

University of Strathclyde  
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History

The Civilian Body in Wartime: Occupational  
Health and Safety on Clydeside during the Second  
World War.

A thesis presented in the fulfilment  
of the requirements for the degree of  
Doctor of Philosophy

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## **Abstract**

This thesis investigates occupational health, safety and welfare in industry in the Clydeside region during the Second World War. This area of occupational health history has been significantly under-researched, and so this thesis addresses this apparent neglect whilst adding to the existing debate concerning masculinities and femininities in the workplace. The thesis is presented thematically and draws on a wide variety of both primary and secondary source material in uncovering working conditions, safety and medical provision, protective clothing, industrial health and worker attitudes to risk and danger in the workplace. The results of interviews conducted with men and women who worked in the Clydeside area during the Second World War, along with pre-existing oral history studies, have proved illuminating and have added much to this analysis of health and safety at work on Clydeside during the Second World War.

It is argued that there was a deterioration in occupational health and safety standards on Clydeside during the Second World War, followed by some amelioration. What is apparent however, is that wide variations existed in regards to health, safety and welfare conditions within the Clydeside area. This research also demonstrates both male and female workers responses to occupational health and safety issues in a traditionally masculine working environment during wartime.

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<b><u>Chapter One: Introduction &amp; Historiography</u></b>	

This thesis explores the impact of wartime work on the bodies of civilians, both male and female, in Clydeside between 1939 and 1945. This will be accomplished by examining workers' experiences and representations of occupational health and safety in Clydeside during the Second World War as well as an analysis of archival and documentary evidence. This research will consider whether the Second World War could be regarded as a watershed in occupational health and safety provision. It will primarily examine health and safety in the Reserved Occupations and heavy industries in and around Clydeside, including shipbuilding and repairing, coal mining, iron and steel making, engineering, munitions, chemicals, dock work and textiles, as well as

analysing the apparent growing attention focused on occupational health and safety during the Second World War by both trade unions and the government.

This chapter provides an introduction to the history of work in Scotland during the Second World War, as well as a review of the existing literature and a discussion of the methodology. The main body of this thesis will consist of four chapters. Chapter two will consider the politics of occupational health and safety; outlining existing legislation and best practice prior to the outbreak of the Second World War and the key changes in legislation and occupational health and safety provision during the war years. This will allow for the ensuing three chapters to examine the following topics; working conditions, accidents and safety and industrial health. These three chapters will rely heavily on evidence gathered from oral testimonies in order to analyse the lived experience of the Clydeside workforce during the Second World War, although it is important to mention that archival and documentary evidence will also be utilised. It will analyse the well-being, protection and welfare of wartime workers on Clydeside through analysis of oral testimony and archival sources.

### Historiography

Despite increasing interest in the history of work, and in particular occupational health and safety, workplace health and safety in Scotland during the Second World War has rarely been the subject of any systematic research, with the exception of Johnston and McIvor's article on 'The War and the Body at Work'.<sup>1</sup> In addition to this, studies of the Second World War have traditionally often neglected the

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<sup>1</sup> R. Johnston, & A. McIvor, 'The War and the Body at Work; Occupational Health and Safety in Scottish Industry 1939-1945' *Journal of Scottish Historical Studies*, Vol 24, No.2, 2004, pp.113-136.

Reserved Occupations,<sup>2</sup> instead focusing more on women's war work and the military experience.<sup>3</sup> Jones has stated that 'much of the public ritual of remembering the war in Britain focuses on those in uniform.'<sup>4</sup> Much of the focus of historical study during the war years centres on the broken or damaged bodies of soldiers. The 'wounded soldiers of industry', to borrow Bartrip's phrase concerning the workforce of the nineteenth century,<sup>5</sup> have been hitherto omitted.<sup>6</sup> In particular there has been a lack of research into wartime occupational health and safety in Scotland. This thesis will address this lacuna by examining the experiences of the wartime civilian workforce in the Clydeside area.

The study of the impact of war work upon the body has been the subject of some study. For example, articles by Johnston and McIvor (on Scotland), Waldron (on England), and Hepler (on the USA), and Long's study of industrial health in factories across the period 1914-1960.<sup>7</sup> Johnston and McIvor's article neglects the female workforce, something which this thesis aims to address. Moreover, Waldron's focus is restricted to England. He argues that industrial medicine played a large part in the Second World War and that there was much enthusiasm for the subject beginning in

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<sup>2</sup> This is with the exception of more recent works such as; L. Robb, 'Fighting in their Ways?: The Working Man in British Culture 1939-1945.' (Unpublished PhD Thesis) University of Strathclyde, 2012, p.84; A. Chand, 'Conflicting Masculinities? Men in the Reserved Occupations in Clydeside, 1939-1945' *Journal of Scottish Historical Studies*, (November 2014), p.219.

<sup>3</sup> P. Summerfield, *Reconstructing Women's Wartime Lives* (Manchester: Manchester University Press, 1998); P. Summerfield, *Women Workers in the Second World War: Production and Patriarchy in Conflict* (London: Croom Helm, 1984); M. Nicholson, *What Did You Do in the War, Mummy? Women in World War II* (London: Chatto and Windus, 1995); J. Crang, *The British Army and the People's War 1939-1945* (Manchester: Manchester University Press, 2000); D. Fraser, *And We Shall Shock Them: The British Army in the Second World War* (London: Hodder and Stoughton, 1983); P. Higate, *Military Masculinities, Identity and the State* (Westport: Praeger, 2003); E. Newlands, *Civilians into Soldiers: War, the Body and British Army Recruits, 1939-45* (Manchester: Manchester University Press, 2014).

<sup>4</sup> H. Jones, *British Civilians in the Front Line: Air Raids, Productivity and Wartime Culture, 1939-1945* (Manchester: Manchester University Press, 2006), p.134.

the inter-war period and continuing into the war years. Despite this, his article fails to analyse the impact of injury or illness sustained through employment upon the individual, instead concentrating on the development and research of various committees such as the Industrial Health Research Board (IHRB) and on accident rates. This has resulted in the omission of study into the impact of illness and disease caused by the working environment. Hepler's article, which focuses on American women, demonstrates that in the US context, women were less resistant to measures to improve health and safety than men. Hepler highlights how health and

<sup>5</sup> P. Bartrip, & S. Burman, *The Wounded Soldiers of Industry: Industrial Compensation Policy 1833-1897* (Oxford: Clarendon Press, 1983).

<sup>6</sup> It should be noted that this claim was made in 1983, and much research into industrial workers & occupational health and safety has been done since then, however the study of occupational health and safety with regard to wartime industrial workers in Scotland has remained somewhat neglected. <sup>7</sup> R. Johnston, & A. McIvor, 'The War and the Body at Work; Occupational Health and Safety in Scottish Industry 1939-1945' *Journal of Scottish Historical Studies*, Vol 24, No.2, 2004, pp.113-136; H.A. Waldron, H, 'Occupational Health During the Second World War: Hope Deferred or Hope Abandoned?' *Medical History*, Vol.41, 1997, pp.197-212; A.L. Hepler, "And We Want Steel Toes Like the Men:' Gender and Occupational Health During World War II' *Bulletin of the History of Medicine*, Vol.72, No.4, 1998, pp.689-713; V. Long, *The Rise and Fall of the Healthy Factory: The Politics of Industrial Health in Britain 1914-1960* (Basingstoke: Palgrave Macmillan, 2011). safety was gendered, an issue which is engaged with critically in this thesis. Finally,

Long's work focuses on industrial health in factories, which neglects other industrial workplaces such as iron and steel mills and coal mines.

Croucher has produced an important study of engineers during the war, which includes some analysis of occupational health and safety provision in the industry. He argues that working conditions for engineers were poor throughout the war years and that the industry maintained a consistently high accident rate.<sup>5</sup> This study also includes an analysis of women's engineering work during wartime with some mention of health and safety: 'there can be little doubt that women's considerable contribution to the

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<sup>5</sup> R. Croucher, *Engineers At War 1939-1945* (London: The Merlin Press, 1982), p.16.

wider shop floor movement was largely in the field of health, safety and welfare.<sup>6</sup> While useful in providing a broad study of the engineering industry and workforce throughout the Second World War, the issues of occupational health and safety are not adequately addressed in Croucher's work. Furthermore, studies of occupational health and safety in the twentieth century, such as those by Weindling and Rosner and Markowitz, neglect to directly analyse health and safety standards at work during the war years.<sup>7</sup> Not one chapter in Weindling's *A Social History of Occupational Health* analyses occupational health and safety during the Second World War. Rosner and Markowitz's study contains chapters on occupational health and safety in the 1920s and 1930s and further chapters on specific industrial diseases such as asbestos-related health problems, byssinosis and lead poisoning, but effectively skirts the issues surrounding occupational health and safety provision during wartime. Nevertheless, they do demonstrate that, similar to the UK, there was a growing interest in occupational health and safety during the interwar years.<sup>8</sup> The Second World War is only mentioned in relation to health and safety at work in one chapter of this edited collection on worker health in twentiethcentury America, in Levenstein's chapter on 'Labour and Byssinosis'.<sup>9</sup> It therefore fails to adequately address the issues facing health and safety provision in the workplace during wartime. Finally, studies by Bartrip and Burman and Harrison also neglect the years 1939-1945 and focus on the nineteenth

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<sup>6</sup> Croucher, *Engineers At War*, p.262.

<sup>7</sup> P. Weindling,(ed) *The Social History of Occupational Health* (London: Croom Helm,1985); D. Rosner, & G. Markowitz, (eds) *Dying For Work: Worker's Safety and Health in 20<sup>th</sup> Century America* (Indianapolis: Indiana University Press, 1987).

<sup>8</sup> Rosner & Markowitz, *Dying For Work*, pp. ix-xix.

<sup>9</sup> C. Levenstein, D. Plantamura, & W. Moss, 'Labour and Byssinosis' in Rosner & Markowitz, (eds) *Dying For Work*, pp.213-4.

century, while articles by McIvor and Jones focus on the inter-war period.<sup>10</sup><sup>11</sup> However, it is important to mention Bartrip's study of workmen's compensation which comments on the catalytic impact of the Second World War on workmen's compensation legislation, which was later overhauled in 1946 with the National Insurance (II) Act.<sup>12</sup> Therefore, it is clear that this thesis, by analysing occupational health and safety among both men and women in a key industrial area of Scotland during the Second World War, will address a significant gap in the existing literature of workplace health and safety.

Existing studies of occupational health and safety often overlook disease and ill health in favour of analysis of accidents and safety provision. However, this has begun to be rectified in recent years with studies from Johnston and McIvor on coal workers' pneumoconiosis and asbestos-related diseases, and Dembe, who has researched how occupational disorders and diseases come to be recognised as caused by the work environment.<sup>13</sup> Dembe has shown how it can be difficult to classify certain ailments as 'occupational' because they occur in the general population as well. For example, back pain can have multiple causes and is not solely work-related, which can result in medical uncertainty about whether the condition is a result of occupation.<sup>14</sup> Johnston and McIvor have also illustrated these difficulties with regards to coal

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<sup>10</sup> Bartrip & Burman, *The Wounded Soldiers of Industry*; B. Harrison, *Not only the Dangerous Trades, Women's Work and Health in Britain 1880-1914* (London: Taylor and Francis, 1996); A. McIvor, 'Manual Work, Technology and Industrial Health 1918-1939' *Medical History*, Vol.31, 1987, pp 160-11 ; H. Jones, 'An Inspector Calls' in Weindling, (ed) *The Social History of Occupational Health*, pp.223-237.

<sup>12</sup> P. Bartrip, *Workmen's Compensation in Twentieth-Century Britain* (Aldershot: Dartmouth Publishing, 1987).

<sup>13</sup> A. McIvor, & R. Johnston, *Miners' Lung: A History of Dust Disease in British Coal Mining* (Hampshire: Ashgate, 2007); R. Johnston, & A. McIvor, *Lethal Work: A History of the Asbestos Tragedy in Scotland* (East Lothian: Tuckwell Press, 2000); A.E. Dembe, *Occupation and Disease: How Social Factors Affect the Conception of Work-Related Disorders* (London: Yale University Press, 1996).

<sup>14</sup> Dembe, *Occupation and Disease*, p.9.

miners' pneumoconiosis and bronchitis, demonstrating that often workers would become ill as a result of their working environment but would be unable to claim compensation as bronchitis was prevalent among the general population.<sup>15</sup> However, Johnston and McIvor's studies of pneumoconiosis and asbestos-related diseases do not thoroughly examine these diseases and the reaction to them in the context of the Second World War. It follows that because the workforce expanded during the war years, working hours increased and because the war itself necessitated a massive increase in the use of hazardous materials, more people were exposed to materials and substances which had a negative impact upon health, both in the long and short term. Indeed, similar problems were encountered during the First World War. For example, asbestos was a vital wartime material, used in shipbuilding and shell making, with the result that greater numbers of men and women than ever before were exposed to it. Despite this, little research has been conducted on the subject of the 'dilutees' who contracted asbestos-related illnesses as a result of their wartime occupations. This thesis will address this deficit by examining instances of ill-health and disease during wartime, as well as any preventative measures introduced to counteract this. It will also include an analysis of the research into these illnesses during the Second World War.

Much attention has been devoted to women's wartime experiences. One example is Summerfield's *Reconstructing Women's Wartime Lives* which analyses and documents the new roles many women found themselves taking on during the war. In this study Summerfield distinguishes between two types of women: the

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<sup>15</sup> McIvor & Johnston, *Miners' Lung*, pp.124-5.

‘heroic’ women who enthusiastically entered the workforce actively seeking jobs previously done by men; and the ‘stoic’ women who refused to take on such ‘men’s work’ and instead preferred to contribute to the war effort in more feminine roles.<sup>16</sup>

In addition, Summerfield also differentiates between women’s different attitudes towards danger. However, the focus of the book is subjectivity, mobilisation, training, war work and demobilisation rather than the occupational health and safety of the female workforce. It will be important not to write women out of this history of occupational health and safety during the Second World War because ‘the proportion of women employed in the formal economy in Scotland rose sharply from around 20% of the total labour force in 1939 to 40% in 1944’.<sup>17</sup> Indeed, there were substantially more women in the labour market in the Second World War than there were in the First.<sup>18</sup> Since women made up such a large proportion of the wartime workforce it would be short-sighted to neglect issues of health and safety with regards to them. Furthermore, it has been noted that women were often influential in securing improvements in working conditions, providing another argument for their inclusion in this study.<sup>19</sup> In addition, the inclusion of women’s experiences will allow for consideration of whether risk was gendered. It will distinguish whether attitudes towards health, safety, risk and the body differed according to gender. Despite many

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<sup>16</sup> Summerfield, *Reconstructing Women’s Wartime Lives*, pp.77-105.

<sup>17</sup> Johnston & McIvor, ‘The War and the Body at Work’, p.117.

<sup>18</sup> A. McIvor, ‘Women and Work in Twentieth Century Scotland’ in A. Dickson, & J.H. Treble, (eds) *People and Society in Scotland Vol III, 1914-1990* (Edinburgh: Birlinn, 1992), pp.138-173, p.65.

<sup>19</sup> Croucher, *Engineers At War*, p.262; S. Bruley, ‘A New Perspective on Women Workers in the Second World War: The Industrial Diary of Kathleen Church-Bliss and Elsie Whiteman’ *Labour History Review*, Vol.68, No.2, August 2003, pp.217-234, p.227; G. Braybon, & P. Summerfield, *Out of the Cage: Women’s Experiences in the Two World Wars* (London: Pandora Press, 1987), p.230; C. Lang, *Keep Smiling Through: Women in the Second World War* (Cambridge: Cambridge University Press, 2002), p.41; *Annual Report of the Chief Inspector of Factories PP.1942* (Cmd.6471), p.3.

studies on women's wartime experiences, little has been written about women in paid employment with regard to health and safety. Harrison's analysis of gender, risk and occupational health and safety in her study of women's work is thorough, however her analysis ends before the outbreak of the First World War.<sup>20</sup> One exception is Braybon and Summerfield's study of women in the two world wars, *Out of the Cage*, which includes chapters on health and welfare for both the First and Second World Wars.<sup>21</sup> They examine women's wartime work with a particular focus on hours, sickness and fatigue. Additionally, their work includes an analysis of women's attitudes to hours of work and some health risks. However, they fail to consider the importance of protective clothing and women's attitudes towards this. In this study they conclude that working conditions did improve and it is suggested that this was, in part, due to 'the energy which women...had to put into seeing that clauses in the 1937 Factory Act relating to workers health and comfort were honoured.'<sup>22</sup> This thesis will engage with Braybon and Summerfield's analysis of women in the Second World War, with particular attention to female attitudes to risk and danger in the workplace. Moreover, it will also engage with the debate regarding how much of an improving influence women had regarding occupational health, safety and welfare in industry on Clydeside. Murphy's article 'From the Crinoline to the Boilersuit'

includes very little analysis of health, safety or working conditions. Instead it focuses mainly on the dilution of the shipbuilding and repairing workforce in order to explain

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<sup>20</sup> Harrison, *Not Only The 'Dangerous Trades'*.

<sup>21</sup> Braybon & Summerfield, *Out of the Cage*.

<sup>22</sup> Braybon & Summerfield, *Out of the Cage*, p.285.

the reluctance of shipbuilding firms to employ female labour.<sup>23</sup> This is in accordance with a statement made by Wolkowitz who argues that it is difficult to learn much about injuries or illnesses sustained by women as a result of work because of the assumption that safety at work primarily concerns men.<sup>24</sup> This study will not marginalise women's occupational health and safety issues. Rather, it will analyse occupational health and safety with regard to the female wartime workforce, as well as determining what, if any, influence gender had upon the way health and safety issues at work were perceived.

Many historians, such as Titmuss and Marwick, have argued that the war precipitated social change.<sup>25</sup> While other historians, such as Calder and Smith have argued against this theory of social change. They posit that the war did little to alter pre-war social relations, although Calder does concede that workers enjoyed new opportunities due to the war.<sup>26</sup> This thesis will determine whether this was evident in the case of occupational health and safety by determining whether occupational health and safety provision and legislation improved during wartime. Marwick argues that the war resulted in positive social changes for both women and the working classes.<sup>27</sup> However, both Summerfield and Smith provide revisionist arguments, stating that women experienced positive social change only for the duration of the war, after which

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<sup>23</sup> H. Murphy, 'From the Crinoline to the Boilersuit': Women Workers in British Shipbuilding during the Second World War.' *Contemporary British History*, Vol.12, No.4, 1999, pp.82-104.

<sup>24</sup> C. Wolkowitz, *Bodies at Work* (London: Sage Publications, 2006), pp.103-4.

<sup>25</sup> R. Titmuss, *Problems of Social Policy* (HMSO, 1950); A. Marwick, *Total War and Social Change* (Basingstoke: MacMillan, 1988).

<sup>26</sup> A. Calder, *The People's War: Britain 1939-1945* (London: Pimlico, 1969); H.L. Smith, *War and Social Change, British Society in the Second World War* (Manchester: Manchester University Press, 1986).

