City Space Architecture

Rethinking Past Green Space Manufacture to Boost Equitable Future Urban Recovery

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Abstract
A multitude of determinants influence the urban planning process. Yet, in the present-day context of an ongoing pandemic causing infirmity and death in thousands of towns and cities, how can examples of urban planning from history, namely ones that sought to boost public health, (re)shape the current planning paradigm? Is there a need in the light of the global impact of Covid-19 to (re)evaluate the value of past planning models and so, in accordance, rethink present-day urban density management and public space creation? In consequence, this paper puts forward an overview of how urban planning and public health have historically interlinked, albeit with reference to 19th century Britain and the establishment of public parks. Used communally by assorted social groups such green spaces were considered to be crucial for physical and mental health. Significantly too, these open areas are still a fundamental element of the 21st century British cityscape and, arguably, as part of the present and future social recovery from Covid-19, will play a vital role in public life and well-being.

Keywords: city planning, public health, public space, parks, Britain

Introduction

There is no shortage of data on the evolution of urban environments in past and contemporary eras. Descriptions, analyses, and explanations of their development have been provided by countless authors heralding from a variety of scholarly fields: consequently, a wide-ranging general international commentary on cities and their built fabrics now exists. However, in this intellectual setting it is often understated that public health and urban planning have interwoven existences. To be blunt, the history of cities is the history of disease and, likewise, the history of disease is the history of cities. Moreover, the importance of the relationship between urban planning and public health is frequently downplayed. For instance, as a tool of the state modern city planning emerged during the 19th century to help tackle human health and environmental pollution issues apparent within fast-growing industrial settlements in Europe and North America (Lopez, 2018). Green space creation was vital to the emergent urban design and health management process.

The opening sentence of Edmund Bacon's influential text *Design of Cities* (1967) states that a city's environmental form reflects the nature of the civilisation to which it belongs. In comprehending how the character of the urban environment reveals the disposition of society at large Bacon emphasizes the role/significance of architectural mass and space. In view of his standpoint, and with reference as well to empiricism derived from humankind's past city planning experiences, thus, whoever engages in the laying of buildings, roads, and public spaces should possess cognizance of how their actions can potentially forge high quality, people-friendly built environments but, in contrast, know that when planning is applied defectively low quality, alienating, and dreary urban fabrics will result. (Carmona et al, 2003: vii) Command of planning's impacts upon people, particularly their quality of life, inevitably garners extra magnitude when severe social disruption, e.g. a pandemic, occurs.

Covid-19 and the contemporary green space challenge

Critical urban studies have shown that whilst in recent decades the worldwide tendencies of rapid urbanisation and globalisation have improved the lives of millions of people, the negative side effects of these trends have become all the more obvious. Of note too, the transpiring of the Covid-19 pandemic since 2019 has intensified such predicaments. Given this situation and taking into consideration the contagion's severity, its wide geographical diffusion, and the fact that the vast majority of its victims are urban dwellers, fresh debate has been prompted as to how the configuration of built environments can affect citizens' well-being. Governments, civil groups, academics, architects, and planning practitioners have therefore elicited new discussion as to how, as an example, public space is planned, accessed, and used.

Notwithstanding it being universally recognised that the existence of urban green space positively contributes to citizens' health and contentment (Shoari et al, 2020), and in conjunction a correlation is known to exist between the absence of green space and increased health issues (Barton and Rogerson, 2017), the Covid-19 pandemic has exposed four elemental issues: physical and mental health impediments allied with contemporary urban living are rising; urban-based health care systems run the risk of breaking down when large numbers of people concurrently suffer from infectious illness; city planning systems have in recent decades failed to comprehensively address

the paucity of green space within many urban communities; and, in association with the prior point, the standards approach to urban green space planning is malfunctioning in many parts of the world.

