

ARTS & HUMANITIES

City Chaos, Contagion, Chadwick, and Social Justice

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In 1842, a civil servant, Edwin Chadwick, published at his own expense *The Report from the Poor Law Commissioners on an Inquiry into the Sanitary Conditions of the Laboring Population of Great Britain*, which outlined in detail the wretched social and environmental conditions within the world's first industrial society. The Chadwick Report, the first such national investigation of its kind, highlighted a number of now widely accepted phenomena concerning economic development, urbanization and health within industrial settlements. For its time, the report was a monumental step toward accepting and then dealing with the social costs of economic progress. In short, the Chadwick Report established that material progress did not equate inter alia to a universal improvement in urban health. Instead, it revealed how modern circumstances had the ability to establish a health schism between social groups. So with such a backdrop in mind, this article assesses the role of Edwin Chadwick and his 1842 sanitary report in the lead-in to the Public Health Act (1848), a legislative attempt to bestow social and health equity in Britain, and examines the wider social and medical context within which the world's

first modern system of public health emerged. Demonstrating how the sanitary movement was formed and how miasmic medical notions influenced the form of the 1848 Act, this paper will appraise a variety of factors that helped shape the evolution of epidemiology within what was the world's first industrial and urban society in the 1830s and 1840s, including the realization that societal advancement did not create health benefits for all.

BACKGROUND

At the end of the 18th century, when the initial stages of industrialization were under way, the British population was estimated to be less than 10 million people, of which about 30 percent of the populace resided in urban communities. By 1841 [1], immediately before Edwin Chadwick published his *Report from the Poor Law Commissioners on an Inquiry into the Sanitary Conditions of the Laboring Population of Great Britain* (hereafter known as the Chadwick Report), the quantity of urban dwellers was approaching 50 percent of the nation's population total, and a number of broad developments had been noted about the size, appearance, density, heterogeneity,

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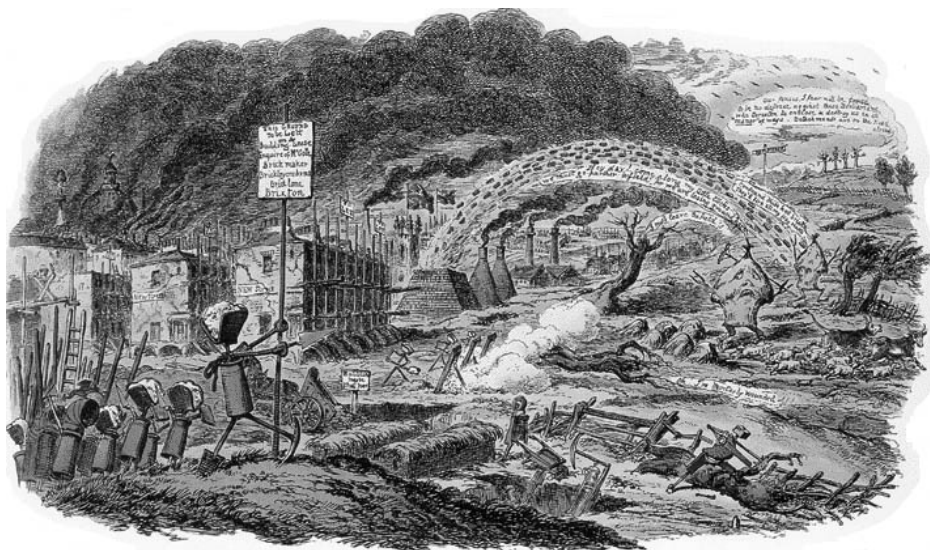


Figure 1. George Cruikshank's 1829 cartoon *London Going Out of Town or The March of Bricks and Mortar!* depicted the city's outward expansion.

and complexity of urban places. These observed changes included the appearance of sometimes monumental factories, the construction of grand town halls, and hitherto open areas at the urban fringe being replaced by multitudes of high density back-to-back terraces [2]. Although this phenomenon was nationally observable, the tendency to eat away fields was most pronounced at London (see Figure 1), along with provincial places like Birmingham, Glasgow, Leeds, Liverpool, Manchester, and Bradford, a settlement described as being “one of those towns which have practically grown up during the modern manufacturing era” [3].

