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Epidemics, Planning and the City: A Special Issue of Planning Perspectives

Editorial

Juliet Davis



Figure 1: Two women lying dead in a London street during the Great Plague, 1665, one with a child who is still alive. Etching after R. Pollard II. Wellcome Collection. Public Domain Mark

The advent of coronavirus (Covid-19) has led to growing speculation in the media and, increasingly, within academic and policy debates about how cities may develop in the future in order to help mitigate the spread of the disease and, hence, reduce the risks of disruption and threat to life that it poses. Social distancing measures adopted worldwide since the start of 2020, for example, have been shown to have substantially altered the use and nature of places of work, learning, leisure and consumption, with potential implications for

planning and design. During lockdowns periods, much of life was forced to retreat indoors, with the home becoming a nexus of domestic, caring and professional activities, technologies and relationships. And yet, with the cautious easing of restrictions, public spaces worldwide have become a focus for urban life in a heightened sense, encompassing active living, play, shopping, sociability, culture and even learning, concentrating attention in the process on the potential future development of the open-air city¹. Social distancing measures in turn have raised questions about the compatibility of the notion of pandemic-proof cities with the compact city model of urban form, with its high-density buildings and public transport networks, long held up as a major beacon of sustainable urban development. At the same time, the growth in medical activities associated with testing for, vaccinating against and isolating the patients undergoing treatment for Covid-19 has led to the birth of new typologies in cities including mass vaccination centres, drive-through testing sites, pop-up, instant hospitals and, at least in some cities, the rapid conversion of existing land uses including sporting venues and conference centres into medical centres with special isolation units.

Speculations concerning the future reflect the widespread experience of Covid-19 as a shock to the system, an unprecedented experience that poses grave new challenges for cities, nations and the world. While Covid-19 may indeed be a new pandemic with which epidemiology and public policy have struggling to keep pace, strategies such as social distancing and the promotion of access to fresh air, are old; part of a long history of response to outbreaks of infectious diseases that includes cholera, plague, leprosy, tuberculosis, typhus, polio, influenza, dysentery and smallpox. Indeed, cities across the world today are replete with examples of spatial and material transformations initiated in response to the threats posed by infectious diseases to urban populations and as public health measures of one kind

¹ Mehta, "The New Proxemics," 669-774

and another – from London and Paris’s vast sewer network to London’s Thames Embankments, New York’s Central Park and the wide avenues of Canberra and Adelaide.

The aim of this special issue of *Planning Perspectives*, which was initiated during the first Covid-19 lockdown in the UK during March 2020, is to turn to the past to explore examples of how planning (encompassing city design and planning policy) has both constructed the challenge of infectious disease epidemics and developed processes, legitimized actions and deployed strategies to contain, isolate and treat them. It is, further, to consider what can be learnt from history about the difficulties or effectiveness of particular strategies, about how planning has shaped the trajectories of other epidemics, and/or about the relationship between disease in cities and the development of planning control and regulation.

The emergence and spread of diseases, as well as their tendency to remerge through sudden outbreaks through time is, of course, contingent on the interplay of many factors, which are complexly interlinked. Environmental factors can include rainfall, temperature, ecoregions, soil types, and altitude which combine with other factors to create the conditions for microbes to flourish or decline. To provide an example, it is now thought that weather conditions in Asia were important determining factors in the pattern of outbreaks of plague in Europe, with warm summers causing giant gerbil populations to boom. All this warm fur created a windfall for fleas and the *Yersinia pestis* bacillus which infected them. The infected fleas only had to hop from an animal onto a group of humans and bite them to instigate an outbreak of the deadly plague, with the deadliest being the feared and never forgotten Black Death of 1346-1353.

