

belts associated with city walls, are also valuable examples of bases for recognizing, developing and enhancing green zones. Of course, the tendency for these fringe belts to relate to more recent periods of very slow or stationary urban growth does mean that, to appreciate their full significance, settlement-wide assessments are often needed, not least in the case of sizable cities and conurbations.

These few observations, following on from Šćitaroci and Marić's welcome contribution, are, in short, a plea for an approach to urban form in which spaces, notably in this case constellations of green spaces, have an integral part. Greater appreciation is needed of the role of these spaces in physical expressions of phases in development of the historico-geographical structure of cities. Of course, this is in no way intended as a disincentive for detailed research on *individual* sites and their notable attributes. The key point here, however, is that individual sites need to be investigated and assessed within wider frameworks, notably as parts of morphological regions – such as fringe belts (Zhang, 2019). Such belts, not least as conceptualizations of the heritage of urban areas, exemplify the integral place that the recognition of historico-geographical structures should have in planning. They enrich our understanding of the configurations of towns and cities and merit a significant place in the shaping of future urban landscapes.

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## Space in the city: reusing cemeteries

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Kolnberger (2018) reminded readers of this journal about the relationship between cemeteries and urban form; and recent discussions have highlighted the importance of green spaces. This Viewpoint seeks to draw these threads together and highlight the issue of land-use and urban-form changes relating to cemeteries.<sup>1</sup> This has long been recognised:

in the 1880s a Mrs Holmes observed: "In looking one day at Rocque's plan of London (1742–5) I noticed how many burial-grounds and churchyards were marked upon it which no longer existed . . . I commenced to draw up a list of all the burying-places, of which I could find any record, still existing, or that had ever existed, in London. It was no easy task" (Bard and Miles, 2017, p. 1, referring to Holmes, 1896).

The growth of urban populations, and indeed the growth of cities, has meant more cemeteries; and formerly peripheral cemetery sites become more central as the city expands beyond them, as Niță *et al.* (2014) clearly demonstrate for Bucharest. This incorporation has led to changing pressures for their land use; indeed the cemetery may be just ‘a phase of land utilization’ (Pattinson, 1955). It is common for resident populations to be displaced by higher-value business functions and, as this happens, burials cease, and such sites may even become disregarded, suffer from lack of maintenance, and eventually pressure to redevelop.

In this context Shelton (2008) discusses the ‘unmaking’ of historic spaces as San Francisco grew in the early twentieth century, and Mallett (2006) demonstrates how and why, with relation to changing cultural beliefs and practices for disposal of the dead, this occurred in six cemeteries in Launceston (Tasmania) in the short period 1931–63. The surprising scale of cemetery clearance in Sheffield is reviewed in Sayer (2017) in the wider context of the ethics of disturbing buried remains. Some in Dublin even became car parks (Refaussé, 2015). Anderson (2006) shows debates and actions in Georgia and South Carolina; while in the UK, prominent grave markers may be protected as listed buildings, and entire sites as conservation areas, while the London Road cemetery, Coventry, is protected as a Grade I park and garden (Historic England, 2019). New York’s African Burial Ground (active 1630s–1795) was rediscovered in 1991–2, 30 feet under current ground level, during preparations for redevelopment: it was designated a New York City Historic District and a National Landmark in 1993 and a National Monument in 2006 (National Park Service, 2019).

These changes may also be related to different types of cemetery and changes in fashions for cemetery aesthetics, for example with the twentieth-century rise of the ‘lawn cemetery’ (Rugg, 2006). They may have a ‘secondary function . . . as public spaces for reflections, recreation, and cultural encounters’ (Skår *et al.*, 2018; see also Evensen, 2017). Indeed, disused cemeteries were transformed into open recreation spaces in 1880s Britain (Conway, 1985) and, in some parts of post-Second World War Birmingham (UK), disused graveyards comprised the largest part of the available public open space (Fidler, 1955).

Cemeteries can also be important locations of biodiversity (Kowarik *et al.*, 2016). Many studies, in different settlement forms and cultures,

demonstrate this link (Löki *et al.*, 2019) and their importance for conservation aimed at both site layouts and individual structures (for example, Orstan and Kosemen, 2009). Although species types and habits can be related to management structures and consequent vegetation patterns, nature also has a way of ‘pushing back’ against human intentions, making these spaces rich in a range of human and non-human ‘agents’ of change (Cloke and Jones, 2004, p. 327).

