

INDUSTRIALISATION, TECHNOLOGICAL CHANGE AND THE MARITIME LABOUR FORCE : THE BRITISH EXPERIENCE 1800-1914

BY

David M. WILLIAMS

24593

Industrialisation in the nineteenth century had an impact on all aspects of seaborne trade : this paper considers but one aspect and its theme is embodied in the basic question : how did the process of industrialisation affect the maritime labour force? The short answer is, "greatly", for the huge growth in economic activity dramatically altered the pattern of employment and the lot of the seamen. Most obviously, industrialisation gave rise to an expansion of overseas dealings, particularly in long-distance trades, involving an increased demand for shipping and therefore maritime labour. Simultaneously technological advance, an integral element of the industrialising process, was manifest initially through larger vessels, and then the utilisation of iron and the adoption of steam, which served to change the nature of work aboard ship and the make-up of the labour force. Also influencing the position of seamen were some of the longer-run, wider consequences of industrialisation, such as : the growth of government intervention for both economic and welfare reasons ; the development of social and humanitarian concern ; and later, the organisation of workers. This paper considers all these factors, demonstrating the enormous impact of nineteenth-century economic growth upon maritime labour.

The present paper, although touching on industrialisation's effects on maritime labour generally, has as its prime focus the specific experience of Britain. Britain was, of course, the pioneer in industrialisation ; furthermore, the role of overseas dealings in the growth process was greater in Britain than elsewhere. Again, in the nineteenth century Britain was the leading imperialist and major maritime power, and, more particularly, took the innovative role in the exploitation of new technology. It was in the British mercantile marine that the transition from sail to steam occurred soonest and most rapidly¹. Yet, for all these special features, the British experience was merely a stage ahead ; representing a portent of general change. In time, the impact

¹ On the British mercantile marine see Sarah PALMER, *The British Shipping Industry, 1850-1914*, in : Lewis R. FISCHER & Gerald E. PANTING (eds.), *Change and Adaptation in Maritime History : The North Atlantic Fleets in the Nineteenth Century*, St. John's, Nfld., 1985, pp. 87-114, the best contemporary survey is Adam W. KIRKALDY, *British Shipping*, London, 1914.

of the new economic order was to be felt by the mercantile marines of all industrialising nations.

The question posed at the outset – how did industrialisation affect the maritime labour force – is one of enormous breadth. In consequence, in a short survey, some limits must be imposed on the scope of enquiry. In this paper, masters and mates are effectively excluded. The paper concentrates its attention on the mass of maritime labour – seaman –, considering four major aspects of nineteenth-century change. It looks first at the market for seafarers ; considering demand and supply, but not wages, which have been widely studied elsewhere ². Second, it examines the changing nature of labour at sea. Third, having surveyed the size and make-up of the labour force, it considers how such changes were viewed by contemporaries – because industrialisation impinged on attitudes as well as on activity. Fourth, it reviews the relationship of government with maritime labour, tracing the modification and extension of state intervention. All these aspects are interrelated, comprising varied facets of the transformation of maritime labour, albeit incomplete and uneven in its national incidence, which occurred in consequence of industrialisation in the nineteenth century.

I

The most obvious maritime outcome of industrialisation was the increase in seaborne commerce. Before 1914, although the growth of overland trade within Europe was of considerable significance, economic development was essentially a process involving a relationship between a developing Western Europe and, the U.S.A. apart, an underdeveloped world. In this relationship, primary producers offered food and raw materials, and, at the same time, market opportunities for manufactured goods, capital and labour. This new extended pattern of trade, often involving bulk cargo commodities, called for the provision of additional shipping space ³. However, whereas in the past changes in the level of trade had brought about roughly commensurate quantitative changes in tonnages and seamen employed, the increase in dealings associated with industrialisation, though demanding a matching response in terms of output from the shipping industry, did not result in the growth of trade being matched by a comparable increase in the numbers of vessels and men.

This was because industrialisation was not simply a matter of the aggregate advance of output. It was equally a matter of qualitative progress in the technique of

² Lewis R. Fischer and Helge W. Nordvik have published extensively on wages. In this context, see Lewis R. FISCHER, *Seamen in a Space Economy: international regional patterns of maritime wages on sailing vessels 1863-1900*, in : Stephen FISHER (ed.), *Lisbon as a Port Town, the British Seaman and other Maritime Themes*, Exeter, 1988, pp. 57-92 ; see also Jon PRESS, *Wages in the Merchant Navy, 1815-54*, in : *Journal of Transport History*, 3rd ser., II, 1981, pp. 37-52.