Prior to the onset of the Covid-19 pandemic a multitude of local, national, and international commitments to enhance the establishment of green urban spaces existed. For example, UN-Habitat (2018: 4) has advised that 15-20% of urban land should be dedicated to open public space and the World Health Organisation (WHO, 2017) devised a globally-applicable green space accessibility index: it recommends that individuals should have access to an open area (of minimum 0.5-hectare area) within 300 metres distance from their place of being. In spite of such advocacies the gravity of the Covid-19 pandemic has reawakened the public, governments, civil bodies, and urban designers to the ambient risk of urban living as well as the challenge of accomplishing liveable city goals. As an upshot, debates on city planning and well-being have broadened. Evidently, earlier studies on these and related topics have accrued fresh value. By way of illustration, the research of Russo and Cirella (2018) in suggesting that urban places should have at least 9m^2 of green space per capita has renewed urgency as to the need to lay out more open spaces but, in doing so, has accentuated the need to assure that such plots deliver optimal benefits to persons from all social sectors. Furthermore, as previously indicated, the standards approach which has been used in recent years to attain global consistency and certainty in urban green space planning has been shown to be, in many countries, ineffective: land development pressures arising from high rates of urbanisation have meant numerous governments are failing to attain green space provision standards. As a result, innovative approaches to space availability and management are being sought so that urban development can be better directed towards the sustainability framework. In this regard it is worthwhile to ask whether history can supply models to guide future urban management and, so, the post-Covid social recovery process?

The 19th century and urban planning's turning point

Urbanists have emphasised that the character of the built fabric is influenced by a range of determinants, e.g. the natural world, locational factors, and human-made matters that include culture, aesthetics, the economy, law, and technology. Within grand narratives of historical city evolution scholars such as Peter Hall (1998) have underscored that the rudiments of urban planning are a repetitive feature of civilisations through time. But, within such accounts, evidence is provided to demonstrate that by the early-19th century urban planning theory and practice acquired new dimensions and perspectives. In Britain concern for public health left an indelible mark upon the design and management of towns and cities.

As to why the 19th century is widely acknowledged as being a turning point in the planning of urban places one must not overlook the social, economic, and environmental effects triggered by the industrial revolution (which commenced in England during the late-1700s). In the view of Lewis Mumford (1961: 458) the 1800s bore witness to the supremacy of three urban features: the factory; the railway; and, the slum. This author though, in the frame of this paper, wishes to highlight the importance of another feature: the municipal park. The development of public parks, to summarise, provided new sources of fresh air, new sites for citizens to engage in a variety of leisure

activities as well as to engage with nature, and new means to diffuse existent social tensions. Composed as meeting grounds for all groups in urban society the social role of parks was reflected in the activities permitted within them, and via their planting, buildings, and monuments (Conway, 1991: 4).

Whilst cities prior to industrialisation had been "the mainspring of cultural innovation and repositories of everything that is worth while" (Cherry, 1974: 6), the rapid influx of persons from the countryside brought new pressures, tensions, and challenges to urban life and administration (Luckin, 2008: 210). Given this, from about 1830, to thwart the new scale of urban problems in Britain there was increased intervention in, and management of, community affairs. But then again, and considering the historical situation analytically, what did urban planning comprise of? What regulations were introduced as part of its practice? Under what conditions were planning decisions made? Irrespective of modern city planning being developed as an outcome of the British political elites' realisation that the administrative set-up developed in earlier times to safeguard urban environments was impotent under the dynamics of industrialisation, the application of new rules and procedures to regulate the design of houses and residential districts was profoundly swayed by the expansion of medical knowledge with regard to three separate, but connected, matters: overcrowding; insanitary living conditions; and, the widespread presence of infection. Such was the occurrence of contagious illness that by the 1840s the city dwellers' average life expectancy was less than 27 years. Hence the British came to view the industrial city through a binary lens: one view allowed them to observe it as a place of progress, viz. as the engine initiating the growth of national wealth and power; the other standpoint centred upon concern, even alarm, as to its hazardous environmental condition. Contemporary accounts make clear, Britain's industrial revolution rendered a heavy price for the labouring population. With slum dwellers described as "worse off than wild animals" (Fraser and Maver, 1996: 352) it became noticeable as the early-19th century unfolded that a distinct spatial distribution of disease and mortality existed. (Dennis, 1984: 18) Not only was life expectancy in cities considerably less than what it was for those residing in rural places, it also varied greatly between districts within cities.

