire, published in 1958.[7] These emphasized the importance that Conzen, like his German predecessors, attached to visual representation, especially cartographic representation. The map of building types gave high priority to the distinction, among residential buildings, between morphological periods.

Conzen's ideas and their influence

Permeating all Conzen's work was a concern for terminological precision. In this respect the contrast between Conzen and most of his British colleagues was striking. For Conzen terms were created to represent concepts as faithfully as could be achieved within the limits of language. This meant exploring the roots of words. It also, of course, gave primacy to concepts.

It was Conzen who recognized the tripartite division of the townscape, or urban landscape, into first, the town plan, or ground plan (comprising streets, plots and block plans of buildings), secondly, the building fabric, and thirdly, land and building utilization.[8] However, it was the concepts that he developed about the *process* of urban development that did most to stimulate a school of thought founded on his work.

Some of his most fruitful ideas were developed in relation to the plot, which constituted a very detailed, micro-scale

Figure 1. Metrological analysis of Lower Broad Street, Ludlow. Reproduced from Slater, *op. cit.*, 72, Fig. 4.4 (note 10).

Figure 2. The fringe belts of inner Berlin, *c*. 1936. Based upon Louis, *op. cit.*, End-map 1 (note 11).

framework for analysis by the standards of British human geography. One aspect to which he gave characteristically detailed attention was the relationship between plots and the block plans of buildings. The burgage cycle that he recognized consisted of the progressive filling-in with buildings of the backland of burgages, terminating in the clearing of buildings and a period of urban fallow prior to the initiation of a redevelopment cycle.[9] He also examined in detail the boundaries and dimensions of plots, and it was this aspect that Slater developed further, showing how metrological analysis could be used to reconstruct the histories of plot boundaries (Figure 1).[10] By analysing measurements of plot widths Slater was able to speculate about what was in the mind of the medieval surveyor when the area was first laid out for development and infer both the original plot widths and how they were subsequently subdivided.

Of course many parts of towns and cities lack the regularity of plot dimensions that series of residential plots often have. This is particularly so in the case of fringe belts, which are comprised of plots of a great variety of shapes and sizes. The fringe-belt concept (Figure 2) was first recognized within Berlin in 1936 by Louis, one of Conzen's mentors,[11] but was developed to a far greater degree of sophistication by Conzen in his studies of the English market town of Alnwick and the major English city of Newcastle upon Tyne.[12] It was then taken up by numerous other researchers in various parts of the world.[13] In one line of investigation the relationship was developed between fringe belts, building cycles, land values and innovation adoption (Figure 3).[14] The creation of fringe belts was shown to be associated with slumps in housebuilding, when land values were low, whereas the creation of high-density housing tended to predominate during booms in housebuilding, when land values were high. These dynamics, in combination with geographical obstacles to the uninterrupted outward growth of the built-up area, gave rise to an urban area in which residential growth zones alternated with fringe belts. Fringe belts were shown to have a number of physical attributes. These included large, contiguous vegetated areas, often interspersed with large, often institutional, sometimes 'landmark', buildings of architectural note, the virtual absence of housing, and a sparse road network, with a low incidence of radial roads

Figure 3. An innovation/building-cycle model. Based upon Whitehand, J.W.R. (1994) 'Development cycles and urban landscapes', *Geography* 79, 12, Fig. 11.

and hence a relatively low penetrability to vehicles. Fringe belts form boundary zones between historically and morphologically distinct housing areas: for example, in England, between 'bye-law' terraced houses and inter-war semi-detached houses.

The fringe-belt concept is linked to a basic tenet of M.R.G. Conzen's work: the concept of the morphological frame. This relates to the fact that the way in which forms are created on the ground, particularly during the process in which rural land is converted to urban use, acts as a long-term constraint on subsequent change. Plot boundaries and especially streets exert a powerful long-term influence. Many streets and plots survive largely unchanged. If not, their lineaments are often reflected in those of replacement streets and plots. Thus town plans are powerful influences on future forms, with residual features being passed down through successive generations of society, often over very lengthy periods.

