

Sir Arthur Newsholme and State Medicine, 1885–1935

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The Medical Officer of Health and his town

THE APPOINTMENT OF A NEW M.O.H.

On May 17, 1888, the Town Council of Brighton met to select the town's first full-time Medical Officer of Health (abbreviated M.O.H.). The position had been advertised the previous month, and there was a large field, seventy-four medically qualified men in all.¹ A committee of councillors and aldermen cut that number first to fifteen and then to six, all of whom were then serving elsewhere as Medical Officers of Health (also abbreviated M.O.H.). After interviewing these six, the committee placed two names before the Town Council: Henry Tomkins, M.D., M.O.H., for Leicester, and Arthur Newsholme, M.D., M.O.H., for the London vestry of Clapham. At age thirty-two Newsholme was slightly younger, and unlike Tomkins, he had served only part-time for a vestry not full-time for a borough. But Newsholme made a stronger initial impression, and his supporters on the Council contended that his was the more impressive set of academic credentials. The Council was not used to judging professional qualifications, and there was much joking in the meeting about brainpower and cleverness:

We ought to take their age a little into consideration. My candidate, Arthur Newsholme, is running Henry Tomkins very close. Well, but he is five years younger (several Voices: 'No'). Yes, he is 31, and Henry Tomkins – (after whispering with several Councillors near him) – well, he is 32, and Henry Tomkins 36, four years difference. Well, if he is 32, where will he be when he be 36? (roars of laughter). I wish him to be in Brighton (applause). A man with all those degrees at 32 is a clever man and we want the cleverest.²

Tomkins's backers acknowledged that Newsholme looked and talked like a gentleman. "He had seldom seen a better looking man (laughter). He was gentlemanly and kindly in his manner, and in that way he carried all before him."³

1 For the selection process, see Brighton, Proc. San. Comm. 6 (3 May 1888): 52–5; *ibid.* 6 (8 May 1888): 57–8; *ibid.* 6 (11 May 1888): 70–1; and "Report of the Sanitary Committee," 11 May 1888, Brighton, Proc. Comm., Report Book, 6 (11 May 1888): 224–5. See also *Sussex Daily News* (12 May 1888): 6.

2 Councillor Dell in the report of the Council meeting *Sussex Daily News* (18 May 1888): 3.

3 Alderman Reeves, *ibid.*

Tomkins did not make as good an impression on first meeting, but his champions were convinced that he was the more experienced and the more practical candidate. But Newsholme's degrees, his academic prizes, and his publications in public health won him the appointment. He was elected by the margin of twenty-nine to seventeen votes.⁴ He came to Brighton at once to take up his new duties at an annual salary of £500, a typical salary for a full-time M.O.H. in that year.⁵ In the late 1880s public health was struggling to establish itself as a medical speciality, and he would soon rise to be one of its leaders.⁶

Newsholme was a Yorkshireman. He had been born in 1857 in Haworth, the fourth son of Robert Newsholme, a wool stapler or merchant, who had served as churchwarden to the Reverend Patrick Brontë.⁷ While Patrick Brontë, the last of the family, died when Arthur Newsholme was only four years old, young Arthur grew up among people who thought they knew the Brontës well. The Newsholmes lived near the Haworth parsonage, and their family lore included many stories about their eccentric and gifted neighbors. Newsholme's mother delighted in identifying the local inspiration for characters and incidents in Charlotte Brontë's novels. As a young boy Newsholme overheard his elders reminiscing disapprovingly about Branwell Brontë's dissipation, and as an old man Newsholme claimed to still have in his possession the tumbler from which Branwell drank his beer when visiting the Newsholme home.⁸

