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'The postman wears out fast': Retiring Sick in London's Victorian Post Office*

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*The quote was by Dr Sir B. W. Richardson and cited in PP 1897 XLIV [Cd. 163] Post Office Establishments: copy of evidence (with indices, summaries and appendices) taken before the committee on Post Office establishments, q. 7939.

Abstract

The Post Office was an extremely important institution and London was the focal point of its operations. Throughout the nineteenth century London was the main sorting centre and accounted for a third of the mail delivered in Britain. However, London postal workers were relatively unhealthy and the majority retired before they reached sixty, mainly because of ill health. Using new evidence drawn from pension records, this article explores the extent of ill health in the London workforce, comparing it to that in the Metropolitan Police. For postmen, orthopaedic conditions were the main problem, relating to the ability to walk long distances. This was similar to the problems encountered in the police. For other postal workers, notably letter sorters, mental illness and poor vision were the main problems, relating to the pressure of having to work irregular hours, often at night-time and in poorly designed and overcrowded workspaces. These problems were exacerbated by the increasing frequency of mail deliveries and the constant shortage of space in the main headquarters building. In response to these issues and workers' concerns, the Post Office introduced a range of measures including a medical service and generous sickness pay, more offices, new technologies to speed the flow of mail, better lighting, and changed working practices to ease pressures on the workforce.

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Introduction

Work was hazardous in Victorian Britain. In the so-called 'dangerous trades', such as mining and chemicals, accidents were common, the risks often unknown and regulation weak or non-existent. Factory inspectors were under no obligation to collect information on occupational disease until 1895 and as a result there was little systematic evidence on the relationships between occupation and health.¹ Medical knowledge of the subject focussed on a relatively narrow range of easily identifiable conditions associated with the more obvious industrial diseases such as lead poisoning, asbestosis, phosphorous necrosis and anthrax, while public attention was drawn more towards accidents or diseases that led to disfigurement: there was little interest in the less spectacular but longer term problems of occupational ill health in the rapidly growing service occupations.² Where regulation was introduced, it was to mainly to deal with industrial risks, or those that affected more vulnerable groups of workers, such as women and children, rather than to address longer term problems of occupational health that arose in other types of jobs.³ In London, although injuries such as rupture and industrial diseases such as phosphorous necrosis and anthrax were important in

occupations such as dock work, match making and fur pulling respectively, the relative absence of the dangerous trades meant that there was little to catch the attention of medical practitioners or the public interested in occupational health.

However, the absence of the dangerous trades in London did not mean that danger was absent from the workplace. Rather, we need to seek it elsewhere, particularly in the rapidly growing service sector occupations that were characteristic of the late Victorian metropolitan economy. The Post Office and, for comparative purposes, the Metropolitan Police, both of which were large and important sources of employment in the capital, provide an insight to the more insidious and long-term dangers associated with service employment. Throughout the nineteenth century London was the focal point of the Post Office, accounting for around a third of the entire British postal workforce. The introduction of a medical service in 1855 centred on London was soon followed by the systematic collection of evidence on sickness absence and retirement of postal workers which provides a unique opportunity to explore the relationships between occupational and health in service employment.⁴ In relation to health, London posed a huge challenge to the efficient running of the Post Office. Postal workers in the capital took more time off because of sickness than anywhere else and they were pensioned off on health grounds at earlier ages and more often than elsewhere.⁵ These frequent sickness absences and premature retirements presented significant challenges to the smooth operation of the Victorian Post Office. In this article we explore the patterns of ill health of postal workers based on new evidence derived from pension records and medical reports. When postal workers applied for sickness leave or early retirement, data about their health were recorded by the Post Office's medical officers as part of the pension award process and this information provides fresh evidence about patterns of morbidity and early retirement. Using this new evidence, and drawing comparisons with the Metropolitan Police, this article addresses two broad questions: first, the extent of ill health among London postal workers in the second half of the nineteenth century and the attempts made by the Post Office to address the

problems, and, secondly, the kinds of health risks associated with service sector employment more widely

Maintaining health, ensuring efficiency and recording sickness

The capital contained the largest concentration of postal workers in the country and was the pivot around which the entire system revolved. The introduction of the penny post in 1840 rapidly led to a huge increase in mail and as the century progressed, in the Post Office headquarters in St Martin's le Grand and in the metropolitan district offices that were set up from the 1850s, thousands of workers sorted millions of letters and parcels, despatched huge numbers of newspapers and transmitted countless telegraphic messages through an expanding network of wires and submarine cables. Every twenty-four hours the tide of mail ebbed and flowed through the sorting rooms ready for despatch and delivery. Trains running overnight from London became travelling sorting offices, with workers journeying up and down the lines to towns and cities across the country, delivering and collecting mail *en route*. This gigantic system depended not just on space and technology but on human labour – on the hands, eyes, bodies and minds of the London postal workers who performed the tasks necessary to keep the mail flowing smoothly. Their knowledge and expertise were crucial in the timely sorting, despatch and delivery of mail and messages on a daily basis. Delays could clog the entire system within hours as sacks of letters, parcels and newspapers piled up in the overcrowded headquarters. The health of postal workers was therefore paramount to how the whole system operated.

The responsibility for certifying sickness and providing healthcare for the workforce fell to the Post Office medical service which was set up in the 1850s, along with the introduction of pensions for long-serving workers. In 1855, in the wake of the cholera epidemic of the previous year, Dr Augustus Waller Lewis, a well-known public health reformer, was appointed as the first medical

officer to the Post Office with specific responsibility to improve the sanitary condition of Post Office buildings and to care for the London workforce.⁶ The medical service was also important for other reasons: to ensure that candidates for employment were sufficiently fit to undertake the work, to make sure that existing workers did not absent themselves on spurious medical grounds, and to certify whether they should be pensioned off on grounds of incapacity. For much of the period, the probationary period for new employees lasted for two years, during which workers had to pass three medical examinations: one at the start of their employment, one at six months and one at the end of two years.⁷ If workers remained healthy during their probation, they were taken on permanently, becoming entitled to receive free medical attention. A doctor's recommendation was also an essential element in the decision to grant sick pay as well as to allow premature retirement on grounds of ill health. The medical service played a part, therefore, from the start to the end of a postal worker's employment.

From 1859 pensions were provided for those who had worked in the Post Office for at least ten years and from the records generated in the processing of applications for pensions it is clear that relatively few postal workers lasted until their sixties. Indeed, most were pensioned off before they had reached their fifties, particularly in London.⁸ That so many retired early because of incapacity suggests that working for the Post Office was far from a healthy occupation. The opinion of Post Office doctors was crucial in determining whether or not to grant a pension on the grounds of ill health and their diagnosis formed part of the Post Office's request to the Treasury to award a pension. In addition to an individual's age and diagnosis, details were also recorded relating to occupation history, length of service, location of work and amounts earned, plus the amount of sick leave in the ten years prior to being granted a pension. For this research, details from the pension records have been collected for all individuals who retired in 1861, 1871, 1881 and 1891. There were 178 workers pensioned off in 1861 rising to 464 by 1891, and in total the sample that forms the basis of this analysis included details for 1,230 workers. Although the pensions data are not without problems – not least of which are the sometimes cursory descriptions of ill health – nevertheless by

including information about sickness and location, as well as the characteristics of the workers themselves, they provide us with opportunities to examine the extent of sickness in the postal workforce and to compare it to other occupations in London.⁹

The Post Office in London

The Post Office was one of the key institutions of the modern British state and London was its epicentre.¹⁰ Sorting, despatching and delivering the huge volume of mail that passed through London required an especially large workforce. In 1851 there were 3,248 permanent or 'established' workers in London out of a total of over 10,000 and by 1895 this had risen to 21,974 out of a total of nearly 64,000. In that year, over a half of the Post Office's male clerks, superintendents, supervisors, overseers, counter-men, sorters and telegraphists, and nearly half the female telegraphists, worked in London.¹¹

Throughout the period, around a third of all letters posted in the country were destined for the capital (Figure 1). In 1840 around 44 million letters were delivered in London out of a total of 132 million for England and Wales. This total grew rapidly after the introduction of the uniform penny post in 1840 and by 1850 the number had nearly doubled to around 83 million out of a total of 276 million letters, rising rapidly so that by 1900 over 664 million letters were delivered in London out of a total of 1,977 million for England and Wales.¹² By the end of the century, however, letters only formed sixty per cent of the mail, with books, parcels, newspapers, circulars, postcards, commercial samples and telegraphs adding to the enormous number of items that passed through post offices in London and the rest of the country on a daily basis.¹³ The incorporation of the parcel post in 1883, in particular, was a significant change to the working practices of the letter carriers – who from then on became known as postmen – and also because the change demanded much larger amounts of space

to sort and despatch the items in what was already a severely cramped set of buildings at its headquarters in St Martin's le Grand in the City.

[INSERT FIGURE 1 HERE]

Figure. 1. Letters delivered in London and in England and Wales 1851–1900 (five year average).

Source: *Annual Reports of the Postmaster General on the Post Office, 1851–1900*.

