

## A WORKINGMAN'S PARADISE? REFLECTIONS ON URBAN MORTALITY IN COLONIAL AUSTRALIA 1860–1900

by

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### I

Today, historical research on health and society in nineteenth-century Australia, as elsewhere, is focused on three main areas: the effects of particular epidemic diseases on the social fabric, the politics of public health, and the relationship between living standards, sanitary reform, and mortality. By far the greatest attention has been paid to the first, notably by historical epidemiologists, and to the second, by administrative historians.<sup>1</sup> Until recently, the third has attracted much less attention. The connexion between living conditions and mortality has long been accepted, but the two phenomena have been investigated separately. The relationship forms a largely unwritten chapter in the history of public health in Australia. But, since the pioneering work of Ken Inglis and Ann Mitchell<sup>2</sup> has opened our eyes to the social dynamics of colonial hospitals, and T. S. Pensabene and Evan Willis<sup>3</sup> to the colonial medical profession, it has become appropriate to examine afresh the relationship between disease, mortality, and colonial living conditions.

For decades, it has been unfashionable to do this. Part of the reason may lie in the nature of Australian social and economic historiography. Certainly, it was possible to overlook critical considerations of disease and health as long as Australian history was dominated by mythologies of the “bush”<sup>4</sup> and of colonial progress. These had a formidable influence, and were highly functional to conventional interpretations of colonial history.

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<sup>1</sup> Cf. P. H. Curson, *Times of crisis. Epidemics in Sydney 1788–1900*, Sydney University Press, 1985. A. J. C. Mayne, *Fever, squalor and vice. Sanitation and social policy in Victorian Sydney*, St Lucia, University of Queensland Press, 1982. D. Dunstan, *Governing the metropolis. Politics, technology and social change in a Victorian city: Melbourne 1850–1891*, Carlton, Melbourne University Press, 1984.

<sup>2</sup> K. Inglis, *Hospital and community: a history of the Royal Melbourne Hospital*, Carlton, Melbourne University Press, 1958. A. M. Mitchell, *The hospital south of the Yarra: A history of Alfred Hospital from foundation to the nineteen forties*, Melbourne, Alfred Hospital, 1977.

<sup>3</sup> T. S. Pensabene, *The rise of the medical practitioner in Victoria*, Canberra, Australian National University, 1980. E. Willis, *Medical dominance: The division of labour in Australian health care*, Sydney, Allen & Unwin, 1983.

<sup>4</sup> Cf. R. Ward's classic, *The Australian legend*, Melbourne, Oxford University Press, 1978.

Between 1830 and 1850, as Australia ceased to be a penal colony, its image changed from that of a place of exile and punishment to that of a land of opportunity for free immigrants. Local industries were eager to obtain labour from Britain, while British manufacturers were equally keen to expand markets. English visitors painted the Australian colonies as a land of milk and honey.<sup>5</sup> So the myth of the “workingman’s paradise” was born.<sup>6</sup> At least until the depression of the 1890s, spokesmen for the colonial bourgeoisie, wishing to encourage investment and immigration, elaborated upon and reinforced this myth.<sup>7</sup> In the real wages of working men, there was much truth in this; and evidence of improved life expectancy for children and younger adults enhanced the notion.<sup>8</sup> It is not surprising that substandard living conditions and illness should be rarely aired in public; or if discussed, minimized, both then, and since.

In the last few years, however, the fact that Australian life had by the 1850s become irresistibly urban-centred has obliged historians to look more closely into the conditions in which everyday Australians lived and died. It then becomes clear on closer examination that, for many of the urban working classes, living conditions for most of the nineteenth century were no better than those of their English contemporaries. Max Kelly’s studies of inner-city Sydney have shown that tens of thousands of working-class people, ignored by governments, city managers, and absentee landlords, lived in slum conditions as bad as any in Europe. “The much vaunted high level of living standard was an illusion for a large proportion of working class families in the closing decades of the colonial century.”<sup>9</sup> Shirley Fisher has drawn attention to the fact that death rates in Sydney were not markedly lower than those in England.<sup>10</sup> Other historians have recorded the remarkably high infant mortality rates of other Australian colonial cities.<sup>11</sup>

At present, there are important difficulties in the way of assessing the relationship between colonial mortality and living standards. First, while Australian historians can substantially agree, for example, about patterns of disease within colonies, or in each colonial capital, there is room for much disagreement about intra-city differences. Unfortunately, reliable age and cause-specific mortality data is not available by suburb in published sources until the twentieth century.<sup>12</sup> Intra-city differences in socio-economic status and living conditions are considerable, and become greater with the expansion of city areas by the end of the century. The absence of data renders the correlation of mortality patterns with socio-economic conditions particularly difficult.

<sup>5</sup> See A. Trollope, *Australia and New Zealand*, London, Chapman & Hall, 1873. J. Inglis, *Our Australian cousins*, London, Macmillan, 1880. R. E. N. Twopeny, *Town Life in Australia*, London, Stock, 1883.

<sup>6</sup> See R. White, *Inventing Australia. Images and identity 1688–1980*, Sydney, Allen & Unwin, 1981.

<sup>7</sup> See T. A. Coghlan, *The wealth and progress of New South Wales, 1886–87*, Sydney, Government Printer, 1887. Trollope, *op. cit.*, note 5 above.

<sup>8</sup> C. M. Young, *Mortality patterns and trends in Australia*, Canberra, Australian Government Printing Office, 1976, p. 3.

<sup>9</sup> M. Kelly, ‘Picturesque and pestilential. The Sydney slum observed 1860–1900’, in M. Kelly (editor), *Nineteenth century Sydney. Essays in urban history*, Sydney University Press, 1978, p. 67.

<sup>10</sup> S. Fisher, ‘The pastoral interest and Sydney’s public health’, *Historical Studies*, 1982, 20: 75.

<sup>11</sup> See, for example, T. L. Stevenson, ‘Light and living conditions: mortality in nineteenth century Adelaide’, paper at 49th ANZAAS Conference, Adelaide, 1979.

<sup>12</sup> From 1900, Sydney’s Metropolitan Medical Officer of Health published age and cause-specific mortality data by suburb in his annual report. Victoria’s Board of Public Health included in its reports of the 1890s a very limited range of cause-specific data for Melbourne’s municipalities.

Second, there is a question of expectations. Much disease was brought by the earliest colonists and by subsequent waves of immigrants. Yet, there was a general expectation that the colonies would be healthier overall. Arguably, the “new Britain” could not be more healthy than the old. In some respects, the picture of colonial good health was fostered by impressions of life in the “bush”. And indeed, our relatively scanty knowledge of rural mortality patterns indicates that the sparse population in rural areas generally made the transmission of infectious diseases less likely there than in the cities. But the facts of life in a disproportionately urban Australia simply give the lie to this picture of good health.