Although while he was young his family attended the Haworth Church, Newsholme believed that the most formative influences in his early life came not from Church, but from chapel, from the strong local Wesleyan tradition.⁹ His mother came from a Wesleyan family, and to satisfy her, the Newsholme family attended chapel Sunday evenings after attending the Church in the morning. After his father's early death, before Arthur was five years old, his mother reared the children in a strict Evangelical environment and sent young Arthur to the local Wesleyan Sunday school. As we will see in examining his adult moral and social attitudes, Arthur Newsholme bore the marks of this upbringing throughout his

4 Brighton, *Proc. Town Council*, 17 May 1889: iii.

5 A study by the Local Government Board in 1885 showed that these salaries ranged from £350 to £900 with most falling between £400 and £600. Dorothy Porter, "Stratification and Its Discontents: Professionalization and Conflict in the British Public Health Service, 1848-1914," in *A History of Education in Public Health: Health That Mocks the Doctors' Rules*, ed. Elizabeth Fee and Roy M. Acheson (Oxford and New York: Oxford Univ. Press, 1991), 96.

6 For the professionalization of public health in Britain, see Dorothy [Watkins] Porter, "The English Revolution in Social Medicine, 1889-1911" (University of London: unpublished Ph.D. dissertation, 1984), esp. 58-315.

7 There is no biography of Newsholme, and sources of information about his personal life are sparse. The primary source about his early life are the early sections of his autobiographical reflections of public health work: Arthur Newsholme, *Fifty Years in Public Health: A Personal Narrative with Comments* (London: George Allen and Unwin, 1935), pp. 17-48. See also his more important obituaries: "Sir Arthur Newsholme, K.C.B., M.D., F.R.C.P.," *Br. Med. J.*, (1943), no. 1: 680-1; "Arthur Newsholme, KCB, M.D. Lond, FR.C.P.," *Lancet* (1843), no. 1: 696; and "Sir Arthur Newsholme, K.C.B.," *Nature* 151 (1943): 635-6

8 Newsholme, *Fifty Years*, 18. 9 *Ibid.*, 23-7.

life. The public wit he cultivated in adulthood went only part way in tempering the moral earnestness and rigidity his upbringing had fostered. As an adult he emphatically defended Evangelicalism as a potent historical force for individual and social improvement and for political and social stability.¹⁰

Robert Newsholme's death left his family in economic difficulty. His son Arthur was among the small group of Victorian professionals who rose from obscurity by brilliant academic performance, winning by prizes and scholarships opportunities family wealth and connections could never have provided. His formal education began at a free grammar school near his home. After six years there he transferred for a year to Keighley Grammar School. The following year, 1872, he went to London to live with an uncle, a schoolmaster and the executor of his father's estate, and attended matriculation classes for University College. At this time he aspired to join the Indian Civil Service. His intelligence and intellectual curiosity were already evident. Rather than sticking to the subjects he would have to master to enter University College, the young Newsholme also attended advanced classes in Anglo-Saxon, English literature, and chemistry. In the autumn of 1873, at the age of sixteen, he entered University College, but family troubles, probably financial, soon forced him to return to Bradford, where his mother was then living.

It was only at this time that he began to consider medicine as a career. His mother's physician agreed to take him on as a dispenser and surgery assistant, and for more than a year he helped out in a successful provincial general practice, learning some anatomy and physiology from the doctor's assistant. By the fall of 1875, arrangements had been made to allow Newsholme to take his small inheritance before his majority so that he could pursue his education, and he returned to London. This time he entered St. Thomas's Hospital Medical School, where he had an exceptional career, earning prize money in competition each year. These prizes combined with earnings from tutoring allowed him to pay his way. He qualified early at Apothecaries Hall, becoming a Licentiate of the Society of Apothecaries (L.S.A.) in 1876 and thereby becoming a registered practitioner. He was examined for his M.B. in 1880, earning both a gold medal in medicine and a two-year University Scholarship. The following year he became M.D., earning first class honors and another gold medal. He would eventually become a Member of the Royal College of Physicians (M.R.C.P.) in 1893 and a Fellow (F.R.C.P.) in 1898. Immediately following his M.D. highly prized house officerships came his way at St. Thomas's: House Physician, House Surgeon to Outpatients, and Resident Accoucheur.¹¹ He also served as House Surgeon at Tottenham Hospital and Registrar at the Evelina Hospital for Children.