<sup>27</sup> A. Marwick, *Total War and Social Change* (Basingstoke: MacMillan, 1988).

any social gains made were quickly reversed.<sup>28</sup> Through a focus on a particular region (Clydeside) this thesis will determine whether the Second World War resulted in positive social change in terms of health and safety provision and whether this was enduring or, as Summerfield has argued, temporary. It will also consider the impact of the Second World War upon attitudes to workplace health and existing health cultures.

The study of the politics of health and safety at work in Scotland during the Second World War has also suffered neglect. This is despite more general research on Scotland's health by Jenkinson, whose study analyses the importance of the Emergency Medical Services and Supplementary Medical Service schemes in wartime and their implementation by the Scottish Department for Health, and more recent work on industrial health in Britain by Long.<sup>29</sup> Long's recent monograph addresses the politics of industrial health in British factories, effectively neglecting other workplaces such as shipyards and docks.<sup>30</sup> Moreover, this study fails to examine workers' perceptions of, and role in, industrial health, instead focusing upon the role of the state, professional organisations and trade unions. This thesis will address this gap by examining workers' perceptions of occupational health and safety across a range of industries on Clydeside through the use of oral testimony. It will focus on policy in practice, health cultures, attitudes and experience. Moreover, only

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<sup>28</sup> Marwick, *Total War and Social Change*; P. Summerfield, 'Women, War and Social Change: Women in Britain in World War II' in A. Marwick, C. Emsley, & W. Simpson, (eds), *Total War and Historical Change: Europe 1914-1955* (Berkshire: Open University Press, 2001), pp.95-118; H.L. Smith, *Britain in the Second World War: A Social History* (Manchester: Manchester University Press, 1996).

<sup>29</sup> J. Jenkinson, *Scotland's Health 1919-1948* (Oxford: Peter Lang, 2002).

<sup>30</sup> V. Long, *The Rise and Fall of the Healthy Factory: The Politics of Industrial Health in Britain 1914-1960* (Basingstoke: Palgrave Macmillan, 2011).

the first chapter of Long's monograph provides an analysis of the war years, comparing industrial health standards and improvements between the First and Second World Wars. Subsequent chapters concentrate on the inter- and post-war years and the introduction of the NHS.

Among historians there are differing views of the state. Marxist historians such as Berman, argue that the state favoured capital and as a result neglected the health and safety of the workforce.<sup>31</sup> Those of the opposing view would point to the apparent growing concern of the state with occupational health and safety, witnessed by the creation of various research bodies such as the Health of Mmunition Workers Committee (HMWC) and the Industrial Health Research Board (IHRB) as well as increasing state intervention in the workplace. Jenkinson falls into the latter of the two above-mentioned categories, arguing that during the Second World War the state took an unprecedented interest in the health of the workforce, moving away from laissez-faire politics.<sup>32</sup> Long also argues that the state promoted and improved industrial health during both world wars, citing the growth of state control over industry, using the example that the Ministry of Supply was the country's largest employer. However, she argues that this issue was neglected once the crisis of war had abated.<sup>33</sup> Waldron also appears to agree that state intervention in occupational health and safety issues increased during the Second World War, only to be once more neglected in the aftermath.<sup>34</sup> As was the general health of the nation post 1918.

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<sup>31</sup> D.M. Berman, 'Why Work Kills: A Brief History of Occupational Safety and Health in the United States' in V. Navarro, & D.M. Berman, *Health and Work Under Capitalism: An International Perspective* (New York: Baywood Publishing, 1981) pp.152-167., p.155.

<sup>32</sup> Jenkinson, *Scotland's Health 1919-1948*, p.396.

<sup>33</sup> Long, *The Rise and Fall of the Healthy Factory*, p.213.

<sup>34</sup> Waldron, 'Occupational Health During the Second World War', pp.210-211.

The revisionist argument concerning the state's role with regards to occupational health and safety is that state intervention was not uniform and the impact of state legislation was uneven and limited. McIvor argues that while intervention was increasing, it was ameliorative in effect and it was also often poorly enforced, and therefore, of limited effectiveness.<sup>35</sup> Clearly, the situation is more complex than simply the state siding with employer over employees or vice-versa. In reality, state intervention was patchy and much varied according to industry and region. For example, while the safety of railway workers was largely ignored by the state in the nineteenth century, the mining workforce was protected by a wealth of legislation.<sup>38</sup> This was a result of the greater power of the mining trade unions. Bartrip also argues that state intervention was limited in its effectiveness. In reference to the 1946 Industrial Injuries Act he writes that it is '...hard to see the scheme as a major advance in social security for potential industrial accident and disease victims'.<sup>36</sup> Whilst the Royal Commission to investigate Workmen's Compensation halted in 1941, due to the war. Further evidence of the limited impact of state intervention can be found in their failure to pass legislation concerning environmental factors, such as temperature, in order to improve accident rates.<sup>37</sup> In a later study of occupational disease, Bartrip argues that the neglect of occupational health was reflective of the low priority attached to it in society. This conclusion, however, distinguishes between occupational ill-health and occupational injury (caused by an accident). He argues that state intervention and legislation was more common with regards to accidents and safety

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<sup>35</sup> A. McIvor, *A History of Work in Britain, 1880-1950* (Hampshire: Palgrave, 2001), pp.113-30. <sup>38</sup> Bartrip & Burman, *The Wounded Soldiers of Industry*, p.75.

<sup>36</sup> Bartrip, *Workmen's Compensation*, p.236.

<sup>37</sup> Environmental issues and their contribution to accident rates will be addressed more fully in chapter four.

while little legislation existed concerning occupational illness.<sup>38</sup> Nichols, commenting on the Health and Safety at

Work Act of 1974, is critical of the non-interventionist role the state has adopted.<sup>39</sup>

Writing on occupational health and safety in the U.S, Berman argues that state laws were often ineffective: ‘state laws regarding industrial inspection and occupational diseases which were passed in the first two decades of this century proved to be almost universally ineffectual in preventing accidents or industrial disease.’<sup>40</sup> Finally, it is important to mention that often a gulf existed between scientific knowledge and legislative action by the state. Bartrip demonstrates this in relation to the lead paint industry, where scientific opinion called for a complete ban, which was ignored by the state in favour of regulation.<sup>41</sup> Asbestos provides another example of the state regulating rather than banning dangerous substances. However, among revisionist historians it is generally agreed that the wartime (1939-45) and post-wartime state were more proactive than previously, although there remained a gap between workplace legislation and actual practice. This thesis will consider the role of the state in occupational health and safety provision during the Second World War, in order to determine how effective it was in improving the health and safety of the workforce. It is the first such study to focus upon a particular local area (Clydeside - a crucial area

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<sup>38</sup> P. Bartrip, *The Home Office and the Dangerous Trades: Regulating Occupational Disease in Victorian and Edwardian Britain* (Amsterdam: Rodopi, 2002), pp.2,10.

<sup>39</sup> T. Nichols, *The Sociology of Industrial Injury* (London: Mansell, 1997), p.124.

<sup>40</sup> D.M. Berman, ‘Why Work Kills: A Brief History of Occupational Safety and Health in the United States’ in V. Navarro, & D.M. Berman, *Health and Work Under Capitalism: An International Perspective* (New York: Baywood Publishing, 1981), pp.176-8.

<sup>41</sup> Bartrip, *The Home Office and the Dangerous Trades*, p.271.

<sup>45</sup> This will be returned to later in this Chapter.

of production for the British war effort)<sup>45</sup> in order to analyse the efficacy of state policy and the lived experience of occupational health and safety in wartime.

In existing occupational health and safety literature the role of both employers and management has also suffered neglect, despite work by Melling (which effectively overlooks the war years despite the period under study being 1900 to 1960), and more recent studies by Perchard, Tweedale and Bartrip on the coal and asbestos industries respectively.<sup>46</sup> This thesis will address this gap by considering the role of management and employers in occupational health and safety provision in various industries on Clydeside during the Second World War. The traditional Marxist argument is that employers were exploitative and focused on profit maximisation. This is a viewpoint that Berman, Tweedale, Perchard and Johnston and McIvor subscribe to in varying degrees.<sup>47</sup> Perchard's work shows that coal owners influenced research into occupational illnesses both by funding scientific research and by their control over the education of managers.<sup>48</sup> Tweedale and Johnston and McIvor's work on asbestos paints a similar story of employers: they continually denied risk, influenced research into asbestos-related illness, attempted to prevent negative research findings becoming public knowledge and fought compensation cases in the courts as well as delaying them in order to minimise compensation payouts.<sup>49</sup> US employers were also funding and influencing research

<sup>46</sup> J. Melling, 'Safety, Supervision and the politics of productivity in the British coalmining industry, 1900-1960' in J. Melling & A. McKinlay (eds.), *Management, Labour and Industrial Politics in Modern Europe. The Quest for Productivity Growth during the Twentieth Century* (Cheltenham: Edward Elgar, 1996), pp. 145-173; A. Perchard, *The Mine Management Professions in the Twentieth Century Scottish Coal Mining Industry* (New York: Edwin Mellin Press, 2007); A. Perchard. 'The Mine Management Professions and the Dust Problem in the Scottish Coal Mining Industry c.1930-1966.' *Scottish Labour 678-History*, Vol.46, 2005, pp. 87-109; G. Tweedale, *Magic Mineral to Killer Dust: Turner and Newall and the Asbestos Hazard* (Oxford: Oxford University Press, 2003); P. Bartrip, *The Way From Dusty*

*Death: Turner and Newall and the Regulation of Occupational Health in the British Asbestos Industry 1890s-1970* (London: Athlone, 2001).

<sup>47</sup>Berman, 'Why Work Kills', p.176-8; Tweedale, *Magic Mineral to Killer Dust*; Perchard, *The Mine Management Professions*; Johnston & McIvor, *Lethal Work*.

<sup>48</sup> Perchard, *The Mine Management Professions*, pp.69-75; Perchard, 'The Mine Management Professions and the Dust Problem in the Scottish Coal Mining Industry', p.92. <sup>49</sup> Tweedale, *Magic Mineral to Killer Dust*; Johnston & McIvor, *Lethal Work*.

findings as Berman reveals.<sup>42</sup> In addition, Kotelchuck has also highlighted American employers' willingness to deny the health risks of asbestos.<sup>43</sup> Furthermore, Nichols is also critical of employers' role in improving health and safety, suggesting that when labour is strong, safety improves, but when labour is weak and capital strong, safety deteriorates.<sup>44</sup>

Bartrip, on the other hand, suggests that asbestos employers Turner and Newall should not be regarded as callous and exploitative, arguing that they did the best they could given their level of knowledge.<sup>45</sup> He argues that the claim made by Tweedale and others, that Turner and Newall were in denial about the existence of occupational disease among its workers, is 'untenable'.<sup>46</sup> As evidence of their positive contribution to workplace health and safety, he cites the company's involvement in the 1931 Asbestos Regulations and its involvement in research into the effects of asbestos on health.<sup>47</sup> Bartrip accuses historians such as Tweedale of relying on hindsight in reaching the conclusion that Turner and Newall should be held accountable. It should be noted though, that this study was funded in part by the asbestos industry and is, therefore, potentially biased. Bartrip also claims, in an earlier study, that employers in

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<sup>42</sup> Berman, 'Why Work Kills', p.170.

<sup>43</sup> D. Kotelchuck, 'Asbestos: 'The Funeral Dress of Kings' – and others' in Rosner & Markowitz, (eds) *Dying For Work*, pp.195-6.

<sup>44</sup> Nichols, *The Sociology of Industrial Injury*, pp.137-8.

<sup>45</sup> Bartrip, *The Way From Dusty Death*, p.75.

<sup>46</sup> Bartrip, *The Way From Dusty Death*, p.75.

<sup>47</sup> Bartrip, *The Way From Dusty Death*, p.265.

the woollen industry were not culpable of neglecting worker health, arguing that they tried to improve working conditions in order to protect workers.<sup>48</sup> This study will consider the role of employers in health and safety provision during the Second World War in order to determine whether they can be regarded as callous and exploitative in their actions towards employees, as both Perchard and Tweedale have claimed, or whether the picture is altogether more complex with employer attitudes varying according to industry and region, as Johnston and McIvor have demonstrated in their 2008 journal article. They argue that a wide range of employer strategies existed in Scotland, and also demonstrate a divergence in occupational health and safety standards between the private and public sectors:

The situation was quite complex and was governed by several factors, including the nature of product markets, the degree of structural decline in the industry involved, the history of industrial relations in that industry, the personalities themselves, and the orientation of any employers' organisations of which they were members.<sup>49</sup>

However, it will be important to remember that Marxist interpretations concerning employers prioritising profit over workers' health and safety became problematic during wartime because production and working hours were increased not solely for profit but primarily for the war effort. Since large areas of industry were brought under state control, the profit motive was of less significance.

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<sup>48</sup> Bartrip, *The Home Office and the Dangerous Trades*, p.268.

<sup>49</sup> R. Johnston, & A. McIvor, 'Marginalising the Body at Work? Employers' Occupational Health Strategies and Occupational Medicine in Scotland c.1930-1974' *Social History of Medicine*, Vol.21, No.1, 2008, pp.127-144, p.136.

Existing studies have demonstrated the need to distinguish between managers, health professionals and employers in order to accurately analyse their role in health and safety at work. Perchard's work distinguishes between employers and managers, he concludes that management were in a difficult position, sandwiched between employer and labour, and points out that like the rest of the workforce, managers were also reliant upon employers for work. Rosner and Markowitz have demonstrated this with regards to health professionals who also occupied a delicate position in a conflict between labour and capital.<sup>50</sup> Berman, in contrast, occupies a more leftist stance, firmly arguing that industrial doctors supported capital, 'becom[ing] the company's advocate in compensation claims'. He cites examples from the U.S asbestos industry, including one case of a doctor failing both to inform a patient of the onset of asbestos-related lung disease and to treat it.<sup>51</sup> However, this too is a relatively neglected area of occupational health history which requires more research.

Although much research has been undertaken on trade unions and industrial relations, their role in occupational health has remained relatively under-researched. Historians such as Weindling and Tweedale have long argued that the trade unions marginalised health and safety and prioritised wages and compensation to the detriment of preventative measures.<sup>52</sup> Bartrip provides a similar argument:

The lack of emphasis the labour movement placed on occupational health for much of the nineteenth century reflects the fragmented and disorganised state of that

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<sup>50</sup> Perchard, *The Mine Management Professions*, p.94; Rosner & Markowitz, *Dying For Work*, p.x.

<sup>51</sup> Berman, 'Why Work Kills', pp.168-170.

<sup>52</sup> Bartrip, *The Home Office and the Dangerous Trades*; Tweedale, *Magic Mineral to Killer Dust*; J. Melling, 'The Risks of Working Versus the Risks of Not Working: Trade Unions, Employers and Responses to the Risk of Occupational Illness in British Industry, c.1890-1940s' ESRC Centre for Analysis of Risk and Regulation, Discussion Paper no.12, December 2003; P. Weindling, 'Linking Self Help and Medical Science: The Social History of Occupational Health', in Weindling, (ed) *The Social History of Occupational Health*, p.10.

movement, ignorance of the nature and extent of the hazards which existed, a preference for safeguarding employment rather than improving health and safety standards and an emphasis on achieving political change ahead of social reform.<sup>53</sup>

However, Melling argues that the unions were constrained by their limited knowledge of hazards, their own members and more powerful players involved in the reform process.<sup>54</sup> He refutes the argument that the unions prioritised wages and compensation over prevention, although accepts that hazards were usually balanced against monetary rewards. Melling points out that there was no conflict between pursuing maximum compensation payouts and the promotion of workplace health and prevention of accidents. In fact, he argues that increased wages and compensation payments would, through the cost, encourage employers to improve safety.<sup>55</sup>

More recently the traditional and largely negative view of trade unions has been challenged by those who argue that they were influential in improving workplace health and safety, such as Long and McIvor and Johnston.<sup>56</sup> Long's text provides a revisionist view of the trade unions, demonstrating that they were active in campaigning for an industrial health service, and that they did not prioritise wages and compensation over workers' health, essentially arguing that their role in industrial health provision has been underestimated. Furthermore, both Long and Johnston and McIvor argue that the trade unions were active in campaigning for a national

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<sup>53</sup> Bartrip, *The Home Office and the Dangerous Trades*, p.9.

<sup>54</sup> Melling, 'The Risks of Working Versus the Risks of Not Working', p.16.

<sup>55</sup> Melling, 'The Risks of Working Versus the Risks of Not Working', p.16.

<sup>56</sup> Long, *The Rise and Fall of the Healthy Factory*; McIvor & Johnston, *Miners' Lung*.

occupational health service.<sup>57</sup> Theo Nichols, a sociologist who has commented upon industrial injury in the twentieth century, also affirms the positive role of trade unions in health and safety. He emphasises the importance of the balance of power between capital and labour which impacted upon safety.<sup>58</sup> Therefore, his argument is that when labour was in a strong position, such as in the 1970s, safety improved. This suggests that he credits the trade unions and labour movement with considerable achievement in terms of prevention of accidents and injuries. Johnston and McIvor point out that the British coal mining unions were often in disagreement in their response to the dangers of dust. Ultimately, they conclude that in the case of coal mining, the unions were active in campaigning for effective dust control as well as recognition of industrial diseases and obtaining compensation.<sup>59</sup> Dave Lyddon has also added weight to this argument in the most recent intervention into this discussion.<sup>60</sup>

In *Miner's Lung*, McIvor and Johnston argue that trade union involvement in occupational health and safety is more complex and that it varied between industries and regions. Much was dependant on the strength and power of the unions in different industries.<sup>61</sup> They posit that in coal mining the unions were active in promoting and campaigning for improved workplace health and safety, while in the asbestos industry unions' intervention on health and safety was sparse and these issues were not

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<sup>57</sup> Long, *The Rise and Fall of the Healthy Factory*; R. Johnston, & A. McIvor, 'Whatever happened to the Occupational Health Service? The NHS the OHS and the asbestos tragedy on Clydeside' in C. Nottingham (ed) *The NHS in Scotland: The Legacy of the Past and the Prospect of the Future* (Aldershot: Ashgate, 2001), p.85.

<sup>58</sup> Nichols, *The Sociology of Industrial Injury*, p.135.

<sup>59</sup> McIvor & Johnston, *Miners' Lung*, p.187.

<sup>60</sup> D. Lyddon, 'Trade Unions and the History of Health and Safety in British Mining', *Historical Studies in Industrial Relations*, Vol.35, 2014, pp.157–79.

<sup>61</sup> McIvor & Johnston, *Miners' Lung*, p.207.

prioritised, a result of a lack of medical knowledge. This was in part due to the weakness of the unions in this industry,<sup>62</sup> although Bartrip states that trade unions and in particular the Trades Union Congress ‘played significant parts in the regulatory process’ of asbestos.<sup>71</sup> Similar variations are to be found between Tweedale’s *Magic Mineral* and his article with Bowden on byssinosis. In the former, he concludes that the trade unions failed to prioritise health while in the latter the authors assert that the unions were involved in and concerned with health.<sup>63</sup> This demonstrates that trade union involvement in occupational health and safety varied widely among different industries. Finally, it is vital to note that although the unions’ campaigned to ensure their members were protected against hazardous working conditions, they also campaigned to ensure jobs were protected and wages were maximised. These responsibilities were often in conflict. It is evident from the varying historical arguments on trade union involvement in occupational health and safety that the situation is complex. Clearly, trade union activity with regard to workplace health varied according to industry and their power and influence fluctuated over time. This research will utilise the Scottish Trade Union Congress archive to address the issue of trade union involvement in health and safety in a variety of industries over the years 1939-1945, and in doing so will make a valuable contribution to the existing literature on trade unions and occupational health and safety.