While numerous people were in awe of the transformations instigated by the Industrial Revolution, some members of society, particularly writers and medical practitioners, questioned what effects the industrial age was having upon the public. Not only were “diseases of civilization” such as tuberculosis noted as having a much more widespread incidence than in previous times, the growth of “localities of pauperisation” [4], that is, quarters deficient in hygiene yet filled with slums and manifestations of poverty, drew aghast depictions of contemporary working class life and produced disquiet among medical pro-

fessionals like James Kay-Shuttleworth, a Manchester physician, and Robert Baker, a surgeon in Leeds, about the well-being of urban citizens. Likewise, other grave uncertainties had arisen. Crime, for example, was perceived to have increased, as had prostitution, levels of drinking, destitution, and overcrowding. Accordingly, a new depth of concern was manufactured about the nature of British cities, the direction society was heading, and the potential volatility of the industrial age. As Robert Vaughan asserted in *The Age of Great Cities*: “If any nation is to be lost or saved by the character of its great cities, our own is that nation” [5].

As previously noted, early 1800s Britain contained contrasting illustrations of urban life. On the one hand, communities emerged, containing impressive architectural creations that articulated civic pride and entrepreneurial confidence; yet concurrently within the very same environments, a hellish situation characterized by grime and hardship was produced. Indeed, the dissimilarity of this modern existence, the best and worst of Britain's unfolding urban civilization, was arguably best eulogized by an overseas visitor to “The Workshop of the World”: Manchester. The French political thinker Alexis de Tocqueville, a sightseer in

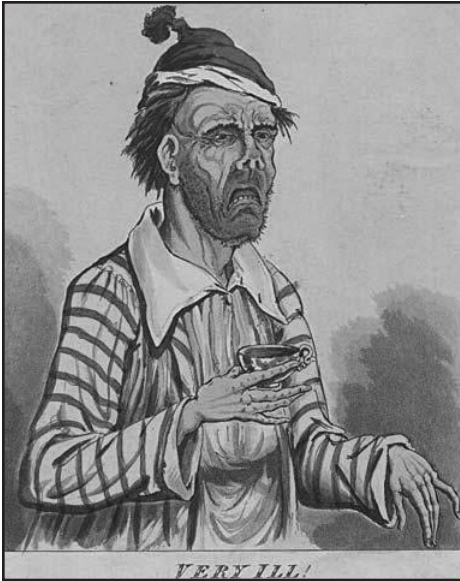


Figure 2. Very ill! An early 1800s illustration (artist unknown) depicting the widespread suffering of the working classes. The gaunt individual is drinking tea to help repel an illness. Conventional medicine was unaffordable to the poor at that time.

the mid-1830s, recognized the cultural conflict within modern Manchester's existence [6]:

"... humanity attains its most complete development and its most brutish; here civilization works its miracles, and here civilized man is turned back almost into a savage."

Such a description of city life, though, was not exclusive to Manchester. Large-sized British cities such as Birmingham, Liverpool, and Nottingham also inspired metaphors far than poetic due to their seemingly indescribable squalor. Yet to return to Manchester, Dr. James Kay-Shuttleworth [7] identified that its slum districts were very much like those in other cities. They consisted of poorly built houses, a deficiency of ventilation and toilets, unpaved narrow streets, mud, and stomach-turning stench due to the presence of decaying refuse and sewerage. In such conditions, ill health was observably endemic [8]. British cities had, it seemed under the aegis of economic tran-

sition, metamorphosed into epidemiological time bombs, environments greatly lacking in humanity and justice, particularly for the poor (Figure 2).