In other circumstances such a promising beginning might have led to a career as a medical consultant, with an appointment at a London hospital and a special-

¹⁰ *Ibid.*, 25-7.

¹¹ "Sir Arthur Newsholme, K.C.B., M.D., F.R.C.P.," *St. Thomas's Hospital Gazette*, 41 (1943): 92.

ized private practice. But such professional advancement was difficult, uncertain, and achieved by only a few.¹² Despite his success in examinations he lacked the personal connections with the leaders of the London medical establishment which still counted for much in the making of a consultant's career, and he did not have the resources to survive the period of waiting on the fringes of London's hospital world. He also had by this time greater financial needs. In 1881 he had married Sara Mansford from Marlborough, Lincolnshire. Their marriage was happy, childless, and lasted until her death in 1933.¹³ In the early eighties his marriage provided an added incentive to end his training and enter practice.

Rather than buy a practice, he risked trying to establish a new one in the London suburbs. He found a place on High Street, Clapham, and hung up his shingle in 1883.¹⁴ Like most other beginning practitioners, he supplemented his fees from patients. He tutored medical students, wrote articles, and edited a series of science textbooks for schoolchildren, writing two of the volumes himself.¹⁵ For a while he had a club practice, providing prepaid medical services for members of a local chapter of the Manchester Unity of Oddfellows. This was an experience he would draw on again and again much later in his career when discussing national health care schemes. He also accepted part-time institutional posts: physician to the City Dispensary and medical officer to the Westminster and Southlands Training Colleges for Teachers.¹⁶ According to his own account he quickly built a successful practice with an income from practice of just under £900 by the end of his fifth year. He came to Brighton for a smaller, if more secure, income.

We do not know how Newsholme's interest was first drawn to hygiene and public health. St. Thomas's had, it is true, the first lectureship in hygiene among British medical schools,¹⁷ but hygiene did not play a very significant part in its curriculum.¹⁸ In Newsholme's student days the lecturer on hygiene was Alfred Carpenter, M.O.H. of Croydon and a busy general practitioner, who gave twelve lectures on hygiene in the summer. Newsholme attended these but later could recall only Carpenter's pleasant manner as a lecturer, the social event he held for the students at his home, and a field trip to see the sewage treatment farm at

12 For an account of the problems of establishing a practice in Victorian Britain and of the process of becoming a consultant, see M. Jeanne Peterson, *The Medical Profession in Mid-Victorian London* (Berkeley, Los Angeles, London: Univ. of California Press, 1978), 90–138.

13 "Newsholme," *Br. Med. J.* (1943), no. 1: 680.

14 For his experience as a private practitioner, see Newsholme, *Fifty Years*, 129–32. The *London Suburban Directory, Southern Suburbs*, 1884 reports Newsholme's address as 39 High Street.

15 Richard Balchin, *Hughes's Science Readers*, No. 1 for Standard III, ed. A[rthur] Newsholme (London: Joseph Hughes, 1883); Richard Balchin, *Hughes's Science Readers*, No. 2 for Standard IV, ed. A[rthur] Newsholme (London: Joseph Hughes, 1883); A[rthur] Newsholme, *Hughes Science Readers*, No. 3 for Standard V (London: Joseph Hughes, 1884); and A[rthur] Newsholme, *Hughes's Science Readers*, No. 4 for Standards VI and VII (London: Joseph Hughes, 1884).

16 Newsholme's testimony, *Report of the Royal Commission on the Poor Laws and Relief of Distress*, Appendix vol. 9, B.P.P. 1910, XLIX [Cd. 5068], p. 155.