The first purpose-built premises were opened in St Martin's le Grand in 1829, comprising a large building 120 metres long and 40 metres wide, and including a tunnel along which the letters were conveyed by 'ingenious mechanical means' from one part to the other.¹⁴ The relentless growth of mail passing through the headquarters and, from the 1880s, the addition of the parcel post, strained the capacity of its office space. The building became even more cramped with the addition of other activities such as savings banks, the halfpenny postage and the telegraph network. To accommodate these additional functions, extensive improvements were made including two new storeys that were added to the old building and enlargement of the basement.¹⁵ However, an investigation by *The Times* in 1860 commented on the poor internal arrangements and lack of space in St Martin's le Grand, noting how closets had been converted to offices and extra rooms created by hanging tie rods to the ceiling. In the Circulation Office, it noted, '... light, and to a great extent ventilation also, are carefully excluded' and in other parts of the building, the report continued, 'Rooms were so badly arranged that odours from water closets wafted into the kitchens.'¹⁶ When the telegraph was incorporated into the Post Office in 1870 the need for additional space became acute and in 1874 a new and much larger building was opened just opposite the old headquarters which more than doubled the space available. With the expansion of space came technological innovations to improve the flow of mail through these larger buildings. In the 1870s, mechanical stamping machines were introduced to replace hand stamping and this greatly speeded up the flow

of mail through the main sorting office. Pneumatic tubes powered by steam were also added to hasten the flow of messages around the building.¹⁷

Although the headquarters was throughout the second half of the nineteenth century the place of employment for the majority of the workforce, a significant number of sorters and letter carriers were employed at the ten district offices that were established in London in 1854, as part of Rowland Hill's reforms to improve the efficiency of the mail.¹⁸ From that time, rather than all mail being taken to the main office at St Martin's le Grand for subsequent despatch to London and elsewhere, letters posted in a district were instead sorted there first ready for local delivery or despatch to other district offices. This resulted in a considerable reduction in the time taken for sorting and delivery. Mail arriving from or destined for overseas still came through the central sorting office and late posting for the provinces was always sorted there in time to catch the growing number of mail trains that left London later at night.¹⁹

The continuous growth in the amount of mail and the ongoing pressure on space was also addressed by increasing the number of deliveries, which helped to prevent the build-up of mail in the sorting rooms. In the 1850s there were ten deliveries to addresses within three miles of the central headquarters, starting at around seven o'clock in the morning and only finishing after eight o'clock at night, and by 1863 this number had risen to 12, with similar increases in the number of suburban deliveries.²⁰ Speed and efficiency of delivery were important considerations and in 1884 the Postmaster General noted that a letter posted at 7 p.m. in a district would be sorted and delivered later that night in the same district.²¹ To accommodate these extended delivery times, letter carriers and sorters often had to work irregular split shifts that required them to attend work by 5 a.m. to sort, despatch and deliver the morning mail and again in the evening to deal with the last post. Since many workers lived several miles from the central office, this often meant rising at two or three a.m. in order to arrive at work on time. In the 1850s and 1860s, the last post at St Martin's le Grand at 6 p.m. was always the busiest and this required an army of workers to make

sure the mail was sorted by 8 p.m. ready for delivery to the railway stations to catch the late-night mail trains that ran from London to the provinces.²² From the 1870s and 1880s more late-running trains provided opportunities for later collection and despatch, and this was encouraged by reductions in the cost of postage. By 1884, letters for Scotland that were posted at the central headquarters by 7.45 p.m. would be despatched in time for the 8.30 p.m. train from Euston while those for northern districts could be posted up to 10.45 p.m. to catch a midnight mail train.²³

Such long and irregular hours were most common in London and workers there complained repeatedly about the pressures arising from the tempo of sorting, despatching and delivering throughout the day and night. To deal with the daily rhythm of the post, especially the busiest period after 6 p.m. and again early in the morning when the mail from the provinces arrived to be sorted, split shifts were common. Throughout the later nineteenth century postmen complained of chronic sleep deprivation and irregular meal times and the impact this pattern of work had on their health, and both management and the workers themselves agreed that the long distances from workers' homes to the main sorting office gave them no opportunity to return home to rest.²⁴ A.H. Wilson, the Post Office's Chief Medical Officer, told the 1897 committee on Post Office establishments that split shifts were particularly hard on the health of younger workers aged below 25 years who had not yet learned to conserve their energy: 'being young and feeling strong they do not see the necessity of nursing their strength in the spare hours of the day, but spend these hours in violent exercise, as cycling, football, rowing, &c'.²⁵ Older workers, however, were not immune to the impact of shift work and many who appeared before the various parliamentary committees that investigated conditions at the Post Office consistently complained about the effect of split shifts on their health.²⁶ Improvements were slow in coming. From the early 1900s, the Post Office sought to restrict split shifts, replacing them with extended hours of working, but workers thought that this made little difference to the problems they faced, particularly in the sorting rooms where the pressure was most intense.²⁷ Delivering the mail, too, could impact on postmen's health. J.P. Dixon, representing the established postmen of London before the 1906 parliamentary select committee

on Post Office servants, expressed concerns about the mental and physical strain of long delivery rounds. In London many postmen made at least four rounds a day, meaning 'eight journeys from finishing place to home or the reverse... depriving the men of proper rest and recreation'.²⁸ As a consequence of the physical and mental demands that postal work entailed, it was hardly surprising that many of London's postmen were worn out by the time they had reached their fortieth birthday.

Comparing ill health

Conditions for sorting and delivering the mail were particularly difficult in London, largely because of the impact of extended nighttime working and split shifts, and these took a toll on the bodies and minds of postal workers in the capital. The Post Office was very careful to monitor illness in the workplace, partly because of the fear that contagious disease could be spread through the mail and partly to ensure that workers did not take undue advantage of the relatively generous rates of sick pay that were provided.

One outcome of these concerns was that the chief medical officer was required to keep a record of sickness absence and, although these figures were not published on a regular basis, they exist in the annual reports of the Postmaster General for the 1890s and allow for a comparison of ill health between London and the rest of the country. Based on this evidence, the figures in Table 1 demonstrate a distinct difference between London and the rest of the United Kingdom. Typically, the percentage of male and female workers workforce that experienced sickness absence was far higher in London compared to other parts of the United Kingdom. On average, over half the male workforce in London district offices reported sick in any given year and the figure was even higher for those employed at the central headquarters. The proportion of sickness in the female workforce showed a similar difference between London and elsewhere, though it was less pronounced. At the same time, however, although male workers in the capital were more likely to have fallen ill, they tended to have shorter bouts of ill health – between about 12 and 14 days compared to around 18

days in Scotland the provinces and nearly 20 days in Ireland. For women, many of whom were telegraphists or clerks in London, the duration of ill health was longer, though the differences between London and the provinces was less pronounced.

[INSERT TABLE 1 HERE]

Table 1: Patterns of sickness absence in the Post Office, 1892-1900

Source: The Postal Museum, POST 64:27 *Chief Medical Officer's Annual Report, 1893; Annual Reports of the Postmaster General on the Post Office, 1893-1901.*

Post Office employment covered a range of occupations, from clerks and postmasters to letter carriers and messengers. However, the bulk of the workforce were employed as letter carriers (known as postmen after 1883 when the delivery of parcels was taken over by the Post Office) and in several ways the nature of their duties resembled those of the police. Indeed, during the 1890s the average proportion of policemen who reported sick in any given year was 69.8 per cent, compared to 61.5 for male postal workers in London over the same period – a relatively small difference suggesting that health outcomes can be compared for the two sets of workers.²⁹

Before starting employment, postal workers and policemen alike had to pass a physical examination and it was the responsibility of doctors working for each service to certify that a candidate was fit for duty. The medical requirements were similar in both occupations, though policemen had to be taller compared to postal workers.³⁰ Particular attention was paid to previous illnesses that could indicate poor health and to any conditions that might limit the ability to stand for lengthy periods or walk for long distances, such as flat feet, fallen arches, bunions and varicose veins. Rejection rates were high: in 1859 a third of candidates for employment as letter carriers in London were rejected because of their unsatisfactory physical condition, and between 1889 and 1909 over 46 per cent of applicants to the Metropolitan Police were rejected on grounds of poor health.³¹ Only those men whose health was unlikely to break down under the strain of work were

employed by the Post Office and the Metropolitan Police and it is in that context that we need to consider the incidence and causes of ill health in what were otherwise physically robust workforces.

In both the Post Office and the police, workers were on their feet for lengthy periods of time, pounding the beat, or sorting and delivering the mail. Night work was common in both employments, though this tended to be indoors for postal workers as they sorted the mail in the evening and again in the early morning. About sixty per cent of the police force at any one time were occupied on night work, which lasted from around 10 p.m. until 6 a.m. and which was performed for two consecutive months followed by a month of daytime duty. There were important differences, notably because the nature of police work meant that constables were more likely to be assaulted or injured on duty than were letter carriers and other postal workers. Physical injury arising from work, however, was not unknown in the Post Office, although not usually the result of assaults, and some groups of workers were at particular risk. Telegraphists, working long hours in cramped conditions performing multiple and rapid clicks on telegraph machines, suffered from the repetitive strain injury known as 'telegraphist's cramp' which, it was claimed, were connected with a variety of nervous disorders classified by the medical profession as neurasthenia.³² Travelling postmen, who sorted the mail on trains, were sometimes involved in accidents, although Dr Waller Lewis considered that railway travel in general had little or no impact on the health of this group of workers. Nevertheless, he recommended the use of rubber mats and better suspension to reduce the vibration experienced by travelling sorters and suggested ways of better insulating the carriages to avoid extremes of heat and cold.³³

Both the Post Office and the Metropolitan Police provided pensions for their workforce and although the terms under which these were granted differed, they both included the need for a medical certificate for workers who retired before reaching the age of sixty.³⁴ Postal workers were able to claim a pension after having worked for ten years, compared to the police where the qualifying period was fifteen years. However, in both cases, a worker retiring before reaching the

age of sixty had to be certified medically unfit. From 1890 policemen could claim a pension after serving for 25 years without having to prove incapacity. The only exception to this was incapacity arising because of injury sustained while on police duty, in which case a full pension could be granted irrespective of the length of service. Using evidence of ill health derived from Post Office pensions records together with figures published in the annual reports of the Metropolitan Police Commissioners from 1870 onwards, it is possible to compare the extent of poor health as a cause of retirement in both sets of occupations.³⁵

Although the pension arrangements were different, the broad pattern of retirement of London postal workers and the Metropolitan Police was similar. As shown in Table 2, male pensioners from both services had similar working profiles despite the different arrangements.³⁶ Typically men retired in their mid to late forties and very few were able to continue until they had reached sixty. Earlier retirement in the police force during the 1840s and 1850s was blamed on lax medical examinations of policemen who had served for fifteen years, the minimum amount of time required to be granted a pension on medical grounds. A new chief surgeon appointed in 1867, Timothy Holmes, introduced more rigid tests which were thought to have reduced the number of premature retirements.³⁷ By the 1870s and 1880s, male postal workers and policemen were likely to have retired after having served around 22 or 23 years, though postal workers tended to work slightly longer than did the police and retired at a slightly later age. Early retirement, however, did not necessarily mean impending death. Evidence about pensioner longevity in the Post Office is not readily available, but between 1878 and 1888, on average police pensioners lived for a further 15.5 years – a situation that was a cause of concern for the managers of the Metropolitan Police Superannuation Fund, which for much of the period was insolvent and, in the case of the Post Office, also for the Treasury.³⁸

INSERT TABLE 2 HERE.

