

We've Been Down this Road Before: Evidence on the Health Consequences of Precarious Employment in Industrial Societies, 1840-1920

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A large body of international scientific research now indicates that the growth of job insecurity, flexible/temporary work and precarious forms of self-employment have had significant negative consequences for occupational health and safety. What is often overlooked in debates over the 'changing world of work' is that today's widespread use of insecure and short term work is not new but represents a return to something more resembling labour markets in Australia, Europe and North America in the 19th and early 20th century. As this paper will seek to show, not only were precarious and exploitive working arrangements common during this period but the adverse effects of these on the health, safety and wellbeing was well documented in government inquiries, medical research, press reports and a variety of other sources. Drawing primarily on Australian and British sources, attention here will focus on casual labourers, sweated garment workers, the self-employed and merchant seamen. The paper highlights the valuable role historical research can play in shedding light on contemporary problems and policy debates.

Since the mid-1980s a growing body of scientific research has linked job insecurity and the growth of more precarious or contingent work arrangements – themselves the product of the rise of neoliberal policies and an employer offensive against collectivism – to significant adverse effects on workers (and community) safety, health and wellbeing in both old industrialised and 'developing' countries.¹ Viewed from a historical perspective these findings should not come as a surprise. As this paper will try to demonstrate, research/investigation and more especially government inquiries into work during the 19th and early 20th centuries clearly pointed to a relationship between precarious employment and vulnerable groups such as casual dock workers and outworkers in the clothing trade with adverse health and safety effects on working and living conditions. Indeed, this evidence had a critical influence on social protection by providing evidence for reform movements and community mobilisations in the late 19th and early 20th century.

There is now a rich research literature on the history of occupational health, much of which adopts a critical perspective that demonstrates how recognition and action on disease and other forms of ill-health was mediated by interest groups and politics.² However, little of this research has specifically considered the precariously employed,³ including the groups and practices (like subcontracting) while historical research into sweating, the early closing movement and de-casualisation has – with some conspicuous exceptions – seldom considered the health and safety consequences of these work arrangements in any detail. Again, this paper seeks to redress this gap by presenting evidence covering a range of occupations marked by contingent work arrangements. Drawing on evidence from government inquiries and elsewhere the paper describes the health and safety effects of precarious employment with regard to casual workers, sweating, the self-employed, shop workers and seamen.

The Not So Casual Risks of Casual Work

The widespread use of casual and transient forms of labour in the 18th and 19th centuries, together with the absence of state social protection – apart from poor laws and later workhouses for the poor (both designed to remove the threat of vagrants and social unrest) – created a welter of social casualties. People who couldn't find work, the injured and the disabled, and their children had to beg on the streets. The more accurate urban European streetscape paintings of the 18th and 19th centuries (as well as early photography) capture this. Less visible from these records – because it is harder to capture visually – is the starvation, long hours/fatigue, poor nutrition and disease associated with precariousness.

Early writers on occupational medicine like Thackrah⁴ pointed to the adverse health effects of long hours, intense work and low earnings. Writing sixty years later Thomas Arlidge⁵ saw the amount of work, as measured both by its duration and intensity, as one of the key general conditions labour affecting work-related disease. Directly relevant to the health of casual workers – although he does not specifically refer to them – Arlidge also stated that constancy of employment or its absence could affect health. He argued that in industries where demand for work was constant labour was more likely to be treated conservatively (ie sustainably) but this was not the case where demand was declining, or where seasonal work or jobs dictated by fashion resulted in fluctuations between deficient work and overwork. He asserted that 'the health of workers must suffer from fluctuations in one or the other direction, directly and indirectly, needs no demonstration'.⁶ Fast forward a century and we find a growing body of international research documenting the adverse health effects of downsizing/restructuring and job security⁷ as well as the atypical or irregular working hours⁸ consequent of the new era of labour 'flexibility'. Researchers have also discovered 'presenteeism' where workers undertake unpaid overtime/extended shifts (to the cost of work/family balance) or attend work even when ill for fear of losing their job or having to make up unperformed tasks.⁹ For temporary workers the pressures are stark – non attendance means no pay as well as the risk of being down-shifted in ranking for future work/preferred shifts or losing their job altogether. Again, why should we be surprised at these discoveries? In his book *Health in Relation to Occupation* (1939) Vernon¹⁰ quoted US data from the 1920s to demonstrate that workers who received their full wages when off work due to sickness were far more likely to take sickness absence than those denied this benefit. We now rediscover just one good reason why organised labour in the West spent a century pursuing permanency in engagement, trying to standardise working hours, putting penalties on overtime and securing sickness absence pay.