17 Royston Lambert, *Sir John Simon 1816–1904 and English Social Administration* (London: MacGibbon and Fee, 1963), 261–2.

18 The following information is drawn from Newsholme, *Fifty Years*, 43–4.

Beddington. The M.B. examination dispensed with hygiene in a brief and perfunctory way. Newsholme was able to pass with distinction, although he had done no preparation on hygiene other than reading through a short textbook during a train ride to the Isle of Wight. As a student Newsholme did have contact with a leading Victorian public health authority. In 1880 he was house physician to John Syer Bristowe.¹⁹ Bristowe was then M.O.H. of Camberwell and the President of the Society of Medical Officers of Health. He had undertaken a number of important investigations for John Simon, Medical Officer first of the Privy Council and then of the Local Government Board.²⁰ While the young Newsholme was impressed with Bristowe's clinical teaching and especially with his general textbook on medicine,²¹ as a student he did not take any interest in Bristowe's work in preventive medicine.

It seems that Newsholme's initial interest in hygiene was partly the result of financial need, for he found in hygiene a lucrative supplemental income. Beginning in 1882 and for several years thereafter, he lectured one evening a week on elementary physiology and hygiene for a six-month term at the central Y.M.C.A. on the Strand to a large class of elementary school teachers preparing to shepherd their pupils through the Science and Art Department's examinations, which included questions on hygiene.²² Newsholme soon became an examiner on this subject for the Science and Art Department. In 1884 he exploited this education market even further by publishing a textbook intended for those preparing for the advanced South Kensington examination in hygiene.²³ This book, like most British hygiene manuals of the period, was modeled on Edmund Parke's *Manual of Practical Hygiene*, which had first appeared in 1864.²⁴ Newsholme's *Hygiene* was followed within three years by another on school hygiene,²⁵ and later by elementary hygiene texts for young schoolchildren and for domestic economy classes in teacher training schools.²⁶ These publications were very successful. His *Hygiene* sold over 12,000 and his *Domestic Hygiene* over 40,000 copies, and his *School Hygiene* went through fifteen editions before 1918.²⁷

19 For a sketch of Bristowe, see C. Fraser Brockington, *Public Health in the Nineteenth Century* (Edinburgh and London: E. & S. Livingstone, 1965), 257–9.

20 For Newsholme's reminiscences of Bristowe, see Newsholme, *Fifty Years*, 35–7.

21 John Syer Bristowe, *A Treatise on the Theory and Practice of Medicine* (London: Smith, Elder, & Co., 1876).

22 Newsholme, *Fifty Years*, 147. See also the title he claimed for himself, Lecturer on Physiology and Hygiene at the Exeter Hall Science Classes, on the title page of his *Hygiene: A Manual of Personal and Public Health* (London, 1884).

23 Arthur Newsholme, *Hygiene: A Manual of Personal and Public Health* (London: George Gill & Sons, 1884).

24 For a discussion of British hygienic textbooks, see Porter [Watkins], "English Revolution," 340–73.

25 Arthur Newsholme, *School Hygiene: The Laws of Health in Relation to School Life* (London, 1887).

26 The former began as *Lessons on Health: Containing the Elements of Physiology and Their Application to Hygiene* (London, 1890). It was republished as *Elementary Hygiene*, new ed. (London, 1893). The latter is Arthur Newsholme and Margarot Eleanor Scott, *Domestic Economy: Comprising the Laws of Health in Their Application to Home Life and Work* (London: Swan Sonnenschein & Co., 1902).