Table 2: Retirement and Length of Service in the Post Office (London) and Metropolitan Police

Source: The Postal Museum, POST 1 Pension Records Sample, 1861, 1871, 1881 and 1891; The National Archives, MEPO 4/291, Police Superannuation Fund: copies of letters, reports and statistics; PP 1890 LIX [Cd. 6075] *Departmental Committee of 1889 on Metropolitan Police Superannuation*, table VII, 167.

Both the Post Office and the police pension schemes linked benefits to a final salary, so there was some advantage in remaining at work up to the age of normal superannuation. In the Post Office, workers who had reached sixty years of age or, if less, who were incapacitated because of ill health, were entitled to receive a pension at the rate of one-sixtieth of their salary for each year of service, averaged over the preceding three years and up to a maximum of two-thirds, which was achieved once 40 years of service had been reached. For less than ten years' service, gratuities could be granted calculated at a rate of one month's pay for each year of service.³⁹ Prior to 1890, police could only claim a pension on grounds of ill health, but the scale was relatively generous. Gratuities could be paid out for those who had served less than five years, but once that threshold had been reached, pensions were calculated on the basis of one-fiftieth of salary up to a maximum of two-thirds which could be reached having served 29 years in the force. From 1890 it was possible to reach this level after 25 years' service.⁴⁰

Despite the financial advantages of remaining at work long enough to become eligible for a full pension, it was considered unusual for both postal workers and policemen to last that long. 'The work of a postman,' noted Dr Sir B. W. Richardson in 1890, 'is one of continuous busy go-round, he is on his feet during the whole of his working hours. The result is that the postman wears out fast'.⁴¹ As a result, the majority of postal workers retired well before they could claim a full pension. In the

police, it was also considered very unusual for men to last longer than twenty-five years. Chief Inspector Cresswell Wells, appearing before the 1890 Parliamentary committee on police superannuation, expressed a widely held view when he stated that '... it is a very rare thing to see a man in the street with even 24 years' service, who has had to do hard plodding.'⁴² It was for that reason that there was so much discontent in the workforce regarding the relatively lengthy period of service needed in order to be eligible to receive a full pension.⁴³

Evidence from the pension records suggest that there was some justification for this view. Over seventy per cent of London postal workers retired early because of ill health, compared to 65 per cent in other large cities and 47 per cent in rural areas.⁴⁴ These figures are comparable to the police force: between 1870 and 1890, during which time men below the age of sixty could only receive a pension on grounds of incapacity, ill health and injury accounted for 82 per cent of pension grants. In the ten years following the 1890 Metropolitan Police Act, which permitted policemen to retire after 25 years of service without a medical reason, that total declined to around 37 per cent.⁴⁵ These figures can also be compared to retirement in other branches of the Civil Service over this ten year period, which show ill health as the reason for 38 per cent of retirements in the Admiralty and 36 per cent in the Inland Revenue.⁴⁶

In order to receive a pension on the grounds of ill health both postal workers and policemen required a medical certificate that included a diagnosis of the condition responsible for their inability to continue. From this information we can establish the causes of premature retirement. Although the notes of these diagnoses were relatively short, they were no shorter than those contained in standard death certificates of the period and provide sufficient information to group conditions into broad categories.⁴⁷ For the purposes of this study the conditions noted in the Post Office pension records and the Metropolitan Police Commissioners Annual Reports have been grouped into eleven general categories, broadly identified in Table 3. Some categories cover a very wide range: 'BRAINEPI', for instance, contains a variety of neurological and other conditions such as palsy, which

could include stroke; 'ORTHO' includes bone and joint problems including feet, arthritis and fractures; and 'GENDEB' (general debility) covers any infirmity relating to failing strength. 'CONSUMP' (pulmonary tuberculosis) has its own category distinct from other pulmonary conditions ('LUNGNOTB') and is therefore more reliant than other categories on the specific contemporary diagnosis. Of these conditions, only tuberculosis was both a killer and a cause of early retirement. The remaining conditions were largely chronic rather than acute and were likely to result in incapacity rather than death – which explains the length of time between retirement and death noted above.

[INSERT TABLE 3 HERE]

Table 3: Disease Categories

Using these broad categories, we can compare the health conditions that led to premature retirement for three groups of London workers: postmen, who were primarily engaged in deliveries; other kinds of postal workers, notably indoor sorters, clerks and telegraphists; and policemen (Figure 2). For postmen and policemen, orthopaedic conditions were of greatest significance followed by consumption. For police constables the ability to walk continuously for several hours at a time was essential, and anything that restricted the ability to patrol the beat meant that they were unable to work. For that reason, chronic ailments relating to the foot or leg, such as flat feet, fallen arches or bunions, or any kind of rheumatism that hindered mobility, were considered sufficient reasons for being pensioned off.⁴⁸ Orthopaedic conditions were also of importance for letter carriers and postmen for similar reasons: they had to deliver mail along their 'walks' several times a day and therefore spent much of the time on their feet. After 1883, postmen were also required to deliver parcels, which must have added to the physical strain of work, although rules were also introduced that stated that the load at the start of a walk must not exceed 35lbs and that there should be no more than five parcels in delivery. Nonetheless, for postmen with walks in central areas where there

were larger numbers of businesses, it appears that these limits were frequently exceeded.⁴⁹ For other kinds of postal workers, most of whom were indoor sorters responsible for sorting the mail ready for despatch to the rest of the country or to district offices in London, mental health – defined in the pension records by terms including ‘nervous debility’, ‘nervous exhaustion’, or ‘mental instability’ – and poor eyesight were of greater prevalence and this raises questions about the nature of occupational risk at the Post Office.⁵⁰

[INSERT FIGURE 2 HERE]

Figure 2: Ill health in the Post Office and the Police

Source: Annual Reports of the Commissioner for Metropolitan Police 1870, 1880, 1891, 1901; The Postal Museum, POST 1 Post Office: Treasury Correspondence, records of pensions 1861, 1871, 1881 and 1891.

Note: These totals exclude female workers.

The intensity of work at the Post Office and the prevalence of night duties and extended split shifts were deeply problematic for employees, particularly sorters at the central headquarters. The constant pressure to sort, despatch and deliver mail was notoriously intense in London, and particularly difficult to resolve. In 1897 between a third and a half of sorters at headquarters worked split duties compared to less than ten per cent in district offices elsewhere in London.⁵¹ The pressure was particularly intense after the last post at 6 p.m. which was usually the largest, and workers had to sort the mail, often in cramped and poorly lit rooms, in time to catch the mail trains that left London later in the night. In 1897 the Interdepartmental Committee on Post Office Establishments mentioned this as one of the main issues facing workers in London:

... the Post Office has in the past increased the strain on its servants by its anxiety to afford the maximum of convenience to the public; And we think it deserves the serious consideration of the authorities whether the pressure in the chief sorting office could not be largely reduced by closing the book-post at an earlier hour than that at which the general post is closed, and by thus allowing more time to the staff to get through the onerous duty of sorting and despatching the chief mails.⁵²

The root of the problem lay in the lack of space in which to sort the mail and the need to keep costs low. Space was always at a premium and the Post Office struggled to accommodate the millions of letters and parcels that passed through its building in St Martin's le Grand. It was partly for that reason that more frequent posts and deliveries were introduced in London to prevent rooms and corridors becoming clogged. To this was added the unpredictability of mails that arrived in the capital from overseas which meant that large numbers of postal workers were often needed between deliveries to help sort letters. Appearing before the parliamentary committee on Post Office buildings in 1883, Mr T. Jeffery, controller of the London postal service, reported that the European mails usually arrived at between six and seven p.m., coinciding with the last post in the City, 'and it is only by the accumulating of a great force that we are able to get the letters out by the morning mails to the provinces, and for the first delivery in London. In the evening it is far worse, especially when the Indian mail comes in with the continental, bringing in 200 sacks of letters, &c.'⁵³

The main method of dealing with this irregular rhythm was to have a sufficient workforce available at short notice, and this involved large numbers of employees having to work split shifts that extended from early in the morning until late at night. The impact of split shifts on health was a constant source of complaints by workers at the central office. The Post Office made efforts to address the problem by trying to confine shifts to a twelve-hour period, and by employing additional auxiliary staff rather than extending overtime to deal with peaks in demand.⁵⁴ However, because of the added costs that this entailed, and the unpredictability of the mail, their efforts were only

partially successful. There were other attempts to mitigate the impact of split shifts, such as introducing canteen facilities so that workers could eat more regular meals, but the fundamental problem of split duties, coupled with the fact that postal workers often lived a considerable distance from the main sorting office in the City and were therefore unable to return home to rest between shifts, meant that difficulties persisted and complaints continued. As Charles Durrant, an experienced sorter who worked in the Paddington office in London, told the 1904 committee on postal wages:

The hours of work are irregular and spread over the whole twenty-four hours of the day. Food and rest are irregular, and night work is rapidly increasing. High pressure is the rule, and not the exception, and the tendency of the department is to wring the utmost out of the men. Even on the all-night duties when men's energies are reduced because night work is simply flying in the face of nature, there is no abatement of pressure.⁵⁵

These kinds of working conditions, even today, are associated with the poor health outcomes linked to deteriorating vision and mental health and it is not surprising, therefore, that they were also amongst the most frequent reasons for premature retirement from the Post Office.⁵⁶