In turn, there are many socio-economic and demographic factors and agencies that shape the emergence and spread of disease, encompassing the poverty rate and age profiles of

populations,² patterns of mobility connected to trade, geopolitical events and the state of medical knowledge. To highlight the significance of mobility, the plague owed its rapid and deadly spread through the Mediterranean and from Asia into Europe in a series of devastating outbreaks from the early Middle Ages to the presence of well-established trade routes which fleas were transported along, hopping from one animal or human host to the next. To provide another example, the menacing Spanish Influenza pandemic which swept the globe between 1918 and 1919, struck at a time when World War One was ending and when transportation infrastructure and communications technologies were fast developing.³ The particularly deadly second wave of this disease took hold in France in August 2018, attacking the vulnerable in field hospitals near the battle lines, and was then spread rapidly and tragically along railway line and shipping routes by troops returning home.

Medical knowledge has shaped the emergence and spread of disease through its evolving capacities to anticipate outbreaks, understand their causes and treat the effects. Until the mid-nineteenth century, divine explanations coupled with miasma theory, rooted in the writings of Galen and Hippocrates, predominated in the explanation of disease outbreaks, leading to medical practices and wider responses now known to be mistaken.⁴ The doctrine of miasma held that epidemics of many sorts including the plague and cholera, were caused by a “corruption” or poisoning of the air.⁵ It was not until the mid-nineteenth century that the groundbreaking research of John Snow (1813-1856) in 1840s and 1850s London established that cholera was, in fact, waterborne and also led him to the conclusion that the trajectory of the disease suggested the multiplication of a living germ within the digestive system following ingestion through food or water, and had therefore nothing to do with either

² Schneider and Machado, “Environmental and socioeconomic drivers in infectious disease,” 198-200.

³ McMillen, *Pandemics*, 89

⁴ McMillen, *Pandemics*, 10.

⁵ Snowden, *Epidemics and Society*, 204.

air or divine judgements.⁶ Though it would not be until 1883 that the cholera bacterium (*Vibrio cholerae*) was actually identified, he was able to move decisively away from the theory of vapors and foul air to an explanation of disease as connected to contaminated water and inadequate sanitary infrastructure. Thus, Snow was a key figure in the emergence of germ theory, which developed apace from the 1860s. This had finally supplanted miasma theory by the end of the nineteenth century through the microbiological work of scientists such as Joseph Lister, Louis Pasteur, and Robert Koch. Miasma theory, however, remained persistent in the stigmatisation of urban poverty and practices such as slum clearance, as a number of papers in this special issue show, into the twentieth century and, arguably, it still survives in urban imaginaries of unhealthy, unsanitary cities today.

Cities themselves have created conditions conducive to the emergence and spread of disease within broader environmental, social, political, and economic contexts. Whether we are talking about Algiers, Adelaide or Amsterdam, port cities have often been associated with epidemic outbreaks, with germs being transmitted readily from sailors and newly arrived migrants to native populations. Proximity, crowding and the sheer vibrancy of urban life have created the conditions in which diseases spread rapidly from person to person, including those now known to be waterborne, airborne, zoonotic (transmitted to humans from animals) or sexually transmitted. While the assault of fecal matter on the senses may be irrelevant in itself to disease, the build-up of human foul waste in cities lacking sanitary infrastructure is linked to emergence and spread of water-borne diseases such as cholera, typhoid, hepatitis and polio. Urban areas lacking the infrastructure to provide uncontaminated and treated drinking water, including water for washing bodies and food, are associated with outbreaks of these same diseases, including cities in today's war-torn Yemen such as Sana'a which has experienced a rising incidence of cholera since 2011. In turn, particular spaces, practices and

⁶ Ibid, 208-210.

communities in cities have shaped the emergence and locations of epidemic outbreaks such as syphilis and HIV/AIDS.