27 Newsholme, *Fifty Years*, 147, 150.

Newsholme moved from popularizer to participant in 1884, when he became part-time M.O.H. for Clapham at an annual salary of £80.²⁸ Clapham was then one of six subdistricts of the Metropolitan District of Wandsworth.²⁹ Health and sanitation were then the responsibility of the Board of Works for the Wandsworth District. Its Sanitary Committee had a subcommittee for each subdistrict, and each subcommittee employed a part-time M.O.H.³⁰ Newsholme was the only one of these M.O.H. who was not also employed by the Poor Law Guardians as District Medical Officer to provide medical services to paupers.³¹ The year following his appointment Newsholme returned to London University to acquire his Diploma in Public Health. But his education in public health depended much less on the modest syllabus for this diploma than on his private study.³² In Clapham he discovered William Farr's and John Simon's annual reports. Reading these reports by the former Statistical Superintendent of the General Register Office and by the Medical Officer of the Privy Council proved to be Newsholme's primary education in public health and epidemiology. As we will see in the next chapter, Newsholme was particularly indebted to Farr.

THE TOWN AND ITS REPUTATION

When Newsholme arrived, Brighton was a prosperous seaside resort with a population of 115,000. Over the last century and a third, an enthusiasm first for the medicinal use of sea water and then the fashion of taking the sea air had transformed the former fishing village into the largest British resort and the eighteenth largest town in England and Wales, excluding greater London.³³ The patronage of the Royal Family, beginning in the 1760s but particularly the regular visits beginning in 1783 of the Prince of Wales, the future Regent and King,

28 For his autobiographical comments on his work as M.O.H. of Clapham, see *ibid.*, 133-43.

29 The other subdistricts were East Battersea, West Battersea, Putney, Streatham, and Wandsworth.

30 See Board of Works for the Wandsworth District, *Minutes of Proceedings*.

31 In this book the Poor Law refers to the New Poor Law of 1834, the welfare system that served England for the remainder of the century. Funds for relief were raised through local property taxes – the poor rate, or the rates – and were administered by the locally elected Board of Guardians. Relief might consist of food and shelter, of money, and of medical care. If given in a poor law institution, it was known as indoor relief; if outside of such an institution, outdoor relief. Relief was given on terms intended to deter applications. Those in receipt of relief were pauperized and suffered conditions that were frequently harsh and stigmatizing as well as the loss of certain civil rights.

32 For a very useful discussion of the curriculum for the DPH, see Roy Acheson, "The British Diploma in Public Health: Birth and Adolescence," in *A History of Education in Public Health: Health that Mocks the Doctors' Rules*, ed. Elizabeth Fee and Roy M. Acheson (Oxford: Oxford Univ. Press, 1991): 55-78.

33 For the social history of Brighton, see Edmund W. Gilbert, *Brighton: Old Ocean's Bauble* (London: Methuen & Co., 1954); Anthony Dale, *Fashionable Brighton 1820-1860*, 2nd ed. (Newcastle-upon-Tyne: Oriel Press, 1967); and Clifford Musgrave, *Life in Brighton from Earliest Times to the Present* (London: Faber and Faber, 1970).

George IV, had made Brighton the foremost sea resort, eclipsing even Bath as the provincial center of fashion and recreation.³⁴ By the second third of the nineteenth century, however, royal patronage had dwindled. Victoria visited for the last time in 1845. Thereafter the Royal Pavilion, the fantastic Oriental pleasure palace the Regent had built for himself, stood empty.³⁵ But by that time Brighton had found other sources of prosperity. Its pleasant climate and setting, its elegant buildings, and the reputation for fashion and rakishness that it had acquired in the Regency all continued to lure many wealthy visitors. By some accounts the decades 1830–60 marked the peak of Brighton's fashion, but in the 1870s the town was probably its most prosperous, and it continued to attract large numbers from the upper classes.