Much of the sorting took place at night and this necessitated artificial lighting which up to the early 1880s was exclusively provided by gas. However, the main Post Office building was poorly designed and, according to *The Times*, 'Activities requiring extensive lighting were consigned to poor illuminated areas, and the combination of inadequate ventilation and effluvia from gas lights often caused nausea among the workers...'.⁵⁷ Large numbers of gas lights generated heat and noxious fumes, particularly during winter, and sorters frequently complained about the effects of poor ventilation and high temperatures on their health, claiming that these caused high rates of sickness.⁵⁸ Addressing this issue was an early concern for Dr Waller Lewis but as long as gas lighting persisted the problems of poorly lit offices and inadequate ventilation remained.⁵⁹

In addition to the health issues that forced many postal workers to take early retirement, there were other hazards arising from having to work in cramped, overcrowded buildings with inadequate lighting and ventilation. Poor ventilation in the main Post Office was responsible not only for the inhalation of gas fumes but also for the prevalence of dust, a problem particularly in the sorting rooms where large numbers of mail bags were delivered. In the 1890s over 60,000 mailbags were received daily at the main GPO and the laborious task of sorting these into the appropriate 'roads' fell to a staff of around thirty bagmen. Nicholas Holmes, one of these bagmen, told the Tweedmouth committee in 1897 that on average each worker had to deal with nearly 2,700 bags a day which meant moving at least three tons of mail.⁶⁰ Irrespective of the physical demands that this volume of mail imposed on workers, shifting bags generated large amounts of dust and it was claimed by workers that as a result respiratory illness was particularly common amongst sorters.⁶¹ Although new systems of steam-powered fans and dust extraction were introduced to improve ventilation in the main sorting rooms at St Martin's le Grand in the 1850s, the *British Medical Journal* noted in 1884 that the problem persisted and several workers who appeared before the Parliamentary Committee on Post Office wages in 1903 still complained of the amount of dust in the sorting rooms that no amount of cleaning could abate.⁶²

Because of the public-facing nature of much employment in the Post Office, and the handling of mail in London that circulated throughout the entire country, there was particular concern about the spread of infectious disease through contact with the mail. This became very apparent during the 1889-90 influenza epidemic, where postal workers across the country were amongst the first reported to have contracted the illness.⁶³ At the General Post Office in London a third of the staff were reported as having contracted the flu, though it was frequently diagnosed as catarrh, cold, fever or something similar for the purposes of official expediency. Telegraphists, who worked in two large rooms at St Martin's le Grand, were very severely affected, with over 38 per cent of the workforce contracting the disease.⁶⁴ Commentators at the time were aware of how the cramped conditions might have encouraged flu to spread through the workforce, but they also

noted how relatively easy access to medical advice at the Post Office might have inflated the total.⁶⁵ Elsewhere in London, there was a sharp increase in the numbers of postal workers who reported sick at the start of 1890 compared to the previous year: on average in January 1890 there were 1,346 officers absent compared to 430 in the previous year, with postmen being particularly at risk of contracting the disease.⁶⁶ No doubt conditions in London's teeming streets and overcrowded housing conditions helped the infection to spread, but it spread most rapidly in Post Office departments where large numbers of employees worked together in cramped settings.⁶⁷

Addressing the Problems of Ill Health

Where illness affected the ability to deal with the mail or transfer telegraphic messages, the Post Office was forced to act. It did so in several ways, by providing a medical service that included free healthcare, sick pay for workers, expanding and remodelling workspaces and introducing new technology. Because many of the problems were most evident in London, and also because of the crucial importance of the central Post Office for the entire postal system, it was often there that changes were first introduced.

Medical Provision

The Post Office appointed its first medical officer, Dr Waller Lewis, in 1855, partly in response to the need to ensure better sanitation in its buildings as a means of preventing the outbreak of cholera. The service expanded rapidly in the following decades and large numbers of doctors were appointed either on permanent contracts, or more usually on a capitation basis, to provide healthcare and to monitor claims for sickness pay.⁶⁸ Once taken on to the 'establishment', most workers became entitled to relatively generous levels of sick pay: full wages for the first six months of ill health, followed by half wages for the next six months, with a possible discretionary addition of another six

months if their eventual prospect of rejoining the workforce was promising.⁶⁹ Telegraphists, who came under the auspices of the Post Office in 1870, and who had previously received two-thirds rather than half pay, continued to do so, although the anomaly with other workers was a frequent source of contention.⁷⁰ During the 1880s and 1890s, sick pay provisions were extended to temporary and part-time (i.e. 'unestablished') employees as well as those engaged in what were called 'menial' duties, such as cleaners.⁷¹ The provision of sick pay was accompanied by strict monitoring of absences that were recorded for each employee, a practice that sometimes generated resentment on the part of workers who felt that Post Office doctors were keener to protect their employer from having to pay sickness claims than to ensure the health of workers themselves. The Post Office, on the other hand, argued that the provision of free healthcare and sickness pay meant not only that malingering could be identified more easily but also that workers would be encouraged to report sickness at an earlier stage rather than hiding it, and so risking the spread of infection, or waiting until it became so debilitating as to lead to long-term absence.

As the Post Office workforce expanded, so too did the medical staff employed to provide care and certify sickness. As well as having his own druggist and an assistant, Dr Waller Lewis was joined in 1870 by a deputy who took charge of the large number of telegraph workers that joined the Post Office in that year. With an increasing number of women employed in the General Post Office, a female medical officer, Dr Edith Shore, was appointed in 1882. In the meantime, doctors were appointed on a full-time basis in some of the other large cities, such as Manchester and Dublin, and many more were employed on a capitation basis in post offices which had more than twenty established workers. By 1895 it was reported that there were 480 doctors employed either full time or part time by the Post Office.⁷² By the end of the century, there were nearly six hundred doctors attached to the Post Office, including four female officers, and free healthcare was available to around 82,000 employees who earned less than £150 a year, of whom about 10,000 were unestablished officers, amounting to over half the total workforce employed by the Post Office.⁷³

The rest, many of which were higher grade officers earning in excess of £150, were expected to be able to make their own healthcare provision using private doctors.

Extending the medical service both in terms of the numbers of doctors employed by the Post Office, as noted above, as well as the grades of workers covered by the arrangements, were important ways of addressing ill health in the workforce. Post Office doctors were required to attend sick workers who lived within four miles of their workplace in London and Manchester, and three miles in other places.⁷⁴ In 1891 the distance in London was reduced to three miles, measured from the normal place work, which included the District Offices, rather than from the General Post Office at St Martin's le Grand. Although these visits were in part to confirm whether a worker was genuinely sick or was malingering, the Post Office doctor was also required to provide medicine free of charge and to report if any member of the worker's family had an infectious disease, in which case the worker him or herself was put on sick leave until the infection had passed. Writing to the Postmaster General in 1886 to request an increase in the medical service, Sir Arthur Blackwood, Secretary to the Post Office, noted the central role that the medical officers played in detecting malingering and maintaining the health of the workforce:

It is impossible to exaggerate the importance of this system of Medical Supervision as a means of checking absence on a false or insufficient plea of illness and of arresting illness in its incipient stages, whereby a prolonged absence with all the attendant inconvenience and expense of providing for the absentee's duties may be avoided.⁷⁵

Although postal workers complained that doctors were more akin to a medical police than a therapeutic service, nevertheless they had access to care that was absent in most other types of employment and which in some cases, such as smallpox, helped to reduce outbreaks of infectious disease. Dr Waller Lewis, a prominent public health reformer prior to his appointment at the Post Office, was keen to introduce preventative measures to safeguard the workforce.⁷⁶ During the 1866 cholera epidemic in London he wrote to *The Times* describing a treatment for diarrhoea that

consisted of opium, ginger, catechu, carbonate of ammonia and cassia or peppermint water which he had used during his period at the General Board of Health.⁷⁷ He also took an interest in the water supply and offered the workers an alternative drink called 'orangeade' which was a mixture of sulphuric acid, an infusion of orange peel and syrup of orange peel added to water.⁷⁸ Dr Waller Lewis was also very keen to restrict the spread of smallpox which was of concern not just in relation to the health of the workforce but also because of the fear that it could be spread through the mail. All postal workers therefore had to be vaccinated, and if necessary re-vaccinated and it was claimed that this was the reason why smallpox mortality was particularly low in the Post Office. In 1871, during the worst epidemic in London of the nineteenth century, only one worker died from the disease and there were no deaths during the epidemic that occurred in 1881, the last major outbreak of the century.⁷⁹ However, while the Post Office medical service might have been able to manage some of the infectious diseases that affected the rest of the population, it was the chronic conditions, related to orthopaedic problems, poor eyesight and the injurious effects of stress, that ultimately were responsible for the majority of early retirements in the Post Office and which were so difficult to address in London.

Workspace and technology

The chronic shortage of space in London was a persistent problem for the Post Office throughout the period. The introduction of district sorting offices in 1854 helped by reducing the amount of mail that had to be sorted at the central office at St Martin's le Grand, and this in turn allowed some internal reorganisation of space. However the continuous addition of new functions soon outran capacity and in the 1870s additional buildings were constructed to ease the pressure. A large new building to the west was completed in 1873, and this was followed soon after in 1877 by separate premises for the Post Office Savings Bank in Queen Victoria Street. The acquisition of parcels delivery by the Post Office in 1883 added considerably to the need for more space and a

Parliamentary report the following year warned of an imminent shortage of capacity and recommended the purchase of a new site to the north of the old headquarters (Figure 3).⁸⁰ These recommendations were followed in 1888 by transferring the parcel post to a new location at Mount Pleasant which covered 7.5 acres (3 hectares) and which had sufficient space for 1.5 miles (2.4 kilometres) of sorting tables. This in turn allowed for extensive alterations to take place at the old General Post Office as well as the construction of an entirely new six storey building, designed to accommodate administrative functions, to the north of the old building that provided an additional 150,000 square feet of space.⁸¹ The need for further alterations to accommodate the expansion of the telegraph service at the central headquarters led to the sorting of mail destined for the rest of the country being moved to the new site at Mount Pleasant in 1900.⁸² The sorting of mail arriving from the provinces and from overseas for London districts, however, remained at St Martin's le Grand until it was moved, together with outgoing foreign mail, to the new King Edward buildings, Newgate Street, which opened in 1911, allowing the historic and increasingly unsuited General Post Office building to be demolished in the following year.⁸³