³ On the growth of bulk trades see David ALEXANDER & Rosemary OMMER (eds.), *Volumes not Values : Canadian Sailing Ships and World Trades*, St. John's, Nwflnd., 1979.

production, of the better and fuller utilisation and management of resources. Compared with earlier centuries, the business of shipping underwent something of a revolution in the nineteenth century. Speedier voyages, a quicker turn-around in port, larger vessels and more efficient handling were but a few of the options offering an efficiency potential to meet the demands of economic growth. In fact, over time, all these developments occurred, and in terms of man per ton, and man per ton mile per year, the nineteenth century saw enormous gains. Yet such was the huge growth of seaborne traffic that industrialisation nonetheless required an increase in the maritime labour force. The impact on individual nations varied according to the scale and form of a country's overseas dealings, and how far a nation's shipowners achieved greater operating efficiency. Policy too, in the form of Navigation Laws and later subsidies, could influence the pattern of maritime employment. In consequence, the maritime experience of industrialising countries was not uniform, but all received some stimulus to activity and employment.

Assessing what growth occurred in a country's maritime labour force presents difficulties. For once the problem lies not in the absence of statistics, but rather in their reliability and interpretation. The growing nineteenth-century practice of compiling official returns, together with the special attention paid to seamen because of their reservist potential, ensured that most governments engaged in some calculation of the size of their maritime labour force. Such figures, however, are fraught with problems of accuracy of compilation, definition and comparability. Hence, for all their abundance, statistics of seamen often merely flatter to deceive. For the informed observer much careful scrutiny is required and a recognition that in many instances, including the tables in this paper, seemingly precise figures can be, at best, no more than indicators of a trend.

Nowhere is this more true than in the case of Britain. In part the problems of British statistics are those inherent in any attempt to calculate the numbers of a fluid, mobile labour force. The seaman's trade is not one which lends itself to a simple head count on a given day. These difficulties caused early compilers to resort to calculations based either on numbers and tonnages of vessels on the national register, or on vessels entering and clearing national ports in the course of a year. Such approaches, at the very least, tended to result in overcounting. In Britain, the establishment of a General Register Office of Merchant Seamen in 1835, and more especially the creation of a Registrar General of Merchant Seamen in 1854⁴, led to more direct techniques of calculation. Yet, a recent writer concludes that published returns before 1895 "were not true accounts of the numbers employed", and, moreover, that successive attempts to refine figures resulted in "virtually five separate statistical series" between 1849 and 1913⁵. Apart from these problems with the official returns there are also more basic

⁴ N. COX, *The Records of the Registrar General of Shipping and Seamen*, in : *Maritime History*, 2, 1972, pp. 168-188.

⁵ Valerie C. BURTON, *Counting Seafarers : the published records of the Registry of Merchant Seamen*, in : *Mariner's Mirror*, 71, 1985, pp. 305-320.

issues of definition to be considered : should masters be included ? ; should figures be restricted to overseas trade or also include the coastal trade ? ; again, what of the fishing industry ? Peculiarly British problems arise from the fact that colonial registered vessels were often included in "British" statistics as well as from the ambivalent nationality position of lascar seamen ⁶. Clearly, the quantitative approach to the numbers and changing composition of the British maritime labour force requires both caution and qualification for most of the nineteenth century.

Yet, for all the difficulties, there can be no doubt that in Britain industrialisation led to a substantial growth in the numbers of seafarers. The outcome of expansion was a total of 245,824 persons, masters included, employed in United Kingdom registered trading vessels in 1913 ⁷. Sadly, a base figure, early in the nineteenth century, from which growth occurred cannot be stated with such precision. Even so, official statistics of the early 1820s can serve for broad comparative purposes ⁸. The figures, of men and boys employed in U.K. registered vessels, when adjusted to eliminate overcounting and to include masters, suggest an annual average figure of around 120-130,000 for the years 1820-22. On this evidence a doubling of the labour force occurred in the century before 1914. Table 1 indicates the trend in the second half of this period.

Table 1. — Persons employed on U.K. registered vessels
(home and foreign trades), 1854-1913.

Year	Persons employed	Year	Persons employed
1854	162,415	1894	212,890
1864	195,756	1904	227,463
1874	203,606	1913	245,824
1884	199,654		

Lascars and masters excluded prior to 1894.

Source : Tables on Progress of British Merchant Shipping, *PP*, 1900 (218), LXXVII, 52 ; Annual Statements of Navigation and Shipping for the years 1894, 1904 & 1913.