A third problem arises within the tradition of Australian scholarship on public health. In parallel with the keeping of regional statistics, the social analysis of mortality has itself been intensely regionalized, colony by colony (and subsequently, state by state), reflecting traditional political and procedural differences between the different regions.<sup>13</sup> This is, however, beginning to change. Analysis of the politics of public health, formerly parochial, is now emerging as comparative and intrusive. In 1982, Alan Mayne's seminal account of Sydney's public health, while recording the high mortality, the middle-class stigmatization of the “lower orders”, and the fitful development of health reform, did not see the selfish pursuit of economic self-interest as an explanation for the degradation of the environment, or for the failures and delays in reform. There were no villains, only the inadequacies of men's attempts to organize their social lives.<sup>14</sup> More recently, however, he has developed another perspective on public health in Sydney and Melbourne, which highlights the connexions between political and socio-economic structures and colonial health policy, and places greater emphasis on the role of economic interests.<sup>15</sup> In 1984, David Dunstan's study of local government and social change in nineteenth-century Melbourne recognized the connexion between insanitary environment and mortality and attributed failure of reform to the fragmented character of colonial local authority. He did not, however, look beyond the administrative structures to the role of economic interests as an explanation for the slowness of public health reform.<sup>16</sup> For Sydney, this issue has been taken up by Shirley Fisher, who has drawn upon the features of colonial city administration to show how vested interest groups combined to delay or defeat progress in public health legislation.<sup>17</sup> It is plausible that the principal impediments to better public health in Australia are to be found not in administrative circumstances, but in the social and economic organization of what Donald Denoon has called “settler capitalism”.<sup>18</sup> It is not clear, of course, whether (or if so, to what extent) the effects of

<sup>13</sup> Cf. T. Stevenson, ‘Miasmas, morbidity and milieu: mortality in Victorian South Australia’, *Proceedings. Royal Geographical Society (S.A. Branch)*, 1980, 81:40–58. Curson, op.cit., note 1 above. M. Durey, ‘Infant mortality in Perth, Western Australia, 1870–1914: a preliminary analysis’, *Studies in Western Australian History*, December 1982, pp. 62–71.

<sup>14</sup> Maine, op. cit., note 1 above.

<sup>15</sup> A. Mayne, ‘“The dreadful scourge”: responses to smallpox in Sydney and Melbourne, 1881–2’ in R. MacLeod and M. Lewis (editors), *Disease, medicine and empire* (in press). See also A. J. C. Mayne, ‘“The question of the poor” in the nineteenth century city’, *Historical Studies*, 1983, 20: 537–573.

<sup>16</sup> Dunstan, op. cit., note 1 above.

<sup>17</sup> Fisher, op. cit., note 10 above, p. 76–89.

<sup>18</sup> D. Denoon, *Settler capitalism. The dynamics of dependent development in the southern hemisphere*, Oxford, Clarendon Press, 1983.

“settler capitalism” on colonial health and mortality are visibly distinguishable from the effects of forms of capitalism evident in other major cities of the world. But the particular character of the colonial economy may force enquiry into political realms hitherto neglected by social historians.

For example, as Woods and Woodward have shown for England, and Condran and Cheney for the United States, it is no longer satisfactory to analyse mortality and demographic transitions at a national level alone.<sup>19</sup> We need also to pursue individual cities, and differences within cities. Above all, we must not neglect the nexus between disease, mortality, and poverty. If we seek to understand these relationships in Australia, and to explore their wider implications for urban development here and overseas, it may be necessary to lift our sights from the local to the comparative, so placing Australian colonial cities on a larger “map”—for the sake of argument, that of contemporary English-speaking cities of comparable stature, from Philadelphia and Boston,<sup>20</sup> to Leeds and Birmingham. In Table I we compare the mortality from certain important infectious diseases in the latter two cities, plus London, with three colonial cities. Whilst it is difficult to draw comparisons, provincial British cities experienced the same rapid growth, the same sanitary problems and in all likelihood, the same “poverty traps” as Sydney, Melbourne, and Brisbane.

The figures presented in Table I are for crude death rates only, so comparisons can be no more than suggestive.<sup>21</sup> And while it is not yet possible to address all the questions this comparative exercise raises, we may at least outline their importance. By so doing, we may ask whether, if patterns of mortality were not greatly different between “sister-cities”, then, just as in Britain or America, colonial Australia, despite its paradisaical image, suffered as badly from poor living conditions, as well as from the poor sanitary conditions present in all large nineteenth-century towns. Further, we may ask whether these low living standards, suggested by general mortality figures, are confirmed by infant mortality rates. If so, the larger question arises, to what extent has the image of “Australia Felix” actually masked the existence of a large “submerged” section of urban poor.

## II

By the end of the nineteenth century, Australia had become one of the most urbanized countries in the world. This fact, became, as N. G. Butlin put it, “the central feature of Australian history, overshadowing rural economic development and creating a fundamental contrast with the economic development of other ‘new’

<sup>19</sup> Cf. R. Woods and J. Woodward (editors), *Urban disease and mortality in nineteenth century England*, London, Batsford, 1984. G. A. Condran and R. A. Cheney, ‘Mortality trends in Philadelphia, age and cause-specific deathrates, 1870–1930’, *Demography*, 1982, 19: 97–123.

<sup>20</sup> See *ibid.* J. Duffy, *A history of public health in New York City: 1866–1966*, New York, Russell Sage Foundation, 1974. B. G. Rosenkrantz, *Public health and the state: changing views in Massachusetts*, Cambridge, Mass., Harvard University Press, 1972.

<sup>21</sup> In both Britain and Australia, incomplete and inaccurate death registration limits the reliability of inferences drawn on the basis of such data.



countries".<sup>22</sup> The two largest cities, Sydney and Melbourne, grew rapidly: from 96,000 in 1861, Sydney's population soared to 496,000 in 1901, and Melbourne's from 125,000 to 478,000. Brisbane expanded from a mere 6,000 inhabitants in 1861 to 119,000 in 1901. Moreover, the capital cities dominated the hinterland. Twenty-seven per cent of the population of New South Wales lived in Sydney in 1861, and thirty-seven per cent at the turn of the century. Where twenty-three per cent of Victoria's population lived in Melbourne in 1861, forty years later, forty per cent resided there; for Brisbane, in the same years, the urban proportion grew from twenty per cent to twenty-four per cent. At the turn of the century, there were about twenty cities of more than half a million people in the world:<sup>23</sup> four were in Britain, three in the United States, and two—Sydney and Melbourne—were in Australia.