It is clear that there exists much debate among historians on the subject of occupational health and safety. Marxists emphasise the negative impact of work in a

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<sup>62</sup> McIvor & Johnston, *Miners’ Lung*; Johnston & McIvor, *Lethal Work*, pp.168-9. <sup>71</sup> Bartrip, *The Way From Dusty Death*, p.21.

<sup>63</sup> Tweedale, *Magic Mineral*; S. Bowden, & G. Tweedale, ‘Mondays without Dread: The Trade Unions Response to Byssinosis in the Lancashire Cotton Industry in the Twentieth Century’, *Social History of Medicine*, Vol.16, 2003, pp.439-457.

capitalist system upon the health and well-being of the worker, while arguing that employers prioritised profit over the safety and health of the worker and that the state favoured the interests of capital. The opposing argument is that there were general improvements in health and safety over time, due to improvements in science and technology. However, a more recent revisionist view suggests that there were improvements in health and safety, but that these were uneven and could be reversed; it was not a steady, positive progression.<sup>64</sup> Indeed, the growing interest in occupational health and safety witnessed during both the First and Second World Wars, and the decline in interest thereafter provides further evidence to support this viewpoint. The revisionist view suggests that improvements were unequal across the country as well as between industries. This argument also demonstrates that state intervention was limited, legislation was patchy and flawed and that much often depended on the size of the firm and the capital it had at its disposal as well as the workforce itself, especially in the more male dominated areas of industry.

### Occupational Health and Safety in the Twentieth Century

In order to fully understand issues of occupational health and safety in industries such as shipbuilding, coalmining, iron and steel making, engineering, munitions and chemical work, dock work and textiles on Clydeside during wartime they must be set in context and located within the larger picture of employment and occupational health in Scotland. Existing studies have demonstrated that work was often harmful to health. Work was frequently the centre of people's lives during the late nineteenth century,

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<sup>64</sup> McIvor, *A History of Work in Britain*, p.112; Jones, H., *Health and Society in Twentieth Century Britain* (London: Routledge, 1994); Weindling, *The Social History of Occupational Health*; Bartrip & Burman, *The Wounded Soldiers of Industry*.

and, until the First World War had a negative impact upon the body. Fatigue and overstrain were endemic within the Scottish workforce during this period, a result of long working hours and the intensity of labour. This increased workers' susceptibility to a wide range of illnesses as well as the potential for accidents. However, it is important to state that working hours and conditions varied widely according to industry and region. It is also necessary to point out that the attitudes of employers toward the workforce varied. Another common feature of the workplace prior to and during the Second World War was the use of bonus and piece work methods of payments which directly encouraged the speed-up of the work process and intensification of labour but often resulted in fatigue, overstrain and increased incidence of accidents. Calder states that this payment by results system was a 'feature of war industry in Britain.'<sup>65</sup> Indeed this method of payment was particularly common in dock work, for example.<sup>66</sup> The conditions in which people worked could also have a negative impact upon health, and important issues here are ventilation, lighting, high temperatures and extremes of noise, all of which could increase fatigue, overstrain and the potential for accidents as well as cause illness.

There were improvements to occupational health and safety provision throughout the first half of the twentieth century.<sup>67</sup> This is evident in the increasing amount of state intervention in the workplace. However, this was not a steady positive progression. For example, the Chief Inspector of Factories acknowledged that health

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<sup>65</sup> Calder, *The People's War*, p.453.

<sup>66</sup> W. Kenefick, *'Rebellious and Contrary': The Glasgow Dockers, 1853-1932* (East Lothian: Tuckwell Press, 2000).

<sup>67</sup> McIvor, *A History of Work In Britain*, p.145.

and safety standards stagnated in the inter-war depression.<sup>68</sup> Moreover, standards also varied according to region and industry and although technological advances may have eradicated some of the older hazards of certain jobs, they also brought new ones. For example, the mechanisation of coal-getting resulted in a dustier working environment. Finally, existing studies also point to a growing awareness of health and safety issues throughout the first half of the twentieth century. This is witnessed in the growing body of state legislation on the workplace and the creation of research bodies such as the Health of Munition Workers Committee (HMWC), the Industrial Fatigue Research Board (IFRB) and the Industrial Health Research Board (IHRB), as well as the growing numbers employed within the Factory Inspectorate, which increased from 320 in 1939 to 440 in 1944.<sup>69</sup> An increase of just over one third in five years.

The Second World War stimulated an economic recovery of sorts in many of the industries which had suffered badly in the inter-war depression. War demands rescued many shipyards from closure, Harvie states that it stimulated £80 million worth of arms orders for Scotland,<sup>70</sup> as well as providing a much needed boost to steelmaking and other heavy engineering industries. Many areas of the Scottish economy expanded during wartime, primarily those on and around Clydeside which were vital to the war effort, such as munitions production, aircraft manufacture, steel making, shipbuilding and engineering. An article printed in the *Glasgow Herald* in 1938 commented that '...the importance of the Clyde was shown by the fact that one third of the population

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<sup>68</sup> *Annual Report of the Chief Inspector of Factories, PP 1939* (Cmd, 6251), p.11.

<sup>69</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd. 6698), p.93.

<sup>70</sup> C. Harvie, *No Gods and Precious Few Heroes: Twentieth Century Scotland* (Edinburgh: Blackwell, 1998), p.40.

of Scotland was engaged in the trades and industries of this district.<sup>71</sup> The coal, iron and steel, engineering and shipbuilding industries were so important to the war effort that these heavy industries were declared 'Reserved Occupations'. This meant that skilled workers in these industries were exempt from call up to the armed forces, although some occupations had an age limit.<sup>72</sup> As well as providing a boost to the economy, the Second World War also caused unemployment levels to fall dramatically. Figures for the UK demonstrate this; in 1938 there were 1,710,000 registered insured unemployed, and by 1944 this number had fallen to 54,000, the lowest point throughout the war years.<sup>82</sup> However, with higher numbers of people in paid employment more people were at risk of work-related injury, disability and disease. Not least when disregard for safety was perhaps evident because of the war effort and the importance of patriotic duty with industrial workers taking risks and working longer hours in order to make a positive contribution to the war effort.

The interwar years were characterised by austerity, high levels of unemployment and stagnating occupational health and safety standards.<sup>73</sup> This was a result of mass unemployment, which weakened both workers' bargaining power and the trade union movement, while employers were focused on making a profit and had little spare funds to direct to health and safety improvements. However, existing studies of occupational health and safety have demonstrated that older factories and industries had lower occupational health and safety standards and poorer provision

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<sup>71</sup> *The Glasgow Herald* 14th March 1938, p.7.

<sup>72</sup> *Schedule of Reserved Occupations* H.M Stationary Office, January 1939, (Cmd. 5926), p.3. <sup>82</sup> J. Noakes, *The Civilian in War: The Home Front in Europe, Japan and the USA in World War Two* (Exeter: University of Exeter Press, 2002), p.27.

<sup>73</sup> R. Finlay, *Modern Scotland 1914-2000* (London: Profile Books, 2004) <sup>84</sup> Johnston & McIvor, 'The War and the Body at Work', p.117.

than newer factories and industries. This was often due to the design of the new factories, which generally had better lighting and ventilation. Johnston and McIvor state that Clydeside was one of the most important war production regions in the UK, but it also had the worst standards of health and safety, a result of the predominance of heavy industry in this area.<sup>84</sup> This provides an excellent argument for the study of occupational health and safety on Clydeside during the Second World War. Inman illustrates that the newly built Royal Ordnance Factories were better equipped in terms of canteens, washrooms, sanitary facilities and first aid posts, as well as having better planned heating and lighting provision. This is a direct contrast to the dockyards, which were much older and lacking in space as well as facing a shortage of materials and money to make improvements during wartime.<sup>74</sup>

Moreover, many factories were quickly converted to war production which often resulted in poor working conditions. For example, Singers sewing machine factory in Clydebank was converted to produce components for armament production. Due to the urgency with which many of these conversions took place, it may be found that they were lacking in certain facilities. In addition to older factories converting production to aid the war effort, many new factories were built.<sup>75</sup> However, these were often hastily constructed without much thought to the layout and health and safety. Minns states that this building programme ‘threw up factories ... in strategic parts of the countryside, though this usually meant a very awkward journey for the worker and often poor sanitary and safety conditions.’<sup>76</sup> This was similar to the evacuation scheme

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<sup>74</sup> P. Inman, *Labour in the Munitions Industries* (London: HMSO, 1957), p.235; Kenefick., *Rebellious and Contrary*.

<sup>75</sup> Calder, *The People's War*, p.324.

<sup>76</sup> R. Minns, *Bombers and Mash: The Domestic Front 1939-1945* (Oxford: Virago, 1999), p.34.

<sup>88</sup> *Annual Report of the Chief Inspector of Factories, PP. 1939* (Cmd.6251), p.7.

and illustrates urgency taking precedence over organisation, which took time. A direct result of the strategic location of these new factories was an increase in the number of hours spent away from the home for the worker who now had further to travel to work, while single women, labelled as mobile labour were posted all around the country. This is an issue pointed out in the Annual Report of the Chief Inspector of Factories for the year 1939.<sup>88</sup> This research will compare and contrast experience across the traditional and the modern sectors of the Clydeside economy.

There was a shift in the bargaining power of the workers during the Second World War. In the depression years, workers were at a disadvantage and found it difficult to protest against poor working conditions for fear of losing their jobs as unemployment levels soared. However, during the war years there were very low rates of unemployment and a great demand for workers. This left the workforce in a more powerful position, and able to protest against poor working conditions. This is evidenced in the high strike rate throughout Clydeside shipbuilding during the war years; in 1944 over 4 million days were lost to strike activity across the UK.<sup>77</sup> Indeed, the increased strike activity by 1941/1942 could be seen as a result of a growing sense of inequality of sacrifice, the need to fight the war on the home front, but not to be exploited at the same time. The Mass Observation, *People in*

*Production* report of 1942 commented:

the most striking feature of the industrial situation here is the survival of the strictly peacetime procedure in the conflict between employers and men, which is still today the predominant conflict here [Glasgow] ... the real war

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<sup>77</sup> Howlett, P., *Fighting With Figures: A Statistical Digest of the Second World War*, (Crown: London, 1995) p.64.

which is being fought here today is still prewar, private and economic.<sup>78</sup>

Additionally, *The Glasgow Herald* reported on a number of strikes which occurred in various industries on Clydeside throughout the war years.<sup>79</sup> The BBC documentary 'The Myth of the Blitz' demonstrates that despite a ban on strike activity under Order 1305, industrial unrest was common in Scotland and particularly on Clydeside during the Second World War. The documentary states that there were: 'endless stoppages over pay and conditions...In one month in 1941 on 30 days out of 31 there was a work dispute on the Clyde'. It also argues that greater numbers of workers were prepared to involve themselves in strike activity during the war.<sup>80</sup> Knox and McKinlay argue that in Scotland the years 1939-1945 were dominated 'by a constant war of attrition on the shop floor both on Clydeside and elsewhere.'<sup>81</sup> Moreover, MacKay points out that for the whole of Britain the number of stoppages across the years 1939-1945 were nearly twice those of 1914-1918,<sup>82</sup> although it is important to state that the number of days lost through strike activity was higher in the First World War. This might have been a result of the Defence of the Realm Act, which was more harsh and draconian than Order 1305. However, Mass Observation also points out that there were greater numbers of workers involved in strike activity during the Second

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<sup>78</sup> Mass Observation., *People in Production: An Enquiry into British War Production* (Middlesex, 1942), p.22.

<sup>79</sup> *The Glasgow Herald*, 4th June 1941; *The Glasgow Herald*, 19th August 1942; *The Glasgow Herald*, 6th October 1943; *The Glasgow Herald*, 3rd November 1942; *The Glasgow Herald*, 26th February 1945.

<sup>80</sup> 'Myths and Memories of World War II: The British Home Front' BBC 2 Documentary, 1995.

<sup>81</sup> B. Knox, & A. McKinlay, 'Pests to Management' : Engineering Shop Stewards on Clydeside 1939-1945' *Scottish Labour History Society*, Journal No. 30, pp.11-34, p.11.

<sup>82</sup> R. MacKay, *Half the Battle: Civilian Morale in Britain During the Second World War* (Manchester; Manchester University Press, 2002), p.125.

World War than in the First.<sup>83</sup> Furthermore, it indicates that, coal mining, engineering, shipbuilding and repairing, and metal works - industries which proliferated on Clydeside and were vital to the war effort, had the highest numbers of strikes, workers involved and days lost.<sup>84</sup> Both Harry McGregor and Willie Dewar, employees of North British Locomotives Hyde Park works, recall the apprentices strike of 1941. Harry McGregor believes the apprentices had a certain degree of sympathy despite the war. When asked about the effects of the strike on the war effort he states: 'Nobody even gave it a second thought.'<sup>85</sup> Wartime strikes were not solely the reserve of the male workforce either, as the women's pay strikes at both Barr and Stroud and Rolls Royce in 1943 demonstrate. Nevertheless, some felt that protesting against unsatisfactory working conditions was unpatriotic and that poor working conditions should be dutifully accepted considering the danger those in the armed forces were continually facing, highlighting the significance of patriotic drive as a motivating factor for the civilian workforce. However, during the Second World War both men and women could not leave an occupation deemed vital for the war effort easily. For example, the only way to leave employment in the coal mining industry was to be deemed medically unfit for such work. The Factory Inspectors

Report for 1942 highlights this issue:

In times of peace workers can more or less choose their place of work, but under present conditions it is possible for one to be directed to a large factory with a highly developed welfare system while another may be sent to one of the more numerous small works.<sup>86</sup>

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<sup>83</sup> Mass Observation., *People in Production: An Enquiry into British War Production* (Middlesex, 1942), p.247.

<sup>84</sup> Mass Observation., *People in Production: An Enquiry into British War Production* (Middlesex, 1942), p.247.

<sup>85</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.32.

<sup>86</sup> *Annual Report of the Chief Inspector of Factories, PP.1942* (Cmd.6471), p.23.

Therefore, although workers had more bargaining power, and by extension a greater chance of improving working conditions, this must be balanced against tighter controls on labour, which restricted the individual's ability to move occupation and the ban on strike activity under Order 1305. It will be important to assess the implications of this with regards to health and safety, as during peacetime workers had the opportunity to leave their occupation if they wished, thereby removing themselves from the hazards.

The composition of the changing wartime workforce is important and it is necessary to consider the impact of this upon health and safety. During the Second World War the Scottish workforce was composed of a much higher number of unskilled workers and a larger proportion of women as well as an increasingly ageing workforce. Indeed, this was reflective of the United Kingdom as whole during the war years. Longmate states that there were over one million people aged over 65 in paid employment in Britain in 1943.<sup>87</sup> This older workforce is likely to have had an increased potential for accidents at work, as recognised by the 1945 Factory Inspectorate Report: 'Some loss of strength, agility and alertness is inevitable and, as might be expected, strains and falls are frequent causes of accidents to older workers.'<sup>88</sup> Moreover, many women entered the working population, some for the first time. For those in formal employment prior to 1939, wartime necessitated moving from relatively safe occupations to more dangerous ones which were important for the war effort but often completely new to them. Many historians have commented that the mobilisation of the civilian population in Britain for the war effort was greater than in

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<sup>87</sup> N. Longmate, *How We Lived Then: A History of Everyday Life during the Second World War* (London: Pimlico 2002), p.336.

<sup>88</sup> *Annual Report of the Chief Inspector of Factories, PP.1945* (Cmd.6992), p.10.

any other country. Longmate states: 'every generation was involved in the battle for production.'<sup>89</sup>

The Second World War, then, altered the composition of the workforce: more women were employed than ever before and many found employment in some of the more dangerous industries, particularly in shell-making and explosives factories.<sup>102</sup> Therefore, the examination of any differences in experience between men and women with regards to occupational health and safety might prove illuminating. For example, how did they deal with injury and disease and how responsive were they to safety measures? It will also be important to analyse whether treatment of injured women was different from that of an injured man.

Moreover, paid employment was often only one wartime commitment for many people. Married women with or without children had the much discussed 'double burden' of paid employment and unpaid work within the home with few labour and time-saving devices, while many others volunteered for Civil Defence or ARP duties. Indeed, fire-watching became compulsory for women who worked less than 55 hours a week and had no household responsibilities in August 1942.<sup>90</sup> Volunteering for wartime work whether in the ARP, Home Guard or fire-watching resulted in a much longer day for many and this increased the risk of fatigue and the likelihood of both absenteeism and injury while also increasing susceptibility to illness.

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<sup>89</sup> Summerfield, 'Women, War and Social Change', p.103; Longmate, *How We Lived Then*, p.336. <sup>102</sup> Braybon & Summerfield, *Out of the Cage*, p.219.

<sup>90</sup> Braybon & Summerfield, *Out of the Cage*, p.222.

McIvor, in his article 'Manual Work, Technology and Industrial Health', has pointed out some major errors in labour utilisation that occurred during the First World War.<sup>91</sup> The massive increase in working hours, coupled with labour intensification, resulted in the fatigue and overstrain of the workforce. During the First World War, research organisations such as the Health of Munition Workers Committee (HMWC) and the Industrial Fatigue Research Board (IFRB) were formed. These organisations produced studies into the effects of long working hours, finding a direct link between hours of work and fatigue and demonstrating that decreased working hours were not accompanied by decreasing productivity.<sup>92</sup> The Factory Inspectorate Report of 1939 states: 'At the beginning of the emergency period a few employers – forgetful of the lessons of the last war – sought to increase production by employing their workpeople for excessively long hours.'<sup>93</sup> This thesis will determine to what extent these mistakes regarding the increase in working hours were repeated during the Second World War on Clydeside and analyse the impact of this upon the workforce.

Fatigue and overstrain were common problems when people were working longer hours over an extended period of time and could potentially increase the propensity for accidents and susceptibility to illness. McIvor states that fatigue resulted from '...the intensity of the labour, the conditions and milieu in which people toiled and long working hours.'<sup>94</sup> The 1937 Factory Act was relaxed for the duration of the

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<sup>91</sup> McIvor, 'Manual Work', p.181.

<sup>92</sup> McIvor, 'Manual Work', p.182.

<sup>93</sup> *Annual Report of the Chief Inspector of Factories PP.1939* (Cmd.6251), p.39.