In seeking to offset the public health breakdown bureaucrat Edwin Chadwick composed the ground-breaking *Report on the Sanitary Condition of the Labouring Population of Great Britain* (1842) – it was the first social reform report to coalesce statistical data with descriptive evidence so as to highlight urban life expectancy variations caused by class and place of residence (UK Parliament, 2021) - and important laws were authorised: in 1847 the first national decree dedicated to granting local authorities power to acquire land for the purpose of establishing and maintaining parks was passed; and, in 1848 the first national public health law was sanctioned. It, said Hamlin (1998: 246), supplied new rhetoric and ideology to social reform arguments. Szreter (2004: 215) commented that the decree presented a distinct way of dealing with the aligned problems of health, security, and environmental deterioration: the fashioning of light, air, and space within the industrial built fabric.

To overcome the problems evident within their cities elected municipal governments acquired powers in order to, amongst other things, construct new environmental infrastructure. As Conway (1991: 6) explained, administrative accretion aided local councils to surmount the worst excesses of early-1800s urban growth whilst, in concurrence, it permitted them opportunity to augment civic pride. In basic terms, the

expanding of the legislative framework granted local governments enriched capacity to directly tackle the effects of industrialisation and urbanisation, and parks in this context "were important to the development of town planning and to the loosening of the texture of the urban environment." Despite, by 1901, 27 settlements in England having an urban environmental density in excess of 25 people per acre (Cherry, 1974: 12-13), a number of administrative and cultural yardsticks had been formed: the British realised that local governments were best suited to dealing with the challenge of fast urban growth and the accompanying decline in living standards; access to greenery was considered essential to wholesome urban life; and, parks had capacity to cater for various social functions. Such was the British mindfulness of the value of 'green lungs' that by the early-1900s more than one dozen national laws and countless local improvement acts had been passed re environmental betterment/green space creation, and municipalities by that time ventured to provide ten acres of open space for recreational usage per 1,000 local inhabitants (Myles Wright, 1948: 224-5).

From adversity we progress

In the fields of Urban History and Planning History much discourse has centred upon why public health notions affected the British effort to manage urban development during the 19th century. Much debate has focused upon the agents that contributed to the process of forging the new planning frame, these principally being:

- Citizens' concern about deteriorating urban conditions. Public sentiment compelled local and national governments to respond to unacceptable environmental matters, e.g. increasing urban densification which, notably, was linked to worsening sanitation and the prevalence of contagious illness (Cherry, 1988: 45);

- Civil servants, doctors, and epidemiologists, persons who in the early-1800s believed that disease was caused by miasma, i.e. 'bad air' derived from putrefying material. Such individuals, by means of their graphic accounts of urban life, instigated two advances: they supplied proof of the spatial dichotomy within industrial places, it being the contrast of rich and poor, low and high density living, clean and unclean streets, healthy and unhealthy persons (Rodgers, 1989: 2); and, in tendering facts pertaining to urban conditions their data acted as a crude indicator of industrial-age material progress as well as placed attention on unforeseen problems linked to rapid urban growth, e.g. avoidable ill-health and mortality (Morley, 2007: 64-5);

- Cholera. In spite of the proliferation of numerous infectious illnesses the arrival of a new disease, cholera, sparked unprecedented fear. As Britain's 'shock disease' its presence recalled the medieval plagues, and as the sanitary reformer's 'best friend' it incited municipalities to form their own Boards of Health, it provoked the medical community to venture further into slum districts in an attempt to comprehend disease behaviour, and it fortified the need to introduce new environmental directives so that freer movement of air in and about buildings could be generated. (Mumford, 2018: 18). This desire for fresh air and open space buttressed the quest to establish municipal parks;

- Lack of access to open space useable for leisure purposes. Whilst within the pre-industrial city several types of easily accessible open areas existed, e.g. the market place, church yards, town square, and common land at the urban fringe, owing to the greatly enlarged territorial size of cities and their devouring of open sites for building purposes, by the early-1800s public space for recreation was much less reachable. Awareness of this actuality led to three notable developments.