[INSERT FIGURE 3 HERE]

Figure 3: Proposed Post Office Buildings, St Martin's le Grand, 1884

Source: PP 1884-85 XXII [Cd. 4267] *Report of the Committee Appointed by the Treasury to examine the subject of Central Post Office Buildings and establishment.*

As well as the constant attempts to provide more space to deal with the growing volume of mail, the Post Office also explored the use of new technology which, directly and indirectly, helped address some of the nuisances about which workers complained. These efforts took two forms: one relating to improvements in the design of machinery and the other to the general conditions of work. The

best example of the former concerned changes to the Morse telegraph machine which was most closely associated with the condition known as 'telegraphist's cramp', a painful contraction of the hand arising from rapid and repetitive keying movements. In 1908 around a third of all telegraphists in the Post Office recording some difficulty in keying, though the proportion with a confirmed diagnosis of cramp was much lower.⁸⁴ This was of particular concern, both because of the growing use of the Morse machine within the Post Office and also because in 1908 the condition was recognised as an industrial disease under the Workmen's Compensation Act.⁸⁵ Because of the popularity of the Morse machines, it proved difficult to reallocate workers to different types of machine and therefore the only effective remedies were either to improve the design to reduce the risk of injury or to remove workers from duties for a prolonged period until their symptoms disappeared. Although the Post Office considered that other factors were likely to have been responsible for the condition, such as poor training and the more frequent employment of workers with a 'nervous' disposition, it nevertheless also experimented with a variety of modifications including different types of semi-automatic keys, such as the 'Vibroplex' and 'Autodot', neither of which proved to be helpful, and the use of different kinds of machines, such as Bright's Bell or Wheatstone's A-B-C Communicator, both of which proved too expensive, before concluding that what would be more beneficial were alterations to the amount of play and tension on the keys, accompanied by more careful selection of candidates and better training.⁸⁶

The second set of technological interventions concerned improvements to the workplace, focussing mainly on improving lighting and ventilation in the main headquarters building at St Martin's le Grand, which was poorly designed to cope with the growing volume of mail and the increasing frequency of late night working. Efforts were made in the 1850s to reduce the amount of dust in the main sorting rooms at St Martin's le Grand, especially in the bag room in which the problem was worst, by the introduction of a system of steam-powered fans; but the *British Medical Journal* reported in 1884 that the problem persisted, and several workers who appeared later in the

century as witnesses before Parliamentary Committees on conditions in the Post Office wages still complained of the amount of dust and its impact on respiratory disease.⁸⁷

The biggest improvement made to working conditions was the introduction of electric lighting in the 1880s, which addressed two different but related problems regarding light and air quality. The growing need to sort and despatch the mail or transmit telegrams late into the night increased the amount of night-time working, which until the introduction of electric lighting had to be carried out under gaslight. As shown above, Post Office employees in London complained repeatedly about the associated heat, fumes and high incidence of respiratory illness. Although the Post Office addressed this through better ventilation systems there was also interest in new forms of electric lighting that would avoid generating the noxious fumes that occurred with gaslights.⁸⁸ In 1879, Henry Preece, the Post Office's chief electrician, recognised that electric lighting offered a healthier alternative to gas, but he also pointed out that it could not satisfy the three key conditions of brilliancy, steadiness and the ability to last for 18 hours without the need to renew the bulb.⁸⁹ Nor could it compete on cost, since electricity was at least twice as expensive as gas.⁹⁰ However, as Preece himself acknowledged, there were other gains to be made that could potentially outweigh the expense: '... you have purer air, you have better health, you have less doctor's bills to pay, you have increased appetite and, I believe, electric light will add to the years of my life'.⁹¹ In the next few years, as costs fell and technology improved, electric lighting began to spread through the Post Office. The key innovation was Thomas Edison's discovery in 1880 of a filament that would allow a bulb to burn for at least 13 continuous hours, and in the same year the Post Office experimented with the new system in its Glasgow office. In 1881 electric lighting was successfully tried at St Martin's le Grand and in 1882 the main sorting room was lit with fifty-nine of Edison's new incandescent bulbs.⁹² 'An even light without any shadow was thrown over the tables', *The Times* said, 'while the atmosphere, previously heated by gas, sensibly diminished in temperature, even in the short space of about 20 minutes'.⁹³ In the same year, reporting on the Electrical Exhibition then taking place at the Crystal Palace, the *Lancet* said that 'The hygienic advantages of the electric light are so obvious, and we have dwelt on

them so often, that it is not necessary to return to the subject.⁹⁴ With the technical problems resolved and the benefits of electric lighting so clear, it is little wonder that by the end of the century, having already spread to branch offices in London and other large cities, one of the key recommendations arising from the Tweedsmouth Committee on Post Office Establishments was that electric lighting should be used in place of gas wherever possible.⁹⁵

Conclusion

The history of occupational health has been overly focussed on trades identified as dangerous but largely absent from London. However, as this article has shown, this did not mean that work in the capital was devoid of risks, even in more sedentary types of occupations or those that involved outdoor activities. In this context, examining the health outcomes of postal work and policemen provides a useful counterbalance that helps to identify the risks associated with service sector occupations that were more typical of the city's modernising economy.

Delivering the mail came at a cost to workers' minds and bodies in London and this manifested itself in the relatively large proportion of postal workers that experienced sickness or who were forced to retire prematurely because of ill health. This was not unique to the Post Office

and policemen, too, had high rates of sickness and early retirement on the grounds of ill health. Pounding the streets and working in offices carried their own health risks, different in nature to those in the dangerous trades but no less prevalent. The patterns of sickness in the Post Office and the police were linked to the types of work undertaken and the workplace conditions. In the Post Office, although some of the health issues, such as consumption and other kinds of respiratory disease, were also associated with insanitary living conditions that affected the general population, a significant amount was also linked to the impact of difficult and demanding working conditions. Because of the constant pressures on space and time, these problems proved particularly intractable in the capital. The Post Office was not ignorant of the problems posed by ill health but there were limits to its capacity to implement improvements. For postmen, more frequent deliveries meant longer hours trudging the streets and breathing highly polluted air, resulting in a greater preponderance of retirements because of orthopaedic conditions, consumption and chronic respiratory illness. For indoor sorters, the failure to employ enough workers to deal with the huge and growing volume of mail that entered and left the capital each day resulted in prolonged periods of night-time work and the continuation of split shifts. The occupational risks arising from the pressure and intensity of having to work in cramped, dimly lit and poorly ventilated buildings were significant and took their toll on the workforce. Sorting, despatching and delivering the mail were crucial elements of the modern British state but in London these activities came at a cost that was measured not just in monetary terms but also in relation also to workers' health.

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data collection and the two anonymous referees whose questions helped refine the discussion presented here.

Table 1: Patterns of sickness absence in the Post Office, 1892-1900

	Male		Female	
	Percent of sick absentees	Average amount of sick absence per sick officer (days)	Percent of sick absentees	Average amount of sick absence per sick officer (days)
Central Office	64.8	12.4	73.8	15.8
Metropolitan Districts	58.3	14.6	72.2	18.7
Provinces	38.9	18.4	52.8	18.4
Scotland	36.4	18.0	54.2	17.5
Ireland	47.8	19.8	64.4	23.0

Table 2: Retirement and Length of Service in the Post Office (London) and Metropolitan Police

		Number	Average age at retirement (yrs)	Average length of service (yrs)
Post Office (London)	1861-1891			
Males		395	48.6	23.8
Females		37	33.1	12.8
Metropolitan Police	1845-54	859	44.0	17.5
Metropolitan Police	1878-88	2305	45.0	22.0

Table 3: Disease Categories

Category	Broad Description
BRAINEPI	Disease related to the brain, including paralysis, ataxia, palsy, hemiparesis, fits, epilepsy.
CIRCUL	Disease of the heart and circulatory system
CONSUMP	Phthisis and other tubercular conditions
DIGEST	Disease of the stomach and digestive system
GENDEB	General debility, weakness, infirmity and wasting
LUNGNOTTB	Disease of the respiratory system (not tubercular), including bronchitis, emphysema, asthma, coryzma and pleurisy.
MENTHEAL	Mental illness including nervous and mental debility and insanity.
ORTHO	Orthopaedic conditions relation to the muscular-skeletal system, gout, rheumatism, bunions,
VISION	Failing eyesight, glaucoma
OTHER	Miscellaneous conditions, including varicose veins,
INJURY	Injury and accident

Fig. 1. Letters delivered in London and in England and Wales 1851–1900 (five year average).

Source: *Annual Reports of the Postmaster General on the Post Office, 1851–1900.*

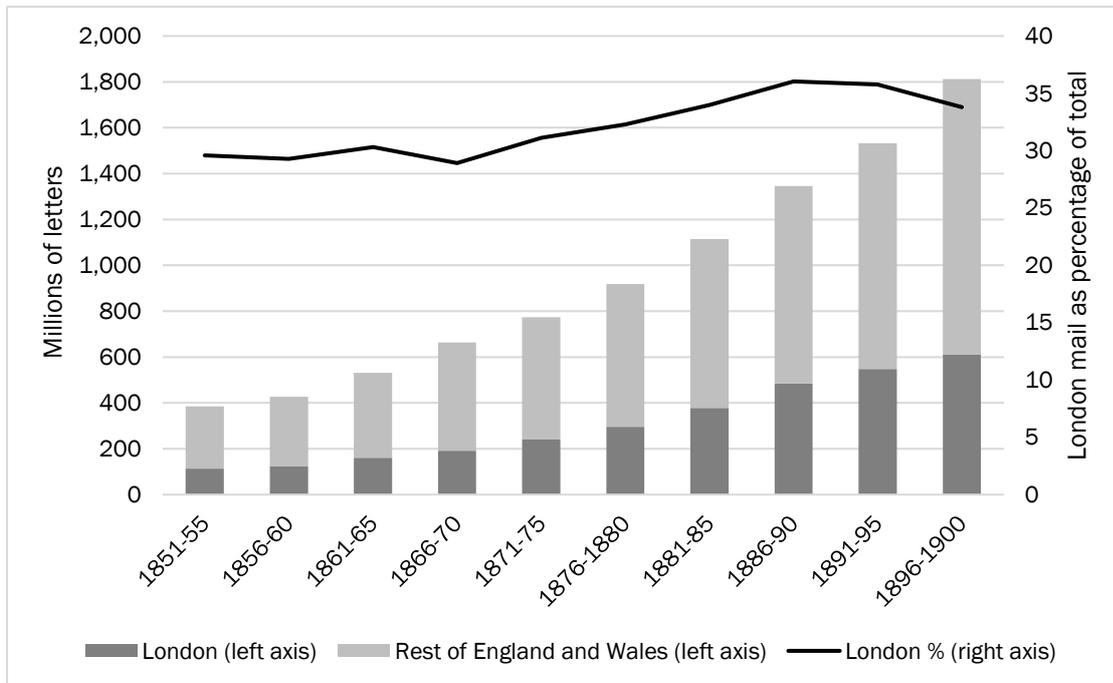


Fig. 2. Ill health in the Post Office and the Police

Source: Annual Reports of the Commissioner for Metropolitan Police 1870, 1880, 1891, 1901; The Postal Museum, POST 1 Post Office: Treasury Correspondence, records of pensions 1861, 1871, 1881 and 1891. Note: These totals exclude female workers.