<sup>94</sup> A. McIvor, 'Work and Health, 1880-1914: A Note on Neglected Interaction' *Scottish Labour History Society*, Vol.24, 1989, pp.47-67, pp.47-8.

war which allowed for an increase in the number of hours worked. Often people were working 60 hours a week or more. This could lead to fatigue and overstrain and demonstrates that lessons learned during the First World War were forgotten. However, it is important to point out that the number of hours worked by women and young people were subject to some government control due to the Emergency Orders issued under the Factories Act. Calder illustrates the increased working hours and that 'As late as the summer of 1942, three R.O.F's [Royal Ordnance Factories] were employing men for a seventy or seventy-one hour week and the aircraft industry, always short of workers, continued to demand injurious hours well into 1943.'<sup>95</sup> It is also vital to remember that a decrease in working hours may not only be opposed by management and employers, but also by the workforce, who may object due to the drop in earnings. The Factory Inspector Report of 1943 states: 'In the early years of the war opposition to moderate hours was widely encountered even from some local representatives of Trade Unions and local officers of Government Departments.'<sup>96</sup>

This thesis investigates the immediate impact of the war upon health and safety at work. Inman states:

In wartime managements were hindered at every turn to improve conditions of work; black-out restrictions made it difficult to secure adequate ventilation and lighting arrangements; sanitary facilities were stretched to the limit by the rapid increase in the number of workers and the higher number of women employed; managements fought an uphill battle to reduce accidents and sickness. For against the assets of safety measures, guards, fencing and well equipped surgeries had to be set trainees unused to machinery, the greater speed of production and the general

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<sup>95</sup> Calder, *The Peoples War*, p.329.

<sup>96</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), p.19.

shortage of doctors and nurses; perhaps worst of all, long working hours were inevitable in wartime.<sup>97</sup>

Due to blackout restrictions, ventilation and lighting in many factories and other places of work were have been adversely affected. Johnston and McIvor state that ‘Safety training was affected by the blackout and neglected in the early phase of the war, as the emphasis was placed on maximising production.’<sup>111</sup> However, the impact of the blackout differed according to industry. Shipbuilding, for example, was severely affected by blackout restrictions which, particularly during winter months, limited the number of hours worked per day and as a result often necessitated Sunday working. There is much discussion of this in the minute books of the Clyde Shipbuilders’ Association.<sup>98</sup> In 1939 the Factory Inspectorate Report noted a large number of fatal drowning accidents during darkness at the docks, a direct result of the blackout. Additionally, it was noted in the above-mentioned report that accidents from gases and fumes were more common as a result of the blackout.<sup>113</sup> Indeed, Marwick has stated that ‘In the first months, before the necessary adaptations were made, the blackout proved to be a bigger menace to civilian lives than the European War...’.<sup>99</sup> This thesis will examine the impact of the blackout upon occupational health and safety and determine whether it varied across different industries on Clydeside.

The state played a more active role in regulating the workplace during both world wars. The Ministry of Supply was the largest employer during the Second World

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<sup>97</sup> Inman, *Labour in the Munitions Industries*, p.233. <sup>111</sup> Johnston & McIvor, ‘The War and the Body at Work’, p.118.

<sup>98</sup> *CSA Archive; TD241/1/33, TD241/1/34, TD241/1/35, TD241/1/36, TD241/1/37, TD241/1/38. <sup>113</sup> *Annual Report of the Chief Inspector of Factories, PP 1939* (Cmd.6251), p.13.*

<sup>99</sup> A. Marwick, *The Home Front, the British and the Second World War* (Hampshire: Thames & Hudson, 1976), p.28.

War. Ernest Bevin, Minister for Labour 1940-1945, transferred administration of the Factory Acts from the Home Office to the Ministry of Labour, which meant that one ministry was handling all welfare arrangements. Biographer Alan Bullock argues that Bevin was influential in improving the health and welfare of the workforce: 'As early as July 1940 he secured an Order for the full or part time appointment of doctors in large factories and persuaded the British Medical Association to set up a committee on industrial health in factories.'<sup>100</sup> It has been argued that during the war years and those immediately preceding them, the state was much more active in improving working conditions and the health and safety of the workforce. Johnston and McIvor have stated that Bevin 'used coercion and the threat of removal of employers' privileges under Order 1305 to force Scottish companies to radically extend company welfare facilities and improve sanitary and safety provisions.'<sup>101</sup> This is an example of the increased presence of the state in working life. The value of these measures introduced by the state will be considered in order to determine how effective a role it played in occupational health and safety provision.

This thesis will analyse the impact of the Second World War upon attitudes towards safety and health cultures as well as determining whether it can be regarded as a watershed in occupational health and safety provision. Johnston and McIvor argue that the war had a detrimental impact upon working conditions and illustrate the rising death and injury toll within industry.<sup>102</sup> They paint a depressing picture of a time where

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<sup>100</sup> A. Bullock, *The Life and Times of Ernest Bevin Vol II: Minister of Labour 1940-1945* (London: Heinemann, 1967), p.79.

<sup>101</sup> Johnston & McIvor, *Lethal Work*, p.55.

<sup>102</sup> Johnston & McIvor, 'The War and the Body at Work', p.113.

<sup>118</sup> Johnston & McIvor, 'The War and the Body at Work', p.117.

the health, safety and welfare of the workforce was sacrificed in order to maximise production for the war effort. Indeed, the numbers of both fatal and nonfatal accidents increased during wartime. There was a significant increase in the number of non-fatal accidents, rising from 29 per 1000 in 1938 to 43 per 1000 in 1943.<sup>118</sup> This thesis, which will cover a range of industries on Clydeside which were vital for the war effort, will determine whether this was case, or whether the situation was more complex with occupational health and safety provision varying across different industries and firms.

### Health & Fitness in Twentieth Century Britain

The early twentieth century witnessed a growing concern with health and sanitation in society. Jones argues that from 1900 onwards there was a greater role for public health in Britain.<sup>103</sup> This is most evident in the liberal welfare reforms of 1906-14, which encompassed many areas of life in Britain, such as free school meals, school medical inspection, provisions for better housing, sanitary improvements, food supply improvements, maternity and child welfare services and unemployment assistance. While such reforms must be considered significant improvements, it should be noted that variations in standards persisted, as a result of local authorities remaining responsible for delivering such health services. It should be noted that these reforms contributed to some significant improvements, for example, 'life expectancy for women increased from 55 to 66 years between 1910 and 1938, and from 52 to 61 years for men. The figures for infant mortality also continued to fall.<sup>104</sup> While Finlay notes the decline of deaths from infectious diseases

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<sup>103</sup> G. Jones, *Social Hygiene in Twentieth Century Britain* (London: Croom-Helm, 1986) p.7.

<sup>104</sup> M. Pugh, *State and Society: A Social and Political History of Britain 1870-1997* (London: Arnold, 1999), p.220-1.

such as tuberculosis.<sup>105</sup> Additionally, Zweiniger-Bargielowska comments that some liberal reforms, such as the National Insurance Act, 1911, introduced medical benefits for insured workers and that this was 'intended to protect the fitness of workers.'<sup>106</sup> Indeed, there is much written on the topic of increased state intervention in citizens bodies from the early twentieth century<sup>107</sup> and Newlands has commented that 'a whole set of practices and ideas emerged encompassing individual, family, and industrial health.'<sup>108</sup>

There exists much evidence to suggest that this concern for public health continued into the post war years; for example, the creation of a Ministry of Health in 1919, following which the Medical Research Council was established in 1920, and in 1927 the Central Council for Health Education was launched. Additionally, voluntary organisations such as The People's League of Health, The Sunlight League and the New Health Society, also played a very significant role in the healthy living campaign of the 1920s.<sup>109</sup> Jones has also highlighted the increased interest in eugenics which was evident in the interwar years, this involved trying to improve the quality of the race and was also concerned with venereal disease, mental health and alcoholism. Voluntary societies were active in this area too and Jones noted that while much interest in this area came from medical professionals and scientists, voluntary organisations also played a significant role.<sup>110</sup> Pressure groups such as

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<sup>105</sup> Finlay, *Modern Scotland*, p.133.

<sup>106</sup> I. Zweiniger-Bargielowska, *Managing the Body: Beauty, Health & Fitness in Britain, 1880-1939* (Oxford: Oxford University Press, 2011), p.6.

<sup>107</sup> Zweiniger-Bargielowska, *Managing the Body*; D. Porter, *Health, Civilisation and the State* (London: Routledge, 1995); Jones, *Social Hygiene in Twentieth Century Britain*.

<sup>108</sup> Newlands, *Civilians into Soldiers*, p.10.

<sup>109</sup> Zweiniger-Bargielowska, *Managing the Body*, p.162.

<sup>110</sup> Jones, *Social Hygiene*, p.53; Porter also notes the increasing attention paid to matters of eugenics, Porter, *Health, Civilisation and the State* (London: Routledge, 1995) p.167.

those cited above tended to have propaganda tools such as magazines, and their increased circulation gives an indication of the increased interest in health issues. For example, 'Better Health' sold 28,750 copies in 1927, by 1929 this had increased to 200,000.<sup>111</sup> Newlands considers the establishment of a Ministry of Health a significant improvement and commented that it was 'designed to consolidate all the medical and public health functions of central government, the ministry was responsible for the co-ordination and supervision of all local health services' she continues that 'from 1938 its role was greatly expanded as it took charge of the whole wartime emergency medical services, including hospital care, ambulance provision, medical supplies and public health.'<sup>112</sup> Nutrition was another topic receiving much attention in the inter-war years. Indeed, there was considerable debate in the 1920s and 1930s about malnutrition, and in 1934 the Committee against Malnutrition was established. Indeed, this was an extension of interest from the years prior to the First World War and Jones has noted the interest in nutrition, calories and vitamins from this period.<sup>113</sup> There were also changes to leisure time for the people of Britain in this period, with much emphasis on the outdoors, there was much public expenditure on facilities such as parks, swimming pools and playing fields, while hiking, cycling and camping were all increasingly popular pursuits.<sup>114</sup>

Greater concerns over the health of the population are further evidenced in immunisation programmes, concerns over nutrition, greater emphasis on outdoors and nature. Indeed, in the 1920s and 1930s there emerged a physical culture

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<sup>111</sup> Zweiniger-Bargielowska, *Managing the Body*, p.188.

<sup>112</sup> Newlands, *Civilians into Soldiers*, p.10.

<sup>113</sup> Jones, *Social Hygiene*, p.82.

<sup>114</sup> Zweiniger-Bargielowska, *Managing the Body*, p.297-8.

movement, influenced by various different societies such as the New Health Society and the Health and Strength League, for example. These movements campaigned for dietary and dress reform, regular exercise, personal cleanliness, sunbathing and fresh air, in order to improve the health of the nation and the individual. This emphasis on physical culture was taken up by the government itself, and in 1937 it launched the National Fitness Campaign. Zweiniger-Bargielowska commented that 'the state of public health was central to party political debate in the 1930s.'<sup>115</sup> Jones also comments on the increasing attention to public health, or as she terms it - social hygiene - which incorporated individual, family and industrial health. Additionally, she notes the links between public health and national efficiency and links this to the emphasis in the 1930s of the economic importance of a healthy nation.<sup>116</sup> Social hygiene encompassed both the health and well-being of the industrial worker in the early twentieth century, and Jones notes that the emphasis was on improvements for both employer and employee, she stated that: 'industrial hygiene rapidly become part of the task of social hygiene,'<sup>117</sup> as well as noting the involvement of industrialists in the eugenics movement.<sup>118</sup> Such campaigns and concerns over the fitness and health of the physical body were influenced by the poor standards of recruits, first for the Boer War, and then by the First World War.<sup>119</sup> In fact, the First World War compounded fears about physical deterioration and as such there was much concern with achieving an A1 nation. Indeed, Zweiniger-Bargielowska noted that 'the iconic

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<sup>115</sup> Zweiniger-Bargielowska, *Managing the Body*, p.281.

<sup>116</sup> Jones, *Social Hygiene*, p.7-10.

<sup>117</sup> Jones, *Social Hygiene*, p.70.

<sup>118</sup> Jones, *Social Hygiene*, pp.50-1.

<sup>119</sup> Zweiniger-Bargielowska, *Managing the Body*, p.5; Jones, *Social Hygiene*, p.25; Porter, *Health Civilisation and the State*, p.176.

status of the fit male body became a powerful national symbol in the inter war years,' she notes that military grading was used to determine 'physical fitness for active and useful life in the state.'<sup>120</sup> While Porter notes that the Boer War stimulated concerns over 'national efficiency', and resulted in special attention to the health of mothers, infants and children.'<sup>121</sup>

It is clear then that prior to the outbreak of the Second World War there was a greater level of state involvement in and regulation of public health. Indeed, Zweiniger-Bargielowska discusses how a well managed (fit and healthy) body was the aim of government policy and this growing political involvement in biology was termed biopolitics by Foucault.<sup>122</sup> She also notes the persistence of the preoccupation with health and fitness throughout the war years.<sup>123</sup> The combination of these measures achieved a degree of success, 'the advances in public health standards indicated by comparing military medical examination results in the two World Wars as corroborated by declining mortality and particularly infant mortality rates in the early decades of the twentieth century.'<sup>124</sup> Pugh has also commented on the improved health of the nation in the 1930s, stating 'improved health and longevity reflected a mixture of trends and changes; better diet, a municipal water supply piped to virtually all homes, preventative measures against such diseases as tuberculosis and typhoid, and the long term effects of Edwardian state welfare policies such as the schools medical service.'<sup>141</sup> While Zweiniger-Bargielowska, referring to the period

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<sup>120</sup> Zweiniger-Bargielowska, *Managing the Body*, p.194.

<sup>121</sup> Porter, *Health Civilisation and the State*, p.176.

<sup>122</sup> Zweiniger-Bargielowska, *Managing the Body*, p.7.

<sup>123</sup> Zweiniger-Bargielowska, *Managing the Body*, p.326.

<sup>124</sup> Zweiniger-Bargielowska, *Managing the Body*, p.336.

<sup>141</sup> Pugh, *State and Society*, p.221.

1880-1939, has commented that 'positive health campaigns were promoted by physical culturalists, life reformers and in official health education campaigns.'<sup>125</sup> She also noted a greater concern with public health - more vaccinations and sanitary and environmental reform, and cites the decline of epidemic disease as evidence to suggest that health was receiving more attention.<sup>126</sup>

Clearly there was a growing concern with health and physical fitness in British society from the early twentieth century, and evidence demonstrates that this continued throughout the interwar years. It is important to consider these issues in order to set the following analysis of occupational health and safety in wartime in its relevant context. This will demonstrate an understanding that changes to workplace health, safety and welfare did not exist within a vacuum, and instead were part of a growing concern with health, nutrition and hygiene in twentieth century Britain more generally. Indeed, this study will build on the existing historiography of health and British society in the twentieth century by analysing occupational health, safety and welfare amongst industrial workers, both male and female, on Clydeside during the Second World War.

### The Case for Clydeside

Clydeside was chosen as the geographical focus for this thesis for a variety of reasons. Clydeside was a major munitions, port and shipbuilding centre, pivotal to the war effort. It thus provides an ideal focus for a thesis aimed at examining the working of policy on occupational health and safety on the ground, as it were,

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<sup>125</sup> Zweiniger-Bargielowska, *Managing the Body*, p.5.

<sup>126</sup> Zweiniger-Bargielowska, *Managing the Body*, p.5.

incorporating the lived experience of danger and risk at work, drawing upon oral interview evidence as well as a wide range of other sources. Moreover, as a regional case study of occupational health and safety issues during the Second World War, this thesis addresses a significant gap in existing historiography. There are currently no local or regional case studies of these issues in wartime Britain, so this thesis is providing valuable new information on workplace health issues and cultures during wartime. Indeed, this thesis could operate as a model for studies of other regions in Britain during the Second World War, such as the North of England and the Midlands. Moreover, although much research has been conducted into the impact of the First World War on Clydeside, and on 'Red' Clydeside, comparatively little research has been published on the region and its experience of the Second World War. Knox and McKinlay have commented on this gap in the historiography, referring to it as 'unexplored and uncharted territory.'<sup>127</sup>

Clydeside, which 'stretched from the town of Greenock at the mouth of the river Clyde to Glasgow, the main city in the region, to rural Lanarkshire...'<sup>128</sup> was a crucial area for the British war effort, and it should be remembered that civilians in the West of Scotland were particularly affected by the war, not least during the Clydeside Blitz. Indeed, Finlay commented that 'the most sustained attack on Scotland was at Clydebank, which suffered the highest density of damage experienced by any British town or city.'<sup>146</sup> Moreover, the largest proportion of the

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<sup>127</sup> B. Knox, & A. McKinlay, "Pests to Management?: Engineering Shop Stewards on Clydeside 1939-1945" *Scottish Labour History Society*, Vol.30. p.11.

<sup>128</sup> A. Chand, 'Conflicting Masculinities? Men in the Reserved Occupations in Clydeside, 1939-1945' *Journal of Scottish Historical Studies*, (November 2014), p.219. <sup>146</sup> Finlay, *Modern Scotland*, p.186.

Scottish workforce was employed in this region during the Second World War. In fact, around one-third of the population of Scotland was engaged in industry in the Clydeside area, while almost 50% of the Scottish dock labour force was located on Clydeside.<sup>129</sup> Moreover, this region also attracted the more dangerous heavy industries - shipbuilding and repairing, iron and steel, engineering, coal mining and dock-work - which are the main focus of this research, and which were essential for wartime production. Johnston and McIvor have commented on the concentration of the Scottish working population in the more dangerous industries in the 1930s, stating that '40% of the male workforce [was] employed in the more hazardous occupations compared with only 29% in England.'<sup>130</sup> They also note that

occupational injury, mortality and disease rates were relatively high in 1930s Scotland (compared to England) and occupational health standards tended to be worse than other areas. This was especially so in the largely proletarianised, heavy-industry based industrial conurbation of Clydeside...<sup>131</sup>

Chand, who focuses on this region in her study of the reserved occupations, states that the area has long been recognised as 'an important industrial centre.'<sup>132</sup> Finally, its location was of great strategic importance, as Finlay points out, 'with the nearest coast and port to the western hemisphere, Scotland was a vital link for the supply of raw material.'<sup>133</sup>

It has also been argued that distinct work cultures existed on the Clyde and surrounding areas. Such issues have been examined in McIvor & Johnston's work on

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<sup>129</sup> Kenefick, *Rebellious and Contrary*, p.244.

<sup>130</sup> Johnston & McIvor, 'The War and the Body at Work' p.118.

<sup>131</sup> Johnston & McIvor, 'The War and the Body at Work', p.119.

<sup>132</sup> Chand, 'Conflicting Masculinities' p.219.