Of these cities, a rosy picture was consistently presented by colonial "promoters". In 1881, the editor of the *Victorian Review* observed, "To the operative classes, Australia is a veritable land of promise".<sup>24</sup> In 1887, T. A. (later Sir Timothy) Coghlan, New South Wales Statistician and prolific publicist of the colony's achievements, denied the existence of real poverty altogether, claiming that "the contrast between rich and poor, which seems so peculiar a phase of modern civilisation, finds no parallel in these southern lands".<sup>25</sup> Even the depression of the 1890s did not destroy his faith; indeed, he maintained, in Australia it required 111 days of labour per year for a working man to earn the cost of his food as against 127 days in Britain, 148 in Germany, and 142 in France.<sup>26</sup> From the 1870s onwards, the average working man's consumption of meat in Australia was almost legendary.<sup>27</sup> Many in the urban working class, particularly artisans, could look forward to buying their own homes through building societies. Yet the margin of prosperity was thin. As Shirley Fisher has shown, the predominance of the "bourgeois" family was exaggerated; colonial life revealed marked inequalities of conditions within local economies, dominated by pastoral and construction industries, with high levels of fluctuating economic activity.<sup>28</sup> Jenny Lee and Charles Fahey have argued that the prevalence of casual labour in these industries was the basic cause of much working-class poverty, and that economic insecurity characterized large sections of the working class even during 1861–91, the period of economic growth known as the "Long Boom".<sup>29</sup>

The growth of the large Australian cities predictably impelled them towards disease and mortality rates of the same order as the older cities of Europe and North America.

<sup>22</sup> N. G. Butlin, *Investment in Australian economic development 1861–1900*, Cambridge University Press, 1964, p. 6.

<sup>23</sup> E. E. Lampard, 'The urbanising world', in H. J. Dyos and M. Wolff (editors), *The Victorian city. Images and realities*, London, Routledge & Kegan Paul, 1973, vol. 1, p. 25.

<sup>24</sup> Quoted in White, *op. cit.*, note 6 above, p. 41.

<sup>25</sup> T. A. Coghlan, *The wealth and progress of New South Wales, 1886–87*, Sydney, Government Printer, 1887, p. 491.

<sup>26</sup> T. A. Coghlan, *A statistical account of the seven colonies of Australasia 1901–1902*, Sydney, Government Printer, 1902, p. 367.

<sup>27</sup> Trollope, *op. cit.*, note 5 above, p. 178. Twopeny, *op. cit.*, note 5 above, pp. 63–64.

<sup>28</sup> S. Fisher, 'The family and the Sydney economy in the late nineteenth century', in P. Grimshaw, C. McConville, and E. McEwen (editors), *Families in colonial Australia*, Sydney, Allen & Unwin, 1985, pp. 153–162.

<sup>29</sup> J. Lee and C. Fahey, 'A boom for whom? Some developments in the Australian labour market, 1870–1891', *Labour History*, 1986, 50: 1–27.

Coghlan lamented in 1899, "What Nature with lavish hand had bestowed was . . . , until recently, in danger of being destroyed or polluted; . . . no small part of the mortality of Sydney arose . . . from diseases which sanitary precautions might have averted".<sup>30</sup> The public environment of colonial cities, as it affected working people, could be as degraded and disease-promoting as any in Europe. Sydney's spectacular growth in 1871–91 outpaced the capacity of its water supply and sewage disposal facilities.<sup>31</sup> Even before the sanitary state of the city became critical, a Select Committee on the Condition of the Working Classes of the Metropolis of 1859–60 deplored "this darkening mass of physical and moral disease . . . in a city where the natural aids to beauty . . . [favour] the largest amount of health . . . ; in the short space of a lifetime, we [have] reproduced here all the criminal abnormalities [*sic*] which have grown up . . . in the cities of the old World".<sup>32</sup> Witnesses appearing before the Committee attributed Sydney's poor hygiene to the lack of fresh water for domestic use. As street fountains were withdrawn, landlords refused to connect working-class houses to the mains. Indeed, as Sydney grew, its sanitary conditions worsened. In 1860, of 1,446 city houses inspected, only 356 had water-closets. By 1870, many cesspools had not been cleaned for twenty years and fluid seeped from them into the shallow wells so common in the suburbs. The Sewage and Health Board, created in 1875, revealed appalling problems. Its first report stated that 4,700 of Sydney's water closets were connected with the water mains in such a way that polluted drinking-water was inevitable.<sup>33</sup> Whole districts suffered from mismanagement of cesspits: the working-class suburb of Waterloo was unfit for human habitation. The "disgraceful" conditions of backyards and closets, in many areas of the city, alone indicated the need for adequate sanitary legislation, which in the end was deferred until 1896.

A host of other nuisances, ranging from sewage deposited on the harbour shores to filthy city cow-yards, clandestine slaughtering establishments, and noxious manufacturing concerns, were investigated by the Sewage and Health Board. Proper systems of waste disposal were desperately needed. Construction of an underground sewerage system, finally begun in 1880, was not completed until 1889, and additional areas of the city were sewered only in the 1890s and early 1900s. By the turn of the century, Sydney enjoyed a healthier public environment. Yet the improvement must not be overestimated. Many cesspits remained in use, and well into this century municipal authorities commonly permitted garbage to be tipped and left uncovered on open ground.<sup>34</sup>

Similar conditions prevailed in Victoria. In the 1850s, Melbourne grew dramatically as immigrants poured into the southern colony in search of gold. Large-scale sanitary problems quickly followed. Nightsoil deposited in the immediate environs of the city became a "fearful nuisance". The manure depot, the authorities' answer to the

<sup>30</sup> *New South Wales vital statistics*, Sydney, Government Printer, 1899.

<sup>31</sup> See D. Clark, "Worse than physic": Sydney's water supply 1788–1888", in Kelly (editor), *op. cit.*, note 9 above, pp. 54–65. F. J. J. Henry, *The water supply and sewerage of Sydney*, Sydney, Halstead Press, 1939.

<sup>32</sup> Report from the Select Committee on the Condition of Working Classes of Metropolis, *Votes and Proceedings of Legislative Assembly of New South Wales*, vol. 4, 1859–60, p. 10.

<sup>33</sup> Sydney City and Suburban Sewage and Health Board, Progress Report, *Journal of the Legislative Council of New South Wales*, vol. 25, 1875, p. 5.