HEALTH REFORM AND THE 1830s: THE CONTEXT

The previous section has outlined how industrialization was acknowledged in early 1800s Britain to have instigated great advances while it simultaneously wrought upheaval that consequently appertained to the extensive presence of "4 Ds" [9]: dirt, disease, deprivation, and death. In light of this situation, the British were the first to appreciate the taxonomy of disparate existence within an industrial framework, and cities as the seats of cultural change were the sites where this modern nomenclature, and the profundity of the dark tone to modern life, was most evident. Accordingly, some cities earned dishonorable monikers. Glasgow, the self-proclaimed "Second City of the Empire," was so ravaged by violent crime, poverty, filth, and disease that it became stigmatized as a "Mean City" [10]. Liverpool, a city with a death rate of almost 35 per 1,000 people in 1841, was given the unenviable title of "The Most Unhealthy Town in England" [11], while London was branded "The Big Smoke" [12] and "Venice of Drains" [13], due to its impure air and overflowing sewers. The poet Percy Shelley went one step further and wrote in the play *Peter Bell the Third*: "Hell is a city much like London" [14].

In order to appreciate the existence and spread of the 4 Ds and the distress of industrial city living, a number of the features of evolving British urban culture need referencing. For example, such a miserable situation did not develop, per se, as a result of the unparalleled speed of urbanization but occurred, among other things, due to a low wage economy that asphyxiated working people's ability to compete in the housing market and a lack of governmental willingness to tackle urban problems head on because of the pervasive laissez-faire principle that promoted non-interventionist convic-



Figure 3. A late 1820s view of London's water: "Monster Soup commonly called Thames Water, being a correct representation of that precious stuff doled out to us!"

tions. To compound the precarious situation opportunists, such as local merchants and shopkeepers, lawyers, farmers, landowners, and others with available capital, attempted to exploit urban growth for the purpose of acquiring financial gain. To maximize profits, unqualified builders (i.e., available laborers) were paid to rapidly construct back-to-back terraces, a small housing form lacking in basic utilities like clean water and sewers but erected solely as a machine to manufacture rent [15]. Even if nearby water supplies did exist, they were commonly intermittent in supply, far from hygienic or fit for human consumption due to sewerage contaminating local rivers, wells and springs (Figure 3). To illustrate this point, water examinations in Nottingham on average had almost 45 grams of solid effluent for every gallon of water assessed. Such a finding was clearly insupportable on humanitarian grounds, and to comprehend how the British shaped a strategy to manage such problems, a number of developments need to be explicated.

To begin with, a number of social-medical reports were composed in the 1830s

that emphasized the shocking reality of urban life, in particular the vast daily volume of waste produced and impure water consumed. Inspired by Thomas Southwood Smith's *Treatise of Fever* in 1830, later manuscripts such as those by James Kay-Shuttleworth and William Farr presented details of living that offered a passage of social discovery to the largely ignorant middle classes and disclosed a direct correlation between impoverishment, the slum environment, and endemic fever. Strengthening social and medical debates about disease and the state of urban environments, such individuals, through applying statistical analysis, also developed rational models regarding the origin and propagation of urban-based illness [16]. In due course, this allowed a body of progressive professionals to come forward, broadening British epidemiological thinking by incorporating new conceptual medical and demographic notions, and through empirical investigation rebuffing many existing hypotheses about the distribution of disease. Significantly, too, they put forward "facts" pertaining to society's condition which:



Figure 4. Louis-Léopold Boilly's *Consultation de Médecine* 1760 (left) and *Consultation de Médecine* 1823 (right, published mid-1820s). In pre-revolution France, the doctors are shown to be old and dazed. In the later era, the doctors are shown in a prime of life and using a scientific approach to the study of health.

1. Acted as crude indicators of material progress;
2. Drew attention to unforeseen problem areas such as poor housing, crime, and avoidable ill-health and mortality; and
3. Intertwined health with psychology and morality.

Consequently, the overall health debate called attention to a surfeit of potential physical and moral predisposing determinants.

Armed with its “facts,” the medical community, in effect, granted a caveat that portended to a bleak future. The view presented by modern medical practitioners and statisticians, despite their limited scientific knowledge, was unmistakable: Urban society was ailing and in need of improvement [17]. The British city was a setting confirmed as unsafe to one’s health.

Complementing the aforesaid social and medical state of affairs in Britain was the rise and influence of new journals, described later, and French medical research [18]. Although French medical practices (Figure 4) had an effect at institutions such as the London Fever Hospital before the

1820s, their impact extended by the 1830s into offering original treatment techniques, innovative ways to classify and distinguish one ailment from another, and bestowing new physiological, anatomical, and pharmacological information. Notably, such medical dissemination had important qualities. It imparted a promise of better health for all and offered a new consciousness of the body to the phlegmatic middle classes.