However approximate the estimate, what is significant is that the growth of the labour force was of a small order compared with other indices of maritime activity. The volume of British overseas trade rose some twenty-fold between 1820 and 1913, and in the same period U.K. registered tonnage increased from 2,439,000 to 12,120,000 tons ⁹. Placed alongside such rises the increase in labour was modest

⁶ Conrad DIXON, *Lascars : the Forgotten Seamen*, in : Rosemary OMMER & Gerald E. PANTING (eds.), *Working Men who got Wet*, St. John's, Nwflnd., 1980, pp. 263-281.

⁷ *Parliamentary Papers* [hereafter *PP*], Annual Statement of Navigation and Shipping for the year 1913.

⁸ *PP* 1823 (434), XIII, 545.

⁹ See tables relating to trade and shipping in B. R. MITCHELL & Phyllis DEANE, *Abstract of British Historical Statistics*, Cambridge, 1962.

indeed and points to significant advances in manning efficiency. This is apparent from Table 2, which, though taken from the official returns, should be viewed as merely indicating a trend. The table reflects significant reductions in manning ratios in both sail and steam¹⁰. In sail these probably commenced in the post-Napoleonic wars period and were linked primarily to an increase in the size of vessels, though improvements in handling techniques were also significant. More dramatic still were the falls in manning ratios in steam; vessel size was important here too, and also the refinement and sophistication of steamship technology.

Table 2. — Tonnages, men and proportions per 100 tons of vessels registered in the U.K. returned as employed in home or foreign trade.

Year	Sail			Steam		
	Tons	Men	Men/100 tons	Tons	Men	Men/100 tons
1854	3,516,456	146,522	4.17	212,637	15,894	7.47
1860	3,852,245	145,487	3.77	399,494	26,105	6.53
1870	4,519,141	147,207	3.25	1,039,969	48,755	4.67
1880	3,750,442	108,668	2.90	2,594,135	84,304	3.25
1890	2,893,572	84,218	2.91	5,021,764	151,890	3.02
1899	2,117,975	54,333	2.57	7,128,659	189,802	2.66

Source: Tables of Progress of British Merchant Shipping, *PP*, 1900 (218), LXXVII, 1.

The relatively small proportionate increase in labour compared with the volume of business and the fall in manning ratios must, however, not be allowed to obscure the sizeable increase in the number of seafarers. The approximate doubling of the labour force represented an increment of some 100,000 workers in maritime employment. Enquiring where these additional workers came from might seem superfluous; many other industries experienced far greater increases; again, a demographic explosion accompanied industrialisation. But seafaring is a residual occupation: as Capt. Robert Methven observed in 1854, "while there is a market for labour at home and in the colonies, the sea with its particular drawbacks, will not be much in favour, there is one stereotyped answer to the query of how it is liked, that 'to break stones is better'"¹¹. The British experience in the nineteenth century lends support to this view that recruitment had its problems. Two features stand out. First, a high turnover of labour; an enquiry by Liverpool Shipowners suggested an annual wastage rate of around 10% in the early 1870s¹². Second, the growing presence of non-British seafarers within the labour force. From the mid-century foreigners and "lascars and other Asiatics" — a group whose nationality status was never wholly clear — were

¹⁰ A number of papers examining the issue of manning levels are contained in *Working Men who got Wet*, eds. OMMER & PANTING.

¹¹ *The Mercantile Magazine*, I, July 1854, p. 259.

¹² Thomas BRASSEY, *British Seamen*, London, 1877, pp. 1-4 and 35-39.

increasingly employed. By 1891 these two categories comprised 26% of persons employed on U.K. registered vessels, and in 1911, 34%, with lascars alone representing a fifth of the labour force¹³. Many contemporaries viewed this reliance on foreign workers with alarm.

II

For all the growth it engendered, however, industrialisation's greatest impact was on the nature of maritime labour. At the beginning, and indeed until the middle, of the nineteenth century, the pattern of employment was standard and basically simple. The vast majority of those employed at sea were seamen, working on and above deck, engaged in sailing the vessels. Crew composition was uncomplicated, comprising some, or all, of: boys, apprentices, ordinary and able seamen, and the specialised functions of carpenter, sailmaker and cook. The ship's cook apart, and in a few trades involving cabin passengers which required stewards, all crew members were seamen in the strict sense of the word. So too were the ship's "officers", masters and mates, most of whom would have had deck experience earlier in their careers.