<sup>34</sup> *Report of Director General of Public Health, New South Wales, 1920*, Sydney, Government Printer, 1922, p. 60.

problem of human waste disposal, was described in 1858 as “the most offensive object in the vicinity of the city”.<sup>35</sup> For decades the local authorities proved incapable of dealing properly with waste-disposal. The Yarra River, the only effective means of waste-removal in the absence of adequate manmade systems, became an “open sewer”. By the 1880s, when the city celebrated its International Exhibition, the inner city was “wallowing in its own filth”.<sup>36</sup> Marvellous “Smelbourne” was a city of great contrasts. The outer districts, being less densely populated, more easily concealed their sanitary difficulties; but difficulties they certainly had. Only with the establishment of the Metropolitan Board of Works in 1891 (twenty years after the equivalent was established in London) was a beginning made. To the north, Brisbane was still without a proper system of drainage and sewerage as late as the 1890s, and Brisbane municipality continued to dump its garbage in a creek bed less than a mile from the city centre.

In Sydney, housing presented another problem. By the 1850s, the city already had major slums. The chairman of the Select Committee on the Conditions of the Working Class (1859–60), Henry (later Sir Henry) Parkes, five times Premier of New South Wales, described working-class accommodation as deplorable. Even newer dwellings lacked drainage and ventilation, and many of the older tenements were unfit for human occupation. The Health Officer of the City of Sydney, the English-born Dr Henry Graham, told the inquiry that housing in Sydney was worse than any he had seen elsewhere in the world—worse even than in parts of London.<sup>37</sup> In these inner-city suburbs, housing was of poor quality when it was built in the 1850s, 1860s, and 1870s. Overcrowding combined with poor sanitary facilities to create ideal conditions for the spread of infectious diseases. In an 1858 survey of Sydney, William Stanley Jevons (1835–82), then an Assayer at the Sydney Mint (later the distinguished political economist of Owens College, Manchester, and University College, London), observed: “I am acquainted with some of the worst parts of London . . . and with the most unhealthy part of Liverpool, Paris and other towns but nowhere have I seen such a retreat for filth and vice as the ‘Rocks’ of Sydney, and it is the highest disgrace both to the municipal authorities and the landlords . . . that not the slightest sign of amelioration appears.”<sup>38</sup>

In 1875, the Sewage and Health Board confirmed this assessment.<sup>39</sup> By the 1880s, a pattern of residential zoning was well established; and an inner area of working-class housing stretched from the “Rocks” near Circular Quay and the Harbour, around Darling Harbour to the suburbs of Pyrmont, Camperdown, Surry Hills, Paddington, and Woolloomooloo. Glebe and Balmain were included in this heavily populated

<sup>35</sup> Dunstan, *op. cit.*, note 1 above, p. 145.

<sup>36</sup> *Ibid.*, p. 13. See also G. Davison, *The rise and fall of marvellous Melbourne*, Carlton, Melbourne University Press, 1978. J. Lack, “‘Worst Smelbourne’: Melbourne’s noxious trades”, in G. Davison, D. Dunstan, and C. McConville (editors), *The outcasts of Melbourne. Essays in social history*, Sydney, Allen & Unwin, 1985, pp. 172–200.

<sup>37</sup> Select Committee, Minutes of evidence, *op. cit.*, note 32 above, p. 21.

<sup>38</sup> W. S. Jevons, ‘Remarks upon the social map of Sydney’, 1858, unpublished MS, Mitchell Library, Sydney.

<sup>39</sup> Sydney City and Suburban Sewage and Health Board, Eleventh Progress Report, *Journal of the Legislative Council of New South Wales*, vol. 26, II, 1875–76, p. 8.

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zone. Less populous suburbs, inhabited by the better-paid wage-earner, surrounded this inner core and extended down the western and southern railway lines. The prosperous lived in suburbs east of this inner zone, or in areas distant from the centre. At the turn of the century, much inner-city housing was still substandard. In 1901, Dr W. G. Armstrong, graduate of Sydney's Medical School, holder of Cambridge's diploma in public health, and first Medical Officer of Health for (Sydney's) City and Suburbs, recorded that in a year's public health work in Whitechapel he had not seen dwellings as parlous as some he knew in Sydney. But for Australia's better climate, the "damp, ill-ventilated and overcrowded hovels" occupied by so many working-class people would have raised the death rate from diseases such as pneumonia and tuberculosis.<sup>40</sup>

The hectic growth of inner-city Melbourne created a stock of jerry-built houses into which the poorer classes were forced. Residents fell victim regularly to typhoid fever, which had become endemic by the 1870s. Indeed, typhoid was a more lethal hazard than the motor-car is today.<sup>41</sup> A Melbourne doctor could write of working-class conditions of life: "I know from experience something of the chronic domestic dirt which prevails among the lower classes in the manufacturing towns of England but nothing that I ever witnessed in the West Riding of Yorkshire and in South Lancashire equalled in repulsiveness what I found in Melbourne . . ."<sup>42</sup>

During the land boom of the 1880s, many badly constructed dwellings were built on or near fillings composed of refuse and sometimes even of nightsoil. Many sites became receptacles for stagnant and polluted water. In 1890, Dr D. A. Gresswell, the English-born Medical Inspector to the new Victorian Board of Public Health, established under the Public Health Act of 1889, launched a special inquiry into the sanitary condition of Melbourne, and found that little had changed in the poor districts of the city since the 1860s.

Little more than a village at the beginning of the 1860s, Brisbane had also grown very quickly by the 1880s. Speculators anxious to maximize return on investment subdivided land to create the greatest possible number of "blocks". As a result, a great many dwellings, especially in working-class areas, were located on very small blocks in narrow streets. In general, the well-to-do occupied the summits of the city's numerous hills, which in a semi-tropical climate were considered salubrious, while the working class lived in the valleys and on the river flats. In the absence of a proper drainage and sewerage system, houses at the bottom of the hills received sewage from those higher up the slopes. In the early 1890s, a sanitary engineer pointed out that from his own house he could see thirteen tenements, with closets thirty feet from the kitchen and only a narrow passage between each house, and so located that slop-water had to be scattered on yard surfaces.

If the urban working classes dwelt in unpleasant and unhealthy domestic environments, their working conditions were often deplorable. Until the end of the

<sup>40</sup> W. G. Armstrong, 'Municipal sanitation in the city', *Australasian med Gaz.*, November 1901, p. 462.

<sup>41</sup> See W. A. Sinclair, 'Economic growth and well-being: Melbourne 1870-1914', *Economic Record*, 1975, 51: 154.