Also of importance were the works of French physicians like Louis René Villermé, whose groundbreaking work in Paris verified a correlation between poverty, poor health, and high rates of mortality, and periodicals like *Annales d’Hygiène Publique et Médecine Légale* (Chronicles of Public Hygiene and Legal Medicine), which provided further fuel to the vigorous debate about the physical and moral condition of cities. In this milieu, French research reinforced British suspicions associated with the materialization of economic growth and urbanization. The human cost of society’s unmanaged urban development was unmistakable [19].

Notable developments occurred in Britain as well. In 1834, the Statistical Soci-

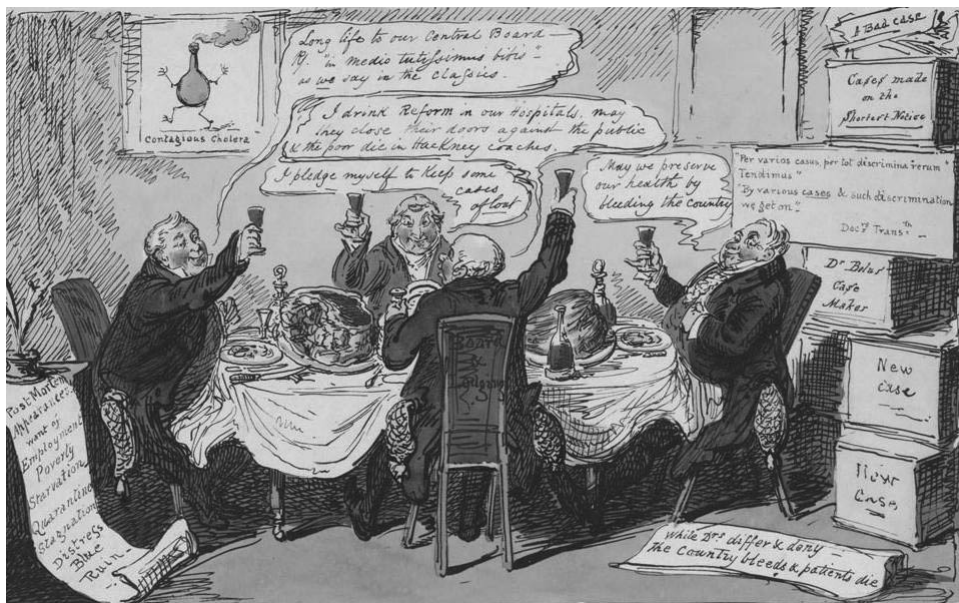


Figure 5. George Cruikshank's *Cholera Consultation* (1832) illustrates the ineffective and dishonest nature of health authorities. In the image, a board member is offering a toast: "May we preserve our health by bleeding the country."

ety of London (SSL) was founded with the purposeful objective of collecting and classifying particulars "illustrative of the present condition and prospects of society." From its inception, the SSL organized working groups to explore serious social concerns, and from 1838, when the *Journal of the Statistical Society of London* was introduced, the SSL provided an outlet for medical practitioners to further consider the causes and conduct of disease. Consequently, the SSL's periodical gave medical statisticians armed with data from the General Register Office (opened 1837) the opportunity to contribute to existing debates, propose new health hypotheses, and offer pieces of evidence that supplemented notes in existing journals such as *The Lancet* (founded in 1823) about the health of modern society. Overall, such analysis verified the profits of civilization's progress for the well-to-do who resided in salubrious suburban districts. They were shown to have been granted an apparent gain in their health levels, although it was noted to have occurred at the expense of suppressing a healthful existence for the working population [20].

Attention must be placed also on the surfacing of sweeping occurrences of dis-

ease in the 1830s. Although outbreaks of, for example, influenza, typhoid, typhus, and consumption were rife before 1830 and were so ubiquitous that the urban history of early industrial Britain was said to be the history of typhus and consumption [21], the 1830s demonstrated two new disease experiences. First, the impact of infirmity increased, as revealed by the tens of thousands who annually died of infectious disease. In cities such as Birmingham and Bristol, the death rate per thousand people rose from 14.6 to 27.2, and 16.9 to 31 [22]. So widespread was the presence of disease by about 1840 that the average lifespan was just 26 years if someone lived in a settlement of 100,000 people or more [23]. However, the second point of note was the arrival of cholera.