Information of the health risks encountered by categories of day labour and other types of temporary work (like seasonal agricultural labour) is more fragmented than is the case with sweating and child labour. The latter were the subject of numerous government inquiries, media exposes, learned commentary and research by a range of persons, including government inspectors, doctors and activists like Engels.¹¹ With the partial exception of dockwork, the health of day labour seldom attracted government attention and the very transient nature of the work and workforce meant many of the hazards and its victims remained socially invisible.¹² With regard to dockwork the combination of low pay, irregular but intensive and arduous work posed both health and safety risks. One UK dock company manager was prepared to concede that hunger-induced exhaustion often forced workers to leave a job prior to its completion:

The poor fellows are miserably clad, scarcely with a boot on their foot ... and they cannot run, their boots would not permit them ... These poor men come to work without a farthing in their pockets ... and by four o'clock their strength is utterly gone; they pay themselves off: it is absolute necessity which compels them.¹³

The combination of lowly paid, irregular but intense work (exacerbated by the bull system of casual employment) was also a recipe for a high incidence of injury, premature disablement and early death. Ogle's analysis of deaths amongst males aged 45 to 55 years reported to the UK Registrar General's Office in 1890-92 found dock/wharf labourers had the third highest death rate (at 40.71 per thousand) of the 40 occupations measured, just behind pottery workers and well ahead of chimney sweeps and miners.¹⁴ The costs of a career of insecure work exacerbated by the Great Depression were no better for Sydney dockworkers examined by a government appointed physician in 1942 who observed:

Their endless search for the infrequent job which would keep them and their families from the precarious borderline of malnutrition had taken its devastating toll. The feverish high-tension work performed when the job is secured in order to ensure its repetition had been paid for at the shocking high price of premature old age and physical calamity.¹⁵

Prior to workers' compensation, some dock unions kept accident books that recorded injuries and illnesses, including diseases aggravated by working in cold wet conditions such as tuberculosis.¹⁶ Handling hazardous cargoes (dust-laden wheat and coal, hides/skins, soda ash and guano) without any form of protective clothing (even gloves) or working on frozen cargoes in light clothing was a serious problem for dockworkers in the 19th century and long arduous shifts almost certainly exacerbated exposures.¹⁷ These exposures were largely ignored. In the last third of the 20th century a series of studies examined hazard exposures.¹⁸ In another ironic twist of history the re-casualisation of dockwork over the past 20 years will make it harder identify and address exposures to hazardous substances – a problem that extends to all industries where contingent work has become pervasive and to the community more generally (as more frequent job changes makes it more difficult to develop work and exposure histories).

Evidence in relation to other groups of day labourers is equally fragmentary although a number of studies by historians indicate that there is evidence to be found. For example, a study of 'rockchopper' labourers engaged in building the sewerage system in Sydney after 1880 found they faced a range of serious hazards (injury from rockfalls and explosions, dust, fumes and bad air) but most notably silicosis magnified by the contracting out of work, disorganisation and being treated as entirely dispensable by their employers. In 1901 one contractor lamented losing 60 to 70% of his best men (mostly aged between 30 and 40 years) to silicosis, another spoke of his men pining away to almost nothing within two years, while a third absolved himself of blame by stating that '[i]f the men do not complain I shut my eyes to the facts, because in competition you cannot afford to incur greater expense than is necessary'.¹⁹

Overworked and Out of Control: The Health Effects of Sweating, Child Labour and Subcontracting

Sweating – the combination of low pay and long hours – and subcontracting were long linked to poor health outcomes. In the last decades of the 19th century broadly-based community mobilisations – often in the form of anti-sweating leagues that included unions, religious groups, feminists and others – campaigned for action on sweating. The adverse health and social dislocation effects were central to these campaigns. Doctors working the industrial locations where sweating was concentrated were also aware of its effects as were others. Indeed, in 1888 *The Lancet* commissioned its own special sanitary commission into