For M.R.G. Conzen the climax of the exploration of the physical development of an urban area was the division of that area into morphological regions. A morphological region is an area that has a unity in respect of its form that distinguishes it from surrounding areas. However, the boundaries between regions vary in strength. In his map of morphological regions in the English market town of Ludlow, Conzen recognized a five-tier hierarchy of boundaries (Figure 4).[15] The map of morphological regions is a composite of separate maps of plan type areas, building type areas, and land utilization areas.

Such a map is a product of a method designed to illuminate the historical development of an urban area. However, for Conzen the past provided object lessons for the future. Such a map could therefore be harnessed to the needs of planning: it provided a basis for rooting the future management of the urban landscape in its historical development.

Figure 4. The morphological regions of Ludlow's old town. Based upon Conzen, *op. cit.*, 258, Fig. 17.2 (note 15).

Recent research

During the last 35 years of the twentieth century aspects of M.R.G. Conzen's ideas and perspective were taken up widely. To try to do justice within the space of a few pages to the various lines of investigation that could with justification be termed 'Conzenian' might well result in doing justice to none of them. Therefore the remainder of this paper will explore just three strands of current research and thought that personal knowledge suggests owe much to the foundations laid by Conzen. These three strands may be referred to as first, micromorphology, secondly, the relationship between morphological periods and the typological process, and thirdly, the link between decision-taking and urban form.

The recognition of a sub-field of urban micromorphology is little more than acknowledgement that much analysis needs to be undertaken at the scale of the individual plot or indeed *within* the individual plot. This is new to neither Conzenian geographers nor most architects. What is fairly new is the detailed analysis of the spatial relationships between the physical changes to very ordinary twentieth-century dwelling houses. The discovery that such changes are clustered

over time and space accords with various studies of spatial diffusion. The fact that the building of a house extension, for example, increases the probability of another house extension being built soon after in the immediate vicinity reflects the operation of a number of factors, in particular the fact that owner-occupiers influence one another: there is a 'neighbour effect'.[16] However, areas vary greatly in the incidence of changes, even when they have undergone their initial development at the same time. The lower the dwelling density of the original development of an area (i.e. the larger the plot size), the higher the probability of a dwelling having an extension. However, if small-scale changes are examined (changes such as door and window replacements), the direction of the relationship is the reverse: the lower the dwelling density of the original development, the lower is the number of small-scale changes that a dwelling is likely to have. The strength of the neighbour effect is also related to original dwelling density. In the case of the incidence of house extensions, for example, the neighbour effect is weak in areas developed at low density but strong in areas developed at high density (Figure 5).[17] The evidence suggests that a high-density pattern of original development is associated with more imitative behaviour by neighbours than a low-density pattern. This is another influence of the morphological frame, but one that is attributable, it would seem, to the role that plot size, and perhaps variables associated with plot size, have in the social relationships between neighbours.

The second strand of current research and thought promises to increase understanding of another of Conzen's concepts. While both Conzen and those who have followed in his footsteps have tended to place a good deal of reliance on the concept of the morphological period, they have hitherto devoted little attention to the process by which the forms that are characteristic of one morphological period are superseded by those characteristic of the next. For example, in England there is a sharp contrast between on the one hand the residential building types that characterize the late Victorian and Edwardian periods and on the other hand those that characterize the inter-war period. The former are dominated by the bye-law terraced house, the latter by the semi-detached house with its so called 'universal' plan. Attention has been given to geographical differences in the timing of the change, including the time-lag in its adoption in areas less accessible to London, and, more recently, to the characteristics of houses that are of a transitional type, but the questions of how and why builders made the change from one type to another have only raised much curiosity in the last few years. In contrast Italian architects of the Caniggian school have focused attention on a 'typological process' in which new building types are viewed as products of a process of learning from the adaptations of previous building types. There would therefore seem to be scope for exploring links between the Conzenian morphological period and the Caniggian typological process.[19]

Figure 5. Relationship between the strength of the neighbour effect for house extensions and original dwelling density in inter-war suburbs in England.[18]