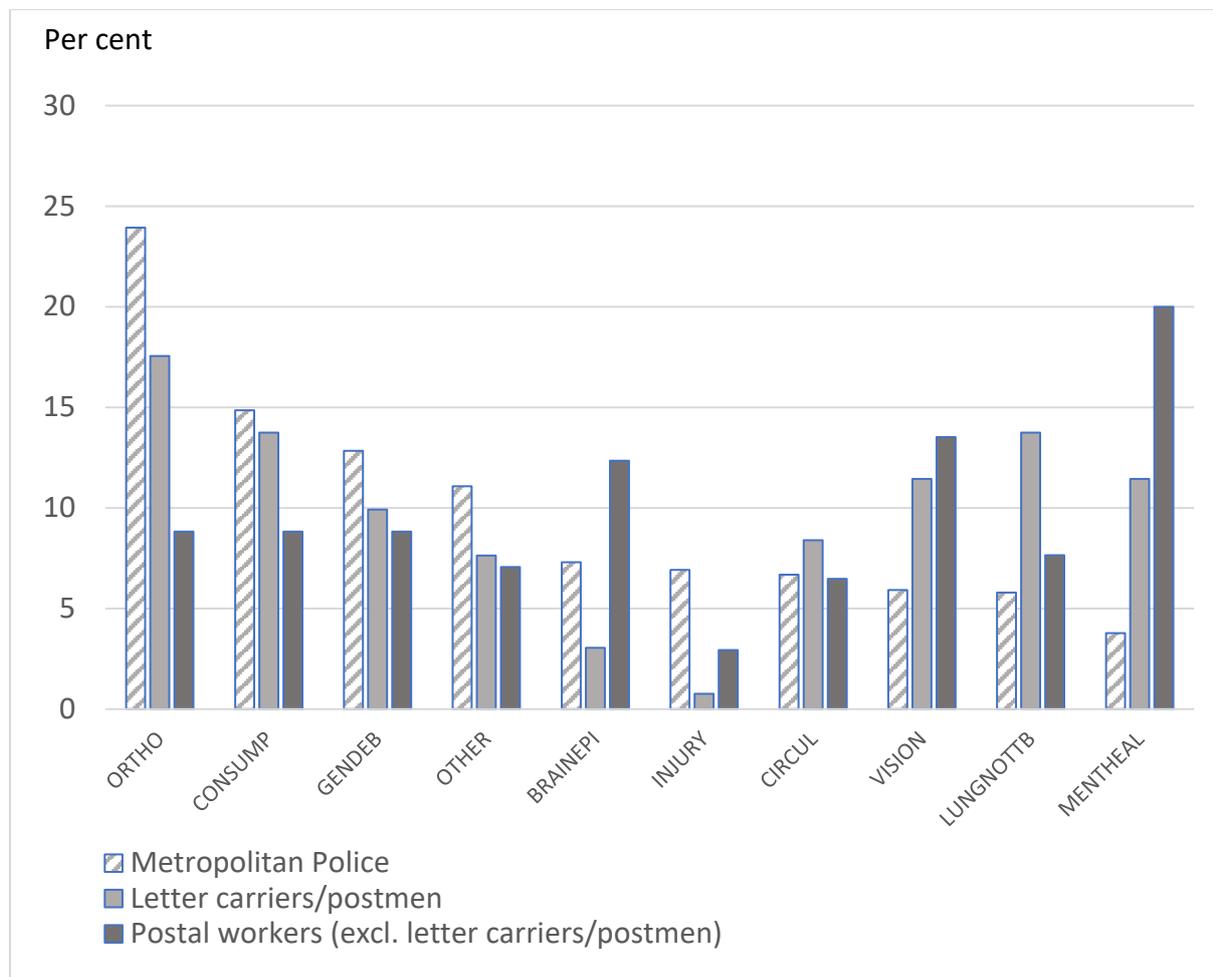
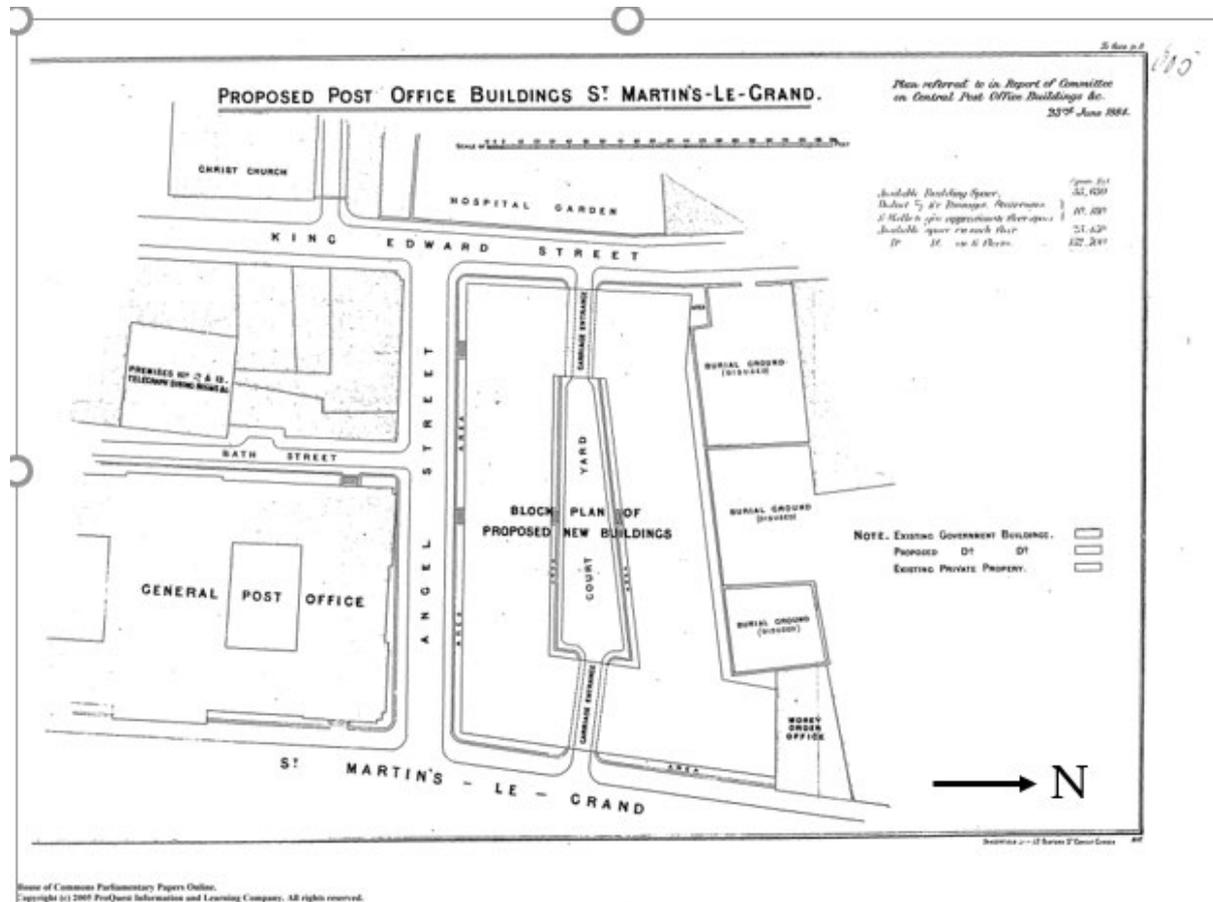


Fig. 3. Proposed Post Office Buildings, St Martin's le Grand, 1884

Source: PP 1884-85 XXII [Cd. 4267] Report of the Committee Appointed by the Treasury to examine the subject of Central Post Office Buildings and establishment.



¹ There is an extensive literature on the dangerous trades. See P.W.J. Bartrip, *The Home Office and the Dangerous Trades: regulating occupational disease in Victorian and Edwardian Britain* (Amsterdam: Rodopi, 2002). For the match makers see Barbara Harrison, 'The politics of occupational ill-health in late nineteenth century Britain: the case of the match making industry', *Sociology of Health & Illness*, 1995, 17, 20-41; L. Raw, *Striking a Light: The Bryant and May Matchwomen and their Place in History* (London: Bloomsbury, 2011). For recent publications on mining and occupational health see A. McIvor and R. Johnston, *Miners' Lung: A History of Dust Disease in British Coal Mining* (London: Routledge, 2007); C. Mills, *Regulating Health and Safety in the British Mining Industries, 1800-1914* (Farnham: Ashgate, 2010); C. Mills and W. P. Adderley, 'Occupational exposure to heavy metals poisoning: Scottish lead mining', *Social History of Medicine* 30 (2017), 53-543; D. Selway, 'Death Underground: Mining Accidents and Memory in South Wales, 1913-74', *Labour History Review*, 2016, 81 187-209. For occupational health more generally see P. Weindling (ed.) *The Social History of Occupational Health* (London: Croom Helm, 1985); P. Almond and M. Esbester, 'Shaping Health and Safety, 1800-2015', in P. Almond and M. Esbester (eds), *Health and Safety in Contemporary Britain* (London: Palgrave Macmillan, 2019), 43-78; B. Harrison, *Not Only the Dangerous Trades: Women's Work and Health in Britain 1880-1914* (London: Taylor and Francis, 1996).