sweating. In a series of reports on its findings *The Lancet* observed that it had found the problem to be both more pervasive and diverse in its character between different industrial centers (such as Glasgow) than expected. At the same time, *The Lancet* pointed to the exploitive role of middlemen and the recurring connection between low and irregular earnings; poor quality food; cramped working conditions; crowded, drafty, poorly ventilated and dirty accommodation; filth and poor sanitation; fatigue, chronic injuries and poor health; and susceptibility to all too common infectious diseases (such as scarlet fever) that led to a higher mortality rate amongst children (those working and those not).²⁰ Later the same year *The Lancet* sympathetically reported the resolution of Trades Union Congress calls for the abolition of sweating, noting the representativeness of the attendance and the legislative measures (amendments to Factories laws) proposed.²¹ The House of Lords had commenced its own inquiry (chaired by Lord Dunraven) into sweating (to which one of *The Lancet's* sanitary commissioners, Adolphe Smith, testified).²² This inquiry was again duly reported in *The Lancet*, noting that the House of Lords quickly discovered the immensity and complexity of the problem that extended from London in the south to Glasgow and other centers in the north.²³ Despite the mountain of evidence the final report 'squibbed', with *The Lancet* endorsing Arnold White's criticism of its anodyne results.²⁴ The Lancet not only endorsed White's that all homes or workshops where two or three persons were employed should be registered and the subject of factory and shops legislation it went one step further and urged:

From a public health point of view we go further, and would substitute the word 'work' for the words 'are employed'. What does it matter whether the people working together are members of the same family who are acting in a sort of partnership with each other, or whether they call in outsiders to help them? These workers may be members of the same family or strangers, still they consume an equal amount of oxygen and require the same proportion of space. The real basis – the only sound basis to work upon – is the principle that what is made for the public and sold to the public, the public has a right to watch and control through every phase of its manufacture and distribution, whether it be made in a magnificent factory, where hundreds of workers are employed, or in wretched garret where but one or two sweater's victims work together.²⁵

This prescient statement remains valid today. For the well over 100 years since the legal distinction between the formally employed and those who are self-employed, between those workplaces that are regulated and those that effectively are not, has undermined social protection legislation and given full play to business strategies designed to evade these laws. Further, as rich countries are re-discovering today you cannot isolate the conditions of work and production (including inadequate or unenforced legislation) from broader issues of public health whether that is, child-labour in poor countries, lead-tainted toys produced in the sweatshop factories of China, unwanted 'additives' used by subcontractors to save costs, or the difficult of managing food contamination when dealing with elaborate supply chains.²⁶

As in poor countries today, the low earnings/poverty associated with sweating and the threat of starvation drove child labour, bringing with it a 'rich' and enduring harvest of health problems due to overwork, constrained posture and affected physical development, and cramped living conditions that was documented in the UK by Edith Hogg (1897), Olive Malvery (1907) and others.²⁷

While conditions varied between different industries, towns and countries, the key threats to health posed by sweating were essentially the same as those identified by *The Lancet* and the House of Lords. Thus for example, in May 1891 Catherine Powell, a

Sydney tailoress, referred to the low wages (with lengthy unpaid trial periods), piecework, dilapidated and cramped workplaces where ‘girls so heaped together that they cannot turn around’.²⁸ The combination of inadequate nutrition, cramped working and living conditions also increased the risk of communicable diseases.²⁹ In 1899 a Victorian female factory inspector (Cuthbertson) expressed concern both at the risk of typhoid due to the impure water used in factories and some employers fitting out gas-lit and poorly ventilated basements for ‘girls’ to work in.³⁰

A key aspect of many precarious work arrangements in the 19th century was directly linking remuneration to output/service provision. While the archetypal case may be seen as the use of piecework in clothing and other sweated trades, the practice (in various forms) was spread far more widely including whalers (the lays system), shearers, printers, construction workers and miners (hewing rates and contract systems). The reinvention of precarious employment in the late 20th century was associated with a similar expansion of incentive and output based payment, including re-emergence of contract schemes, mileage-based pay for truck drivers, garment-based pay for clothing outworkers and ‘performance’ based pay for service workers. There is now a body of scientific research linking piecework or incentive-based payment systems to poorer health outcomes (including fatigue, distress and higher injury rates).³¹ These findings would come as no surprise to unions and social reformers at the end of the 19th century – indeed the argument that piecework damaged the health for workers was made repeatedly based direct observations and experience. The connection was repeatedly raised during government inquiries covering a wide range of industries. For example 1914 Royal Commission into the mining industry at Broken Hill mineworkers gave extensive evidence as to how piecework induced corner cutting on safety (resulting in increased ‘accidents’) and exacerbated health problems due to poor dust control, ventilation, drainage and hygiene. Supporting evidence was given by medical witnesses – including the Commonwealth Military Medical Officer for the region.³² Under the influence of mining interests the Commission refused to prohibit piecework.³³ In a number of countries like Australia unions campaigned vociferously against piecework not only in the 19th century but also in the 20th century when the arbitration system had set effective minimum ‘living’ wages, thereby discouraging the most rapacious forms of piecework.