<sup>133</sup> Finlay, *Modern Scotland*, p.180.

asbestos and Kenefick's work on the Glasgow dockers among others. Both studies suggest a highly masculinised and generally more militant working environment existed on Clydeside as compared to the rest of the U.K.<sup>134</sup> Indeed, Kenefick refers to 'a unique set of industrial traditions particular to Glasgow'.<sup>153</sup> Additionally, in his book *Red Scotland!*, Kenefick commented 'in order of magnitude, the Clyde was clearly the principle centre of industrial and political unrest in Scotland...'.<sup>154</sup> While Johnston and McIvor have commented that 'Clydeside was one of the most strikeprone and politically militant regions of the UK up to the 1970s'.<sup>155</sup> This clearly outlines a case for this particular region of Scotland being somewhat distinct. Indeed, Knox and McKinlay have also commented on this trait evident in and around Clydeside, noting that 'class antagonisms were sharper and expressed more intensely'.<sup>156</sup> *Mass Observation* commented on the potential militancy of the Clydeside workforce during the Second World War, stating:

Clydeside workers are *also* having a war of their own, and that they cannot forget the numerous battles of the last thirty years, and that they cannot overcome the bitter memory of industrial insecurity on the past ten years and their distrust of the motives of managers and employers...<sup>157</sup>

Moreover, Johnston and McIvor link this political militancy of the region to masculinity, commenting 'being a man in the Clydeside heavy industries also involved standing up for your rights against authoritarian management and the bosses'.<sup>158</sup> For a number of reasons, then, Clydeside represents a robust case for an in-depth regional case study.

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<sup>134</sup> Johnston & McIvor, *Lethal Work*; Kenefick, *Rebellious and Contrary*. These issues are also explored in Johnston and McIvor, 'Dangerous Work, Hard Men & Broken Bodies'; and W. Kenefick,

& A. McIvor, (eds), *The Roots of Red Clydeside 1910-1914: Labour Unrest and Industrial Relations in the West of Scotland* (Edinburgh, 1996).<sup>153</sup> Kenefick, *Rebellious and Contrary*, p.244.

<sup>154</sup> W. Kenefick., *Red Scotland!: The Rise and Fall of the Radical Left, c.1872-1932*, (Oxford: Oxford University Press, 2007) p.180. However, he also emphasises that the Clyde was by no means the only militant area of Scotland.

<sup>155</sup> Johnston & McIvor, *Lethal Work*, p.23.

<sup>156</sup> Knox & McKinlay, 'Pests to Management', p.12.

<sup>157</sup> Mass Observation, 'Preliminary Report on Morale in Glasgow' 7 March 1941, p.3.

<sup>158</sup> Johnston & McIvor, 'Dangerous Work, Hard Men and Broken Bodies: Masculinity in the Clydeside Heavy Industries, c.1930-1970s' *Labour History Review* Vol.69 No. 2. (August, 2004), p.140.

## Methodology

In researching this thesis a variety of sources were consulted. A wide range of secondary literature was studied in order to gain an understanding of occupational health and safety in general and of the home front during the Second World War, as little literature exists on the subject of occupational health during the Second World War. The next stage of research consisted of an analysis of the Reports of the Factory Inspectorate. Despite the fact that this source applies to the whole of Britain it remains useful in determining how seriously health and safety issues were taken during wartime. In addition, many archival sources were consulted, including the Scottish Trades Union Congress archives located in Glasgow Caledonian University, the Mass Observation Archive at Sussex University (online), as well as the papers of Dr Thomas Ferguson at Glasgow University. Minute books, annual reports and other papers from both the Clyde Shipbuilders' Association and the Scottish Engineering Employers' Association were consulted as well as files from the local branches of the Amalgamated Engineering Union at the Mitchell Library. Additionally, the annual reports and minute books of the Glasgow Chamber of Commerce were also analysed. A key part of the research methodology was the use of existing archived oral testimonies and a major oral history project of my own, interviewing twelve wartime

home front veterans. Interviewees were sourced through word of mouth, letters in local and national newspapers and posters in libraries, local shops and health centres. Each interviewee was sent a consent form, which informed them of the nature of my research and what I was interested in discussing with them. I chose not to conduct full life interviews, although they were not rigidly structured either. Indeed, each respondent had some idea of what area of their lives I was interested in after reading the consent form, although I did not send out a list of prescribed questions. In preparation for the interviewees I created a loose list of questions around which the interviews themselves were slightly structured and although I tried not to interrupt interviewees recollections it was occasionally necessary to nudge the interviewee in the direction I wanted to go. Each interview has been recorded, transcribed and then archived in the Scottish Oral History Centre at the University of Strathclyde. Of the twelve interviews conducted as part of the research for this thesis there were six male and six female, of these twelve five chose to remain anonymous, all five requesting anonymity being female. This in itself was interesting, hinting that perhaps the male interviewees were more eager to have their wartime work recognised than the female interviewees. All twelve interviewees came from a working class background, and their ages at the outbreak of the Second World War varied from 13 years old to 20. This has resulted in a relatively young cohort of interviewees, which might have impacted on the recollections gathered. Antonia Hunter, the only female interviewee who chose not to remain anonymous, was aged 17 at the outbreak of war, and worked in a small factory constructing bailey bridges. J.D (anonymous female respondent), was aged 16 at the outbreak of war, and was employed in another small engineering works in Lanarkshire as a turning lathe operator. H.R (anonymous female respondent) was 20 in 1939 and

found wartime employment in Bishopton ammunition factory, transporting high explosives both above and beneath ground.

H.B (anonymous female respondent) served in the WAAF (Women's Auxiliary Airforce) in England, this interview is not fully transcribed and it appears that the interviewee did not realise from the consent form that as she was not an industrial worker she was not a suitable candidate. E.B (anonymous female respondent) was 19 years old at the outbreak of the Second World War, and was employed in iron foundries core making for bombs, although her jobs sometimes varied. D.S (anonymous female respondent) aged 16 in 1939, was one of the least talkative of the interviewees I spoke with, and also did not meet the requirements of the interview cohort as a typist. Bernard Murray, aged 13 at the outbreak of the war, started work in Singers sewing machine factory in 1940, aged 14. In 1941 he changed occupation, and began an apprenticeship in an Royal Ordnance Factory in Dalmuir, here he worked alongside his elder brothers. As an apprentice his job varied, and he remained here for the duration of the war. Edmund Barrie was 18 years old at the outbreak of war and was employed in Dalziel steelworks in Lanarkshire, where he worked as a machine operator and latterly a crane driver. His wartime industrial experience was shortened by the fact that he was called up to the armed forces in 1942. James McFadzean was also aged 18 in 1939, he worked as an apprentice pattern maker in Simons shipyard. Robert Leithead was 20 years old at the outbreak of war, he started his working life in the co-operative, before serving in the armed forces and then returning to follow his father's footsteps as a coalminer. Robert Scobie, aged only 14 at the outbreak of war, began working in the coal mines on the 1st September 1939. Due to his age he worked above ground until 1942. Finally, William McMaster was 13 years old at the beginning of the war and began work aged

14. He was employed in various places, although for the majority of the war years he was employed in Clyde Alloy testing steel for aircraft and various other labouring jobs.

Existing oral history collections were also analysed, including: Patricia Williams interviews with female employees of Imperial Chemical Industries at Ardeer and Ronald Johnston and Arthur McIvor's interviews with both coal miners and asbestos industry workers, conducted as part of the research for *Lethal Work* and *Miner's Lung* respectively. Interviews from the *2000 Glasgow Lives* project were also consulted, and those conducted by Glasgow Museums and archived as part of the 'Voices from the Yard' project also proved invaluable. Finally, some interviews from the AHRC-funded 'Masculinities Challenged, 1939-45' project (Juliette Pattinson, Arthur McIvor and Linsey Robb) and those conducted by David Walker as part of his PhD research on occupational health in the chemicals sector, have also proved useful.<sup>135</sup> In addition to those mentioned above, three interviews I conducted as part of previous research were also utilised, as these provided some comparison of post-war years with the war years.

The interviews conducted from existing oral history collections comprised of fourteen coal miners, eight men employed in various different occupations involving asbestos materials including; a ships plumber, a sheet metal worker, a rigger (employed in shipyards), three insulation engineers, a boilermaker plater (employed in Hyde Park Locomotive works) and a shipbuilding engineer. Further existing testimonies utilised were those of Willie Dewar and Harry McGregor, who both worked in North British Locomotive in Springburn, the former was undertaking an apprenticeship as a draughtsman during the war, although he also gained practical experience on the shop

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<sup>135</sup> D. Walker, *Occupational health and safety in the British Chemical Industry, 1914-1974*. PhD thesis. University of Strathclyde, (2007).

floor during this time, the latter was occupied as an apprentice engineer during the war years. All seven interviewees from the 'Voices from the Yard' oral history project worked in various different Glasgow shipyards during the Second World War including; Fairfields, Harland and Wolff, Simons and Inglis. Their occupations were foreman caulker, foreman shipwright, an engineer, shipwright and a blacksmith as well as a boy helper who progressed to a pipework manager. Three life-story interviews conducted by Ian McDougall were also utilised, two of which were with male interviewees and one with a female. All three worked in the textiles industry during the war, one as an apprentice pattern warehouseman, another as an apprentice dyer, while the female interviewee worked on the bobbing machines. Tommy Brennan, interviewed by David Bradley, worked in Dalzell steelworks and was heavily involved in the trade union movement. The sole interview consulted from the Glengarnock Oral History Project was with a medical doctor employed in the steel industry. Two interviews conducted by David Walker were also useful, the male interviewee worked in both the crystal houses and furnaces in Whites chemical works in Rutherglen, whilst the female interviewee was directed to work in the same chemical works, employed on gun cotton processes. Twelve interviews conducted by Patricia Williams were also used, of these twelve, ten were female and two were male. Each of these interviewees were employed by Imperial Chemicals Industries at their Ardeer plant during the war. Finally, of those interviews consulted from the 2000 Glasgow Lives Project, three were female and five male. Their occupations varied from engineering and factory work for the women to riveter heater in locomotive works, ships electrician, engineers and blacksmith for the men. The use of existing oral testimonies presented different problems. It was at times frustrating, particularly when the interviewer did not follow

up on issues raised by the interviewee which were of particular interest to myself and my own research. However, there were also some benefits to this, indeed, I found at times interviewees brought up issues of workplace health and safety of their own accord, which suggests that they were of particular significance. Indeed, despite the negative aspect mentioned above of utilising existing testimonies, these proved an invaluable resource for this research, particularly since given the age of the necessary interview cohort, it was difficult to locate respondents who had been slightly older at the outbreak of the Second World War.

Oral history is a valuable methodology, which, in the past, has often been under-utilised. McIvor and Johnston stated that ‘...there has been very little use of oral testimony in the field of occupational health history.’<sup>136</sup> This is surprising given its potential for enabling the historian to reconstruct the personal experiences of the workforce. However, recently more historians have utilised this methodology in order to learn about members of society who were previously marginalised. For example, Johnston and McIvor utilise this methodology effectively in both *Miner’s Lung* and *Lethal Work* in order to recreate people’s experiences of work and occupational ill health and also to understand how these workers perceived occupational hazards.<sup>137</sup> Summerfield has used this methodology in order to reconstruct women’s experiences of the Second World War and Summerfield and Peniston-Bird have utilised it to recover the hidden history of women in the Home Guard.<sup>138</sup> In this case oral history has allowed the authors to recreate and understand

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<sup>136</sup> McIvor & Johnston, *Miners’ Lung*, p.8.

<sup>137</sup> Johnston & McIvor, *Lethal Work*; McIvor & Johnston, *Miners’ Lung*.

<sup>138</sup> Summerfield, *Reconstructing Women’s Wartime Lives*; Braybon & Summerfield, *Out of the Cage*; P. Summerfield, & C. Peniston-Bird, *Contesting Home Defence: Men, Women and the Home Guard in the Second World War* (Manchester: Manchester University Press, 2007).

the female experience of the Home Guard, as well as the male response to this. In addition, oral history methodology has also been utilised in the field of health history, for example Beier's 2008 monograph which explores English working class health cultures in Lancashire, Barrow and Preston across the period 1880-1970.<sup>139</sup> This text is useful in demonstrating how oral history can be used to understand health cultures, despite the fact that its focus is restricted to England and it neglects occupational health and safety issues in favour of other health problems such as childbearing. However, her argument that working class health cultures changed in the mid-twentieth century is important, and signifies a move away from noninstitutionalised neighbourhood health-care providers to a system more familiar to today's, involving General Practitioners and other health-care professionals.<sup>140</sup> This bears some significance to this research which will explore health cultures at work. Moreover, this change in working class health cultures may also be evidenced in occupational health by the growing number of works doctors and nurses throughout the Second World War.<sup>141</sup>

Oral history provides rich personal detail which is often unavailable elsewhere. It demonstrates how the workforce themselves perceived issues of health and safety and illustrates the personal impact of illness, injury and disability resulting from employment in Clydeside during the Second World War. However, although beneficial, oral history is not without its pitfalls, one of which is the fragility of memory. Older members of the wartime workforce may have trouble remembering past events. While it is also important to consider the fact that the voices of the older

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<sup>139</sup> L. Beier, *For Their Own Good: The Transformations of English Working-Class Health Cultures, 1880-1979* (Columbus: The Ohio State University Press, 2008).

<sup>140</sup> Beier, *For Their Own Good*, p.38.

<sup>141</sup> The growing number of healthcare professionals in industry will be addressed in chapter five.

generation of the wartime workforce may be missing from this study completely due to fact that many years have passed since the Second World War, something which Gluck has identified in relation to women's oral history. She writes that the oral historian only hears from the survivors, and adds that those women who have been 'battered, killed, silenced or who have gone insane aren't around to tell us their stories.'<sup>142</sup> However, the use of oral history as a methodology enables a more qualitative approach to history, going deeper than statistics into 'real' personal accounts of health and safety at work during the Second World War. Despite this, when utilising this methodology there is, above all, a need to consider the possible bias of the interviewee and the possibility that they will have been influenced by their role in both society and the workplace. For example, whether they were skilled, semi-skilled or unskilled will have an impact upon their perspective of the workplace and on other groups within it. Furthermore, there is the possibility that interviewees' may be influenced by changing social values. Indeed, opinions may be influenced by the degree of importance attached to workplace health and safety in the present day. It is, therefore, crucial to remain aware that the present has the ability to distort the past. Moreover, it is essential to acknowledge the possibility that an individual's 'private' memory can be shaped over time by the prevailing public memory, through media such as books, newspapers, film and television.<sup>143</sup> Abrams states that the interviewee 'constructs a version of the self drawing upon discursive formulations or

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<sup>142</sup> H.S. Armitage, & B.S. Gluck, 'Reflections on Women's Oral History; An Exchange' in R. Perks, & A. Thomson, *The Oral History Reader* (London: Routledge, 2006), p.79.

<sup>143</sup> A. Thomson, 'Anzac Memories: Putting Popular Memory Theory into Practice in Australia' in A. Green, & K. Troup, *The Houses of History: A Critical Reader in Twentieth-Century History and Theory* (Manchester: Manchester University Press, 1999), pp.239-252. <sup>168</sup> L. Abrams, *Oral History Theory* (London: Routledge, 2010), p.54.

recognisable public identities available to him or her.’<sup>168</sup> This shaping of a individual’s ‘private’ memory by the public one may be particularly evident in this case because of the wide interest the war years have received in the above-mentioned media, which has served to create a common public memory of the ‘people’s war’. It is important to remain aware of this, as it can create difficulties for those whose experience differed from the ‘public’ memory of the war. Thomson has shown that the prevalence of the Anzac legend in Australia caused the memories of those whose experience differed from that legend to be repressed.<sup>144</sup> This may be a factor in this research. The myths of unity and the ‘people’s war’ may obscure memories and experiences which differed from the commonly accepted public one. It is also important to consider to what extent testimony has been affected by the interviewees need to show the interviewer that they played an important role in the war effort. An extreme example of this can be found in Kathleen Blee’s research into the history of women in the Ku Klux Klan, where she acknowledges that the testimony obtained during her research was affected by both political agendas and, more relevant to this study: ‘the desire to appear respectable to an oral historian’.<sup>145</sup> Such a desire to ‘appear respectable to an oral historian’ may also be a factor in this research, as interviewees may strive to present themselves as playing a vital, active (and therefore respectable) role in the war effort. However, that is not to say that interviewees fail to remember past events; indisputably they do remember, and these memories are often useful to historians when utilised with care and verified with other documentary evidence.

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<sup>144</sup> Thomson, ‘Anzac Memories’, p.247.

<sup>145</sup> Perks & Thomson, *The Oral History Reader*, p.215; K. Blee, ‘Evidence, Empathy and Ethics: Lessons from Oral Histories of the Klan’ in Perks & Thomson, *The Oral History Reader*, pp.322-331.

Moreover, the study of the health and safety of the civilian workforce in wartime is an area which has previously remained somewhat neglected. This can only be wholly rectified, I believe, by utilising oral testimony and thus giving a voice to those who have been omitted from the surviving documentary evidence. Oral history, according to Portelli this ‘tells us less about *events* than about their *meaning...*’.<sup>146</sup> This makes it a useful methodology when trying to understand and analyse work cultures and attitudes. Therefore, when recalling certain events, like, for example, an accident at work, the narrator inadvertently expresses their own attitudes towards this incident. However, interviewees’ responses may also be affected by the interviewer. This is commonly referred to as inter-subjectivity, which, according to Abrams ‘refers to the relationship between the interviewee and interviewer or, in other words, the interpersonal dynamics of the interview situation and the process by which the participants cooperate to create a shared narrative.’<sup>147</sup> For example, as a young woman, I may have elicited different responses than an older male interviewer, particularly in response to questions about masculinity, the culture of risk and the *macho* attitudes common among workers in Scottish heavy industry. A similar situation to that mentioned above was encountered by Young when conducting oral history-based research into Scottish masculinities.<sup>173</sup> Pattinson has also noted the presence of gendered inter-subjectivity in her work with veterans of the Special Operations Executive. She found female interviewees more willing to talk openly, and

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<sup>146</sup> A. Portelli, ‘What Makes Oral History Different’ in Perks & Thomson, *The Oral History Reader*, p.36.

<sup>147</sup> Abrams, *Oral History Theory*, p.54. <sup>173</sup> H. Young, ‘Hard Man, New Man: Re/Composing Masculinities in Glasgow c.1950-2000’, *Oral History*, Vol.35, No.1, 2007, pp.71-81.

to divulge information about most intimate moments in their lives.<sup>148</sup> However, further analysis of her interviews leads her to determine that viewing the interviews solely along gender variations was somewhat limiting. She notes that generational differences were also apparent, particularly so in the interviews with women, and that such generational differences can impede shared identification along gender lines.<sup>149</sup> Pattinson notes the existence of further differences according to social status, concluding that such differences can be obscured by a focus on gender differences. She states: ‘gender was certainly relevant, but was often mediated by other variables, including generation and social status.’<sup>150</sup> Abrams postulates that ‘the interviewer, by word, deed and gesture in the interview solicits a narrative from the narrator; a different interviewer would solicit different words.’<sup>177</sup> She continues: ‘the oral history document created in the interview is the result of a three-way dialogue: the respondent with him or herself, between the interviewer and the respondent and between the respondent and the cultural discourses of the present and the past.’<sup>151</sup> Finally, it is important to bear in mind that interviewees may be anxious to present themselves in a certain way, perhaps as more hardworking and safety conscious than they actually were. As this thesis also makes use of existing oral histories it will be important when utilising such materials to consider certain factors, such as who conducted them as well as the impact of this upon the interviewee. It will also be important to consider when and why these interviews were conducted in much

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<sup>148</sup> J. Pattinson, ‘The Thing That Made Me Hesitate...’ Re-examining gendered Inter-subjectivities in Interviews with British Secret War Veterans’ *Women’s History Review*, Vol.20, No. 2, April 2011, pp.2445-63, pp.248-9.

