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# Urban morphology or townscape? Wholes made of many parts

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In my student days I had homes in Leeds and Manchester, two nineteenth-century industrial cities very different from the village in southern England where I had spent my first eighteen years. As I moved through those two cities – on foot and by bus – I was intrigued by the micro-details of the townscape, how the streets didn't quite join up in many places and the building styles suddenly changed – things I could have noted in the town where I went to school (Swindon), but which were totally ignored. Then I moved to Australia and a very different city – Melbourne – but the same features stood out again: the townscape wasn't a whole but a series of independent parts, bolted together with no apparent attempt at unity.

All was revealed when I came across a paper by David Ward (1962) which provided the answers I had been seeking. The key, in his terms, was the 'pre-urban cadaster': new pieces of urban fabric were added to the built-up area, not necessarily on its fringe, within the pre-existing pattern of landholdings. That pattern varied spatially in its nature, between the smallholdings into whose boundaries much of southern Leeds had been extended and the larger holdings – where I lived – to the north of the city. In many parts on the outskirts of south Leeds almost all holdings in the mid-nineteenth century were of ten acres or less; in parts of north Leeds, on the other hand, as much as half of all holdings were of ten acres or more. The rows of terraced housing – many of them of the back-to-back variety – and the streets onto which they faced were inserted into many of those holdings. In some cases they were contained within the boundaries of individual fields, hence Ward's conclusion (1962, 166) that 'the location, the size and the shape of land holdings have been shown to have had a significant effect on the characteristics of the urban plan' – a situation that he claimed was representative of northern England's other industrial towns, and which my unstructured field observations in Manchester appeared to confirm (on which see Sutton, 2013) as did a later paper by Mortimore (1969) on Bradford.

In Melbourne my PhD thesis was designed to bring together an appreciation of the city's social geography – based on the then emerging work on social area analysis – and elements of its townscape, notably the street pattern, building types and the distribution of shopping centres of varying size and composition (on building types, see Johnston, 1969; on shopping centres, Johnston, 1966a, 1968a). Much of the city's expansion occurred in the twentieth rather than the nineteenth century, but the same relationship between the pre-urban (albeit only relatively recently established) pattern of landholdings and the city's street pattern was clearly displayed. My paper on the city's streets (Johnston, 1968b) clearly identified breaks in their alignment that coincided with one or both of parish and landholding boundaries, both in their orientation and the fact that, for example, north-south streets often didn't quite meet at those boundaries. Aerial photographs quite clearly identified where those boundaries had been. Furthermore, differing types of street plan – rectangular grids as against less regular patterns – were clearly associated with different types of social area; the city's social geography was apparent in those elements of its townscape.

By then I had also encountered Conzen's (1960) classic work on town-plan analysis, and how in some parts of a town areas that had initially been developed at relatively low densities were filled-in – what he termed repletion (something that Whitehand and Larkham, 1991, later brought up-to-date

in the British context). In a very different context, this is what I observed in parts of suburban Melbourne, notably those areas initially developed at very low densities for the city's upper-middle classes. By the mid-twentieth century many of these individual properties in their large suburban estates were being abandoned and replaced by new developments at higher densities. In many cases a new street (a cul-de-sac in a lot of them) was inserted to serve the smaller, but still relatively high status, homes and, especially, associated gardens in areas that changed their appearance but not their social standing. Mapping those re-divisions of suburban space provided complementary evidence of the location of Melbourne's high status residential areas (Johnston, 1966b).

That was where my work on townscapes ended, and although I observed similar characteristics in my next home city – Christchurch, New Zealand – I made no formal study of them, though my arguments were confirmed when 'Con' Conzen visited for a year and I took him on field walks through various parts of the city's townscape. And although my next home – Sheffield – bore all of the characteristics I had observed in Leeds and Manchester a decade earlier, plus some contemporary developments charted elsewhere by Whitehand (2001), they did not attract my attention, apart from noting the uniformity that large public housing estates had imposed on the city, something that was not the case in New Zealand cities where, prior to the introduction of multi-storey flats. a dominant feature was that no pair of adjacent dwellings should look the same from the street, even if the only variation was in the orientation of a basic house plan on the plot.

Townscape analysis, building on the foundations laid, in particular, by Conzen was the chosen sub-field of a small group based on the University of Birmingham, led by Jeremy Whitehand with, later, Peter Larkham (who has summarised much of the group's work – Larkham, 2006). In a wide ranging literature they and their associates have identified many of the features of evolving townscapes, both historical and contemporary, and the agents involved in creating the parts which combined to make what in some cases was a rather chaotic whole. Modern planning has to some extent improved on that: new settlements have been planned as wholes – although most of them have had later extensions – and the layout of new subdivisions have had to conform to planning policies with regard, for example, to street layouts and building styles: nevertheless, the separate parts are usually readily identified on maps and plans and in the field.

Whitehand's research has identified many of the separate components of these emerging townscapes. His early work on fringe belts, for example, illustrated how certain land uses were placed at the edge of a built-up area during periods when expansion was slow – and such residential development that did take place was at relatively lower densities than at periods of rapid expansion (Whitehand, 1975). When urban growth resumed, they often remained as somewhat anomalous elements within the burgeoning residential and commercial areas – cemeteries and public parks, for example, as well as allotments and playing fields. Some were later translated into other uses with, for example, residential areas inserted into the fringe belts just as had been the case on the edge of Leeds or in the infilling of low- density housing estates in Melbourne.

Townscapes – British in the case of Whitehand's research but certainly not confined to there – are thus composed of what he terms morphological periods, characterised by their street patterns, their built forms and architectural styles (reflecting the different architects and designers involved), the size and use of the plots on which the buildings are placed: most of them are residential areas, but commercial and industrial areas (including shopping and service centres) add further diversity to the scene. Townscapes, to use a term less popular these days than a few decades ago, are a congeries of regions – they look and feel different, and different types of people live in them.

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Townscape description and analysis is now a very minor interest among urban and historical geographers, but the separate units identified in such work provide the frameworks within which the lives of modern city residents are structured: they both create and constrain their action and activity spaces.

And therein lies the challenge for new generations of researchers attracted by the wealth of big data now available and the software packages within which they can analyse, even visualise, them and undertake their work in what is now termed urban analytics. While much of their expertise might be expended using the available technology to evaluate a city's liveability – how easy is it to navigate its street system? – to understand how that structure has emerged requires analysis of how the street pattern and the built form within it have been created. Alongside research into the urban whole, attention could be focused on its many parts, that congeries of regions – some big, many tiny – that formed the building blocks within which agents created the myriad parts of complex, complicated, frequently chaotic wholes. And the construction of geocoded databases could appreciably assist in the development of what Whitehand (1975, 1992) frequently called for and made steps towards – theory building: as he noted early on (Whitehand, 1975, 211) most research on urban form has been 'idiographic, providing little basis for either replication or further development'. The possibilities are surely endless, for comparative studies providing foundations to a wider appreciation of how urban forms have been formed.

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