This typical and relatively uniform pattern of employment in sailing ships changed little during the nineteenth century. The average crew increased in size consequent on the introduction of larger vessels; again, there may have been additional mates per vessel. Within crews the proportion of apprentices and able seamen probably declined, in the former case owing to the relaxation of legislative requirement and in the latter to the introduction of devices facilitating sail handling. Overall, the seaman of 1800 mythically projected forward one hundred years, though looking in surprise at iron hulls, wire rigging and donkey engines, would not have found things so very different in a sailing vessel in 1900. A steamship would have been a very different proposition, for steam led to changes in the form and place of work, the duration of service, and the pattern and hierarchy of crew composition. For much of the nineteenth century such new and different conditions affected a minority of the seafaring labour force, but from the mid-century, in Britain, the transition was relatively swift. Steam accounted for around 20% of sea-going employment by the early 1860s and around half in 1880. By 1911 over 94% of persons employed on registered vessels were in steam. Table 3, albeit with some unavoidable shift in terms of reference, shows the pattern of change from 1851 to 1911.

The impact of steam was manifold: one consequence was that of the shorter duration of voyages which changed the life patterns of many seafarers. But perhaps steam's most important effect was the creation of a below-deck labour force. Supervising engines, feeding boilers and trimming bunkers required large numbers of men whose work was entirely new in form and place. Indirectly, steam saw the expansion, if not the actual creation, of a further class of below-deck workers, namely

¹³ BURTON, *op. cit.*, p. 318.

Table 3. — Employment in sail and steam
(percentages of persons employed on U.K. registered vessels).

(On fishing & trading vessels)			(On trading vessels only)		
Year	Sail	Steam	Year	Sail	Steam
1851	92.5	7.5	1886	36.9	63.1
1861	84.3	15.7	1891	29.2	70.8
1871	70.6	29.4	1901	16.9	83.1
1881	52.8	47.2	1911	5.7	94.3

Masters and lascars excluded pre-1890, thereafter included.

Source : *PP*, Annual Statements of Trade and Navigation : Annual Statements of Navigation and Shipping.

cooks and stewards. The huge increase in vessel size, particularly of steam vessels, led to much larger crews — often exceeding 100 persons, which had to be fed and serviced. Even more so, the growth of passenger traffic, stimulated by industrialisation and facilitated by the enhanced reliability, speed and comfort of steam liner services, swelled the need for catering, cleaning and service staff. Unlike earlier steerage emigrants, cabin passengers necessitated a specialist group of workers including an unprecedented female element, stewardesses. The outcome of these developments was that in the British merchant marine, from the 1850s, an increasing proportion of the labour force worked below deck. Around 1900, almost half the labour force fell into this category, and by 1911 such labour represented the majority.

Thus the technological revolution of steam resulted in the deck-working seaman, the typical and virtually only form of seafaring labour in the pre- and early industrialisation era, reduced to but one element of the new labour force. This now embodied a range of divisions. Apart from the traditional split between officers and men, workers were now divided on the basis of above and below deck, between those employed working the vessel and its engines and those serving crew and passengers. There were now four basic elements in the labour force : officers, seamen, engine/boiler room workers and service staff. Table 4 presents a broad profile of the labour force employed in U.K. registered vessels at the turn of the century.

Table 4. — Job specifications per hundred seafarers employed on U.K. registered vessels 1891 and 1911.

		1891	1911
Above deck :	masters, mates, petty officers	21.9	18.3
	seamen	35.6	22.8
	boys and apprentices	3.9	2.6
Below deck :	engineers	7.4	10.6
	firemen, trimmers etc.	16.5	23.3
	cooks, stewards/-esses	12.3	20.0
Others :	surgeons, pursers and others	2.4*	2.4

All figures exclude lascars ; * includes 0.7 for whom no occupation was stated.

Source : compiled from a table in V. C. BURTON, *Counting Seafarers*, in : *Mariners' Mirror*, 71, 1985, p. 315.

This new pattern of labour with its more complex structure had a variety of implications, many of which have not yet been fully explored in the British context and are beyond the scope of this short survey. One such is that of relationships between the various groups of workers in the labour force. How far seafarers, working at very different tasks and in separate locations, mixed with each other off watch or ashore; how they regarded their relative status, and the nature of the hierarchical structure within the crew as a whole and within its constituent groups, are all questions meriting further research¹⁴.