<sup>149</sup> Pattinson, ‘The Thing That Made Me Hesitate...’, p.253.

<sup>150</sup> Pattinson, ‘The Thing That Made Me Hesitate...’, p.259.

<sup>177</sup> Abrams, *Oral History Theory*, p.54.

<sup>151</sup> Abrams, *Oral History Theory*, p.57.

the same way as one would consider the origins of documentary sources. Shopes elaborates further on utilising extant oral testimonies in her article: 'Oral History and the Study of Communities.'<sup>152</sup> However, despite its pitfalls, oral history remains advantageous when utilised with care and, for this thesis, has provided information unavailable elsewhere, enabling an understanding of workers' perceptions of health and safety.

### Outline

Chapter two will provide an outline of the statutory framework prior to the outbreak of war. It will consider to what extent working conditions, health and safety were regulated by the state in the 1930s. It will outline the Factory Act of 1937, as well as other regulations and workmen's compensation. By doing so it will demonstrate the basic minimum standards of occupational health and safety in industry at the outbreak of the Second World War. Additionally, it will consider how such regulations and legislation were enforced as well as how workers' levels of disability were measured with a particular focus on the Factory Inspectorate and Medical Panels. It will also analyse the apparent increased interest in matters of occupational health and safety as demonstrated in the creation of various research bodies such as the Industrial Health Research Board. The second section of this chapter will outline key changes to workplace legislation passed during the war years and consider the difficulties encountered in policing both new and existing legislation during the war. This provides

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<sup>152</sup> L. Shopes, 'Oral History and the Study of Communities: Problems, Paradoxes and Possibilities' in Perks & Thomson, *The Oral History Reader*, pp.261-269.

the necessary context for the following three chapters, where lived experience will be analysed in much more detail, utilising oral testimony as well as documentary sources.

Chapter three will analyse working conditions in the industries of Clydeside which were important for the war effort. This will enable evaluation of the degree to which some industries had poorer working conditions than others, as well as highlight the variations which existed across different industries and sizes of companies. This chapter will assess the impact of the war upon welfare and working conditions of various industries with a focus on the number of hours worked, conditions and pace of work, as well as the impact of the blackout. The use of oral testimony will demonstrate how workers reacted to changes in working conditions, as well as illustrating how well legislation concerning working conditions was put into practice on the shop floor. The fourth chapter will examine accidents and safety at work in order to determine what impact the war had on both injury rates and accident causation. In this chapter attention will also be paid to how effective existing safety legislation was in the prevention of accidents during the war years. In addition, it will also be important to develop an understanding of what kind of safety provision was made available to the workforce and whether or not this was utilised effectively. Moreover, close analysis of oral testimony will allow for consideration of worker attitudes towards both accidents and safety. The use of personal testimony from both male and female workers will enable consideration of whether risk was gendered. Chapter five will analyse the dangers to health posed by the different kinds of war work undertaken by the Clydeside workforce during the Second World War, which is an important and often overlooked issue. The immediate dangers (accidents and injuries) are often given more consideration than the long term affects of work on health. This chapter will address issues of both chronic

and acute ill-health resulting from wartime employment. In addition, it will also examine the ways in which the workforce was protected against occupational hazards and disease and will analyse how effective existing safety measures and equipment were during the war years. Oral testimony will be particularly useful in determining to what extent workers were made aware of threats to health posed by their working environment. It will also examine attitudes to the threat of industrial illness, and consider whether these differed according to gender. Oral testimony will be a major source of evidence, it will enable an analysis of the impact of wartime work upon the individual, as well as providing an insight into how the workforce perceived issues of health and safety during the war years. Moreover, this methodology will demonstrate how people's lives and identities were affected as a result of sustaining an injury or illness through work, and will also be valuable in determining whether there existed a specific health culture on Clydeside, such as a culture of risk.

Each chapter will also consider the politics of occupational health and safety, with a particular focus on the role of the state. The demands of the Second (and First) World War are often considered by historians to have resulted in greater state intervention in the workplace. Attention will be paid to the apparent growing concern of the state with occupational health and safety during the Second World War, as witnessed by the creation of the Emergency Medical Services and the subsequent Clyde Basin Experiment. The Clyde Basin experiment was launched in January 1942 by Tom Johnston, this was a significant step which allowed GPs to recommend workers suffering from fatigue to rest and recuperate in the special emergency hospitals which has been established to treat injured civilians. State-funded and initiated research on the topic of workplace health and safety will also be considered

in order to determine what hazards the state was aware of. The final chapter will draw together conclusions from the preceding chapters, and will demonstrate whether the Second World War should be regarded as a watershed in occupational health and safety provision in Scotland. It will outline what was distinctive about the Clydeside experience of health and safety during the Second World War by exploring policy in action. It will also consider how worker attitudes to workplace health and safety were altered by the war. In doing so, this research will significantly extend the existing historiography of both occupational health and safety and Second World War home front history. Additionally, it will be the first region specific case study of occupational health and safety issues in wartime and as such might highlight further areas for study. It will add to the existing literature on health in twentieth century Britain, as well as challenging the existing historiography on occupational health and safety.

It is vital that those who were employed in the reserved industries during the war are not neglected in favour of studies of military men, women and the military body. Johnston and McIvor state that 'male workers outnumbered male servicemen by a ratio of more than two to one,'<sup>153</sup> while according to Summerfield, there were over 10 million men in the U.K. civilian workforce throughout the war.<sup>181</sup> This raises questions as to why the impact of the war upon their bodies has been neglected in favour of studies of the impact of the war upon the military body. Given the volume of studies published on the military body, masculinity, the home front and women's experiences of the war and the increasing interest in the history of health and safety at work, it is surprising that this area of the history of the Second World War and

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<sup>153</sup> Johnston & McIvor, 'The War and the Body at Work', p.126.

<sup>181</sup> Summerfield, 'Women, War and Social Change', p.102.

occupational health has suffered such consistent neglect. This thesis will address this gap in the literature by examining and analysing the impact of the war upon the civilian workforce (both male and female) as well as exploring the health cultures of workers and determining whether the war had a lasting impact on health, safety and welfare in the Clydeside workplace.

## **Chapter Two: Occupational Health and Safety, Law & Policy**

To fully comprehend the impact war work had upon the civilian body some understanding of the statutory framework that prevailed at the outbreak of war is necessary. Just how effectively were working conditions and health and safety regulated by the state during the 1930s? The primary role of the state with regards to the workplace was to take account of evidence from various interest groups and official bodies and in response compile, pass and update legislation. Therefore, this chapter will outline both the statutory framework and pre-existing policy prior to the Second World War. It will do so by considering the Factory Act (1937), the Mines Act (1911), Special Regulations and Workmen's Compensation. It will also consider how legislation was policed by the Factory Inspectorate and how effective they were in controlling risk at work. Additionally, in order to determine whether interest in occupational health and safety increased it will analyse the contribution made by medical research in the 1930s and whether this research was widely disseminated. Finally, section two of this chapter will consider the changes that occurred in both legislation and policy between 1939 and 1945, as well as considering the impact that

the war had on the workplace. Together these sections will provide an examination of both the pre-existing legislation and 'best practice' as well as changes enacted during the war years. This analysis will provide a platform for the following chapters which will evaluate working conditions, safety, accidents and industrial health in relation to the existing legal framework.

### The Statutory Framework

Whilst Scotland had a certain degree of devolved power gained through, for example, the Department for Health, the main power to enact workplace legislation remained with the Home Office in Westminster (although administration of the Factory Acts would be transferred to the Ministry of Labour during the war years). Workplace legislation was applied to the whole of Britain and commonly statistical and other information was presented as British rather than in regional form. This makes it difficult to precisely disentangle the 'Scottish aspect' from government documents and other official source material. However, as the major Scottish industries are known, it is possible to indicate which legislative measures might have made the greatest or least impact and provide reasons why this was so. While the records of the STUC, the Clyde Shipbuilders Association, The Amalgamated Engineering Union, the Scottish Engineering Employers Association, the Glasgow Chamber of Commerce, and oral interviews conducted with Clydeside workers have allowed for a greater understanding of the Scottish aspect of occupational health and safety.<sup>154</sup>

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<sup>154</sup> The case for a regional study of Clydeside has been made in Chapter One.

During the inter-war years the legal requirements regarding occupational health and safety were those laid out in the Factories and Workshops Act (1901), which was updated, improved and consolidated by the 1937 Factory Act, the passage of which had been delayed since 1922. Further acts regarding health, safety and welfare and amendments to the Factories Act were also passed in the intervening years 1901-1937. For example, the Hours of Employment (Conventions) Act 1936 represented a piece of paternalistic legislation that was fairly typical of the British state.<sup>155</sup> Additionally, the Factory Act (1937) also contained specific clauses relating to the working hours of women and young persons. While the Factory Acts laid out labour law for factories and workshops, some industries were subject to different regulations. For example, shipbuilding and dock-work were covered by the Regulations of 1931 and 1934 respectively. Although it has been shown that there were problems regarding effective reporting of accident and injury which persisted throughout the interwar years, particularly in dock work with the differences and difficulties encountered working both on the dock side and onboard ships.<sup>156</sup> Workplace regulation in the mining industry was provided by the Mines Act (1911) and the Mines Inspectorate. Further examples of extended state protection for the workforce can be found in the Silicosis Regulations (1918) and Asbestos Regulations (1931).<sup>157</sup>

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<sup>155</sup> Hours of Employment (Conventions) Act 1936 accessed via <http://www.legislation.gov.uk/ukpga/Geo5and1Edw8/26/22/section/1/enacted>.

<sup>156</sup> Kenefick, *Rebellious and Contrary*, p.142-3.

<sup>157</sup> These will be considered later in this chapter, p.57, p.66. It should however be noted here that illnesses such as mesothelioma were not known of at this time. Indeed, the links between asbestos and both lung cancer and mesothelioma were not acknowledged until the 1950s and 1960s. (Johnston & McIvor, *Lethal Work*, p.114-5). Medical knowledge of silicosis was more advanced at this time, indicated by the fact that it became eligible for compensation in 1928.

Long has shown that the state's role in occupational health and safety provision had virtually stagnated during the interwar years.<sup>158</sup> However, it has been argued that the passage of the Factory Act (1937) was a positive step in the improvement of occupational health and safety.<sup>159</sup> Indeed, the Chief Inspector of Factories could comment that the new Act was a 'striking innovation in factory legislation.'<sup>160</sup> As such it is important to outline the key features of the Act as well as the historiography surrounding it as this will provide a framework for the following chapters of the thesis. The 1937 Factory Act introduced a maximum 48 hour working week (previously working hours had been capped at 60 hours per week), made provision of washing, seating and cloakroom facilities compulsory, and introduced rest pauses and guidelines on weight carrying. Moreover, the 1937 Act included provisions which enabled the Secretary of State to require medical supervision in factories where cases of illness occurred if he believed these were due to the nature of a process or conditions of work.<sup>161</sup> However, it should be noted that whilst the state had the power to request adequate medical supervision the word 'adequate' was not defined accurately leaving this open to interpretation. Nonetheless, as Long has argued, this was a positive step forward with regard to industrial health:

The 1937 Factory Act legislated for new standards within workplaces, regulating facilities which had previously come under the ambit of voluntary welfare provisions, lowering maximum working hours, reworking the system of certifying surgeons and enabling the Home Office to order medical supervision in instances where it was feared that working practices could damage health.<sup>162</sup>

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<sup>158</sup> Long, *The Rise and Fall of the Healthy Factory*, p.22.

<sup>159</sup> McIvor, *A History of Work In Britain*, p.132.

<sup>160</sup> *Annual Report of the Chief Inspector of Factories, PP 1937* (Cmd.5802), p.5.

<sup>161</sup> [Factory Act 1937](http://www.legislation.gov.uk/ukpga/1937/67/section/47/enacted) accessed on 10.6.13 via [www.legislation.gov.uk/ukpga/1937/67/section/47/enacted](http://www.legislation.gov.uk/ukpga/1937/67/section/47/enacted).

<sup>162</sup> Long, *The Rise and Fall of the Healthy Factory*, p.123.

Long further comments that the 1937 act was much more detailed and specific in its regulations as opposed to the 1901 Act (and the later Health and Safety at Work Act, 1974) which were more general. Indeed, Long comments that the vague wording of the 1901 Factory Act, for example 'sufficient and suitable' and 'reasonable' which resulted in it being more ambiguous and subjective, something which the more specific 1937 Act rectified.<sup>163</sup> On paper this should have made the 1937 Act more rigorous than those passed previously, however in practice this depended on the exemptions and additional restrictions imposed - when and where deemed necessary - by the Secretary of State. The fact that the legislation was more detailed than what had gone before was something noted in the Annual Report of the Chief Inspector of

Factories:

The requirements embodied in it...[the 1937 Factories Act] have been made precise and detailed and the necessary latitude has been attained by conferring extensive powers of both exemption to meet instances when their rigid application would be inappropriate, and to imposing additional restrictions, where these appear to be called for.<sup>164</sup>

Additionally, the 1937 Act made provisions for welfare arrangements, such as canteens and washing facilities, something that had previously only been provided on a voluntary basis. It is likely that the introduction of the 1937 Factory Act - which had been first proposed in 1922, but delayed as the state 'bowed to industrialists views'<sup>165</sup>

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<sup>163</sup> Long, *The Rise and Fall of the Healthy Factory*, p.218.

<sup>164</sup> *Annual Report of the Chief Inspector of Factories, PP 1937* (Cmd.5802), p.5.

<sup>165</sup> McIvor, *A History of Work In Britain*, p.142; Rodgers, T., 'Employers Organisations, Unemployment and Social Politics in Britain During the Inter-War Period' *Social History* Vol.13 No.3 1988.

- was encouraged by the inter-war health movement.<sup>166</sup> Long also suggests it might have been motivated by new methods of mass production, which dehumanised the work process, while McIvor notes the contribution of the trade union movement, which 'operated as effective parliamentary pressure groups.'<sup>167</sup> However, there were many industries to which the Factory Acts did not apply, for example transport services, offices and a large proportion of agriculture. Clearly then legal frameworks for occupational health and safety standards varied across different industries. Indeed, for the industries covered in this research; shipbuilding & repairing, coal mining, iron and steel making, engineering, munitions, chemicals, dock work and textiles, it appears that the legal framework regarding occupational health and safety was lacking. The impact of such legal framework on Clydeside will be analysed by utilising oral testimony, regional employer association and trade union records and regional breakdowns of premises and accident rates from the Reports of the Chief Inspector of Factories. Moreover, legislation was also piecemeal with different regulations pertaining to different industries. Finally, it appears that it was more focused on the newer 'sunrise' industries, with much variation between these and the traditional old heavy industries, in which occupational health and safety standards stagnated.

### The Mines Acts

The publication of the Royal Commission Report of 1842 helped expose the terrible working conditions that prevailed within the coal mining industry and in 1843 the Mines Inspectorate was formed. This body was governed by the Home Office and was

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<sup>166</sup> Long, *The Rise and Fall of the Healthy Factory*, p.82. For more on the inter-war health movement see Zweiniger-Bargielowska, *Managing the Body & Porter, Health, Civilisation and The State*.

<sup>167</sup> Long, *The Rise and Fall of the Healthy Factory*, p.82; McIvor, *A History of Work in Britain*, p.134.

established to police mining legislation across Britain. During the 1930s health and safety at work in the coal mines was covered by the Mines Act of 1911. This Act contained clauses relating to safety with regards to ventilation, safety lamps, shafts and winding, travelling roads and haulage, support of roof and sides, machinery, electricity, explosives and prevention of coal dust. Additional sections dealt with provisions for accidents and health. These included provisions regarding sanitary facilities, washing and drying accommodation as well as notification of industrial diseases and accidents. However, the Act remained vague on important issues. For example, it stated that dust levels should not be allowed to become excessive, although again, it failed to determine exactly what levels of dust would be regarded as 'excessive.' A further failing of this legislation was that it placed the responsibility

for ensuring safe working conditions with pit deputies who had limited control, rather than with the management. McIvor and Johnston have identified the general and paternalistic range of these Acts and have shown that that they were 'passed to control working hours, the employment of women and children and to protect workers health and well-being.'<sup>168</sup> Other Acts and Regulations included the Silicosis Regulations (1918) and the Various Industries (Silicosis) Scheme (1928) which allowed compensation for silicosis under the Workmen's Compensation scheme. However, it appeared that in the mining industry health received a lower priority than elsewhere as it was only in 1927 that the first permanent medical inspector of mines (S.W. Fisher), was appointed. As Melling and Bufton have pointed out this was much later than the

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<sup>168</sup> McIvor & Johnston, *Miner's Lung*, p.47.

first appointment of the Factories Medical Inspectors, which was in 1898.<sup>169</sup> Despite this however, mining was one of the most extensively regulated industries prior to the Second World War.

### Compensation

Workmen's Compensation was another method by which the workforce could be protected against hazards in the workplace. It has been argued by some historians that the Workmen's Compensation Act (1897) encouraged employers to provide safer working environments as its existence meant they took steps to avoid expensive court battles and compensation payouts in the aftermath of accidents or exposure to harmful substances and materials. Bartrip writes that 'one of the reasons for establishing the workmen's compensation system was to facilitate safety by supporting preventative legislation ... with a measure providing economic incentives towards accident prevention.'<sup>170</sup> Therefore, Workmen's Compensation should be examined in tandem with other methods which pursued the improvement of industrial health. And Melling has argued that there was 'no intrinsic or necessary conflict between the pursuit of higher compensation rewards and the pursuit of safety at work.'<sup>171</sup> In apparent agreement with this observation, Long sees the pursuit of compensation and safety as complimentary to prevention, rather than competing with it.<sup>200</sup> Although these arguments have been posited in relation to criticisms of the trade union responses to

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<sup>169</sup> J. Melling, & M. Bufton, 'A Mere Matter of Rock' Organised Labour, Scientific Evidence and British Government Schemes for Compensation of Silicosis and Pneumoconiosis among coal miners 1926- 1940' *Medical History*, Vol.49, No.2, April 2005, pp.155-178, p.162.

<sup>170</sup> Bartrip, *Workmen's Compensation*, p.136.

<sup>171</sup> Melling, 'The Risks of Working and the Risks of Not Working', p.16.

<sup>200</sup> Long, *The Rise and Fall of the Healthy Factory*, p.212.

health and safety, they demonstrate that Workmen's Compensation should be regarded as a preventative measure against industrial illness. Therefore, it is necessary to outline this act and to analyse how successful it was at preventing workplace injury and illness. Was it an effective way of driving change?