Establishing standardised regimes governing hours and wages, and restricting the subcontracting and home-based work associated with sweating did not, as Ethel Osborne’s report³⁴ into the clothing trade demonstrated, eliminate the intensely arduous and hazardous work experienced by female factory operatives. However, it did remove the worst abuses of the sweating system and the more diabolical threats to health this posed.

Self-Employment and Invisible Casualties

Informed medical observers of the time, noted a high incidence of suicide amongst street sellers, hawkers and commercial travelers – presaging the current growing interest in the connection (albeit complex) between social isolation, precariousness and suicide. For example, in 1892 Arlidge quoting Ogle’s actuarial table of mortality by occupation stated that they

are harassed by uncertain gain, and are often in great straits for the means of living ... The frequency of death by suicide is remarkable. It is greater than any other section of employed people and may be partly accounted for by the misery that waits upon non-success and the maddening influence of drink.³⁵

Are You Being Served? From Excessive Hours to Contingent Jobs and Multiple Job-Holding

As noted earlier, by the 1890s there was a well recognised connection between long working hours and poor health affected a range of occupations (and as the 21st century unfolds researchers are again documenting this connection).³⁶ In the retail trade several informed observers had pointed to serious health consequences of long hours well before this. Edward Flower (1843) argued the high mortality rate amongst shop assistants was not apparent to customers because assistants were dismissed and sent home when they grew pale and sickly.³⁷ In 1884 Thomas Sutherst (a barrister) published a book entitled *Death and Disease Behind the Counter* and in 1893 Dr Bowrie told a committee of the House of Lords that 38% of shop assistants suffered from consumption.³⁸ The Australian colony of Victoria became the first jurisdiction to mandate shop trading hours following a Royal Commission into shops (1882-83).³⁹ Like British inquiries, the Royal Commission took considerable evidence from medical practitioners (twelve were interviewed) on the effects of long hours on the health of shop assistants. Almost without exception these medical witnesses pointed to serious consequences, including exhaustion/fatigue, digestive disorders, neuralgia, minor glandular enlargements and the use of stimulants. Particular concern was expressed for the health of saleswomen and young workers, as well as the excessive use of gas lighting in shops.⁴⁰ The Commission found the medical evidence alone provided a compelling case for restrictive legislation.⁴¹ Taking the evidence as a whole, it argued only legislation could achieve a universal and enduring reduction in working hours for shop assistants and recommended an early closing Act be introduced.⁴² As noted above an Act was introduced in 1885 which was then followed in other jurisdictions/countries over the next 30 years (a trend to intervention reinforced by public health concern-inspired laws addressing shop hygiene).⁴³

From 'Coffin Ships' to Contingently-Crewed 'Ships of Shame'

While action to improve passenger ship safety had occurred in the mid 19th century following a series of disasters (still inadequate as the Titanic was to demonstrate) improvements to merchant ships or mixed merchant/passenger ships (then more common) lagged in the face of fierce resistance from ship owners. As well summarised by Jones,⁴⁴ the combination of cost cutting in construction and maintenance, using aged-ships with serious structural flaws, overloading, poor rations/accommodation, and under-manning were common practices that resulted in mortality amongst seamen that exceeded all other occupations (including miners) for much of the 19th century.⁴⁵ The term 'coffin ships' was popularised in the media of the times, including a series of grim cartoons, with good reason. To this death toll could be added a high incidence of injury and illness, as even a cursory examination of ship's logbooks and other documents required by British government from the mid 19th century and now stored at the Maritime History Research Centre at Memorial University, Newfoundland, would readily attest.

In addition the hazards of overloaded and poorly maintained ships and the fatigue associated with long hours, seamen complained of how under-manning made the work more arduous, dangerous and unhealthy. Samuel Smith, a fireman told the 1891 NSW Royal Commission on strikes that

there have several reductions made in the number of hands employed in the stoke-holds; (8314) they have been reduced to extent of 20 per cent; (8315) such a

reduction does not add to the men's contentment, and it does not increase the safety of the ship; (8316) I have very often known firemen to be disabled; (8317) laid up by sickness or injury. I have sometimes seen three or four men incapacitated; (8317).⁴⁶

Another witness told the Commission that there were not enough seamen to fully man the lifeboats in case of emergency.⁴⁷