Equally important for Brighton's future was the completion of the railroad from London in 1841. The rail link to the Metropolis changed Brighton's character as a resort. First it rapidly increased the number of visitors and stimulated the growth of the town itself. In 1837, four years before the coming of the railroad, at a time when Brighton could boast of good coach service, stage coaches brought to Brighton 50,000 visitors during the entire year, but in 1850 the railroad brought 73,000 visitors in a single week.³⁶ Brighton's population also grew rapidly, from 46,000 to 65,000, in the first decade after the completion of the main line to London, and within three decades its population had nearly doubled.³⁷ It was soon one of the nation's largest provincial towns, and it acquired during the century powers of self-government. It gained parliamentary representation in 1832 and was incorporated as a borough in 1854.³⁸ In the last quarter of the century this urban growth slowed, in part because the town was running out of vacant land and was unable to annex the adjacent community of Hove. Between the censuses of 1851 and 1881 Brighton had experienced the largest incremental growth of any English or Welsh seaside resort, but between 1881 and 1911 it ranked fifth in incremental growth and ninety-fifth in percentage growth.³⁹

The railroad also helped change the social composition of Brighton's resort trade. Cheaper and faster rail travel attracted visitors from lower down the social scale. During the second half of the century Brighton developed two seasons, the official season in the autumn months, which continued to attract the fashionable classes, and a summer season, which drew ever larger crowds of middle- and

34 E. W. Gilbert, "The Growth of Brighton," *Geographical J.*, 114 (1949): 37–42.

35 Dale, 15, 17.

36 John K. Walton, *The English Seaside Resort: A Social History 1750–1914* (Leicester: Leicester Univ. Press, 1983), 22.

37 Gilbert, "Growth," 43–4. For a discussion of the development of Brighton's districts after the coming of the railroad, see Sue Farrant, "The Growth of Brighton and Hove 1840–1939," in *The Growth of Brighton and Hove 1840–1939*, ed. Sue Farrant, K. Fossey, and A. Peasgood (Falmer, East Sussex: The Centre for Continuing Education, University of Sussex, 1981), 25–30.

38 B[enjamin] W[ard] Richardson, "The Medical History of England: The Medical History of Brighton," *Medical Times and Gazette* (1864), no. 1: 651; Gilbert, *Brighton*, 153.

39 Walton, 61, 65, 66, 68.

lower-middle-class families for summer holidays, and eventually working-class visitors and day-trippers.⁴⁰ By the later decades of Victoria's reign Brighton was feeling the competition for the most fashionable trade from other resorts, especially those on the South Coast such as Eastbourne, Hastings, and Bournemouth. These smaller and newer resorts could promise quieter surroundings and a more uniformly privileged resident social set.⁴¹

But Brighton was not only a resort. Its reputation as a healthy and fashionable place and its proximity to London – it was closer to the Metropolis than any other seaside resort – made Brighton a natural choice of location for boarding schools. By the 1880s there were some 125 of them, more than in any other South Coast resort town.⁴² Its economy also had an industrial component, relying most heavily in the later decades of the century on its railway manufacturing works. In 1891 the railroad employed directly more than 2,600 of Brighton's residents.⁴³ A host of small manufacturers and the building trades were also important sources of employment, but the dominance of its resort trade and schools meant that Brighton had primarily a service economy. As the resort trade was seasonal, there were regular periods of unemployment for many of the town's laboring residents. Despite its great wealth, Brighton experienced many of the same problems with poverty as other nineteenth-century British towns.⁴⁴ As we shall see in considering the slum clearance projects in the last two decades of the century, the proximity of opulence and squalor could be very striking in Victorian Brighton.

Newsholme came to Brighton at a time when local government was becoming more active. One can trace the municipal activism of the last quarter of the century to a variety of forces, among them economic growth, interurban competition, and the formation of a municipal gospel, an ideology of social reform which successfully transferred the labor of rescue and moral uplift from Church, chapel, and missionary society to the local authority.⁴⁵ Resort towns had particularly strong incentives to undertake municipal improvements and to engage in municipal trading. By the 1870s many English resorts were willing to spend public money to provide amenities and entertainments for visitors in order to promote the local tourist trade.⁴⁶ In the last quarter of the century they, like some northern