Cities have also responded to the flare-up of disease within these broader contexts. Certainly, they have had to do so since Antiquity. The earliest recorded pandemic, as described by Thucydides, was the Plague of Athens of 430 BC, erupting just as the Spartan army was laying siege to the city during the brutal and drawn out Peloponnesian War (431-404).⁷ However, it is largely from the Middle Ages that evidence exists of urban strategies of containment and/or spatial distancing, which in some measure prefigure the sorts of social distancing strategies we have experienced since 2020 to halt the spread of Covid-19. As a classic strategy of containment, quarantine has a history reaching back to the fourteenth century when the coastal city of Venice decreed that the ships arriving from across the Adriatic must sit at anchor for 40 days - *quaranta giorni* – before landing at the port, thus giving time for sailors to incubate, contract and recover from any diseases first. Forms of containment to combat disease can be identified in the histories of many cities however, including the individualized home-quarantines imposed in London during the bubonic plague (or Great Plague of 1665-1666), the development of colonies for excluded lepers worldwide, and the remote tuberculosis sanatoria of the nineteenth and twentieth centuries. In turn, strategies of spatial distancing, as Legg argues, can be evidenced in the planning history of colonial cities such as Delhi, where the British regime set out to construct a new capital to the south of the existing city or, indeed, in the isolation of lepers from cities.⁸ As Foucault argues, strategies involving the rejection or *exclusion* of people from cities or the imposition of controls upon the movements of entire populations *included* within cities are two key ways in which power has

⁷ Huremović, “Brief History of Pandemics,” 7-35.

⁸ Legg, Who's New to Social Distancing?

historically been exerted in related to public health threats, with leprosy and plague emblematic respectively of each.⁹

Connections can be traced between disease, the birth of approaches to urban planning, infrastructure and development and the advancement of medical science. Up until the widespread take-up of germ theory in the later nineteenth century and prior to Modern city planning, miasma theory and divine explanations provided the strongest rationales for action. Even in the 1830s and 1840s, as progressive initiatives such as the Sanitary Movement and Public Parks Movement in Britain gathered momentum, addressing cholera was seen to depend on capacities to dispel miasmas, with all their smells of decay, stagnant water, putrefaction, dirt and death. Thus, despite his scientific approach to the study of the living conditions of the working classes, miasma was the theory underpinning Edwin Chadwick's monumental work of 1842, the 'Report on the Sanitary Condition of the Labouring Population of Great Britain.'¹⁰

Even the development in London of a sewage network from the 1850s led by Joseph Bazalgette, the Chief Engineer to the Metropolitan Board of Works, was strongly driven by concerns with city odours which reached their peak in the 'Great Stink' of 1858.¹¹ It was at this point indeed that Parliament, forced to flee the unbearable stench emanating from the River Thames, sanctioned the construction of this network which, despite the fallibility of science proved highly effective. Indeed, without it, the efficiency of Snow's findings might not have come to light as quickly as they did for, as Stephen Halliday argues, it was the statistician William Farr's realisation that the last cholera outbreak of 1866 occurred in an area of East London as yet unconnected to the sewerage system that led, at last, to widespread

⁹ Foucault, *Discipline and Punish*, 195-228

¹⁰ Halliday, *Death and Miasma in Victorian London*, 1469-1471.

¹¹ Halliday, *The Great Stink of London*, Introduction: Who was Joseph Bazalgette?

acceptance of Snow's claim that water, rather than of air, provided the conduit for the fatal disease.¹²

This is not to suggest that the discovery of germ theory dispelled the interest of reformers in air quality but rather that it led to nuanced understandings of disease transmission, including the airborne nature of some deadly diseases such as tuberculosis as opposed to the waterborne transmission of cholera.¹³ The vision of 'Hygeia: A City of Health' which the British physician and sanitary reformer Dr Benjamin Ward Richardson produced in 1876 and dedicated to Chadwick is still of a city rid of atmospheric impurities, though also a city of clean streets and homes, anticipating modernist Le Corbusier's squeamish obsessions with hygiene.¹⁴ Air quality, fresh water and light were also driving agendas of the Garden City Movement in the UK and of Ebenezer Howard's vision of 'slumless, smokeless cities.' Moreover, in 1901, just three years after the publication of 'Tomorrow: A Peaceful Path to Real Reform' the architectural historian Banister Fletcher, writing for 'The Journal of State Medicine' anticipated that public health would become the new watchword of the twentieth century. A 'third London,' he predicted, 'would appear on the house tops' as a product of demand for a better atmosphere, including new playgrounds, flower-gardens and tennis courts. A genteel invitation of the future would be to come for 'Afternoon tea on the roof.'¹⁵ Elsewhere in the world, including Australia and New Zealand, reformers committed to healthier living conditions also focussed on measures to improve air quality including lessening density, slum clearance, green space provision and street layout, with all of these combining in garden city and suburb design.