First, just one year after the passing of the Reform Act which instituted the British system of democracy, the 1833 Report of the Select Committee on Public Walks provided a foundational survey of open space available for public use within the major urban centres. Second, in exposing the need for more open areas the document roused businessmen and landowners to donate money and land so that public parks could be established, *and* it stimulated councils to compose environmental improvement bills, set up open access debates, and then pass rulings so that green space creation and management could become a basic component of local governance. Third, the report had pertinence to ongoing discourse on social improvement. Given that reformers, moralists, and others had from the 1820s observed that urbanisation diminished opportunities for fresh air and exercise (Chadwick, 1842), and in promoting 'rational recreation' so that the mind and body could be refreshed, they perceived parks as being able to supply much needed physical and psychological benefits. Additionally, parks were observed to reinforce family unity. They granted, said Conway (1991: 35), "opportunities for the recreation of all family members and so would have a positive role to play in enhancing family togetherness." Yet, in proffering a précis of the historical British situation it must be recognised that the pursuit of municipal park-building was just one strand in the national search for urban space creation. It is worth noting that parliamentary Select Committees repeatedly remarked upon the absence of open land within working class districts, and they advocated expanding earlier housing laws so that greater volumes of open land could be formed in built-up areas. Plus, in London towards the end of the 1800s, The Commons Preservation Society lobbied for the sparing of greenery at the urban fringe from building encroachment. Similarly, bodies such as the Metropolitan Public Garden, Boulevard and Playground Association (by the 1880s) endorsed the need for communal recreational space within inner districts.
From 1833 to 1885, in England alone, more than 180 public parks were laid out. They ranged from 0.25 acres to over 400 acres in spatial extent. Sanctioned by the passing of local and national laws the worth of public green space to health, virtue, and happiness was universally recognised by the end of the 19th century. The value of such open areas as a critical infrastructure to upholding well-being has not waned since: in 2017 a National Health Service report reiterated the usefulness of green space to strengthening community happiness and the prevention of common health issues.

The worth of green space for all
Thanks to public health and urban planning empiricism it is accepted that liveable cities facilitate comfort, relaxation, discovery, as well as passive and active engagement with the environment. (Carmona et al, 2003: 165). It is realised as well, first, that to simply have green space is not enough to necessarily guarantee a high quality of urban life: for

health benefits to transpire attention must be put upon spatial quality, accessibility, and management. Second, we recognise that planners and policy-makers today face conflicting demands in justifying public service provision. This discord, warn civil groups, threatens the existence of many green public spaces. In Britain, Fields in Trust (2021) has cautioned that whilst presently approximately 33 square metres of green area is provided per capita there is strong evidence to suggest that in the coming years total green space provision will decline and hundreds of thousands of urban dwellers will lose access to parks within a short walking distance from their place of residence. Fields in Trust contest that in order to protect green space as community assets legal protection in perpetuity must be issued. Without doing so, and citing its Revaluing Parks and Green Spaces project, the organisation estimates that the value of physical health and mental well-being provided by green areas - £34bn per annum – will dramatically reduce.