<sup>42</sup> J. E. Neild quoted in M. Cannon, *Life in the cities. Australia in the Victorian age*, South Yarra, Victoria, Currey, O'Neil, Ross, 1983, p. 264.

1880s, there was little colonial legislation controlling working conditions. Hours of work were long, although the eight-hour day was becoming established among certain skilled male workers. Many children were employed full-time despite the advent of compulsory schooling. A commission of inquiry in Victoria in 1884 and one in Queensland in 1891 found three main areas of abuse: sweated labour; great variation in hours of work and unpaid overtime; and unsanitary and dangerous working conditions. Unskilled, poorly paid female and child labour was important to the growth of infant industries like clothing, cloth manufacturing, jam manufacture, and bootmaking. Abuses were especially common in the clothing trades. Excessive labour and low wages undoubtedly contributed to ill health. A Royal Commission of 1902 in Victoria heard evidence from a woman who for many years had worked for twelve to sixteen hours a day, six days a week, for a leading clothing manufacturer. Two of her young children did the same. Food manufacture and distribution were equally exploitative. A Sydney baker reported in 1900 that for £2 10s. per week he worked twelve hours a night, and four hours more on Friday. Employees in retailing were required to work long hours for customers' convenience. Drapers, grocers, confectioners, chemists, hairdressers, milliners, and tailors traded for twelve to fourteen hours a day.<sup>43</sup> Sheer fatigue, and diets deficient in vegetables and other nutritious foods, reduced the resistance of the poor to the infections that menaced all the community.

The working environment made the position even worse. In the Australian summer, factories could become furnaces, with indoor temperatures of almost 100°F. In the baking and printing trades, makeshift factories with damp walls and little ventilation had primitive sanitary arrangements. Many city shops lacked water-closets, and female employees had to use public facilities. Official orders for the regular removal of rubbish and the scrubbing of floors were resisted by some factory owners. A historian of factory conditions has written that conditions in Brisbane were "squalid enough to rival those of the Old World's huge industrial complexes".<sup>44</sup>

### III

It is, however, when we look from such descriptive accounts of urban insanitation to quantitative indicators that we confront the full reality of the connexion between poverty and disease in the colonial city. Mortality rates have long been used as important indicators of living standards, and differences in mortality between socio-economic groups have been taken to reflect, in part at least, differences in living conditions. *Infant* mortality rates (especially the post-neonatal rate) have become a sensitive pointer to the quality of life. The pattern of colonial infant mortality confirms this documentary evidence of the effects of poor living conditions among the urban working classes. Infant death rates in large Australian cities were of much the same

<sup>43</sup> See R. Lawson, *Brisbane in the 1890s. A study of an Australian urban society*, St Lucia, University of Queensland Press, 1973, pp. 63–74. G. P. Walsh, 'Factories and factory workers in New South Wales, 1788–1900', *Labour History*, 1971, 21: 11–15. Cannon, op. cit., note 42 above, pp. 275 and 280.

<sup>44</sup> G. Whitfield, 'Industrial conditions in early Brisbane. Report of the 1890s', *Queensland Heritage*, 1969, 1: 20.

order as those returned by English cities, where poverty was a major factor in mortality. It is reasonable to argue that, given the nature of colonial cause-specific mortality, with much of it the result of diarrhoeal and associated illness, poor living conditions were decisive for Australian infant mortality as well.

This relationship is, of course, not straightforward, and assertions of a causal connexion have had their critics. In both Britain and Australia, at the turn of the century, public health officials repeatedly argued that high infant mortality was a function more of “maternal ignorance” than of poverty. According to this doctrine, better mothering and breast-feeding, the watchwords of the infant welfare movement, were the key to reduced infant mortality. Jane Lewis, has shown how, in Britain, government and philanthropy preferred to deploy this argument, rather than to confront head-on the larger problems of urban poverty and gross economic inequality.<sup>45</sup> Before 1900, those involved in infant welfare shared an implicit framework of values in which the state provision of a “social minimum” had no place. “Instead, mothers were to be encouraged to realise the value of self-help and to be taught how to make the best use of whatever resources they had.”<sup>46</sup> So popular did the doctrine become, that Arthur (later Sir Arthur) Newsholme, Medical Officer to the Local Government Board, finally exposed its fallacy: maternal ignorance, he said, was “a comfortable doctrine for the well-to-do person to adopt”, as it went “far to relieve his conscience in the contemplation of excessive suffering and mortality among the poor”. But ignorance of proper infant care, if not confined to working-class mothers, was far more dangerous for them, given an environment with inferior housing and sanitary facilities, and little medical assistance.<sup>47</sup>

The doctrine of maternal ignorance was also preached by infant welfare workers in Australia. Earlier colonial commentators were impressed by the comparatively low infant death rates in the Antipodes. In 1867, M. B. Pell, Professor of Mathematics in the University of Sydney, remarked with satisfaction to the Royal Society of New South Wales that the rates of infant mortality were lower in the colony (105.8) than in England (149.5).<sup>48</sup> Historically, Pell’s satisfaction was misplaced, because it was the very low *rural* rate which kept the colony’s rate down. In fact, the *urban* rate was quite high. In 1871–75, when the rural rate was 83 deaths per 1,000 births and the rate for the colony as a whole was 103, Sydney had a rate of 157 per 1,000. Sydney’s rate increased over the next decade as the city expanded in size. In 1876–80, it was 160 per 1,000 when the rural rate was 98. The urban rate remained well above the rural rate (see Table II) until 1930–34, when it was 40 per 1,000 births and the rural rate was 43.<sup>49</sup>

The picture in Melbourne was similar. From 1870 to 1890, the infant mortality rate was almost always above 150 per 1,000 births. During the decade after 1890, it declined very substantially but still managed to climb well above 150 on two occasions. Over the

<sup>45</sup> J. Lewis, *The politics of motherhood. Child and maternal welfare in England, 1900–1939*, London, Croom Helm, 1980, pp. 13–21, 61–67 and 165–167.

<sup>46</sup> *Ibid.*, p. 19.

<sup>47</sup> A. Newsholme, ‘On child mortality at the ages 0–5 years, in England and Wales’, *J. Hyg.*, July, 1917–18, 16: 69–71.

<sup>48</sup> M. B. Pell, ‘On child mortality and expectation of life in New South Wales as compared with England and other countries’, *Trans. R. Soc. New South Wales*, 1867, 1: 69 and 74.

<sup>49</sup> W. G. Armstrong, ‘Infant welfare movement in Australia’, *Med. J. Australia*, 1939, 2: 647.