Although common illnesses like whooping cough, scarlet fever, smallpox, dysentery, diphtheria, scrofula, measles, typhoid, typhus, or influenza took many lives, it took an epidemic in the early 1830s caused by a disease of overseas origin — cholera — to instigate a new dynamic to urban living and the subject of health [24]. Rapidly attaining an infamous status, a reputation transpiring from its seemingly arbitrary manifestations, its virulence, ravaging



Figure 6. A sketch from the early 1830s of a victim of cholera in Sunderland (source: Wellcome Library, London).

talent for killing quickly, and agonizingly, cholera prompting municipalities to form Boards of Health — later shown to be inept and corrupt (Figure 5). Nonetheless, cholera also inspired the medical community to further venture into the slums to comprehend its nature, e.g., Dr. Thomas Shapter who mapped cholera deaths in Exeter, in so doing positioning contagionists against miasmatists as of conjecture on its causes and diffusion [25].

Manufacturing unimaginable terror in Britain after its appearance in 1831 in Sunderland [26], cholera, like many other illnesses, paid scant respect to social class boundaries (Figure 6). When coupled with its ability to defy conventional medicine, it engineered unparalleled fear. The disease, a frightening silent spectacle, was unlike anything known before it. It was a psychological sledgehammer to material progress [27] and all the perceived benefits of modernity. With its air of mystery, defiance, and with such minimal explanation as to its cause, cholera recalled the memory of the Middle Ages' plagues. It shocked society like no other illness had done in recent times and generated everything from general unease to riots. In light of the rise of statistical analysis and contemporary ways of thinking about the social nature of disease, cholera became a compelling propagandist for urban betterment, and warranted both political stability and social justice.

THE POOR LAW, EDWIN CHADWICK, SOCIAL MEDICINE, AND THE CITY

Prior to the 1840s, the decade within which British public health as a profession

and municipal endeavor emerged, a small number of characters were central in helping to identify the factors that affected the health and illness of urban populations, expanding the theoretical framework of disease causation, and engaging medicine with the political economy of capitalist Britain. Some of these individuals, like William Farr, have been mentioned already in this paper, but a key player in the meshing of medicine with the moral and political economy of Britain was Edwin Chadwick. While it is not necessary to discuss in detail every aspect of Chadwick's life or all principles that shaped his thinking, some facets of his character must nonetheless be considered.

Chadwick's entry into discussions on the related "Condition of England Question," namely the expansive dialogue on problems such as poor housing and a lack of urban hygiene, stemmed from his work with the Poor Law Board. Even though at face value, the Poor Law, with its brutal workhouse regime and the issue of epidemiology, may appear to be two opposing faces of social welfare, it was through Chadwick's appreciation of the need to promote economic growth and maintain social order that his ideology on health and well-being developed. For that reason, some pertinent remarks are necessary with regard to Chadwick's position within the 1832 Royal Commission into the Operation of the Poor Laws, a body putting forth Benthamite recommendations that led to the passing of the Poor Law Amendment Act in 1834.