The Workmen's Compensation Act (1897), allowed injured workers who had the ability and support to claim against their employer. There exists much historical debate as to how successful this was as a way of preventing workplace injury.<sup>172</sup> Indeed, Jones has argued that this Act was simply passed in order to fend off labour unrest.<sup>202</sup> Moreover, the coverage of this act was notoriously patchy and piecemeal and became more difficult to interpret with many amendments and regulations being tacked on over the years. This was particularly the case with regard to the industrial illnesses that first came under the remit of the Act in 1906. Initially only six industrial diseases were eligible for compensation; lead, mercury, phosphorous, arsenic poisoning, anthrax and ankylostomiasis. The Workmen's Compensation Act was amended in 1937 and from 1938 there were 37 industrial diseases eligible for compensation.<sup>173</sup> However, the effectiveness of the Workmen's Compensation Act as a preventative measure was weakened by the actions taken by employers who tended to insure themselves against

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<sup>172</sup> Melling & Bufton, 'A Mere Matter of Rock', p.162; Bartrip, *Workmen's Compensation*, p.136; Melling, 'The Risks of Working and the Risks of Not Working', p.16; Long, *The Rise and Fall of the Healthy Factory*, p.212; McIvor & Johnston, *Miner's Lung*, p.47. <sup>202</sup> Jones, 'An Inspector Calls', pp.224-5.

<sup>173</sup> These included 13 forms of poisoning such as lead, mercury, phosphorus, arsenic, benzene and nitrous fumes. Also included in the amended Act were dermatitis, ulceration of the skin and mucous membrane of the nose or mouth, epitheliomatous cancer or ulceration of the skin and ulceration of the corneal surface of the eye due to tar, pitch, bitumen, mineral oil or paraffin, chrome ulceration, scrotal epithelioma, compressed air illness, cataracts, ankylostomiasis, miners nystagmus, beat hand, knee and elbow, inflammation of the synovial lining of the wrist joint and tendon sheaths, glanders, telegraphists and writer's cramp, twisters cramp, inflammation, ulceration or malignant disease of the skin and subcutaneous tissues due to exposure to X-rays or radioactive substances and, finally, pneumoconioses, pre-disposing to partial or total incapacity whether due to tuberculosis or not. *Workmen's Compensation. A Bill to Amend the Law Relating to Workmen's Compensation 1937 (4)*, pp.48-52.

claims.<sup>174</sup> This meant they paid an annual premium to insure themselves against expensive compensation claims from injured and ill workers, which therefore reduced the Acts power to encourage employers to provide better working environments through costly compensation payouts.

There exists much debate concerning the value of Workmen's Compensation. For example, Tweedale has pointed out the limited effectiveness of this with regard to those working with asbestos, as asbestos-related illnesses were only included under the Act from 1931 and this did not apply to workers who had already left the industry. Moreover, workers only had three years to place a claim and as Tweedale has argued this was a 'ridiculous demand' due to the long latency period of asbestos-related disease.<sup>175</sup> Additionally, these Regulations only applied to those employed in the manufacture of asbestos, so joiners, ladders and dock workers for example, remained unprotected. A large proportion of those employed in the manufacture of asbestos were south of the border, Scottish workers had more contact with asbestos in occupations such as shipbuilding, which utilised high volumes of asbestos materials. As a result the majority of Scottish workers were not protected by the Asbestos Regulations (1931). Moreover, compensation raises difficult questions regarding the monetary value that can be put on health. Bartrip comments that 'one of the principle shortcomings was the level of benefits payable' which, he states, 'were modest indeed.'<sup>176</sup> Additionally, it could be argued that Workmen's Compensation failed as a preventative measure because obtaining compensation was often a long drawn out process and if one did

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<sup>174</sup> Johnston & McIvor, *Lethal Work*, p.47.

<sup>175</sup> Tweedale, *Magic Mineral to Killer Dust*, p.70.

<sup>176</sup> P. Bartrip, 'The Rise and Decline of Workmen's Compensation' in Weindling, *The Social History of Occupational Health*, p.166.

receive a payout these were usually low sums of money.<sup>177</sup> The low levels of compensation payouts were highly unlikely to induce employers to improve occupational health and safety and therefore, it is difficult to see how such a low benefit compensation scheme could act as a preventative measure.

One of the most significant challenges of the 1897 Workmen's Compensation Act was that workers had to prove that their injury or illness was a result of the working environment. Long comments that '...even workers whose health was impaired by an accident struggled to demonstrate their mishap was directly caused by their work and in the workplace.'<sup>178</sup> Additionally, many historians have commented upon the difficulties of obtaining compensation for industrial illness as there had to be an irrefutable link between the employment and the illness. For example, McIvor & Johnston have demonstrated that coal workers could claim compensation for coal workers pneumoconiosis relatively easily after 1942, yet other illnesses associated with coal mining, such as bronchitis and emphysema, were much more difficult to prove.<sup>179</sup> Dembe has also pointed out the difficulties in obtaining compensation, particularly for ailments which were common among the general population, such as back pain.<sup>180</sup>

A further failing of Workmen's Compensation was the extent to which workers were aware of their legal rights. Bartrip states: 'since the making of a claim and prior notification of the accident were entirely the responsibilities of the worker, rather than his employer, ignorance of the law was a crippling handicap....'<sup>181</sup>

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<sup>177</sup> Tweedale, *Magic Mineral to Killer Dust*, p.102; Bartrip & Burman, *The Wounded Soldiers of Industry*, p.87.

<sup>178</sup> Long, *The Rise and Fall of the Healthy Factory*, p.208.

<sup>179</sup> McIvor & Johnston, *Miner's Lung* pp.124-5; They have further demonstrated the difficulties of obtaining compensation with regard to asbestosis in *Lethal Work*.

<sup>180</sup> Dembe, *Occupation and Disease*, pp.10,102-6.

<sup>181</sup> Bartrip, *Workmen's Compensation*, p.129.

Additionally, Johnston and McIvor have demonstrated the difficulties asbestosis sufferers endured during the long and drawn out compensation process.<sup>182</sup> However, in industries such as coal mining, where the workforce was more heavily unionised, workers tended to be more aware of compensation. Johnston and McIvor, Long and Melling have all demonstrated that the unions were active in fighting for compensation for injured and ill workers.<sup>183</sup> Bartrip also notes differences along gender lines with regard to workmen's compensation. He comments that women were less knowledgeable about the existence of the Workmen's Compensation Act, partly because they were often unorganised, further noting that 'workers in dangerous industries tended to be more knowledgeable than others, whereas women, who were mostly unorganised, 'don't know anything about it"<sup>214</sup>

Indeed, dock work was one of the most dangerous occupations in the interwar years, and while workers in this industry were aware of Workmen's Compensation they were generally too fearful of losing their employment to pursue any kind of compensation. Moreover, compensation payouts, which were low regardless of industry as Bartrip has demonstrated,<sup>184</sup> were even lower in dock work because of the casual nature of the work. Kenefick illustrates this, pointing out that accidents were compensated for 'on the basis of what a man earned with a specific employer.' He continues:

if he [the dock worker] started with another employer on another day and then found himself injured, his compensation was based on the money earned with the new employer. No account was taken of what was earned previously, even if he had worked continuously for days or weeks beforehand. The Docker was a casual worker and compensation was paid on a casual basis.<sup>185</sup>

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<sup>182</sup> Johnston & McIvor, *Lethal Work*, pp.112-146.

<sup>183</sup> McIvor & Johnston, *Miners' Lung*; Long, *The Rise and Fall of the Healthy Factory*; Melling, 'The Risks of Working and the Risks of Not Working'. <sup>214</sup> Bartrip, *Workmen's Compensation*, p.129.

<sup>184</sup> Bartrip, 'The Rise and Decline of Workmen's Compensation', p.166.

<sup>185</sup> Kenefick, *Rebellious and Contrary*, p.161.

He points out that employers were aware of this and exploited it, 'pestering' dockers to accept lower levels of compensation than they were entitled to because they feared losing their jobs.<sup>186</sup> This example of the impact of Workmen's Compensation in dock work further illustrates the variations which persisted between different industries in the Clydeside region.

The similarities between Workmen's Compensation and military pensions should also be noted. Newlands has commented that 'the values attached to military and industrially disabled bodies also came to align during the war,' later adding: 'the desire to treat workers and soldiers as one was made explicit.'<sup>218</sup> Indeed she has demonstrated that during the war years compensation payouts to injured industrial workers matched those paid to class V soldiers.<sup>187</sup> Similar to Workmen's Compensation, to be eligible for military disability allowance the injured serviceman

'had to prove that the injury was attributable to military service during the war.'<sup>220</sup> This could be a difficult process however, as politicians, doctors and military personnel debated whether injuries were a result of war service, in much the same way as injured civilians had to prove that their injuries and disabilities were a direct result of their occupation, (although for military men this changed in 1943, from which point the state had to prove that injury was not sustained in war service in order to avoid paying compensation). Clearly, both industrial workers and military servicemen could encounter difficulties obtaining compensation, it could be a drawn out process, subject

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<sup>186</sup> Kenefick, *Rebellious and Contrary*, p.149.

<sup>218</sup> Newlands, *Civilians into Soldiers*, p.173-4.

<sup>187</sup> Newlands, *Civilians into Soldiers*, p.173.

<sup>220</sup> Newlands, *Civilians into Soldiers*, p.175.

to review in the years to follow. Indeed, the similarities noted here suggest an equal treatment of the industrially and militarily injured on the part of the government, which suggests similar monetary values placed on the bodies on industrial workers and class V soldiers. It should be noted however, that soldiers ranked above class V, Majors and Colonels for instance, received higher awards for the same disabilities, suggesting that some soldiers bodies were worth more than both soldiers of a lower ranking and industrial workers.

Clearly then, although a relatively positive step had been made to secure a better deal for injured and ill workers, Workmen's Compensation failed as a preventative measure. It focused on economic incentives and reparations for death, illness and disfigurement. In 1938, for example, the average amount of compensation awarded for death was £296 and for disablement £13 14s. For the same year the total number of workmen's compensation cases was 459,223, which was a decrease on the previous two years and the total payout was £6,765,067 which continued the upward trend from 1934.<sup>188</sup> Moreover, the evidence has shown that it was often difficult to secure compensation. Bartrip agrees that it failed as a preventative measure, commenting that 'the organisation and operation of workmen's compensation did little or nothing to promote safety.'<sup>189</sup> He adds that industrial safety was the province of legislation and inspection.<sup>190</sup> Johnston and McIvor concur, stating that: 'whilst symbolically important, as a preventative measure designed to improve safety standards the Workmen's Compensation Act of 1897 was less successful in practice than might be

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<sup>188</sup> *Home Office: Workmen's Compensation; Statistics of Compensation and Proceedings 1938* H.M.S.O (Cmd. 6203), p.5.

<sup>189</sup> Bartrip, *Workmen's Compensation*, p.137.

<sup>190</sup> Bartrip, *Workmen's Compensation*, p.236.

<sup>224</sup> Johnston & McIvor, *Lethal Work*, p.47.

supposed.<sup>1224</sup> Data outlining what sums of compensation were being paid in specific industries gives a sense of this important statutory welfare provision on the eve of the Second World War, and is outlined in table 2.1 below.

*Table 2.1 Compensation Paid in 1938* (Figures in brackets show each total as a % of total workforce or total amount of compensation paid).

	<i>Metal Factories</i>	<i>Shipbuilding &amp; Engineering</i>	<i>Mining</i>
<b>Total No. Employed</b>	392,114	618,605	796,382
<b>Total No. Claimants</b>	31,362(7.99%)	27,488(4.44%)	175,614(22.05%)
<b>Total Compensation Paid</b>	£362,394	£337,651	£2,738,355
<b>Total Fatal Accidents Compensation Paid</b>	125(0.032%) £38,693(10.67%)	92(0.015%) £26,642(7.89%)	983(0.123%) £310,005(11.32%)
<b>Total Accident Disablement Compensation Paid</b>	30,979(7.90%) £315,627(87.09%)	27,082(4.37%) £304,457(90.16%)	162,094(20.35%) £2,123,086(77.53%)
<b>Total Fatal Disease Compensation Paid</b>	1(0.0002%) £300(0.0822%)	- -	3(0.0003%) £1067(0.038%)
<b>Total Disease Disablement Compensation Paid</b>	257(0.065%) £7774(2.14%)	314(0.050%) £6552(1.94%)	12,534(1.573%) £304,197(11.10%)

*Source: Home Office: Workmen's Compensation; Statistics of Compensation and Proceedings 1938 Her Majesty's Stationary Office (Cmd. 6203), p.18.*

This exposes differences in the numbers of successful claims according to industry, with mining having a much larger percentage of claimants per head of the workforce. However, it also demonstrates some similarities, in each of the three industries under consideration, the largest proportion of compensation paid was awarded to persons claiming for disablement resulting from an accident.

### Special Regulations

In addition to the Factory Acts some industries were subject to special regulations. Perhaps two of the most well known, and the most relevant for this study with its geographical focus on Clydeside and the West of Scotland, are the silicosis and asbestosis regulations respectively. The Asbestos Industry Regulations were

introduced in 1931 to control levels of asbestos dust. In addition, these regulations introduced medical arrangements to screen new employees working within the asbestos industry and the industry itself was now brought under the Workmen's Compensation scheme. Tweedale has referred to this as a 'pioneering piece of legislation...'<sup>191</sup> However, such special regulations as the 1931 Asbestos Regulations were not without their pitfalls. For example, the asbestos regulations and the medical scheme only applied to those involved with the *manufacture* of asbestos materials but crucially, not those involved with its use. Therefore, insulation workers, ladders, Dockers and shipyard workers, all of whom were employed in large numbers on the Clyde and the central belt of Scotland, were not covered under these regulations. Tweedale has referred to this as a 'particularly tragic omission that was to cost many workers their lives.'<sup>192</sup> Johnston and McIvor have also commented on the neglect of Scottish workers, who, although not employed in the manufacture of asbestos, worked with the material in large numbers and that in the 1930s: 'asbestos was being used in increasing quantities throughout industrial Scotland. However, perhaps because workers here were not involved in actually manufacturing the product the medical profession was not all that concerned.'<sup>193</sup> Despite this, the Asbestos Regulations of 1931 were both an important and significant piece of legislation in the history of occupational health and safety. For the first time asbestos related illnesses were covered under the Workmen's Compensation Act, whilst the importance of medical examination had been clearly recognised. However, the regulations only benefitted

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<sup>191</sup> Tweedale, *Magic Mineral to Killer Dust*, p.21.

<sup>192</sup> Tweedale, *Magic Mineral to Killer Dust*, p.33.

<sup>193</sup> Johnston & McIvor, *Lethal Work*, p.113.

those who worked in the manufacture of asbestos, and as such could be regarded as having only a limited impact on the industries deadly reputation.

As has been argued, the impact of state legislation was patchy with some firms providing more than the legal minimum requirements whilst others neglected health, safety and welfare. Therefore, despite the introduction of some improvements, variations in provision existed both across and within industries as well as across different regions.<sup>194</sup> The lack of medical services in the workplace is noted in a report dating from the inter-war years, by Dr. Thomas Ferguson. This paper discusses the importance of medical services in industry and states that industrial medical services 'are already in existence in England, and to a lesser degree, in Scotland.'<sup>195</sup> This evidence supports the theory that Scotland traditionally had lower occupational health and safety standards than its southern counterpart. It is often speculated that this stems from the country's over-reliance on heavy industry, in which, occupational health was traditionally of a much lower standard.<sup>196</sup> Indeed, McIvor has argued that improvements in occupational health and safety standards between the wars were primarily restricted to the new expanding modern sectors of the economy which were concentrated south of the border, whilst Scotland remained reliant on the old and often unhealthy heavy industries.<sup>197</sup> Discrepancies were also noted in the Reports of the Chief Inspector of Factories throughout the late 1930s with many firms operating shorter hours than the 60 hours a week legal maximum laid out in the 1901 Factories

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<sup>194</sup> Such variation will be more fully addressed in the following chapters.

<sup>195</sup> Glasgow University Archives *DC57 Papers of Professor Thomas Ferguson: 57/156 Industrial Hygiene as a Phase of Public Health*, p.10 (n.d).

<sup>196</sup> McIvor, *A History of Work in Britain*, p.135.

<sup>197</sup> McIvor, *A History of Work in Britain*, p.136.

and Workshops Act.<sup>198</sup> It is also possible to cite examples of more welfare-minded employers who, during the 1930s, demonstrated a growing interest in welfare, health and safety. For example, Johnston and McIvor have pointed to the creation of the Industrial Welfare Society (IWS) in 1918 commenting that:

...from the early 1920s, membership of the IWS grew...by the early 1930s, several leading West of Scotland employers had joined, including the extensive North British Locomotive Company at Springburn. Consequently, within these firms, company welfare policies were developing in this period, and many of these schemes included some degree of workers health care.<sup>199</sup>

Therefore, prior to the outbreak of the Second World War some Clydeside employers were showing greater interest in the welfare of their workforce and acting beyond compulsory legislation, although this was the exception rather than the norm.

Additionally, some workers were better protected than others by state workplace regulation. Women and young people in particular were more likely to benefit from state regulation than men with the state adopting a paternalistic approach to occupational health, safety and welfare. This can be seen in the Employment of Women and Young Persons Act (1936) which regulated the hours of their employment. The state pursued a similar path when it came to industrial health. For example, the Factory Act of 1937 contained clauses prohibiting the employment of females and young persons' where certain dangerous processes were found in the manufacture and processes of lead and its compounds.<sup>200</sup> Enacting such protective legislation to prevent

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<sup>198</sup> *Annual Report of the Chief Inspector of Factories, PP 1935* (Cmd.5230), p.74; *Annual Report of the Chief Inspector of Factories, PP 1936* (Cmd.5514), p.66; *Annual Report of the Chief Inspector of Factories, PP 1937* (Cmd.5802), p.54.

<sup>199</sup> Johnston & McIvor, 'Marginalising the Body at Work?', p.132.

<sup>200</sup> *Factory Act 1937* accessed on 10.6.13 via [www.legislation.gov.uk/ukpga/1937/67/section/47/enacted](http://www.legislation.gov.uk/ukpga/1937/67/section/47/enacted) .

women and young people being damaged by these processes suggests that the state was well aware that the risks to health were not gender or age specific.

As has been well documented the 1930s witnessed a period of economic depression and many of the industries under examination were in decline. This undoubtedly impacted upon occupational health and safety issues. For example, trade unions and workers had less bargaining power in times of economic hardship and high unemployment, and as such had little or no leverage to improve poor and unsafe working conditions. Indeed, the Royal Commission on Safety in Coal Mines (193538) reported that safety stagnated in this period.<sup>201</sup> It also made 179 recommendations, some of which applied directly to occupational health and safety. For example, it recommended 'a more definite standard of what constitutes adequate ventilation' as well as suggesting improved provision of protective clothing, washing and sanitary facilities and that every mine owner appoint a doctor (full or part time).<sup>202</sup> Dock work provides another example of an industry in which health and safety suffered in the interwar years. Kenefick commented that 'the interwar years did little to change this situation and even by the late 1930s there was still great concern over the rate of accident and injury within the industry.'<sup>203</sup> Indeed, he argues that it was not until the National Dock Labour Scheme was established in 1947 that the situation regarding safety and accident rates improved.<sup>204</sup> However, some employers faced reduced profits and economic problems during the inter-war years, therefore, even if they had been willing they would have struggled to implement improvements in health, safety and

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<sup>201</sup> McIvor & Johnston, *Miners' Lung*, p.43.

<sup>202</sup> *Royal Commission on Safety in Coal Mines Report 1938* (Cmd.5890), pp.479-509.