At one level, that of engineer officers, important work has been undertaken¹⁵. The findings show that engineers, though clearly professional, did not readily gain the recognition of deck officers. The engineer's work place — divorced from other officers; his working dress; the nature of his duties, skills, and outlook were very different and set him apart. Moreover, deck officers, with a long-held and closely defined view of their role and status, were reluctant to accept the engineer as an equal and brother officer. This issue, of an elite being forced to make an accommodation, presented even greater problems in the Royal Navy. How far, in the mercantile context, the tensions apparent at the officer level were present in the relationship between above- and below-deck crew members is uncertain. Perhaps less so, as both groups, in employment market terms, shared a common vulnerability. That this community of interest was recognised is apparent in the title of the first effective seafarers union, the Sailors and Firemens Union, whose leader, Havelock Wilson, was to gain a high public profile and considerable political influence¹⁶. The formation of the Union was in great measure made possible by steam, which facilitated organisation through the concentration of workers.

Technological change in the form of steam thus reshaped the nature of work at sea and the composition of the labour force. For all their imperfections, the statistics clearly demonstrate the trends and the speed of the transformation. By the turn of the twentieth century, as far as the British mercantile marine was concerned, the typical seaman of a century, and indeed centuries, earlier was almost an anachronism.

III

Although the reactions of seafarers to the new forms and patterns of their work, and that of their fellows, are not fully known, those of Victorian observers — shipowners, masters, politicians, consuls in foreign ports, naval men and commentators — are readily available. The changes in the labour force examined above, and

¹⁴ An important discussion of some of these issues in a modern context is to be found in Tony LANE, *Grey Dawn Breaking, British Merchant Seafarers in the Twentieth Century*, Manchester, 1986, esp. pp. 151-180.

¹⁵ H. CAMPBELL McMURRAY, *Ships' Engineers: their status and position on board, c. 1830-65*, in: Stephen FISHER (ed.), *West Country Maritime and Social History: Some Essays*, Exeter, 1980.

¹⁶ Joseph HAVELOCK WILSON, *My Stormy Voyage through Life*, London, 1925.

the statistics which chart their course, were both visible and accessible to contemporaries, who viewed them with disquiet. From the mid-century there was mounting concern over the issues of the quality and recruitment of maritime labour¹⁷. In part such concern stemmed from special, though not wholly exclusive British factors, such as the Royal Navy's view of the mercantile marine as a reserve, and hence alarm at the growth of foreigners within the labour force. However, there was also the more general aspect of long-held traditional views and standards being shaken by technological advance.

To contemporaries, the most disturbing feature of the changes within the maritime labour force was what they saw as a decline in seamanship. Capt. A. P. Ryder, R. N. and S. R. Graves, a Liverpool shipowner, authors in 1860 of *A Letter on the National Dangers...*, observed "as a most serious evil, the deterioration of the Seamen in the Merchant Marine ... [which] is universally admitted"¹⁸. This perceived deterioration had two dimensions, the smaller proportion of "traditional" seamen within the labour force, and amongst the men in this category a decline in seamanly skills and behaviour¹⁹. The alarm over both aspects is of interest, because it reveals the very real problems of modifying entrenched views and opinion. Because traditionally the maritime labour force had almost exclusively been comprised of seamen, the increasing departure from this was deplored. Even more indicative of the difficulty in coming to terms with new circumstances was the issue of seamanly skills. While there was virtual unanimity that these had declined, identifying the features of decline and indicating the skills that needed to be regained posed a problem of definition. In a sense, in the past, when sail alone prevailed, there had been no need for a definition; the duties and role of the seaman had seemed obvious enough. Thus, the mid-century, an era when technological change was radically altering what was required of maritime labour, saw concerned observers endeavouring to define the seaman's skill. In such efforts, almost all, through conservatism and an inability to grasp the pace of change, looked backwards rather than forwards.

From this belief in deterioration came concern over recruitment; on the one hand the increasing presence of foreigners and, on the other, the insufficiency of suitable young recruits. The level of interest in these matters can hardly be overestimated. The "manning question", as it came to be known, was an ever-present theme of debate and agitation at the highest level until World War I and even beyond²⁰.

¹⁷ Henry TOYNBEE, *The Social Condition of Seamen*, London, 1866; *Report of the Committee of the Society for improving the Condition of Merchant Seamen*, London, 1867; Thomas BRASSEY, *Our Reserves of Seamen*, London, 1872; James MALLEY, *Our Merchant Ships and Sailors*, London, 1876; William S. LINDSAY, *Manning the Royal Navy and Mercantile Marine*, London, 1877. These items represent but a fraction of the mid-century debate over seamen.

¹⁸ Alfred P. RYDER & S. R. GRAVES, *A Letter on the National Dangers which result from the Great Deterioration in the Seamen of the Mercantile Marine*, London, 1860.

¹⁹ Some indication of the extent of concern over "deterioration" can be gained from the opening chapter of BRASSEY, *British Seamen*, pp. 1-34.