While the role of Samuel Plimsoll in fighting the callous disregard for seamen's lives is well recalled in the load line that bears his name (actually more than one line based on the sea being traversed and the season), the importance of seamen,⁴⁸ their unions and some community groups played in bringing about this and other changes is now largely unrecalled. Also largely lost to history is the dogged resistance of shipping interests and their political allies which delayed reforms by more than 30 years (and even then it needed to be extended to the ships of other nations) and arguments that the load line was not practically feasible and would undermine the global competitiveness of British shipping – arguments used to delay/defeat improvements in OHS to the present day – despite contrary evidence.⁴⁹

Further, just as the devolution of rail operations (separating track, maintenance, freight and passenger operations into separate – sometimes multiple – entities and subcontracting activities like maintenance, undid 150 years of hard earned safety knowledge in countries like Britain⁵⁰ and Australia, so were some of the hard won lessons of the 19th century abandoned in the merchant marine. The establishment of 'flag of convenience' and later second register shipping, using contingent third world crews, was a calculated and largely successful attempt to evade regulatory standards built up over many years in relation to safety as well as laws and collective agreements governing the pay, health, comfort and other conditions of merchant seamen. It is essentially analogous to outsourcing or subcontracting of land-based workers.⁵¹

The health and safety outcomes of the now largely 'regulatory' outsourced and contingently crewed merchant marine have been documented the Maritime Research Centre at Cardiff University and a series of government inquiries, including several in Australia. *Ships of Shame*,⁵² the 1992 report of Australian federal government's inquiry stated it had received evidence of unseaworthy ships, poorly trained and falsely certified crews; deficient safety equipment; beating and abuse of seamen; under-payment (often falsified); inadequate food and poor hygiene facilities; seamen being treated as dispensable; classification societies providing inaccurate information or certifying ships rejected by other societies; careless practices by insurers; and 'flag states' Endorsing the observation of one witness that 'behind every substandard ship lies a substandard operator'⁵³ report found that commercial pressures was the major factor promoting the use of substandard ships and unsafe practices.

These problems – a testament to the social consequences of unregulated markets and unfettered competition championed by neoliberalism – are global and they have not improved. The use of 'second' – and second standard – registers by hitherto responsible countries have simply accelerated the literal 'race to the bottom' in terms of safety standards. In 1998 over 20% of the foreign ships checked at UK ports were found to be deficient in food and hygiene standards.⁵⁴ A study of car-carriers by Kahveci and Nichols found that the combination of reduced port-turn around times and staffing levels on ships increased on-board working hours and reduced break-time for seamen (66% of those they surveyed worked more than 72 hours per week). In another parallel with the 19th century (where a seaman's past behaviour – recorded in logbooks and discharge certificates – could

affect new hiring), the propensity of Philippino and other poor-country crews to endure poor conditions without complaint must be seen in the context of the competition for jobs and fears that an adverse report from an officer to crew agencies will result in no further work.⁵⁵

Conclusion

A number of the most critical regulatory and social policy initiatives of the late 19th and first half of the 20th century initiatives were a specific response to problems caused by precarious employment and ‘flexible’ labour market policies. What would now be view as precarious employment was pervasive during the first industrial revolution and it brought with it immiseration and risks to health on a grand scale. From the 1970s a deliberate effort was made to reintroduce precarious employment globally through a variety of devices designed to evade or undermine the regulation and policies that addressed these issues. Many of these devices were not essentially new but a repackaging, re-badging or changes to scale in past practices (like subcontracting or putting out work). We now have evidence that like the earlier period of *Laissez Faire* capitalism a return to flexible work has brought with it a host of health and safety problems for workers and their families.