² The main work on occupational disease was C. Thackrah, *Effects of the Principal Arts, Trades, and Professions and of Civic States and Habits of Living on Health and Longevity: with a particular reference to the trades and manufactures of Leeds* (London: no publisher, 1831; second and enlarged edition 1832). It was not superseded until J. T. Arlidge, *The Hygiene, Diseases and Mortality of Occupations* (London: Percival, 1892). Both Thackrah and Arlidge had specific interests in health and working conditions in local industries in their respective regions around Leeds and the Potteries.

³ There is a considerable literature on the regulation of occupational health. See J. Melling, 'Employers, industrial welfare and the struggle for work-place control in British industry, 1880-1920' in H. F. Gospel and C. R. Littler (eds.) *Managerial Strategies and Industrial Relations: An Historical and Comparative Study* (Farnham: Ashgate, 1983), 55-81; J. Melling, 'Welfare capitalism and the origins of welfare states: British industry, workplace welfare and social reform, c. 1870-1914', *Social History*, 1992, 17, 453-478. For children and health see P. Kirby, *Child Workers and Industrial Health in Britain, 1780-1850* (Woodbridge: Boydell Press, 2013). For women in white-collar work see B. Harrison, *Not Only the Dangerous Trades: Women's Work and Health In Britain 1880-1914* (London: Taylor And Francis, 1996), 111-142.

⁴ For a discussion of the Post Office's medical service see K. McIlvenna, D. H. L. Brown and D. R. Green, "'The Natural Foundation of Perfect Efficiency": Medical Services and the Victorian Post Office', *Social History of Medicine*, early view online <https://doi.org/10.1093/shm/hky123>.

⁵ See D. R. Green, D. H. L. Brown and K. McIlvenna, 'Addressing Ill Health: Sickness and Retirement in the Victorian Post Office', *Social History of Medicine*, early view online <https://doi.org/10.1093/shm/hky081>

⁶ For the circumstances under which Dr Waller Lewis was appointed see K. McIlvenna *et al.*, 'Natural Foundation'.

⁷ Parliamentary Papers (hereafter PP) 1897 XLIV [Cd. 163] *Post Office Establishments: copy of evidence (with indices, summaries and appendices) taken before the committee on Post Office establishments*, q. 437.

⁸ See Green *et al.*, 'Addressing Health'.

⁹ For further discussion of the pension records see Green *et al.*, 'Addressing Health'.

¹⁰ For a discussion of the role of the Post Office in state formation see P. Joyce, *The State of Freedom* (Cambridge University Press: Cambridge, 2013), 100-143.

¹¹ PP 1852 XLIX [Cd. 554] *Return of Salaries, Wages and Allowances of Post Office Dept., 1834-50*; PP 1895 XXVI [Cd. 7852] *Forty-first report of the Postmaster General on the Post Office*, Appendix E, 60-61.

¹² These figures are taken from PP 1854-55 XX [Cd. 1913] *First report of the Postmaster General on the Post Office*, Appendix D; 65; PP 1900 XVIII [Cd. 333] *Forty-sixth report of the Postmaster General on the Post Office*, Appendix A, 22.

¹³ PP 1895 XXVI [Cd. 7852] *Forty-first report of the Postmaster General on the Post Office*, Appendix A, 40.

¹⁴ W. Thornbury, *Old and New London*, volume 2, chapter XXVII. Originally published London, 1878; <https://www.british-history.ac.uk/old-new-london/vol2>, <last accessed 4 December 2018>.

¹⁵ *Building News and Engineering Journal*, 30 June 1871, 508.

¹⁶ *The Times*, 29 March 1860.

¹⁷ PP1874 XV [Cd. 1057] *Twentieth Report of the Postmaster General on the Post Office*, 5.

¹⁸ PP 1856 XXXVII [Cd. 2048] *Second Report of the Postmaster General on the Post Office*, 9, 41-45;

¹⁹ PP 1884-85 XXII [Cd. 4480] *Thirty-first Report of the Postmaster General on the Post Office*, 3, 11-12; M. J. Daunton, *Royal Mail: the Post Office since 1840* (London: Athlone, 1985), 46, 119.

²⁰ Daunton, *Royal Mail*, 47. See also Joyce, *State of Freedom*, 132. See PP 1864 XXX [Cd. 3417] *Tenth Report of the Postmaster General on the Post Office*, 6, 22-24. Information on the number of deliveries also comes from the London Post Office Directories.

²¹ PP 1884-85 XXII [Cd. 4480] *Thirty-first Report of the Postmaster General on the Post Office*, 3.

²² PP 1871 XVII [Cd. 438] *Seventeenth report of the Postmaster General on the Post Office*, 15.

²³ PP 1884-85 XXII [Cd. 4480] *Thirty-first Report of the Postmaster General on the Post Office*, 11-12.

²⁴ *The Times*, 7 May 1860. Shift work is associated with poorer health outcomes, including mental health. See A.-C. Bara and S. Arber, 'Working shifts and mental health – findings from the British Household Panel Survey (1995–2005)', *Scandinavian Journal of Work Environment & Health*, 35 (2009), 361–367; M. V. Vyas *et al.*, 'Shift work and vascular events: systematic review and meta-analysis', *British Medical Journal*, 26 July 2012, 365, 1–11.

²⁵ PP 1897 XLIV [Cd. 163] *Post Office Establishments*, q. 6513-19.

²⁶ *Ibid.*, q. 16-18, 27-29, 5769-86,6478

²⁷ PP 1904 XXXIII [Cd. 2171] *Minutes of Evidence taken before the Committee Appointed to Enquire into Post Office Wages*, q. 264, 692, 710, 944

²⁸ PP 1906 XII [Cd. 380] *Report from the Select Committee on Post Office servants; with the proceedings of the committee*, q. 8,073.

²⁹ The percentage of sickness in the Metropolitan Police is calculated from the annual figures between 1890 and 1899 published in the annual reports of the Commissioner of Police for the Metropolis between. Although various police representatives considered this comparison to be misleading, the Government Actuary in 1923 thought that Grade 6 postmen were comparable to police constables. See The National Archives (hereafter

TNA) ACT 1/54 Post Office; report on ill-health retirements, Memorandum by A. W. Watson to C. L Stocks at the Treasury regarding retirement through ill health.; PP 1890 LIX [Cd. 6075] *Departmental Committee on Metropolitan Police Superannuation* q. 240-43, 662.

³⁰ In 1859, the minimum height for a letter carrier was reduced from 5 ft 5 in (165 cm) to 5 ft 3 in (160 cm) because of the high rate of rejection and consequent shortage of recruits. By the 1880s, the Post Office had settled on a height of 5 ft 4 in (163 cm) for provincial letter carriers. Policemen had to be a minimum of 5ft 7 in (170 cm), rising to 5ft 9 in (175 cm) by the 1890s. For examinations in the Post Office see McKilvenna et al., 'Natural foundation'. For the police see H. Shpayer-Makov, 'Notes on the medical examination of provincial applicants to the London Metropolitan Police on the eve of the First World War', *Histoire Sociale-Social History* 24 (1991), 169-179.

³¹ Shpayer-Makov, 'Notes on the medical examination of provincial applicants', 173. For the Post Office see The Postal Museum (hereafter 'TPM') POST 64.1 The Post Office Medical System, 974-83.

³² For telegraphist's cramp see 1897 XLIV [Cd. 163] *Inter Departmental Committee on Post Office Establishments: copy of evidence (with indices, summaries and appendices) taken before the committee on Post Office establishments*, q. 9-18, 2599, 2612, 2644. The *British Medical Journal* noted in 1909 that this condition was considered to be an occupational illness. See 'One who has had to suffer', 'The Postmaster General and our profession', *British Medical Journal*, 10 July 1909, 111-112. See also A. Dembe, *Occupation and Disease* (London: Yale University Press, 1996), 35-43. Nervous debility was a commonly used term in the mid-nineteenth century to describe a wide range of symptoms. See G. Drinka, *The Birth of Neurosis: myth, malady and the Victorians*, (New York: Simon Schuster, 1984); J. Knelman, 'Nervous Debility: A Disorder Made to Order', *Victorian Review*, 22 (1996), 32-41; J. Oppenheim, '*Shattered Nerves*': doctors, patients, and depression in Victorian England, (Oxford: Oxford University Press, 1991), 81-104; M. Thompson, 'Neurasthenia in Britain: an overview', in: M. Gijswijt-Hofstra and R. Porter (Eds), *Cultures of Neurasthenia from Beard to the First World War*, (Amsterdam: Rodopi, 2001), 77-95; C. Sengoopta, 'A mob of incoherent symptoms: Neurasthenia in British medical discourse 1860-1920', in *ibid.*, 97-115. Interest in the social causes of insanity, including excitement of the nervous system, was of growing importance in psychiatric medicine during the period. See L. J. Ray, 'Models of madness in Victorian asylum practice', *European Journal of Sociology* 22 (1981), 229-264; W. Bynum, A. Hardy, S. Jacyna and C. Lawrence and E. M. Tansey, *The Western Medical Tradition 1800 to 2000* (Cambridge: Cambridge University Press, 2006), 200-202.

³³ 'The influence of railway travelling on public health: report of the commission III', *Lancet* 18 January 1862, 81-84; The influence of railway travelling on public health: report of the commission VI', *Lancet* 8 February 1862, 157. See also H. W. Porter, 'On the Influence of Railway Travelling on Public Health', *The Assurance Magazine, and Journal of the Institute of Actuaries*, 11,3 (1863), 152-171.