Connections can also be traced between disease outbreaks, the development of urban governance arrangements and planning control in cities, and the advancement of medical

¹² Halliday, *Death and Miasma in Victorian London*, 1471; also see Snowden, *Epidemics and Society*, 198-200.

¹³ Collins,

¹⁴ Mumford, *The City in History*, 475-476.

¹⁵ Fletcher, *The Architecture of The Twentieth Century from The Point of View of Public Health*, 11.

knowledge. Combatting disease motivated in nineteenth century London, for example, the formation of new kinds of municipal government which was designed not only to curb the powers of private sector city-makers but also create mechanisms through which to develop public works such as the sewerage network. It motivated the creation of development controls and regulations, such as new standards for light, air and cleanliness that shaped and conditioned practices of care in the hospital, the neighbourhood and the home¹⁶. At the same time, the evolution of governance arrangements was associated with the creation of new powers to control people, designate areas as unfit for human habitation, and to marginalise, open them up or erase them altogether, drawing further attention to the disciplinary and exclusionary potentials of State-led health planning which Foucault highlights. Such processes make manifest indeed the inequality of power relations not only in the making of the built environment, but in the diagnosis, treatment and protection of citizens from disease.

The contents of the special issue

Contributors to this special issue were invited to develop understandings of how cities have confronted the challenge of other, earlier epidemics and the strategies that they employed to contain, isolate and treat them as well as about the significance of those strategies for cities and urban societies. What does history teach, caution against, or suggest? What does it help to understand about the present? The result is eight papers that address these questions in different ways, taking different epidemics, cities and periods in history as their focus, and developing different theoretical insights in the process. The first four papers take as their starting point particular epidemics in global planning history.

¹⁶ Worpole, *Here Comes the Sun*

Antonio Carbone focuses on a series of cholera and yellow fever epidemics in Buenos Aires between 1867 and 1871, a period in which the city ‘lived in an almost permanent state of severe crisis,’ as he puts it. These epidemics coincided with the growth of the city, with both together exposing the limitation of traditional local, municipal governance arrangements which were reflected in the city’s structure as a grid of neighbourhoods. He shows how these epidemics acted, hence, as catalysts for the emergence of centralised control over urban planning and development, and for the transforming political significance of Buenos Aires’s urban grid.

Nida Rehman considers malaria in British colonial India from 1849-1910, focussing on how the development of military cantonments in Punjab was informed by limited understandings of the disease and on the significance of the reshaping of the rural landscape under British rule for the transformation of one particular cantonment at Mian Mir from a ‘sanitary enclave’ into a ‘notoriously malarious station.’ Through the paper, she draws attention to the agency of microbes and mosquitos in the production of perceptions of disorder as in disordering the imposed spatial, visual and social orders of colonial rule as the development of irrigation systems, drainage infrastructures and water courses aimed at enhancing the economic productivity of colonized lands also created ideal habitats for the proliferation of the Anopheles mosquito.

Mrunmayee Satam focuses on the influenza pandemic of 1918-1919 which ravaged Bombay, a time when the city’s port was busy with was shipments of machinery and supplies at the end of World War I, and also of growing discontent with British rule. The city was afflicted by both waves of the pandemic, though the second was of longer duration and the more devastating, disproportionately affecting the lower-caste Hindu population. She considers the role of the pandemic in catalysing the development of public health infrastructure in the city, including hospital accommodation which, at the time, was scant,

catering largely to European and Anglo-Indian elite minorities. She also traces the emergence, and ultimate failure, of initiatives to create adequate infrastructure for the majority, with implications for the vulnerability of the city today to Covid-19 and other, future pandemics.