40 This social change occurred at most resorts. See *ibid.*, 59–60.

41 See the comparative measures of social status of the resorts' residents in *ibid.*, 78, 79, 80, 81.

42 Gilbert, *Brighton*, 197–200; and Walton, 97. 43 Musgrave, 312; and Gilbert, *Brighton*, 156–7.

44 For a short description of poverty and working-class life in Brighton, see Musgrave, 312–14, 319–24. For a useful autobiographical account of an early twentieth-century working-class childhood, see John Langley, *Always a Layman* (Brighton: Sussex Society for Labour History, 1976). In the early twentieth century Brighton's Sanitary Committee provided public works jobs for the unemployed. See Brighton, Proc. San. Comm. 22 (16 Nov. 1905): 305–6; and *ibid.* 23 (11 Oct. 1906): 183–4. Newsholme described the provisions for medical relief in Brighton in his testimony of the *Report of the Royal Commission on the Poor Laws and Relief of Distress*, Appendix Vol. 9, B.P.P. 1909, XLIX, [Cd. 5068], 155–8.

45 This role that a municipal gospel played has been effectively argued for the case of Birmingham in E. P. Hennock, *Fit and Proper Persons: Ideal and Reality in Nineteenth-Century Urban Government* (Montreal: McGill-Queens Univ. Press, 1973), see esp. 61–169.

46 Walton, 140–55.

industrial towns, provided water, gas, electricity, and tramways either by buying private companies or by initiating publicly owned utilities.⁴⁷ Street lighting and paving, pleasure piers, promenades, town bands and orchestras, parks, pleasure gardens, and winter gardens all made their appearance as municipal projects in the last three decades of the century.

Brighton acted earliest and on a grand scale by buying the Royal Pavilion in 1850 and remodeling it as a public attraction. Half a century later the Corporation purchased the Aquarium and continued to run it, even though the facility incurred major financial losses. But more characteristic of this late Victorian municipal activism were the Corporation's efforts beginning in 1872 to buy up the private water companies serving the town and to build new pumping stations.⁴⁸ As a result of these efforts the number of homes receiving pumped water increased rapidly. The Corporation soon found other uses for its public water supply, adding public drinking fountains, public baths, a swimming pool, and public toilets. By the middle 1890s the Corporation also was spending public money to maintain public parks and gardens, a race track, a cricket ground, the beach, the Dome – the former stables of the Royal Pavilion which had been converted and enlarged to provide an assembly hall, a library, a museum, and a gallery – and to provide street cleaning and lighting.⁴⁹ By 1900 only Blackpool among the English seaside resorts provided all four basic public utilities: water, gas, electricity, and tramways, but Brighton was one of three resorts which provided three of the four.⁵⁰ A year later it added the fourth, when its tramway system began to operate.⁵¹

Although Brighton's economy depended upon its reputation as a healthy place, and although it had early proven its willingness to spend on ornaments and attractions, the town was not in the vanguard in investing in the invisible infrastructure of modern urban life, which included a proper sewage system. The Corporation was content to trust the health of the town to the natural advantages of Brighton's site. By 1860 only about a quarter of the houses of Brighton were drained into the town's 8½ miles of sewers.⁵² The remaining three-quarters relied on cesspools, estimated by unfriendly critics to number around 10,000. Moreover,

47 Malcolm Falkus, "The Development of Municipal Trading in the Nineteenth Century," *Business History*, 19 (1977): 134–61; and Anthony Sutcliffe, "The Growth of Public Intervention in the British Urban Environment during the Nineteenth Century: A Structural Approach," in *The Structure of Nineteenth Century Cities*, ed. James H. Johnson and Colin G. Pooley (London: Croom Helm, 1982): 107–24.

48 Gilbert, *Brighton*, 166–7.

49 "Estimate of Money Required on the District Fund Account for the Service of the Half-Year Commencing 1st January and Ending 30th June 1893." Brighton, *Proc. Town Council*, 31 Oct. 1892; and "London-by-the-Sea," *London*, 6 June 1895: 430–2.