³⁴ For the police see J. Monro, 'The story of police pensions', *New Review* 3 (Sep 1890), 194-204. For the Post Office see Green *et al*, 'Addressing health',

³⁵ For a fuller discussion of health in the Metropolitan Police see H. Shpayer-Makov, *The Making of a Policeman* (Aldershot: Ashgate, 2002), 133-46; *idem.*, 'Police service in Victorian and Edwardian London: a somewhat atypical case of a hazardous occupation', *Medizin, Gesellschaft and Geschichte*, 13 (1994), 55-80.

³⁶ The Post Office began employing women in larger numbers from 1870, mainly working as telegraphists in London. Women were forced to resign upon marriage and usually received a 'gratuity' rather than a pension. As a result, most women left the Post Office before they had worked 10 years. They are included here for comparative purposes.

³⁷ PP 1890 LIX [Cd. 6075] *Departmental Committee of 1889 on Metropolitan Police Superannuation*, q. 1585, 1590.

³⁸ *Ibid.*, table XVI, p. 142.

³⁹ PP 1898 LII [Cd. 230] *Post Office (Pay of sorters, telegraphists, and sorting clerks and telegraphists) 16 March 1898*.

⁴⁰ For the new terms relating to superannuation after 1890 see PP LIX [Cd. 6065] *Memorandum in Explanation of the Police Bill, 1890*.

⁴¹ Quoted in 1897 [Cd. 163] *Post Office establishments. Return to an order of the Honourable the House of Commons, dated 6 April 1897*, q. 7939.

⁴² PP 1890 LIX [Cd. 6075] *Departmental Committee of 1889 upon Metropolitan Police superannuation.*, q. 1197.

⁴³ See Monro, 'The story of police pensions' 199-203 for discussion of this issue.

⁴⁴ Green *et al* 'Addressing health', 20-23.

⁴⁵ Figures come from the annual reports of the Metropolitan Police commissioner, calculating the number of pensions granted under the 1890 act compared to those and gratuities granted for medical reasons.

⁴⁶ PP 1903 XXXIII [Cd. 1744] *Report of the Royal Commission on Superannuation in the Civil Service*, 192.

⁴⁷ This imprecision is not unique to the medical information in the pensions records. See A. Hardy, 'Death is the Cure of all Diseases - Using the General Register Office Cause of Death Statistics for 1837-1920', *Social History of Medicine* 7 (1994), 472-492.

⁴⁸ 'Health of the Metropolitan Police', *Lancet* 23 September 1876, 429

⁴⁹ PP 1897 XLIV [Cd. 163] *Report of the Interdepartmental Committee on Postal Establishments*, q. 8832, 8844, 11574, 12018.

⁵⁰ The distinction between postmen and the lower grade of sorters was blurred, though indoor workers were generally considered to be of a higher status. See A. Clinton, *Post Office Workers: a trade union and social history* (London: George Allen & Unwin, 1984), 49-59; Daunton, *Royal Mail*, 214-216.

⁵¹ PP 1897 XLIV [Cd. 163] *Post Office Establishments*, 15-18.

⁵² PP 1897 XLIV [Cd. 163] *Report of the Interdepartmental Committee on Postal Establishments*, 5.

⁵³ PP 1884-85 XXII [Cd. 4267] *Report of the Committee Appointed by the Treasury to examine the subject of Central Post Office Buildings and establishment*, q. 434.

⁵⁴ PP 1895 XXVI [Cd. 7852], *Forty-first report of the Postmaster General on the Post Office*, 12-13.

⁵⁵ PP 1904 XXXIII [Cd.2171] *Committee on Post Office Wages. Part II. Minutes of Evidence*, 264.

⁵⁶ Shift work is associated with poorer health outcomes, including mental health. For overviews see J.M. Harrington, 'Health effects of shift work and extended hours of work', *Occupational and Environmental Medicine*, 58 (2001), 68-72; X.S. Wang *et al.*, 'Shift work and chronic disease: the epidemiological evidence', *Occupational Medicine*, 61 (2011), 78-89; K. Papantoniou, C. Vetter and E.S. Schernhammer, 'Shift work practices and the opportunities for intervention', *Occupational and Environmental Medicine*, 74 (2017), 2-3. A.C. Bara and S. Arber, 'Working shifts and mental health - findings from the British Household Panel Survey (1995-2005)', *Scandinavian Journal of Work Environment & Health*, 2009, 35, 361-367; M. V. Vyas *et al.*, 'Shift work and vascular events: systematic review and meta-analysis', *British Medical Journal*, 26 July 2012, 365, 1-11.

⁵⁷ *The Times*, 29 March 1860.

⁵⁸ 'One of the sufferers' (pseudonym), *The Times* 29 November 1847.

⁵⁹ PP 1857 IV Session 1 [Cd. 2195] *Third Report of the Postmaster General, on the Post Office*, 54; PP 1859 VIII Session 1 [Cd. 2493] *Fifth Report of the Postmaster General, on the Post Office*, 39.

⁶⁰ PP 1897 XLIV [Cd. 163] *Post Office Establishments*, q. 1435.

⁶¹ The inhalation of dust was seen at the time as a particular problem of occupational health. See J.T. Arlidge, *The hygiene, diseases and mortality of occupations*, (London, 1892), 245–258.

⁶² PP 1857 IV Session 1 [Cd. 2195] *Third Report of the Postmaster General, on the Post Office*, 54; PP 1859 VIII Session 1 [Cd. 2493] *Fifth Report of the Postmaster General, on the Post Office*, 39; Anon., ‘Post Office clerks’, *British Medical Journal* 2, 1249 (6 December 1884), 1149; PP 1904 XXXIII [Cd.2171] *Committee on Post Office Wages. Part II. Minutes of Evidence*, 266. PP 1897 XLIV [Cd. 163] *Post Office Establishments*, q. 1433–1436.

⁶³ See PP 1890-91 XXXIV [Cd. 6387] *Local Government Board, Report on the Influenza Epidemic of 1889-90 by Dr Parsons*.

⁶⁴ *Ibid.*, 183.

⁶⁵ *Ibid.*, 109.

⁶⁶ *Ibid.*, 182-189.

⁶⁷ *Ibid.*, 181.

⁶⁸ For a fuller discussion of this see McIlvenna *et al.*, ‘Natural foundation’.

⁶⁹ These levels varied for different groups of workers but the majority of the established workforce fell under these arrangements.

⁷⁰ TPM POST 64/4 Sick Leave Conditions 1857–1902: Memorandum, 64-76.

⁷¹ *Ibid.*, 8–28.

⁷² PP 1895 XXVI [Cd. 7852], *Forty-first report of the Postmaster General on the Post Office*, 15–16; TPM POST 64/1, 946.

⁷³ PP 1899 XIX [Cd.9463] *Forty-Fifth Report of the Postmaster General on the Post Office*, 18.

⁷⁴ TPM POST 64/1 201, 222, 366, 443.

⁷⁵ *Ibid.*, 304.

⁷⁶ *Ibid.*, 85.

⁷⁷ *The Times*, 9 August 1866.

⁷⁸ *Ibid.*; *Morning Advertiser*, 14 August 1866.

⁷⁹ PP 1872 XVIII [Cd.645] *Eighteenth Report of the Postmaster General, on the Post Office*, 45-6; PP 1881 XXIX [Cd.3006] *Twenty-Seventh Report of the Postmaster General on the Post Office*, 2.

⁸⁰ PP 1884-85 XXII [Cd. 4267] *Report of the Committee Appointed by the Treasury to examine the subject of Central Post Office Buildings and establishment*, 8.

⁸¹ *Ibid.*, PP 1888 XXXIV [Cd. 5494], *Thirty fourth report of the Postmaster General on the Post Office* 2, 16; PP 1893 XXV [Cd. 7145], *Thirty ninth report of the Postmaster General on the Post Office*, 5.

⁸² PP 1901 XVIII [Cd. 762], *Forty seventh report of the Postmaster General on the Post Office*, 3, 20.

⁸³ The separation of sorting for London and elsewhere in the UK also necessitated the introduction of new, dual aperture pillar boxes marked 'London' and 'Country'. We are grateful to Alex Obradovic for pointing this out.

⁸⁴ PP 1911 XLI *Departmental Committee on Telegraphists' Cramp*, 8.

⁸⁵ See note 32, above.

⁸⁶ *Ibid.*, 28 – 35.

⁸⁷ PP 1857 Session 1 IV.293 [2195] *Third Report of the Postmaster General, on the Post Office*, 54; PP 1859 Session 1 VIII.431 [2493] *Fifth Report of the Postmaster General, on the Post Office*, 39; Anon., 'Post Office clerks', *British Medical Journal* 2, 1249 (6 December 1884), 1149; PP 1897 XLIV.37 [163] *Post Office Establishments*, q. 1433–1436, 2603, 2644, 6658; PP 1904 XXXIII.511 [Cd.2171] *Committee on Post Office Wages. Part II. Minutes of Evidence*, 266.

⁸⁸ Burning coal gas also produced carbonic acid gas arising from a combination of hydrogen, methane, carbon monoxide and sulphur. *Glasgow Herald* 13 December 1880.

⁸⁹ PP 1878-79 XI [Cd. 224] *Select Committee on Schemes by Local Authorities for Lighting by Electricity: report, proceedings, minutes of evidence*, q. 504-508, 555.

⁹⁰ PP 1886 VII [Cd. 252] *House of Lords Select Committee on the Electric Lighting Act (1882)*, q. 2023-2027.

⁹¹ *Ibid.*, q.2029.

⁹² *Greenock Advertiser*, 11 May 1881.

⁹³ *The Times*, 22 August 1882; The event was widely reported in provincial newspapers. See, for example, *Birmingham Daily Post*, 23 August 1882 and *Edinburgh Evening News* 23 August 1882. See also *Blackburn Standard and Weekly Express*, 25 July 1891.

⁹⁴ 'The Electrical Exhibition', *The Lancet* 11 March 1882, 412

⁹⁵ PP 1897 XLIV.37 [163] *Post Office Establishments*, 1152. See also PP 1890-91 XXVI [Cd. 6540] *Thirty-seventh Report of the Postmaster General on the Post Office*, 3.