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Endnotes

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6. In a later section discussing agricultural and town labourers Arlidge notes that absence of detailed evidence on this group but suggests that the poor health outcomes of the latter result from the injurious nature of the jobs they undertook along with ‘their habits, modes of life, dwellings, and their general associations and surroundings.’ *Ibid*, pp. 31&130.
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 20. 'Report of the Lancet Special Sanitary Commission into the Sweating System', *The Lancet*, 7 July 1888, pp. 37-39. See also followings footnotes.
 21. 'The Trades Union Congress on the Abolition of Sweating' *The Lancet*, 15 September 1888, pp. 540-541.
 22. 'The House of Lords Committee on the Sweating System' *The Lancet*, 30 March 1889, pp. 648-649.
 23. The evidence in the first report ran to over 1000 pages. 'The House of Lords' First Report on the Sweating System', *The Lancet*, 29 September 1888.
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 25. *Ibid*, p. 246. In a similar vein *The Lancet* criticised the contracting out of work by the London County Council in 1892, stating that while it could not discuss the economic grounds for of the decision its immediate concern 'as medical journalists, is rather with the bearing which the system has for the requirements of public health'. 'The Sweating Question' *The Lancet*, 15 October 1892, p. 893.
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 39. *Royal Commission on Employes in Shops, Second Progress Report*, 1883, Government Printer, Melbourne,
 40. Minutes of Evidence *ibid.* viii-x.
 41. *Royal Commission on Employes in Shops, op cit.* p. ix.
 42. A majority of Commissioners favoured fixing closing times at 7pm weekdays and 10pm Saturday. The limitations of the law enacted were briefly described above. The 1885 Factories and Shops Act also contained a section on seating (s47) but this placed the onus on the inspector to decide whether seating or rest periods should be provided 'for the preservation of health' rather than specifying when seating should be provided. Consequently, little use seems to have been made of the provision. Legislation passed in 1896 rectified this by requiring one seat for every three employees. *ibid.*, pp. xii-xiii and Quinlan. M & Goodwin, M. (2005), 'Combating the tyranny of flexibility'.
 43. Lescohier, D. 'The campaigns for health and safety in industry' in Commons, J. Ed. *History of Labor in the United States, Volume III 1896-1932*. pp. 359-370 esp 360.
 44. Jones, N. (2006), *The Plimsoll Sensation: The Great Campaign to Save Lives at Sea*, Little Brown, London.
 45. In records one of the authors briefly reviewed it was not unusual to find four to six seamen belonging to a ship being recorded as suffering from sickness during to a visit to a single port in North America. We would like to acknowledge the help of Deborah and the help of the centre in this.
 46. Some companies such as AUSN Co. were seen as worse offenders with regard to deliberate undermanning. The numbers in the quotation refer to the original paragraph numbers. Parliament of New South Wales, *Report of the Royal Commission on Strikes*, 1891, *Precis of Evidence*, p. 205 at paragraph 8312.
 47. Thomas Davis, secretary of the Seamen's Union, *Ibid* p. 201 at paragraph 8177.
 48. Seamen had long resisted serving on ships they regarded as unsafe. Between 1870 and 1872 alone 1638 seamen were gaoled in Britain for refusing to serve on ships they regarded as unseaworthy. Desertion and refusal to work on grounds of unseaworthiness were also common complaints amongst seamen in the Australian colonies throughout the 19th century, as were strikes over other health and safety issues such as poor or rotten rations. Jones, N. *The Plimsoll Sensation*. p. 13; Quinlan M. (1996), 'Industrial Relations Before Unions: New South Wales Seamen, 1830-1860', *Journal of Industrial Relations* and Quinlan, M. (1997), *International Journal of Maritime History*, Quinlan, M. (1997), 'Balancing Trade and Labour Control: Imperial/Colonial Tensions in Relation to the Regulation of Seamen in the Australian Colonies 1788-1865', 19-56.
 49. To her credit, these points are all well-documented in Jones, N. *The Plimsoll Sensation*.
 50. Esbester, M. (2008), 'Administration, technology and workplace safety in Britain in the early 20th century', *Yearbook of European Administrative History*, 20: 95-118; Toombs, S. (2006), *Employee Relations*.
 51. As noted by Kathveci, E. & Nichols, T. (2006), *The Other Car Workers: Work, organisation and technology in the maritime car carrier industry*, Palgrave MacMillan, Basingstoke.
 52. Parliament of the Commonwealth of Australia, (1992), *Ships of Shame: Inquiry into Ship Safety*, Report from the House of Representatives Standing Committee on Transport, Communication and Infrastructure, Australian Government Publishing Service, Canberra.
 53. Nineteenth century British shipowner Edward 'Bully' Bates – scathingly criticised by Plimsoll – would find many kindred spirits in the industry of the late 20th and early 21st century. Appendix 1 of *Ships of Shame* records 45 dry bulk cargo vessels lost between February 1988 and November 1991 – often with all or most of their crew. The vast majority of these ships were registered in third-world 'flag of

convenience' countries, were on average well over 10 years old and sank as a result of major structural failures. *Ibid*, px and Appendix 1.

54. Jones, N. *The Plimsoll Sensation*, p. 295.

55. Kathveci, E. & Nichols, T. (2006), *The Other Car Workers: Work, organisation and technology in the maritime car carrier industry*, Palgrave MacMillan, Basingstoke.