The constraints constructed into the Poor Law system, deterrents to stop all but

the neediest in society from claiming help, should be recognized at this point as being a governmental scheme not against poor people, *per se*, but as an apparatus hostile to the activities and conducts of the poor, whom the Poor Law administrators considered socially iniquitous. It was thought that by implementing a welfare structure that sought at its core to encourage the diminishment of bad habits like evading work (because of idleness or ill health) and so the need to claim relief, society at large would be known to improve itself. In this manner, the management of poverty through the amended Poor Law combined social, moral, and economics judgments. Impoverishment and disease were viewed as the end result of immoral habits as much as in the presence of miasma. Implemented at a time when numerous reports by medical practitioners were increasingly highlighting the union between poverty and infirmity [28], the Poor Law Commissioners deduced that as much as Poor Relief lessened suffering, it was not sufficient in itself to end penury. To this end, it was essential on economic grounds that measures were enforced to prevent ill health in order for laborers to achieve their work and salary potential in the free market. In other words, it was imperative to root out the causes of disease so workers could better contribute to the national industrial machine. Accordingly, as studies into the daily lives of the working class were necessary, interest in etiology was roused, and public health measures pursued. In 1838, Chadwick commissioned renowned medical practitioners James Kay and Neil Arnott (see Figure 7) to investigate the “physical causes of fever ... which might be prevented by proper sanitary measures” in London. This was a response to an upsurge of illness but also was a skillful political maneuver to deflect critical attention that the Poor Law and destitution were primary causes of disease. Irrespective of reasons, the intention of the commission was weighty. Emphasis now was placed onto the roots of disease and issues of sanitation. Attention also was placed upon preventive measures, something described in

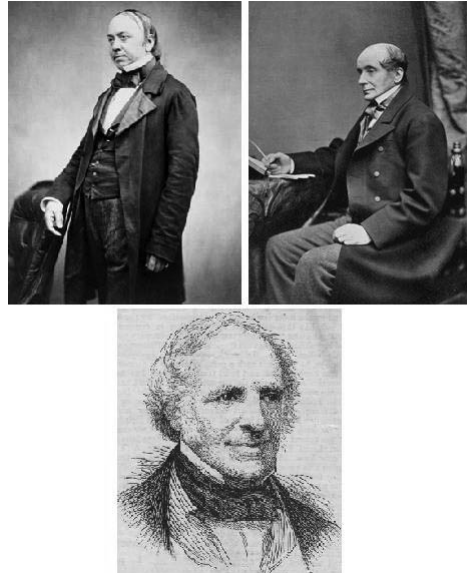


Figure 7. British public health pioneers. Top (from left): Edwin Chadwick and Sir James Kay-Shuttleworth. Bottom: Neil Arnott.

1840 by the Select Committee on the Health of Towns as being imperative for reasons of instigating justice for the poor and, rather meaningfully, sustaining the protection of property and security of the rich [29]. In short, the Poor Law Commission was channeling the focus of the formative public health movement in Britain, defining its concerns and delineating its interests.

To appreciate further Edwin Chadwick’s unfolding approach to the subject of public health and the creation of a paradigm from 1842 to deal with poor urban health, it is not necessary to dwell so much on the limited scientific understanding of the early 1800s [29], but it is necessary to try to grasp the profundity of doctrinal, cultural, and social turmoil that economic growth had instigated prior. Of course, in as much as the narrow scientific base of the 1830s was crucial as to how disease was managed in Britain and did lead miasmatists, that is individuals who considered disease to be caused by “bad air,” like Chadwick, to undertake urban betterment albeit for the wrong reasons, it is also vital to understand how the broader era in which these people lived and its influence upon how those interested in urban health affairs thought.

HISTORIOGRAPHY, THE 1842 REPORT AND BEYOND

Although a great deal of medical historiography has emphasized the significance of the onset of public health as a profession and a municipal activity, much criticism of the role of miasmatisers in light of their erroneous scientific erudition has meant that many basic cultural facts have been neglected. This paper, therefore, is an opportunity to redress this situation somewhat. As a case in point, it is easy to forget how the British were a nation of people placed within the setting of rapid cultural transition, the manifestations of which had a sense of speed and intensity never before seen, plus new social dynamics and relations. British bureaucrats like Edwin Chadwick, an individual charged with dealing with the massive social issue of welfare and impoverishment, not only attempted to solve grave social matters without the advantage of entrenched empiricism, but also faced the double difficulty of preemptively building an administrative apparatus in order to manage processes of cultural change that had no foreseeable ending. Thus, the Chadwick Report should be acknowledged as not only being a survey of the social and environmental condition of a large number of towns and cities, but an act to create public health policy. It was a multi-purpose endeavor to understand and manage cities in accord with prevalent social and economic principles and a rational theorization of the behavior of contagion. It was a means to encourage the cleaning up of urban environments so as to make people healthier, but it was also the result of an adroit bureaucratic politicization of public health beliefs, a gambit to guarantee future political action.