But the news is not all good: cemeteries can also be example sites of heavy metal pollution (Fiedler *et al.*, 2012). Some changing burial or management practices may also lead to biodiversity reduction or the local eradication of natural communities (Plumwood, 2007). For some groups in some societies, there are potential conflicts between cemeteries and adjacent residential uses (Newman, 1986; Tudor *et al.*, 2013). Indeed, cemeteries have long been associated with land value changes (Hardwick *et al.*, 1971) although these are not always positive changes for local residents or landowners. It has also been suggested that there are ethical and moral grounds why cemeteries should give way to housing given current planning concerns of land scarcity, gentrification and housing unaffordability (Allam, 2019). Despite the general view that cemeteries are sacred, immutable and fixed, they may also be (relatively) temporary land uses, and most planning systems (including Shari’ah law: Green and Murray, 2004) permit redevelopment of disused graveyards.

Such redevelopments do, however, raise the issue of how the human remains in such cemeteries are to be dealt with. In a sense, the dead also represent a curious enigma: ‘they are always there in mind, they come back in dreams, live in memory’ (Warner, 2017, p.19), even if sites of rest are subject to development pressure. More unsettling to some, perhaps, is the prospect of the dead being forever forgotten – ie without some physical reminder, artefact or trace of memory to prompt recollection. In many cultures, this is an important decision-making process relating to the desirability and practicability of urban change. One discipline which has long faced these challenges, and from which lessons may be learned, is archaeology. ‘Given the powerful emotional, social and religious meanings attached to the dead body, it is perhaps unsurprising that human remains pose a distinctive set of ethical questions’ (Parker Pearson *et al.*, 2011, p. 5). Indeed, when remnants of the dead are left in the street or exposed for any length of time during archaeological investigations, the

sight and neglect of the human form, however decayed, can often provoke strong public feelings. But if the soul lives on, as some cultures believe, then why should interment matter? Equally, if death really does mean death, then ceremony and burial ought not to matter (Warner, 2017).

Nevertheless, there is a popular and long-standing view in certain cultures that burial is permanent, that ‘having laid [bodies] to “final rest”, [relatives] fondly expect them to stay in the selected inclosure, because the ground is conveyed by a title supposed to guarantee possession for all time’ (Windmüller, 1898, p. 211). This is true despite major changes in religious observance in some societies. In England, antiquated legislation and ill-communicated policy decisions relate to the requirement for reburial, and to screen excavation from public view in order not to cause offence. But a sense of permanence surrounding burial sites is also open to challenge. Some countries and religions treat human remains rather differently, with graves being emptied and bones retained – sometimes on public display – in ossuaries or catacombs, from the Catacombes de Paris to the Kaplica Czaszek in Kudowa Zdroj, Poland. US planners in the mid-twentieth century enquired about the cost of removing a cemetery only to find that ‘legal obstacles can very well make removal impossible!’ (American Society of Planning Officials, 1950, p. 1). Even then, though, the need to press ahead with development can win out, given that US property law ‘never took into account the possibility of a day when there would be both pressure to reuse cemetery land and no one left with legal standing to represent the interests of those buried there’ (Shaffer, 2003).

Laurel Cemetery, Baltimore, provides another problematic example of impermanence (Laskow, 2018). Once a fashionable cemetery for black residents, it was in decline by the 1920s and, although initially supported by residents, by the 1940s there was pressure to have it removed. In 1957 two city officials formed a company that purchased the site for \$100. It was sold for development valued at \$229,660, bulldozed, and redeveloped as a shopping centre and car park. Families were told that the remains had been moved to another cemetery. In 2015, though, a local archaeologist demonstrated that human remains still existed just under the car park. ‘It was rare to have a cemetery of this size set aside for a black community in the nineteenth century. The scale also makes the loss of the place that much more significant. Laurel Cemetery had a record, chiselled in stone, of a huge swath

of Baltimore history. In the course of just a few decades it was – wilfully, deliberately – erased’ (Laskow, 2018).