In an attempt to comprehend the tangible profits generated by the existence of green spaces a number of factors necessitate focus. To start with, peoples' proximity to open space is of enormous importance: if green areas are not accessible then few persons can enjoy the benefits of using them (Ahmadpoor and Shahab, 2021). For this reason, when movement restrictions are imposed upon the public/they are barred from voyaging beyond their locality, poor planning interventions from earlier times as to where public spaces are sited means there is little or no opportunity for most people in a municipality to use and enjoy them. As the Covid-19 pandemic has laid bare, whilst the scarcity of green space is a matter of serious concern in numerous cities so too are the matters of public space distribution and the means by which neighbourhood planning has formerly been undertaken (Wargent and Talen, 2021: 89). That's why from the 1850s in cities like London, Manchester, and Liverpool care was given to siting parks. In these cities parks were purposefully scattered throughout the built fabric so that labouring populations could walk to them without difficulty. In Liverpool landscaped spaces were sited in proximity to the urban periphery so that a green ring could be formed, and they were additionally utilised as spatial wedges between inner districts. (Cherry, 1988: 47) This strategy not only made public spaces easy-to-reach but had the knock-on effect of ensuring councillors were hugely popular at times of local elections. Notably as well, lessons from 1800s Britain show that parks do not necessarily have to be large in size. What is though paramount is that they are reachable without too much hindrance and are perceived as safe to use. Usability, particularly during disruptive social times when people have restricted access to friends, family, facilities, and services beyond their local neighbourhood's bounds, means green spaces become meeting points and activity centres so that physical and mental well-being can be upheld. Simply put, challenging social times explicitly validate the usefulness of green space inclusion in neighbourhood planning.

Aside from the issue of ease of access the quality of an open area influences the public's willingness to use it. Where parks are well maintained – green space upkeep obliges financial investment (Wargent and Talen, 2021: 89) – and are free from crime or social nuisances they become effective at providing physical and mental benefits to different groups of people, especially those most vulnerable to social disruption, i.e. children, the elderly, those with disabilities, and ethnic minorities. (Khan, 2020) Public perceptions of green space security, state Sugiyama et al (2008), greatly determines their usability whilst at times of social crisis, when peoples' anxiety level is high, good park maintenance helps alleviate citizens' stress. In contrast, Ahmadpoor and Shahab (2021:

51-2) remark that when a park "is littered and all of its commodities are poorly maintained, it is much less effective at delivering the positives associated with green space." When people have limited opportunities for socialising/social support poorly-kept public spaces indeed contribute to anxiety, and they diminish community morale.

Conclusion
All in all, it is assumed because of urban planning's advancement through time that its application nowadays will assure security, inclusivity, resilience, and sustainability. Certainly, as the example of 19th century Britain testifies, an interface can exist between an urban planning system, contagious disease management, and space making/use. But, the value of grasping planning's history extends far beyond merely appreciating such a fact. The history of planning permits us to better understand our present-day surroundings' form and the processes – environmental, cultural, political, legal, etc. – that brought it into being. It supplies us with other valuable lessons too. Hensely et al (2020: 82-3) in taking up the 3Is framework – ideas, institutions, and interests – emphasise that it becomes possible to unravel the symbiosis between public health and urban planning, their shifting collaboration through time, and why public health now has limited influence within urban planning systems in many countries.
The knowledge harvested from studying cities and their past planning processes expands our comprehension of how design ideas, urban management practice, policy making, and cultural practice reciprocally enrich. It advises us that epidemics have distinct socio-morphological imprints. Accordingly, urban history enlightens us that the experience of contagion will vary between different social and racial groups within the city although, in turn, this circumstance can be mitigated by green public space manufacture and usability facilitating community resilience. History reveals as well that the social, economic, and environmental fractures, tensions, and injustices exposed and aggravated by pandemics will not dissipate once a public health crisis ends: such matters might afterwards become less noticeable but they will not vanish. In addition, the contemporary conundrum of providing enough communal open land for rapidly growing metropolitan populations remains. Of equally serious challenge will be the continuing need to (re)direct urban governments with their respective approaches to planning, designing, and managing green space towards the goals of the 2030 Agenda for Sustainable Development. This procedure, assert Feltynowski and Kronenberg (2020), will be critical in guiding equitable environmental strategy not just within the largest metropolises but smaller-sized urban settlements too on account of parks, since the onset of the Covid crisis, having been crucial to millions of peoples' daily well-being. The role of parks will undoubtedly be important in societies' future revival.
Nancy Kwak (2018: 53-4) remarked that urban historians "explain change over time *in space* for different actors", and that as urban space is "considered not as fact but rather as physical form constructed in complex ways", they bestow alternate lenses to grasping the evolutions in the relationship between built form, its design, and its use. More so, to paraphrase David Lowenthal (1993), because 1800s Britain was a civilisation that embraced innovation whilst concomitantly witnessing its environmental and cultural landscapes change so dramatically, it affords us a case study of how urban problems were, by means of the establishment of new accessible public spaces, directly confronted. This issue should not be underestimated because, explains Ewen (2016), by