There is little reason to deny that the Chadwick Report was a groundbreaking piece of research. Its effect was to bring together formerly isolated health and sanitary strands, therefore reinforcing the need for legislation to deal with health issues. Its undertaking was based on a rational reaction to urban problems and the presence of factors like the advent of political machinations associated with “dangerous classes,” a social group seen as a derivative of bad sanitation.

Consequently, better hygiene was needed to counteract the threat of insurrection. But if prevention was the key to public health, on what was it to be precisely defined? Chadwick’s 1842 report proposed an explanation.

To be succinct, the Chadwick Report, a graphic exposé of “the extent and operation of the evils” that contributed to the spread of disease in urban communities and “the means by which the present sanitary condition of the laboring classes may be improved,” was a milestone in social history and the quest for public sanitary reform. Through the attentive application of descriptive environmental accounts and statistical analysis, Chadwick’s findings were overwhelming to even the most non-interventionist. As he put it, Britain’s dire urban environments and the ill health it helped promulgate was akin to a war that was killing more every year than any military conflict in which Britain had ever been involved. His report was a dogma of facts summarizing in startlingly simple yet hard-hitting terms a physiology of poverty and immorality centered both on muck and the loss of male breadwinners. Together, they were shown to have created 43,000 new widows and 112,000 new orphans per annum; an extensive loss of working ability due to poor health; and the poor in places like East London were dying at an average age of 29 years less than the wealthy.

Of equally significant, yet frequently underestimated note, was the Chadwick Report’s masterful control of language to prompt political persuasion. To illustrate this point, Chadwick undoubtedly realized that to achieve the end of instigating urban betterment, great value was to be obtained by focusing on matters of engineering, e.g., relating to aspects of health. Therefore, by dealing with matters of a range of urban and moral conditions, Chadwick could promote his public health agenda. In this way, not only could he instigate municipal interest in a variety of matters relating to urban health and improvement, but what’s more, he was able to navigate around what were previous litigious matters relating to public health, such as questions of need and cost relating to the implementation of drainage systems.

Presenting the 1842 report as one on sanitation, a novel scientific and social field, Chadwick put forth a highly developed document in which he discussed air, sewers, dung heaps, water, the built environment, and people and argued that the problems regarding each one were obstacles to the improvement of others. In turn, an argument was put forth that improvements to sewers, for example, could positively improve matters of water or housing, and in so doing serve as a catalyst to improve the structure of urban society. Environmental determinism was a defense for legal intervention, suggested Chadwick. To sit back and do nothing for whatever reason was insupportable. Correlating poorly planned environments with bad health and/or people's immoral behavior, Chadwick presented an argument that was difficult for his critics to dismantle by making at the core of his case the ability of drains and clean water to improve morality. Sanitation, he proclaimed, would defuse rowdiness and decadence and make once "dangerous classes" compliant. It would make society more secure as well as improve health. With his confidence in society's ability to further advance itself, Chadwick recommended certain methods to allow urbanization to correct the wrongs it had helped produce earlier. In this way, urbanization, once the root of working class burdens, was to now be controlled and so be its own antidote.

To allude for a second time to the issue of Chadwick's detractors, they attempted to stop any public health implementation post-1842 by adhering to a line of reasoning about the dangers of having increased central government intervention. In a way, this was a result of the nature of Chadwick's report and its factual rather than judgmental perspective and avoidance of contentious issues like the running of the economy. Thus to argue against the report's particulars would have been injudicious. Instead, to weaken Chadwick's case, critics focused on other issues, namely public health's bureaucracy and its fiscal cost. Both were vehemently attacked. Critics compared its central bureaucracy with problems in autocratic France. Chadwick's report thus was not able

to acquire legal fruition until 1848, when a suitable legal balance between local and national governmental interests was found. With the passing of the Public Health Act, for the first time the industrial world provided a proactive system of public health and required local governments, which became local health authorities, to guarantee minimum environmental standards [31].