²⁰ On the general issues of manning see Stephen JONES, *Blood Red Roses: the supply of merchant*

How far there were real problems of deterioration and recruitment is too involved an issue for this paper. Probably, though the quality of labour overall may have declined, concern was exaggerated. It might be noted, however, that similar views were expressed in connection with the United States' and Canadian mercantile marines²¹. But whether beliefs were valid or otherwise, contemporaries demanded measures to restore skills, reduce the foreigner presence and to ensure an adequate naval reserve. The solution was seen to lie in attracting more boy entrants, through either training ships or some form of apprenticeship scheme. Yet for all the agreement on the means to bring about improvements, neither an apprenticeship scheme nor an adequate training-ship programme was established. Cost was the stumbling block: government refused finance, arguing that it was not "the duty of the state to educate seamen for the mercantile marine"²², whilst shipowners claimed the costs involved in carrying apprentices to be too great for them to bear unaided.

In the event, then, concern over the changed character of labour was not so great as to bring about what were seen as remedial measures. Most telling is the refusal of shipowners to act on what they claimed was a real problem; this suggests that they were prepared to accept the labour market as they found it. Supplies of adequate, if not ideal, labour were available at a price they were willing to pay. This pragmatism together with the negative stance of government, and the knowledge that the British merchant marine did not encounter major labour supply problems, might suggest that the concern over labour was misconceived and, in practical economic terms, irrelevant. Yet the matter is vital to our understanding of the response to the changes engendered by industrialisation; such was the pace of change that contemporaries found it hard to adjust long-held attitudes. Thus, decades after the seaman's role and work form had been transformed, the mental image of the seaman remained rooted in an earlier era and was increasingly conceived of in emotional and even romantic terms. Ironically so, as steam forced sail to retreat to difficult long-distance routes²³.

IV

The lack of action on the "manning" issue could be seen as the exception in the context of government involvement with maritime labour. Traditionally, government had viewed maritime labour as requiring attention because of its special character and national importance²⁴. As the mid-nineteenth century social commentator Henry

seamen in the nineteenth century, in: *Mariner's Mirror*, 58, 1972, pp. 429-444; Eugene L. RASOR, *Reform in the Royal Navy*, Hamden, Conn., 1976.

²¹ Henry Fry and John W. Goin, in Canada and the United States respectively, were leading spokesmen on the issue of maritime labour.

²² *Hansard's Parliamentary Debates*, 3rd ser., 213, 1872, p. 132.

²³ Robert D. FOULKE, *Life in the Dying World of Sail 1870-1910*, in: *Journal of British Studies*, 3, 1963, pp. 105-136.

²⁴ Conrad DIXON, *Legislation and the Sailor's Lot, 1660-1914*, in: Paul ADAM (ed.), *Seamen in Society*, Proceedings of the International Commission for Maritime History, Bucharest, Yugoslavia, 11-12 August 1980, 3, pp. 96-106.

Mayhew observed, "the reckless and improvident character of sailors, and the peculiar nature of their service, have long induced both the legislature and Courts of justice to treat them differently from other labourers"²⁵. For such reasons, state intervention in the merchant service was already considerable by the early nineteenth century but industrialisation served to modify and extend government action.

The impetus for increased state involvement in the Victorian era came from a variety of sources. Industrialisation was not the sole factor; influences such as new attitudes to the role of government, humanitarianism and strategic considerations were important. Nevertheless, industrialisation, both directly and indirectly, caused government to rethink its stance towards seamen. At the most general level, the expansion and growing importance of shipping business required that the labour force of this vital sector be considered. More specifically, for example, the need to ensure minimum standards for passengers in the emigrant trade led in turn to measures relating to seaman's welfare²⁶. Again, the dangers associated with the new technology of steam – explosion, fire, collision at greater speeds – prompted safety and accident prevention measures. In other areas the stimulus to intervention was divorced from the maritime. Thus, government concern over employment conditions in factories and workshops, epidemic disease and public health, food adulteration and sanitation – all problems of an urbanising, industrial nation – was recognised as having a maritime dimension also.

On all such issues it must be said that British governments, imbued with the doctrine of "laissez-faire", were often reluctant legislators, acting only, and then in a limited fashion, in response to the pressure of circumstance or reforming interests. Nevertheless, the ultimate outcome was that government came to involve itself more and more with maritime labour and that the emphasis shifted from being concerned chiefly with discipline and control to embracing safety and a more genuine interest in welfare. As a result of industrialisation and the more enlightened views on social responsibility which came in its wake, government was to enact measures which benefited the seamen. Safety at sea, protection from exploitation ashore, and better standards of accommodation, diet and health were the chief areas of advance.