drawing upon urban histories it is possible for planners today to advocate local solutions to health and environmental problems. As the effects of Covid-19 plainly demonstrate, globally normative urban planning exercises do not always work as well in the real world as they do on paper. Therefore, is a return to local planning solutions with distinct nuances applicable to all social groups in cosmopolitan urban society, now required? In rebuffing a globalised normative approach to planning is there is fresh capacity to erode the present-day disconnect between public health and urban planning, and to set up new pathways of connection? Whilst we may believe that clean water, walkable communities, and green public spaces are universal products of the historical collaboration between public health and urban planning, as UN-Habitat and the WHO's statistics clearly show, unsafe drinking water, poor sanitation, inadequate housing, inadequate green space provision alongside the unequitable distribution of open areas are a daily fact of life still for hundreds of millions of urban dwellers. So, to conclude, does our planning mentality require change? Should we move away from viewing the city as a whole to rather seeing it as a socio-spatial mosaic (as the British did in the 1800s)? Will this permit within the planning system public space interventions to become more evenly distributed? And, with these questions in mind, how can we ensure public health is a more prominent determinant within the planning of towns and cities? After all, it is not good enough to be members of a global civilisation where health only becomes part of the public and planning conversation once a critical problem, i.e. a pandemic, arises.

References

Ahmadpoor N. and Shahab S. (2021). *Realising the Value of Green Space: A Planners' Perspective on the Covid-19 Pandemic.* Town Planning Review, 92(1), 49-56. DOI: https://doi.org/10.3828/tpr.2020.37

Bacon E.N. (1967). The Design of Cities. New York: Penguin Books.

Barton J. and Rogerson M. (2017). *The Importance of Greenspace for Mental Health.* BJPsych International 14(4), 79-81.

Carmona M, Heath T, Oc T, and Tiesdell S. (2003). Public Places, Urban Space. The Dimensions of Urban Design. Amsterdam: Elsevier.

Chadwick E. (1842). Report on the Sanitary Conditions of the Labouring Population of Great Britain. London: HMSO.

Cherry G. (1974). The Evolution of British Town Planning. Leighton Buzzard: Leonard Hill Books.

Cherry G. (1988). Cities and Plans. The Shaping of Urban Britain in the 19th and 20th Centuries. London: Edward Arnold.

Conway H. (1991). People's Parks. The Design and Development of Victorian Parks in Britain. Cambridge: Cambridge University Press.

Dennis R. (1984). English Industrial Cities of the Nineteenth Century: A Social Geography. Cambridge: Cambridge University Press.

Ewen S. (2016). What is Urban History? Cambridge: Polity Press.

Feltynowski M. and Kronenberg J. (2020) *Urban Green Spaces – An Underestimated Resource in Third-Tier Towns in Poland* Land 9(45), 1-19. DOI: 10.3390/land9110453.

Fields in Trust. (2021). Retrieved from http://www.fieldsintrust.org/News/latest-green-space-index-highlights-importance-of-parks-and-green-spaces (accessed February 18 2021).

Fraser H and Maver I. (1996). The Social Problems of the City. In Fraser H and Maver I (Eds.). *Glasgow Volume 2: 1830 to 1912.* Manchester: Manchester University Press.

Hall P. (1998). Cities in Civilization. Culture, Innovation, and Urban Order. London: Weidenfeld and Nicolson.

Hamlin C. (1998). Public Health and Social Justice in the age of Chadwick. Cambridge: Cambridge University Press.