Shaped by miasmatic medical notions, i.e., disease was associated with noxious odors, impure air, and poor sanitation, the 1848 Public Health Act, though permissive, was a breakthrough in health culture [32]. It purveyed a new tradition of well-being in which health was a fundamental instrument of local democracy. To ward off disparagement about heightened bureaucracy, public health was to be not defined by central government but rather by municipal governments that would implement schemes given local needs and circumstances (though certain minimum standards regarding financial and technical configurations were enforceable from Westminster). Even those politicians most resistant to the call for public health, due to its perception with autocracy, were overcome as local autonomy was maintained, albeit with central government given the right to guarantee certain minimum standards. Any settlement with a death rate exceeding 23 per 1,000 of the population had to immediately form a localized Board of Health as did one at the request of 10 percent of the ratepayers. The provision of paved streets, clean water supplies, and sewage disposal was an imperative as was the introducing of rulings to new privately built housing that had to be constructed in accord with minimum structural standards and minimum amounts of light, air, and space. Taking a long-term approach to betterment, the act was a precursor to the assurance to bring more social justice to those hindered by the social and economic circumstances instigated by the Industrial Revolution [33]. As R.A. Slaney MP remarked in the parliamentary debates leading up to the passing of the 1848 Act, public health at its core was not about kindness but was a call for fairness: "If they did not protect that

property [health, well-being], did they do the poor man justice?" [34]

CONCLUSION

From the early 1800s onward, the British were faced with understanding and managing two phenomenon associated with the Industrial Revolution. The first was an extraordinary level of urban problems following the rapid growth of existing towns and cities from the late 1700s. Then, as much as industrialization's onset was assumed to provide an upward trend in the condition of society, the British had to accept by the 1830s that this notion was flawed, as evidence provided by the medical community was starting to prove. As a consequence, the British had to redefine their orthodoxy on material progress and fully appreciate that differences one had in terms of life expectation and health from birth was manifest within the industrial social milieu. However, to comprehend and then manage this situation was far from straightforward. Legal, scientific, moral, economic, and political concerns all had to be meshed into a coherent strategy before problems of health and housing, for instance, could be tackled directly. Moreover, to activate any political strategy required a superlative sanitary technocrat, someone of pragmatism and political know-how, as well as some degree of sanitary understanding. In the case of early 1800s Britain, thankfully, a number of individuals of vision did step forward and provided rational perspectives and solutions to the "Condition of England Question."

Central to the British process of dealing with the malformed nature of urban society in light of industrial change and rapid urbanization was Edwin Chadwick, who from the early 1830s initiated mechanisms and investigations to improve the health of the population. Coping with an enormously challenging task, Chadwick, by 1848, had laid down basic principles for improving public health in Britain, organized municipal governments into acting as centrally accountable health authorities, and promoted a more effective provision for improving sanitary

conditions that meant, for example, all new houses and streets had to be built to certain structural criterion. Thanks to Chadwick's political influence, public health proponents were able to establish it as an entrenched responsibility of local and national government in Britain, just as it did in subsequent years in other societies. Importantly, too, due to the broad nature of Chadwick's sanitary report in 1842, a view was borne that poor health was affected by a variety of causative factors, even if these were somewhat contestable given limited contemporary scientific knowledge. Even so, the formative national public health framework constructed in 1848 was able to embrace a plethora of dynamics considered as having a negative impact on people's moral and physical well-being.

To conclude, although the chronological frame presented by this paper is limited, massive transformations with regard to urban thinking were made in the 1830s and 1840s that still echo today. The British attitude toward public health, albeit far from perfect, encouraged the perspective that all citizens regardless of class, occupation, or place of residence, must be treated equally. Today, just as then, this is understood to form social justice. Apartheid of health was considered to be intolerable. Thanks to evidence provided by medical practitioners, British bureaucrats took actions that were to culminate in the implementation of legal apparatus to assure improved health. Although concerns about public health persisted, in part due to the magnitude of problems formed by uncontrolled rapid urban growth, subsequent socio-medical reports after 1848 and new housing erected under sanitary legislation confirmed the benefits of public health in negating the well-being risks introduced by industrialization. Health, as a basic necessity and human right, was confirmed as being fundamental to the success of any economy and society as a whole. If the legacy of Chadwick and his peers was nothing else, it was this. And all industrial societies after Britain have to be thankful to the founding of this tenet.

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