The final aspect of recent research to be considered, broadly speaking the relationship between decision-taking and urban form, is concerned *inter alia* with the way in which numerous separate decisions combine to create regularities on the ground. In Conzen's own work the people who created urban landscapes tended to remain shadowy figures, rarely at the front of the stage. However, among those who have followed

Conzen there have been some who have focused more attention on the roles of decision-takers and decision-taking. A facet of this work can be illustrated by briefly exploring one line of investigation on fringe belts.[20]

Fringe belts can arise from markedly different decision-making processes. Some arise from the planning of a feature broadly circumferential to an urban area: fortification zones were common around pre-industrial cities; and there were numerous cases of amenity zones, parkland belts and green belts around nineteenth- and twentieth-century cities. But most fringe belts are not contrived. They are products of large numbers of separate decisions about individual sites. Indeed the decision-takers frequently had no knowledge of one another and almost invariably no conception of the way in which their decisions and those of others would *in combination* have the effect that we refer to as a fringe belt. The factor common to those separate decisions may have been an obstacle to the growth of the housing area, a slump in house-building, the mutual attraction between land uses, or the fact that a number of land users located next to one another merely because of the lack of alternative sites. Commonly a fringe belt is the result of a combination of these and other influences. The consequent regularity has a different basis, at least in terms of decision-taking, from that of a planned fringe belt, but the fact that it is unintended does not, of course, reduce its significance. Like any fringe belt, it articulates the identities of the different historical zones of a city by separating the creations of different morphological periods. It frequently retains elements of its rural-urban fringe character long after it has become embedded within the urban area, often having a higher ratio of soft to hard surfaces than would be feasible in an area dominated by streets and relatively small residential plots. In these ways an unintended fringe belt may contribute as much to the legibility of a city as a fringe belt associated with a planned feature.

The issues that this raises for planning decisions are currently being examined in the UK. Only rarely has there been deliberate preservation or conservation of fringe belts *as entities*. Planning policies that have favoured the retention of fringe belts in the UK have generally related to the individual components of which they are comprised. These policies include those concerning the retention of certain types of open space, such as playing fields and allotments, and the designation of areas of ecological interest. Some sites and buildings within fringe belts are recognized to have historic and architectural significance and are given statutory protection. However, much of the survival of fringe-belt features has been unplanned. In some cases it reflects the fact that functions occupying fringe-belt sites lack alternative sites to which they might move if they are to continue to fulfil their function.

Nevertheless, there are forces tending to change dramatically individual fringe-belt sites and thereby reduce fringe-belt legibility. Within the UK there are currently planning policies that favour the redevelopment of existing urban areas for housing with the object of creating more compact cities and reducing the amount of rural land developed for housing. Even without such policies, the closure or migration of an organization occupying a fringe-belt site will trigger a re-evaluation of the site, a consequence of which may be a planning application to redevelop the site for housing. In these circumstances the wider significance of the site within a fringe belt should be a consideration, although scarcely any UK planning authorities take this view.

Conclusion

The particular British school of thought in urban morphology that some have described as Conzenian is unambiguously geographical. It is primarily about how things fit together on the ground. It is hard to envisage ideas that are more geographical than the fringe-belt concept and the morphological region. They are about how the urban parts of the earth's surface have been configured and

reconfigured. The description 'morphogenetic' seems apposite, as does the emphasis on cartographic representation. The entire approach, but most obviously the mode of conceptualization and the approach to terminology and visual representation, is much more German than British. There is no doubt that the history of British urban morphology would have been very different if M.R.G. Conzen had not moved to England.

Conzen himself was too modest to feel comfortable with the term 'Conzenian'. Nevertheless, there is a good deal of current interest in the type of research that could reasonably be described by that term. Some of it undoubtedly has relevance beyond its parent discipline of geography. Indeed, arguably some of the most exciting developments in urban morphology more generally are those at the interfaces of geographical urban morphology and architecture and planning. So the title of this paper is emphatically not an attempt to ring-fence a particular domain of urban morphology, but it does refer to an approach to the city that, in the course of the twentieth century, developed distinctive features, many of which are influencing current research.

Notes

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