Hensley M, Mateo-Babiano D, Minnery J, and Pojani D. (2020). *How Diverging Interests in Public Health and Urban Planning can lead to less Healthy Cities.* Journal of Planning History, 19(2), 71-89. DOI: 10.1177/1538513219873591.

Khan O. (2020) *Coronavirus Exposes how Riddled Britain is with Racial Equality* in The Guardian, April 20 2020. Retrieved from https://www.theguardian.com/commentisfree/2020/apr/20/coronavirus-racial-inequality-uk-housing-employment-health-bame-covid-19 (accessed February 26 2020).

Kwak N. (2018). Understanding 'Urban' from the Disciplinary Viewpoint of History. In Iossifova D, Doll C, and Gasparatos A (Eds.) Defining the Urban. Interdisciplinary and Professional Perspectives. London: Routledge.

Lopez R. (2018). Public Health and Urban Planning: Intertwined Histories. In Hein C (Ed.) The Routledge Handbook od Planning History. London: Routledge.

Lowenthal D. (1993). The Past is a Foreign Country. Cambridge: Cambridge University Press.

Luckin B. (2008). *Pollution in the City* in Daunton M. The Cambridge Urban History of Britain. Cambridge: Cambridge University Press.

Morley I. (2007). *City Chaos, Contagion, Chadwick and Social Justice.* Yale Journal of Biology and Medicine 80 (2), 61-71.

Mumford E. (2018). Designing the Modern City. Urbanism Since 1850. New Haven: Yale University Press.

Mumford L. (1961). The City in History. New York: Harcourt, Inc.

Myles Wright H. (1948). The Planner's Notebook. London: The Architectural Press.

National Health Service. (2017). Healthy New Towns Programme. https://www.england.nhs.uk/ourwork/innovation/healthy-new-towns (accessed February 19 2021).

Russo A. and Cirella G.T. (2018). *Modern Compact Cities: How much Greenery do we need?* International Journal of Environmental Research and Public Health 15(10), 2180-95. DOI: 10.3390/ijerph15102180.

Shoari N., Ezzati M., Baumgartner J., Malacarne D., and Fecht D. (2020). *Accessibility and Allocation of Public Parks and Gardens in England and Wales: A Covid-19 Social Distancing Perspective.* PLoS One 15(10), e0241102. DOI: 10.1371/journal.pone.0241102.

Szreter S. (2004). *Health, Economy, State and Society in Modern Britain: The Long-Run Perspective.* Hygeia International: An Interdisciplinary Journal for the History of Public Health 4(1), 205-27.

Sugiyama T., Leslie E., Giles-Corti B. and Owen N. (2008). *Associations of Neighbourhood Greenness with Physical and Mental Health: Do Walking, Social Coherence, and Local Social Interaction Explain the Relations?* Journal of Epidemiology & Community Health 62, e9

UK Parliament. (2021). 1842 Sanitary Report. Retrieved from https://www.parliament.uk/about/living-heritage/transformingsociety/livinglearning/coll-9-health1/health-02/1842-sanitary-report-leeds/#:~:text=In%20July%201842%2C%20the%20most,Chadwick%20(1800%2D1890) (Accessed February 20 2021).

UN Habitat. (2018). SGD Indicator 11.71 Training Module: Public Space. Nairobi: United Nations Human Settlement Programme (UN-Habitat).

UN Habitat. Public Space. Retrieved from: https://unhabitat.org/topic/public-space (Accessed: May 12 2020).

Wargent M. and Talen E. (2021) *Rethinking Neighbourhoods.* Town Planning Review 92(1), 89-96. DOI: https://doi.org/10.3828/tpr.2020.43

World Health Organisation. (2017). Urban Green Space Interventions and Health: A Review of Impacts and Effectiveness. Retrieved from http://www.euro.who.int/data/assets/pdf_file/0010/337690/FULL-REPORT-for-LLP/pdf?ua=1 (Accessed February 22 2021).