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TABLE II INFANT MORTALITY IN SYDNEY AND RURAL NEW SOUTH WALES

	<i>Sydney</i>	<i>Extrametropolitan N.S.W.</i>
1886–90	154 per 1,000	92 per 1,000
1891–95	138	96
1896–1900	130	105
1901–1905	106	91

*Source:* W. G. Armstrong, *Medical Journal of Australia*, 1939, 2: 647.

TABLE III INFANT MORTALITY IN BRISBANE AND RURAL QUEENSLAND

	<i>Brisbane (urban)</i>	<i>Darling Downs (rural)</i> (South-eastern Queensland)
1866–75	145 per 1,000	114 per 1,000
1876–85	180	106
1886–95	143	76
1896–1905	128	84

*Source:* D. Gordon, *Health, sickness and society*, St Lucia, University of Queensland Press, 1973, p. 161.

TABLE IV INFANT MORTALITY IN LONDON

	<i>London</i>
1861–70	162 per 1,000
1871–80	158
1881–90	152
1891–1900	160
1901–05	141

*Source:* G. Newman, *Infant mortality*, London, Methuen, 1906, p. 3.

same period, Brisbane returned substantial infant mortality rates, which compared unfavourably with rural rates (see Table III). The same was true in South Australia.<sup>50</sup>

Until about 1890, infant mortality in Sydney was usually of the same order as, and sometimes greater than, that in London (see Table IV). From 1890, the Sydney rate was lower than that recorded for London, but not greatly. This comparability continues in the leading causes of death. High levels of infant diarrhoeal mortality were commonplace throughout England, America, and Europe. In Sydney, 1875–1900, diarrhoeal mortality was, with a few exceptions, 32 or more per 1,000 births. A Sydney specialist in diseases of women and children, W. J. Stewart McKay, said in 1898 that diarrhoea accounted for more deaths than any other condition.<sup>51</sup> In London in the 1880s and 1890s, infant mortality attributed to diarrhoeal disease averaged 48.4 per 1,000. The Victoria Board of Health reported in 1885 that five-sixths of diarrhoeal deaths in the colony were of children under five years of age.<sup>52</sup> In the same year in New York, infant mortality from diarrhoeal disease was a huge 84.3 per 1,000 births.

The mortality returned under diarrhoeal disease was only the most obvious aspect. W. F. Litchfield, a distinguished Sydney paediatrician, claimed that deaths returned under “dentition” (teething) and “atrophy”, together with most deaths from

<sup>50</sup> The city of Adelaide experienced much higher infant mortality rates (up to 50 per 1,000 more) than the rest of South Australia during 1881–1901. Stevenson, *op. cit.*, note 11 above, pp. 9 and 35. South Australia’s crude death rate fell from a little under 20 per 1,000 in 1875 to just over 11 per 1,000 in 1901, but Adelaide’s crude death rate remained around 20 per 1,000. *Ibid.*, p. 6.

<sup>51</sup> W. J. Stewart McKay, ‘Summer diarrhoea of infants’, *Intercolonial med. J. Australasia*, 1939, 2: 254.

<sup>52</sup> Central Board of Health, *Report of Board for 1885*, Melbourne, Government Printer, 1885, p. 17.

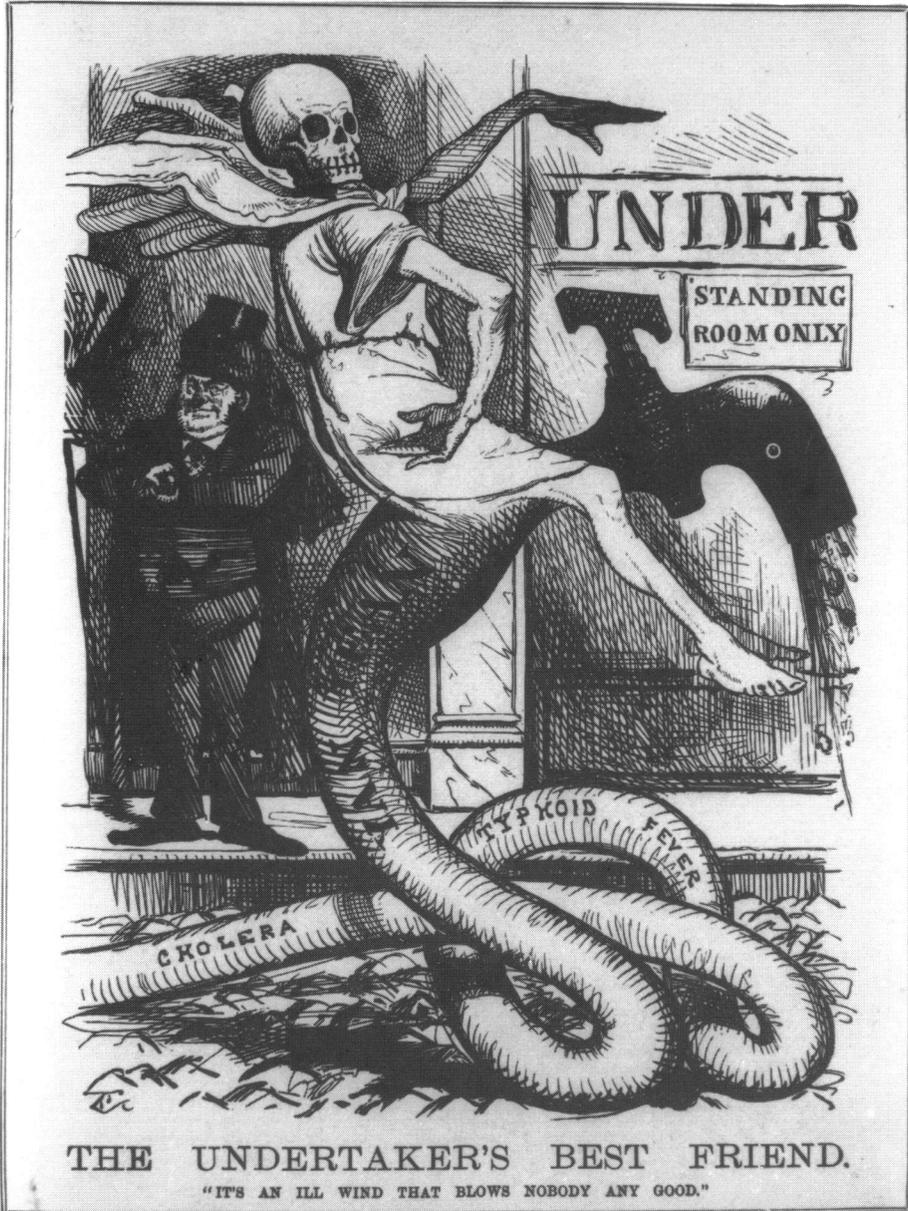


Plate 1. 'The undertaker's best friend', *Melbourne Punch*, 17 March 1881, p. 103.