50 Walton, 145.

51 Adrian Peasgood, "Public Transport and the Growth of Brighton 1840 to 1940," in *The Growth of Brighton and Hove 1840–1939*, ed. Sue Farrant, K. Fossey, and A. Peasgood (Falmer, East Sussex: University of Sussex Centre for Continuing Education, 1981), 49.

52 "Report on the Drainage of Brighton, with a Chemical and Microscopical Analysis Illustrative of the Pollution of the Sea and Well Waters," *Lancet* (1862), no. 2: 397; and "Report of The Lancet Sanitary Commission on the Drainage of Brighton," *Lancet* (1868), no. 2: 383.

the sewers then simply discharged their contents from three large iron pipes into the sea opposite the sea front. By the late 1850s visitors were beginning to notice and to complain about disgusting odors and discoloration of the sea water.

Building a sewer system was an expensive proposition with a technologically unproven outcome. Like many Victorian towns, Brighton found it difficult to muster political will and the capital to do so.⁵³ As early as the 1850s one of the town's mayors, himself a medical practitioner, unsuccessfully urged the Council to appoint a Medical Officer of Health and to build proper sewers for the town.⁵⁴ The Town Council hired two engineers to draw up plans and to make estimates for building a comprehensive sewer system, but a majority could not be found in the Council to support the expensive plan, and the project had to wait almost two decades.

The reform party would eventually triumph by exploiting the town's fear of losing its resort trade. In this campaign the reformers found a powerful ally in *The Lancet*, which intermittently over a period of twenty years dramatically publicized the sanitary inadequacies of this famous health resort. Its campaign began in November 1860 when it published under the provocative title "The Death Drains of Brighton" a letter, soon to be republished in *The Times*, from a London surgeon who blamed illness in his household on the faulty drains of the house he rented while on a Brighton holiday.⁵⁵ The medical journal was soon providing lurid descriptions of the town's sewers and cesspools and editorial warnings to visitors and their medical practitioners.

How often has it happened that the jaded denizen of London and his drooping children have met with sickness, and perhaps death, where they had sought for health from the invigorating breezes of the sea! The autumnal flight to the sea-shore is, in too many instances, an exchange of well-drained, commodious, and cleanly dwellings, for the hidden abominations of cesspools, and elaborate disguises of household dirt in many forms. The free air inhaled by day upon the beach, or in the neighbouring fields, but poorly compensates for the deadly nightsoil malaria that steals throughout the bedrooms and empoisons the unconscious sleepers.⁵⁶

In editorials and leading articles during the decade the medical journal urged the construction of an intercepting sewer to divert the town's sewage from the sea front and its disposal, preferably on land as sewage manure or, failing that, into the sea at a distance from the town.⁵⁷ It pointed out what Brighton's rivals, Eastbourne

53 For an illuminating account of the problems of providing sewers for Victorian cities, see Wohl, *Endangered Lives*, 80–116.

54 This practitioner was undoubtedly J. Cody Burrows, who was Mayor of Brighton in 1857, 1858, and 1871. B[enjamin] W[ard] Richardson, "The Medical History of England: The Medical History of Brighton," *Medical Times & Gazette* (1864), no. 1: 651; and *Friend's Brighton Almanack* (1894): 20. His complaint to a London surgeon about this episode is recorded in William Acton, "The Death Drains at Brighton," *Lancet* (1860), no. 2: 522.

55 Acton, "Death Drains;" and "The Drains at Brighton," *The Times*, 23 Nov. 1860: 10.

56 Leading editorial, 8 Dec. 1860, *Lancet* (1860), no. 2: 566.

57 In addition to the editorials already cited, see leading editorial 9 Nov. 1861, *Lancet* (1861), no. 2: 415 [actually 451]–2; untitled editorial, *ibid.*, (1862), no. 2: 334–5; and "Brighton Drainage," *ibid.* (1869), no. 1: 621.