It was on the matter of safety at sea that action first occurred. Official enquiries, nominally into shipwreck but in fact ranging over a much wider spectrum of maritime affairs, were held in 1836 and 1843²⁷. Little immediate action resulted but some of these Committees' recommendations were put into effect in the mid-century. More significantly, in 1850 the Marine Department of the Board of Trade was set up²⁸. This

²⁵ This quotation appears in Letter 40 of Mayhew's series of letters on Labour in London, *Morning Chronicle*, London, 7 March 1850, p. 5.

²⁶ Oliver MACDONAGH, *A Pattern of Government Growth 1800-60*, London, 1961.

²⁷ Select Committee on the Causes of Shipwrecks, *PP*, 1836, XVII; Select Committee on Shipwrecks, *PP*, 1843, IX.

²⁸ On the early years of Marine Department see Peter G. PARKHURST, *Ships of Peace*, New Malden, 1962.

was to be the administrative body which oversaw all measures pertaining to the mercantile marine. One of the Department's first acts was to create a Wreck Register, thereby ensuring more accurate information on maritime disasters. It must be said that for the first thirty years or so of its existence the Department was run by officials whose commitment to "laissez-faire" made them the enemies rather than the friends of seamen²⁹. This was only too apparent in the early 1870s during Plimsoll's load line agitation and campaigns over hazardous cargoes, but from 1871 seamen had the right in theory to demand surveys of possible "unseaworthy ships", and 1876 saw the first load line legislation³⁰. In both these areas, however, it was only in the early 1890s that there was what might be deemed satisfactory provision, but the ultimate effect was to create safer conditions for seamen and thus a gain in welfare terms.

Seamen afloat faced the ever-present dangers of sea and elements; ashore, no less predictably, they were at the mercy of what Dickens termed "a host of devourers"³¹ – boarding house keepers, prostitutes, crooked outfitters, and above all, the crimp for whom the seaman with his accumulated back pay and advance note potential represented a plunderable asset³². In fairness it must be said that not all interpretations of the crimp's role see him as a corrupt parasite, but the business lent itself to exploitation³³. Crimping probably gained some stimulus from the increased demands for labour, particularly in the mid-century, and its scale and abuses provoked concern amongst social reformers, religious bodies and the police. Early attempts at control were unsuccessful but from 1878 came measures which, by safeguarding seaman's earnings and denying crimps access to seamen, effectively ended crimping in British ports³⁴. Alongside such moves to limit exploitation were the more positive efforts of the Sailors' Home movement. Commencing in 1828 with a home in London, the movement, gaining impetus from philanthropy, temperance and evangelicism – all aspects of the new social conscience – came to offer a wholesome alternative to traditional, less seemly accommodation³⁵. Thus official and voluntary

²⁹ Thomas Farrar, Permanent Secretary of the Board of Trade, and Thomas Gray, Assistant Secretary for the Marine Department, were both advocates of "laissez-faire" principles. Gray's entrenched attitude is clearly expressed in his pamphlet, *Mercantile Marine Legislation*, London, 1866.

³⁰ David M. WILLIAMS, *State Regulation of Merchant Shipping 1839-1914: the Bulk Carrying Trades*, in: Sarah PALMER & Glyndwr WILLIAMS (eds.), *Chartered and Uncharted Waters*, London, 1982, pp. 55-80; Geoffrey ALDERMAN, *Samuel Plimsoll and the Shipping Interest*, in: *Maritime History*, I, 1971, pp. 73-95; Neville UPHAM, *The Load Line - A Hallmark of Safety*, London, 1978.

³¹ Charles DICKENS, *The Uncommercial Traveller*, first publ. London, 1860, Oxford, U.P. ed. 1958, p. 51.

³² Sarah B. PALMER, *Seamen Ashore in Late Nineteenth Century London: protection from crimps*, in: Paul ADAM (ed.), *Seamen in Society*, cit. supra, pp. 56-76.

³³ Judith FINGARD, *Jack in Port: Sailortowns of Eastern Canada*, Toronto, 1982; Conrad DIXON, *The Rise and Fall of the Crimp, 1840-1914*, in: Stephen FISHER (ed.), *British Shipping and Seamen, 1830-1960: Some Studies*, Exeter, 1984, pp. 49-67.

³⁴ PALMER, *Seamen ashore*, cit. supra, pp. 61-63; DIXON, *Rise and Fall*, cit. supra, pp. 59-66.