In Birmingham (UK), preliminary work for a rail terminus for the High Speed 2 route has involved excavation of a large disused cemetery adjoining the city centre. This had been opened in 1807 to cope with overspill from the town’s parish church as the industrial population grew. It was closed by the 1860s, laid out as a park in 1879 and, by 2010, was one of the few publicly-accessible green spaces, with mature trees, in this part of the city. Although there were local public complaints about lack of notice ([birminghamhistory.co.uk](http://birminghamhistory.co.uk), 2018), under the terms of the 2017 High Speed Rail (London-West Midlands) Act, the site was fenced, all trees felled, surviving gravestones removed, and bodies (up to 8000) excavated and removed for reburial. Interestingly this site adjoins that of St Bartholomew’s church and graveyard, opened in 1749, closed in 1937, bombed and demolished in 1943. Burials were removed in advance of inner ring road works in the 1960s. Together the sites formed a large inner fringe-belt green public space. Both have now gone.

The notable issues are that even cemeteries can be relatively transient features in the urban landscape; even if they were once fashionable, even if converted to public open space and with a range of ecological, cultural and sustainability-related benefits. But this is a counter to Kolnberger’s (2018) perspective which stressed long-term persistence. There is also a widely-held feeling that burial places should remain inviolate. But inner urban sites are just too valuable, especially when the community associated with burials has moved on. Unlike other fringe-belt sites, though, the human remains constitute a religious, ethical and cultural problem, with legal, financial and practical implications. There are particular issues where communities are not, or feel that they have not, been appropriately consulted about what happens to the dead; where remains are left beneath the development (and perhaps revealed at a later date); and where the conversion of large green spaces into buildings results in a poorer-quality environment. Recent archaeological thinking may have wider benefits for the way in which remains are treated. Many urban morphological studies stress the inevitability of change, and in some circumstances the rapidity and large scale of change, but also the potential benefit of relict features in urban landscapes. So cemeteries will inevitably change, but there are many precedents to allow us to identify

and mitigate the most problematic features of the change process.

We should note that society, too, is changing and the desire to be reunited with the bodies of loved ones can take many different forms. The increasing popularity of cremation allows an urn or small casket to be taken home; and innovative rituals are developing including scattering ashes in a favourite location, or through imaginative acts of remembrance, perhaps made possible through the use of technology (Warner, 2017, p. 23). The large-scale cemetery as an urban form may not feature so strongly in future fringe belts.

## Note

1. For convenience the term ‘cemetery’ is used for all forms of burial place (though see Rugg, 2000).

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## What new insights can the combination of the historico-geographical and configurational approaches to urban morphology offer?

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One of the key challenges facing urban morphology today is to coordinate and combine different approaches (Whitehand, 2012, 2015, 2017). Larkham (2006) has suggested that considerable opportunity exists for exploring the complementarity of the historico-geographical approach and the configurational approach (space syntax). However, establishing a dialogue between them has proved neither easy nor straightforward, and this has been largely hindered by their different disciplinary traditions and theoretical propositions. In the past decade there have been some efforts to combine these two approaches (Griffiths *et al.*, 2010; Kropf, 2017; Oliveira *et al.*, 2015; Pinho and Oliveira, 2009). Our knowledge as to what new insights that the combination of these two perspectives could engender remains unclear. This is despite the understanding of the shared theoretical focus that the structure of the urban grain embodies and explains, its socio-economic and cultural process (Griffiths *et al.*, 2010), and the common object that the street as one of the built form elements is essential for both the recognition of morphological regions and accessibility distribution identification (Kropf, 2017; Oliveira *et al.*,

2015). This Viewpoint contributes to this debate by beginning to map out some possible ways in which the two approaches can be used complementarily in research and practice.

Research endeavours to date have focused largely upon how the historico-geographical and configurational approaches in combination can help to better elucidate the historical process of urban form. The principal proposition can be summarised in two perspectives: from the historico-geographical one, place-specific knowledge about the change and continuity of urban form can be brought to bear on, and then enhance description and explanation of, its generic properties; from the configurational point of view, features of the generic street network can be used together with other built form elements to inform identification and definition of characteristic areas (for example morphological regions). However, existing studies primarily revolve around the former, whereas investigations on the latter are only in their infancy.

This largely unexplored area potentially provides an ample opportunity, where different configurational types and measures of the street network could be identified and calculated to define areas