Julie Collins and Peter Lekkas focus on tuberculosis (TB) in South Australia between 1980 and 1918, a period when there was yet to be a cure or vaccine for the disease. It was a time therefore in which environmental and behavioural interventions were regarded as key preventative measures. They show how TB led to a ‘consumption crusade’ among town planning reformers who also sought to promote town planning itself as the means to guide and control the growth of Australian cities. This was a crusade which, supported by advancing medical understandings of airborne particle transmission of the disease, involved the deployment of climate-sensitive design, natural ventilation, wide avenues, open air living and low-density development.

The next three papers concentrate on the role of epidemics in a broader sense within particular eras of planning for health. Jacopo Galli considers how planning and architecture in British Africa were shaped by the hypochondriacal fears of Europeans of catching diseases from native bodies such as malaria, cholera and dysentery. These, he argues, were not just a product of disturbing encounters with unfamiliar climates and cultures in Africa but were informed by miasma theories explaining disease as resultant from the bad air ‘emanating directly from the earth due to heat and humidity,’ as he puts it, leading to conceptions of tropical places as alien, hostile environments to be civilized and conquered. He shows how hypochondria, infused with racialized fears of otherness, persisted despite the emergence of germ theory, informing the development of housing for British colonizers.

Noel Manzano considers the role of epidemics in the development of a shift in approach by Madrid’s urban authorities in the early twentieth century towards the city’s

informal settlements known as chozas. These had been tolerated and even allowed to continue to develop, despite being characterised by a number of writers in the late nineteenth century as degenerate, a perspective that integrated perceptions of social and contagious disease. However, he shows how legislation passed by the city government as the cusp of the twentieth century created the means to demolish the settlements and the motivation to do so was triggered by scourges of TB, measles, typhus and smallpox. Prejudice, fear and social stigma not only laid blame at the door of those most vulnerable to disease but also led to a series of ‘surgical’ and brutal slum clearance operations.

Samantha Martin-McAuliffe considers the place of food in disease spread, a topic which has clearly come to the fore in the context of Covid-19 given the alleged origins of the pandemic in a food market. She concentrates on the historical transformation of one particular market in Dublin ‘as a lens to elucidate the intersection of public health and urban planning’ between 1850 and 1900. This is a story, similar to the one told by Noel Manzano about Madrid’s informal settlement. It tells of associations made between poverty and disease, as between the lifestyles and morality of the poor that the health of their bodies, and of resulting designs that combat the risk of disease transmission through new technologies but also distinguish themselves purposively ‘from what was perceived as disorderly in the surrounding streets.’

Our final paper by Giorgio Talocci, Donald Brown and Haim Yacobi is unique within the special issue in turning neither to a past pandemic or to a former era of planning connected to health but, rather, in employing planning history to explain the geopolitical dimensions of health conditions in specific places and of the responses of specific cities to the Covid-19 crisis. Focussing on three very different cities – Jerusalem, Phnom Penh and Toronto – they reveal how histories of colonial occupation and planning, of postcolonial economic modernisation and of entrepreneurial planning geared to promoting competitive

global cities have produced conditions germane to the uneven spread and impacts of Covid-19. Fusing the Foucauldian notion of biopolitics with geopolitics, they contribute to discussions around the emergence of a biogeopolitics of Covid-19.

Overall, these papers reveal a number of ways in which cities have confronted pandemics in the past and, in the process, how responses to current pressures to isolate, to living locally, and spend time outdoors have previously been encouraged or enforced through urban planning, change and development. They teach that urban visions, planned transformation and urban regulations are always rooted in an historical context including contexts of medical theory and knowledge. In so doing, they point to the contingencies of urban vision, planning policy and design in our own times on growing understandings of Covid-19 and its variants, informed by the results of drug trials, the development of antibodies, and the effectiveness of vaccines. Finally, they offer recognition of the often divisive role and politics planning with regard to pandemics and their uneven impacts on human lives, communities and cities. This must surely point to the need for a different urban future arising from experiences and understandings of how to guard against the transmission and spread of Covid-19.

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