³⁵ Alston KENNERLEY, *Seamen's Missions and Sailors' Homes*, in: Stephen FISHER (ed.), *Studies in British Privateering, Trading Enterprise and Seamen's Welfare, 1775-1900*, Exeter, 1987, pp. 121-165.

action endeavoured to protect the homecoming seamen, though how much this paternalism was appreciated, and its provisions resorted to, is debatable.

In the long run seafarers may have been more grateful for measure to improve conditions afloat. Accommodation, health and diet were areas where the barest minimum was the traditional standard. Here, responses to some of the wider problems of industrialisation gave an impetus to action. Such issues as public health (and the dreaded cholera was of overseas origin); industrial and occupational diseases, of which scurvy was a prime example; housing, with the need for adequate and sanitary provision; and mid-century concern over diet and food adulteration – all had a relevance in a maritime context. The outcome was action, first in the 1860s, laying down statutory accommodation standards, recommending dietary scales, enforcing anti-scorbutic measures, and ensuring some limited shipboard medical provision³⁶. By no means were these initial measures wholly satisfactory, but they represented an acceptance of responsibility by government which was translated into more meaningful effect by legislation in 1905 and 1906³⁷.

Industrialisation, technological advance and the changing role of government all contributed to make the seafarer's lot increasingly influenced by regulation. While the seafarer's terms of service – his contractual obligations and disciplinary issues – were still government's paramount concern, afloat, and to some extent ashore, the state intervened to safeguard and to ensure minimum standards. In destroying old routines and practices the new economic and social order simultaneously promoted more positive approaches to the peculiar problems of life and work at sea.

V

The transformed British maritime labour force of the late nineteenth century was the outcome of elements embodied in economic advance. As such, the British experience was ultimately common to the merchant marines of all nations which underwent industrialisation. Yet the British experience was slightly different and presents certain contradictions in matters of timing and the impetus for change. These stem from the dating of the two key elements which affected shipping and maritime labour – industrialisation and technological change. The latter, in respect of iron and steam, occurred in the mid- and later nineteenth century. So too did industrialisation for most western economies. Britain with her late-eighteenth-century early start was an exception. In Britain, industrialisation, or rather its early stages – “the industrial revolution” or “take-off” – occurred before, and not alongside or after, the com-

³⁶ 30 & 31 Vict. C. 124. A useful general survey of mid-century shipping legislation is the “Report of the President of the Board of Trade on recent legislation concerning merchant ships and seamen”, *PP* 1876 (C. 1398), LXXVI, 333.

³⁷ David M. WILLIAMS, *The British Government and Merchant Seamen: Efficiency and Welfare, 1870-1914*, in: *Proceedings of the 8th Naval History Symposium* held at Annapolis, Maryland, 1987, forthcoming.

mencement of the decisive technological changes in shipping. Hence, whilst one might rightly claim that the transformation of British shipping and labour force occurred sooner and more swiftly than in the case of any other mercantile marine, the time period between the onset of industrialisation and the completion of these changes was over a century, longer in fact than that required by other nations. Linked with this observation, and the evidence of this paper that the great changes in the maritime labour force occurred only after 1850, two other comments can be made. First, that in Britain the opening sixty or seventy years of industrialisation, while increasing employment, had no radical impact on the form or pattern of maritime labour. Second, following on from this, in the British case, it was technological change, rather than the increase in trading activity brought about by industrialisation, which was the key element in the transformation of labour.

Such comments, however, are merely qualifications ; industrialisation until the very late-nineteenth century was essentially a matter of the greater exploitation of coal, iron and steam, and with this the achievement of a sustained higher growth rate. The result, in the sphere of maritime labour, was to expand the sector, but more especially to dramatically alter the nature of work aboard ship and the constitution of the labour force. In Britain, the pace of such changes following the set pattern of previous centuries was difficult to accommodate and, in consequence, anachronistic, idealistic views of the seaman's character and function died hard. Yet, under the pressure of circumstance and the social attitudes engendered by industrialisation, government came to accept new responsibilities for the welfare of the seafarer. The ultimate outcome of industrialisation, in the British instance, was that maritime labour was to experience a greater and fuller measure of change than any other sector of workers, with perhaps the exception only of the textile industry. At the same time the seafarer, above all workers, came to be the greatest recipient of government intervention. As a description of the measure of economic and social change experience by seafarers in the nineteenth century, "revolutionary" is for once not inappropriate³⁸.

³⁸ I am grateful for the constructive comments on this paper of my colleague at Leicester Dr. P. L. Cottrell.