Plate 2. 'Jack the Giant Killer', *Sydney Punch*, 15 October 1875, p. 340.

“convulsions”, should be included in diarrhoeal mortality.<sup>53</sup> Other experts agreed. R. R. Stawell, Honorary Medical Officer to Melbourne Hospital for Sick Children, attacked the “pernicious belief” that diarrhoea was the result of teething and condemned the practice of describing the child’s condition as “marasmus”, or, in some cases, returning the cause of death as “congestion of the brain”.<sup>54</sup> The total mortality in Sydney from diarrhoea, dentition, atrophy, and convulsions in the period 1875–1900, ranged between a low of 60·3 per 1,000 births and a high of 111·2 per 1,000.

Associated conditions were equally important sources of mortality in English (and Welsh) urban areas. In 1873–77, in a group of urban counties,<sup>55</sup> when the total infant mortality was 175·9 per 1,000 for males and 145·5 for females, the combined mortality from diarrhoea, atrophy, and debility was 52 per 1,000 for males and 44·6 for females. If mortality from convulsions is added, the rate increases to 84 for males and 69·1 for females. In 1898–1901, the combined mortality from the four sources was 83·7 for males and 70·1 for females.

Newsholme, a leading authority on infant diarrhoeal disease, pointed out that it was mainly an urban disease and—“as a fatal disease”—was “a disease of the artisan and still more of the lower labouring classes to a preponderant extent”.<sup>56</sup> Other studies confirmed that working-class infants suffered a disproportionately high mortality. In London, the districts “most densely populated with the poorer classes” had most epidemic diarrhoea.<sup>57</sup> In Birmingham, in the early 1900s, it was found that “for practical purposes all the deaths [from diarrhoea] occurred in small houses occupied by the artisan classes . . .”<sup>58</sup> and that the great mortality among infants was limited to the working classes. In Glasgow, the mortality from diarrhoea again varied according to economic class—from 1,698 per million in Dalmarnock Ward and 1,686 in the Calton Ward, to 238 per million in the Park Ward and 201 in Kelvinside.<sup>59</sup>

Added to insanitary domestic environments and substandard housing, poor nutrition and infection interacted to produce “weanling diarrhoea” in New South Wales—a serious and widespread infant health problem today among the poor of the Third World. In 1875, the *New South Wales Medical Gazette* claimed that the cost of milk stopped the poor from using it to feed their children.<sup>60</sup> In the early 1900s, it was again being said that fresh milk was too expensive for working-class mothers to use extensively in infant feeding. Arrowroot and cornflour, nutritionally suspect, were

<sup>53</sup> W. F. Litchfield, ‘Summer diarrhoea in infants: from the public health point of view’, *Trans. Australasian Medical Congress*, 1905, p. 241. At the 1914 Congress and again at the 1920 Congress, Litchfield suggested that diarrhoeal episodes were common causes of malnutrition and atrophy in infants. See *Trans. Australasian Medical Congress*, 1914, pp. 522–523, and 1920, p. 475. Early Australian experts like Armstrong and Litchfield noted the seasonal variation in diarrhoeal mortality and morbidity, with higher rates being recorded in the hotter months of the year.

<sup>54</sup> R. R. Stawell, ‘Some notes on the aetiology and pathological anatomy of summer diarrhoea in infants’, *Australian med. J.*, 1895, 17: 71–77.

<sup>55</sup> Glamorgan, Lancaster, London, Middlesex, Monmouth, Northumberland, Nottingham, Stafford, Warwick, East Riding, and West Riding. G. Newman, *Infant mortality. A social problem*, London, Methuen, 1906, p. 52.

<sup>56</sup> Quoted in *ibid.*, pp. 150–151.

<sup>57</sup> *Ibid.*, p. 174.

<sup>58</sup> *Ibid.*, p. 175.

<sup>59</sup> *Ibid.*, p. 176.

<sup>60</sup> *New South Wales med. Gaz.*, 1874–75, 5: 305.

widely used as infant foods.<sup>61</sup> Condensed milk was another popular infant food, as it kept well in a warm climate. Fresh milk was indeed comparatively expensive and was commonly contaminated. During debates in the New South Wales Legislative Assembly on the Pure Food Act of 1908, a member for an inner-city electorate reminded his colleagues that “among the poorer classes, a mother, very frequently unable for want of sufficient nourishment to properly sustain her child, purchases condensed milk as a substitute for the food which should be provided by nature”.<sup>62</sup> Poor nutrition would have combined with infection to produce the high level of mortality from diarrhoeal and associated conditions.

With poor nutrition came rickets. Early Australian doctors failed to find rickets in colonial infants, and many subsequently argued that rickets did not exist in Australia. However, in 1891, the experienced Dr Phillip Muskett found rickets in Sydney; and in 1892, Dr A. J. Turner found the same in Brisbane. Turner, Surgeon to the Hospital for Sick Children, Brisbane, suggested that cases of rickets were less severe in Australia, because children enjoyed more sunlight and fresh air than in England. But more pronounced symptoms, like bow-legs, were, he believed, not nearly so common as in Britain because, at older ages, colonial children were better fed. Dr Harvey Sutton estimated from surveys of schoolchildren in Victoria in 1910–15 that twenty to thirty per cent had suffered from rickets. He made similar findings in Sydney.<sup>63</sup>

If the pattern of infant mortality in Australian cities indicates that poverty as well as a degraded environment helped sustain a high level of infant deaths and childhood disease, then mortality from other diseases at other ages suggests the same. For example, measles recurred in epidemic form at regular intervals. The worst epidemic—“the most catastrophic childhood epidemic” ever experienced in Sydney—was that of 1867, when 748 children died. Death among children from measles depends very much on health and nutrition. The unskilled, semi-skilled, asylum, destitute, and illegitimate populations of the city accounted for almost fifty per cent of deaths. A large proportion of the other deaths comprised children of tradespeople whose standard of living was not much higher.<sup>64</sup> The 1900 epidemic of bubonic plague in Sydney, the first notable outbreak in Australia, revealed major deficiencies in public health administration and in living conditions. The great majority of the 103 deaths were of working-class adults who worked or lived close to the central wharf and warehouse district. Depressed and insanitary domestic and work environments were in part responsible for this high mortality. Crowded into substandard housing, lacking

<sup>61</sup> T. M. Kendall, one of the few Sydney doctors to address the problem of infant nutrition in the mid-1880s, said that a cooked flour preparation, known as “tops and bottoms”, was one of the prime threats to infant life in the city. ‘On the preservation of infant life’, *Australasian med. Gaz.*, June 1885, p. 229.

<sup>62</sup> A. C. Carmichael, *New South Wales Parliamentary Debates*, vol. 30, 2nd session, 1908, p.400. When diluted to make it palatable, condensed milk became nutritionally unsound. In any case, some of the cheaper brands were deficient in fats to begin with. It seems clear that improper feeding practices were compounded by risks of infection in working-class domestic environments.

<sup>63</sup> P. E. Muskett, ‘Australian rickets—the form of rickets met in Australian children’. *Australasian med. Gaz.*, July 1891, p. 286. A. J. Turner, ‘On rickets’, *ibid.*, January 1892, p. 107. H. Sutton, ‘Epidemic cycles of disease and the place of milk in the dietary of children’, *Australasian Association for the Advancement of Science Report*, 1924, p. 595.

<sup>64</sup> Curson, *op. cit.*, note 1 above, pp. 66–67.

proper sanitary facilities and adequate ventilation, and surrounded by accumulations of rubbish, working-class families were particularly at risk from plague-infected fleas carried by commensal rats.<sup>65</sup>

Tuberculosis (phthisis) was also a common disease, resulting from poor living and working conditions. As the Australian colonies had a comparatively large population of young adults and as phthisis was mainly a disease of this group, it was inevitable that phthisis mortality in the colonies would be high. But the general state of health and standard of living of the sufferer from tuberculosis greatly influenced mortality from the disease. Indeed, the decline in tuberculosis mortality in England between 1850 and the early 1900s has been attributed to improvements in diet, housing, and working conditions.<sup>66</sup> The comparatively high tuberculosis mortality in the three Australian capitals for much of this period reflected the absence of such improvements.

The death rates from gastrointestinal infections (especially typhoid, diarrhoea, and dysentery) in Australian cities, 1860–1900, were of the same order as those in the three selected English cities. The decline in mortality from bowel infections in England has traditionally been related to the “sanitary revolution”—to improvements in the water supply and in drainage and sewerage. But recent research has noted that this decline was often selective according to class; poor domestic amenities, crowding, and other factors affecting personal living standards could reduce the impact of *general* sanitary improvements on the health of *specifically* working-class families.<sup>67</sup> It can be reasonably inferred that the high urban mortality rate from gastrointestinal infections in Australia is attributable not only to inadequate general sanitation, but to impoverished living conditions as well. With the new political alignments following Federation came growing awareness of social inequalities and the condition of the people. Nevertheless, depressed urban environments were to persist for decades, figuring prominently on the agenda of Australian public health reform well into the mid-twentieth century.<sup>68</sup>

## CONCLUSIONS

As Australia changed from being a large outdoor prison to being a large-scale producer of primary products for British markets, it underwent a rapid rate of economic growth. At levels below the macroscopic, however, there was less cause for self-congratulation. The external diseconomies of economic growth applied as much to Australia and settler capitalism, as to the larger and older cities of Europe and America. The deleterious effects of urban life were reproduced in the new cities of

<sup>65</sup> *Ibid.*, pp.32–35 and 175.

<sup>66</sup> R. Woods and J. Woodward, ‘Mortality, poverty and the environment’ in Woods and Woodward (editors), *op. cit.*, note 19 above, p. 34; and G. Cronje, ‘Tuberculosis and mortality decline in England and Wales, 1851–1910’, *ibid.*, p. 81.

<sup>67</sup> M. E. Pooley and C. G. Pooley, ‘Health, society and environment in Victorian Manchester’, *ibid.*, p.175; and Woods and Woodward, *op. cit.*, note 66 above, pp. 32–35.

<sup>68</sup> While disease patterns have changed, class differences in mortality continue to exist. The “diseases of affluence” like heart attack, diabetes, and cirrhosis of the liver are now more heavily concentrated among low-income earners. Moreover, death rates among Australian-born white males around the age of forty years are two and one-half times greater in manual workers than in professional and technical workers. J. Powles, ‘Health’, in V. Burgman and J. Lee (editors), *Australia since the British Invasion: a people's history*, Ringwood, Vic., McPhee Gribble/Penguin, (forthcoming), p. 22.

Greater Britain. Leading causes of urban deaths in England, such as tuberculosis and intestinal infections, were comparably devastating in the Antipodes. An insanitary public environment was the universal source of ill health and mortality. But poverty, as Friedrich Engels and Rudolf Virchow argued in the 1840s, was itself a potent cause of ill health and death,<sup>69</sup> and poverty, manifested in substandard housing and unhealthy working conditions, increased the burden of disease and death borne by the lower classes in the “workingman’s paradise”.

Colonial image-makers, understandably proud of the achievements of British Australians and eager to attract labour and capital, played down the fact of poverty or blamed it on the personal failings of individuals.<sup>70</sup> There was enough truth in the picture for it to be widely accepted. The workingman’s “hell”, with which the colonies were contrasted, was essentially early industrial England, the land left decades before or known only from stories told by immigrant parents. That “hell” was less diabolic by the later nineteenth century, but the exaggerated contrast maintained for Australians a mythical ideal. Colonial statisticians and image-makers neglected the extent of poor living and working conditions and their relation to illness and mortality. To explore this relationship further, it will be useful to seek comparisons between cities within Australia and overseas. These may in turn provoke more detailed investigations of the political and economic factors that affected the rate and direction of public health reform. In this international perspective, the Australian experience has much to contribute to wider debate about the relationship between poverty and community health. In passing, the myth of a “workingman’s paradise” may be finally laid to rest and a more realistic vision of colonial society emerge.

<sup>69</sup> See H. Waitzkin, ‘The social origins of illness, a neglected history’, *Int. J. Hlth.Sci*, 1981, 11: 77–103.

<sup>70</sup> T. A. Coghlan denied that poverty like that of the Old World existed in the New Britannia. See *The wealth and progress of New South Wales, 1886–87*, Sydney, Government Printer, 1887, p. 491. Alan Mayne points out that defenders of the existing social order in New South Wales habitually viewed the poverty of the lower orders as a moral, not a structural, problem, a result of the pursuit of “deviant and improvident pleasures”. Mayne, *op. cit.*, note 1 above, p. 126.