<sup>203</sup> Kenefick, *Rebellious and Contrary*, p.145.

<sup>204</sup> Kenefick, *Rebellious and Contrary*, p.144.

welfare. This is particularly relevant in the Glasgow and West of Scotland areas which were traditionally over-dependent on heavy industries which had been badly hit by the depression. As McIvor has noted, it was in these traditional industries such as docks, maritime and allied trades, that occupational health standards stagnated.<sup>205</sup>

Despite the depression, the 1930s witnessed the increasing mechanisation of work and this helped to remove some workplace hazards. However, although old hazards were being eradicated new ones took their place, as McIvor has noted.<sup>240</sup> One example of this was the increasing mechanisation that took place which put workers at risk from machinery and electrical accidents. Unhealthier working environments were also found in coal mining where increased mechanisation had resulted in dustier environments. This situation also occurred with regard to occupational diseases, as although lead poisoning was becoming far less frequent, other illnesses, such as industrial cancers, were becoming more common. This is evident from the Reports of the Chief Inspector of Factories throughout the 1930s.<sup>206</sup> For example, in 1920 the Factory Inspectorate reported 289 cases of lead poisoning and 45 of epitheliomatous ulceration, however, by 1938, the number of reported cases of lead poisoning had decreased to 96, while cases of epitheliomatous ulceration had increased to 165.<sup>207</sup> McIvor has commented, 'as one dangerous practice or toxic substance was discovered,

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<sup>205</sup> McIvor, *A History of Work in Britain*, p.124; McIvor, 'Manual Work, Technology and Health' p.188-9; Kenefick, *Rebellious and Contrary*, p.145. <sup>240</sup> McIvor, *A History of Work in Britain*, p.132.

<sup>206</sup> *Annual Report of the Chief Inspector of Factories, PP 1935* (Cmd.5230), p.74; *Annual Report of the Chief Inspector of Factories, PP 1936* (Cmd.5514), p.66; *Annual Report of the Chief Inspector of Factories, PP 1937* (Cmd.5802), p.54.

<sup>207</sup> *Annual Report of the Chief Inspector of Factories, PP 1935* (Cmd.5230), p.45; *Annual Report of the Chief Inspector of Factories, PP 1938* (Cmd.6081), p.44. <sup>243</sup> McIvor, *A History of Work in Britain*, p.142.

investigated, regulated and controlled, so links between other materials and ill health were discovered. New hazards replaced old ones as the economy developed.<sup>1243</sup>

Therefore, by 1939, occupational health and safety legislation in the U.K. was patchy and varied according to industry, firm size, and location. Despite this, it is possible to argue that the situation with regard to health and safety was improving. The passage of the Factory Act in 1937 being perhaps the most notable improvement. Additionally, the Asbestos Regulations of 1931, although flawed, must also be regarded as being some sort of advance. The state was becoming more involved in the workplace by helping to regulate more dangerous and risky working conditions whilst employers, workers, and trade unions all appear to have been made more aware of the adverse impact work could have on health. This was aided by the work of several organisations such as the Industrial Welfare Society, the Industrial Fatigue Research Board, the Industrial Health Research Board and the National Institute of Industrial Psychology which were promoting and researching industrial health during the 1930s. However, despite these efforts such improvements must be kept in balance alongside some of the more negative aspects. For example, the Report of the Chief Inspector of Factories for the year 1939 noted that: 'the interwar depression led to a degeneration in occupational health and safety standards.'<sup>208</sup> Therefore, although the British state did make some effort to provide additional protection for workers (Factory and Mines legislation, Workmen's Compensation Act and 'Special Regulations') it is important to note that these were limited in scale and

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<sup>208</sup> *Annual Report of the Chief Inspector of Factories, PP 1939* (Cmd.6251), p.12.

reach. For example, some, more proactive, employers provided working environments much in excess of the minimum conditions required by legislation. However, the worst, unscrupulous employers continued to routinely flout the law and ignore even the minimum regulatory code. Clearly there remained a significant gap between legislation and workplace practice.

### Policy & Inspection

Jones has demonstrated the limits of the powers of the Factory Inspectorate in the inter-war years with regard to criminal prosecution of employers for evasion of the Factory Acts. She has argued that the role of the Inspectorate was primarily to educate both workers and employers in safe working practice and to encourage awareness of risk. It is worth quoting at length her description of the role of the

Factory Inspectors:

...first, inspectors transmitted values and standards; they emphasised the importance of a safe and healthy working environment and suggested what this meant in practical terms. Second, inspectors provided a resource of knowledge and skills which was the basis for their acceptance by employers and workers...Third, inspectors evaluated the safety and health of the factory, detected bad practices and judged the appropriate action to be taken ... much of the inspectors work aimed at self-regulation for industry.<sup>209</sup>

Additionally, Jones has argued that where the prosecution of employers was successfully pursued the fines that were imposed were, 'too low to act as a deterrent and there was no reformatory element in the law.'<sup>210</sup> Jones further argues that the

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<sup>209</sup> Jones, 'An Inspector Calls', pp.224-5.

<sup>210</sup> Jones, 'An Inspector Calls', pp.226-7.

Factory Inspectorate advocated self-regulation in industry, which was why they choose to educate employers and employees rather than prosecuting them.<sup>211</sup> This approach is confirmed in the available statistics regarding prosecutions. Thus, the Annual Reports of the Chief Inspector of Factories demonstrates that there were only 1,479 charges brought against factory occupiers in 1938 and of this small number 1,256 resulted in convictions. Despite there only being a small number of charges brought against employers the conviction rate was quite high compared to the cohort charged. This Report also illustrates how low the fines imposed on employers were. For example, in 1938, of the 1,256 convictions the total amount imposed in fines was under £5000,<sup>212</sup> making an average of only £4 per conviction.

Tweedale has also commented upon the failure of the Inspectorate to impose fines upon employers in the asbestos industry, noting that:

Compliance with the Regulations was said to be sometimes 'extremely variable' and enforcement by the Inspectors 'difficult' and at times 'impossible'. Yet only two prosecutions were logged under the 1931 Asbestos Regulations: that was in 1935 and 1936, when two separate convictions brought total fines of £23 plus costs.<sup>249</sup>

This echoes the point made by Jones that prosecutions under the Factories Acts were rare, and that even when convictions were obtained, fines were often too low to act as a deterrent.<sup>213</sup> This also suggests that the Factory Inspectorate felt imposing fines was of little positive value. Jones has provided various reasons as to why criminal prosecution of employers was low: a) it was considered a last resort; b) often inspectors

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<sup>211</sup> Jones, 'An Inspector Calls', p.226.

<sup>212</sup> *Annual Report of the Chief Inspector of Factories, PP 1938* (Cmd.6081), p.109.

<sup>249</sup> Tweedale, *Magic Mineral to Killer Dust*, p.162.

<sup>213</sup> Jones, 'An Inspector Calls', p.223.

would take into account the general attitudes of firms towards health and safety as well as their previous safety records; and, c) convictions against employers may have backfired on the worker who feared victimisation for speaking out.<sup>214</sup> Kenefick has pointed out that this was also evident in the case of dock work on the Clyde, stating that 'fear of loss of employment was therefore one reason that dockers did not report accidents, or claim compensation.'<sup>215</sup>

The policing of legislation was also important, and in her examination of this Long has commented upon the numbers of Factory Inspectors, noting that there were 290 in 1937, the year in which it was announced that this would be increased to 332.<sup>216</sup> Despite this increase, Long has argued that, 'there was a limit to how much an Inspectorate of this size could achieve given the vast number of factories and workshops which it had to inspect, let alone the limitations placed upon the tiny numbers of medical inspectors,' there were only 13 medical inspectors in 1942.<sup>217</sup> Indeed, in 1939 the 320 Factory Inspectors had 290,574 workplaces under their jurisdiction.<sup>218</sup> Which meant that in order to visit every workplace once per year, each Inspector would need to conduct 908 inspections. Evidence from the annual reports of the Scottish Trades Union Congress demonstrates that in 1939 there were <sup>219</sup>just 21 Factory Inspectors in Scotland.<sup>256</sup> Therefore, according to the number of premises subject to the Factory Acts in Scotland in 1946 (the only year for which such figures could be located) the Scottish Factory Inspectors would each have to have conducted

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<sup>214</sup> Jones, 'An Inspector Calls', p.227.

<sup>215</sup> Kenefick, *Rebellious and Contrary*, p.149.

<sup>216</sup> Long, *The Rise and Fall of the Healthy Factory*, p.123.

<sup>217</sup> Long, *The Rise and Fall of the Healthy Factory*, p.123; *Annual Report of the Chief Inspector of Factories, PP 1942* (Cmd.6471), p.4.

<sup>218</sup> *Annual Report of the Chief Inspector of Factories, PP.1939* (Cmd.6251), p.5.

<sup>219</sup> *nd Annual Report of the Scottish Trades Union Congress 1939; Report of the General Council*, p.39.

1,371 inspections in order to visit every workplace covered by the Factory Act.<sup>220</sup> This was significantly higher than the 908 inspections which would have had to be carried out by those stationed south of the Border. Clearly Scotland was at a disadvantage in terms of Factory Inspection and effective policing of legislation. Tweedale has also commented upon the shortage of inspectorate staff, arguing that it was 'understaffed and often overworked.'<sup>221</sup> Policing legislation became problematic because it was not only employers who failed to comply with legislation. Workers also flouted laws in order to speed up the work process and to maximise earnings if on piece work payments.<sup>222</sup> Jones has noted this, commenting that there was a 'lack of clear division between employers and workers, for many of the latter also broke the factory law.'<sup>223</sup>

The Mines Inspectorate were charged with the task of policing mining legislation. McIvor and Johnston have argued that they made 'a positive contribution to health and safety in the workplace' but that this was limited in that 'there remained a massive gulf between what was legislated for and actual workplace practice.'<sup>224</sup> This was perhaps more obvious in the coal mining industry than elsewhere because of the nature of the work, which took place underground. This made it harder to regulate and more difficult for mines inspectors to police legislation. The Royal Commission on Safety in Coal Mines in 1938 suggested that an increase in the number of inspections was required and recommended that additions to both administrative and technical staff be made.<sup>225</sup> This suggests that the Mines Inspectorate was understaffed at the outbreak

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<sup>220</sup> *Annual Report of the Chief Inspector of Factories, PP 1946 (Cmd.7299)*, p.116.

<sup>221</sup> Tweedale, *Magic Mineral to Killer Dust*, p.280.

<sup>222</sup> Workers flouting factory legislation will be examined in more detail in the following chapters.

<sup>223</sup> Jones, 'An Inspector Calls', p.227.

<sup>224</sup> McIvor & Johnston, *Miner's Lung*, pp.47-8.

<sup>225</sup> *Royal Commission on Safety in Coal Mines Report 1938 (Cmd.5890)*, p.480.

of war. One retired coal miner, when asked whether he recalled the presence of any Mines Inspectors commented: 'I kent two or three of them ... but they only came down every so often.'<sup>226</sup> While another commented that: 'they had to work hand in glove with the management.'<sup>227</sup> This implies that the interests of the workforce were not always a priority. Finally another retired miner, when asked about the presence of Mines Inspectors, commented that the only time he witnessed them was after an accident.<sup>228</sup>

Having undertaken extensive research, Tweedale has criticised the level of protection that the state offered to workers who toiled within the asbestos industry and suffered death and disablement. Indeed, he has argued that the Factory Inspectorate were complicit with employers in finding levels of death within the industry that were 'acceptable.' Thus, according to Tweedale:

The sheer lack of government constraint on the asbestos industry in matters of health and safety is troubling. The 1931 regulations were intended to be 'provisional' and yet clearly between the 1930s and 1950s there was little chance that asbestos legislation would be tightened. In fact, in this period the regulations were mostly never properly enforced.<sup>266</sup>

Despite this indictment of the state's role in policing workplace regulations Tweedale does suggest that the depression of the 1930s was likely to have had a negative impact on the ability of the state to enforce legislation.

Another method by which legislation was enforced and workers protected can be found in the actions of the Medical Boards. With regards to asbestos these were established in 1931 to manage the Medical Arrangements Scheme - part of the 1931

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<sup>226</sup> Harry Steel, interviewed by R. Johnston, 29 June 2000, (SOHC/017/C9), p.7.

<sup>227</sup> Bobby Strachan, interviewed by R. Johnston, 5 July 2000, (SOHC/017/C11), p.7.

<sup>228</sup> Dick Easterbrook, interviewed by R. Johnston, 11 July 2000, (SOHC/017/C17), p.7. <sup>266</sup>

Tweedale, *Magic Mineral to Killer Dust*, p.280.

Asbestos Regulations. The Boards conducted examinations of new workers as well as periodic examinations of existing workers. Workers suspended as unfit came under the scope of the Workmen's Compensation Act. Silicosis first became eligible for compensation in 1918, although this only applied to certain workers, those in the coal mining industry among others, were excluded. Susan Morrison has referred to this early legislation as 'a placebo intended to placate the worst affected workers.'<sup>229</sup> Silicosis among some coal miners attained recognition and became eligible for compensation in 1928 under the Various Industries (Silicosis) Scheme. This legislation was updated further in 1931, allowing partially disabled workers to make a claim. The Silicosis and Asbestosis Medical Board consisted of 10 full-time doctors and 1 senior medical officer with panels stationed in Sheffield, Swansea, Cardiff, Stoke on Trent and Manchester.<sup>230</sup> This is indicative of the low priority afforded to the Scottish industrial workforce, particularly given that Scotland had a larger percentage of its working population in mining and quarrying compared to Britain as a whole.<sup>231</sup> Morrison states that 'Mines Inspectors did little to draw attention to the silica risk in Scotland.'<sup>232233</sup> Clearly, Medical Boards were not without their drawbacks. Initially, workers themselves were suspicious of them as it was thought that they were being used to force them out of work. The STUC commented on the potential downfalls of Medical Panels involved in granting compensation: 'there was

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<sup>229</sup> S. Morrison, *The Silicosis Experience in Scotland: Causality, Recognition, and the Impact of Legislation during the Twentieth Century* (Saarbrücken: Lambert, 2010), p.144.

<sup>230</sup> 'Education in Industrial Health' a Report of the Education Committee of the Association of Industrial Medical Officers, *British Journal of Industrial Medicine*, Vol.II, No.3, 1945, p.160.

<sup>231</sup> Lee, C.H, *British Regional Employment Statistics 1841-1971* (Cambridge University Press: Cambridge, 1979)

<sup>232</sup> Morrison, *The Silicosis Experience in Scotland*, p.145.

<sup>233</sup> *nd Annual Report of the Scottish Trades Union Congress: 42<sup>nd</sup> Annual Congress: Report of Proceedings. First Days Proceedings Wednesday 26<sup>th</sup> April 1939*, pp.228-9.

quite definitely a growing mistrust in the minds of injured men who had to appear before a single medical referee whose decision was final and binding'<sup>271</sup> According to Turner and Newall who, it must be acknowledged were potentially biased, the workers did not welcome medical examinations, 'it caused them anxiety.'<sup>234</sup> Additionally, Tweedale and Hansen have argued that in the 1930s asbestosis was a relatively new disease and as such, the Medical Boards were conservative in their diagnoses of asbestos related diseases. Thus, they argued that, 'This conservatism is apparent in the number of suspensions in the asbestos industry in the first year of the schemes operation - a mere 32 cases of total disablement from 1,516 examinations.'<sup>235</sup> A further failing of the Medical Boards was that workers were allowed to retain a certain level of privacy over their diagnosis and therefore continue working even if diagnosed with an occupational disease.<sup>274</sup> Moreover, workers decisions to remain working in the asbestos industry were often motivated by economic necessity. It has also been suggested that annual medical inspections possibly gave workers a sense of security that their health was being monitored and taken care of.<sup>236</sup> However, 'Medical Board decisions produced some striking anomalies', with post mortems often revealing that workers had been suffering from asbestosis despite having been passed as fit to work.<sup>237</sup> It must also be considered that the low number of people suspended from the industry may be a result of political considerations, Tweedale and Hansen argue that the Medical Boards were reluctant to

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<sup>234</sup> G. Tweedale, & P. Hansen, 'Protecting the Workers: The Medical Board and the Asbestos Industry 1930s-1960s' *Medical History*, Vol.42, No.4, 1998, pp.439-457, p.445.

<sup>235</sup> Tweedale & Hansen, 'Protecting the Workers', p.446.

<sup>274</sup> Tweedale & Hansen, 'Protecting the Workers', p.448.

<sup>236</sup> Tweedale & Hansen, 'Protecting the Workers', p.447.

<sup>237</sup> Tweedale & Hansen, 'Protecting the Workers', p.449.

make people unemployable particularly during the depression and the war years. They state: 'the war effort led the Medical Board to relax its suspension policy.'<sup>238</sup> Nonetheless, having examined the shortcomings of the Medical Boards it is important to note that their creation can be seen as a positive action that was designed to address some of the poorest working conditions. As Tweedale and Hansen have argued, the involvement of the Medical Boards with the asbestos industry was 'part of a pioneering government effort to protect and compensate workers in one of the dangerous trades.'<sup>239</sup>

### Medical Knowledge and Research

In addition to the steps taken to introduce new legislation there was a growing interest in occupational health and safety in the inter-war years. This is evidenced by the various movements that emerged to campaign on these issues. For example, in 1927 the first Industrial Museum opened in London, whilst Jones notes that in this period Factory Inspectors began giving safety lectures in technical schools and the Home Office itself published many safety pamphlets.<sup>279</sup> Additionally, the Industrial Welfare Society, the National Institute of Industrial Psychology, Industrial Fatigue Research Board and the Industrial Health Research Board were all established during this period. There are also significant links between industry and military. For example, there was growing interest into the design of machinery and how this fit the machine operator, in

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<sup>238</sup> Tweedale & Hansen, 'Protecting the Workers', pp.449,452.

<sup>239</sup> Tweedale & Hansen, 'Protecting the Workers', p.452.

<sup>279</sup> Jones, 'An Inspector Calls', p.230.

order to deploy labour more effectively. Newlands has illustrated that similar research was conducted by the military. She commented 'intelligence tests introduced into the army were developed by members of the MRC's (Medical Research Council) Industrial Health Research Board.'<sup>240</sup> As well as demonstrating similarities between utilisation of manpower in the army and industry, this also illustrates that members of the IHRB became involved in military research during the war. Newlands comments 'a reciprocal relationship seems to have been established, as the soldiers body became synonymous with that of the industrial worker.'<sup>241</sup> Zweiniger-Bargielowska also commented on the growing concern with utilising manpower efficiently, and the fact that this was not restricted to industry, she noted that 'army physical development centres were established for selected recruits suffering from 'certain remediable disabilities''<sup>242</sup> which is similar to the rest breaks scheme and utilisation of the Emergency Hospitals for treatment of the war weary industrial worker. Indeed, there was much focus on ensuring both workers and soldiers bodies were performing at the height of their capacity. The trade unions were also acting as a powerful pressure group and their revival in membership and growing power from the mid-1930s saw health and safety becoming more prioritised. Long presents a convincing argument about the positive role of the trade unions in promoting the 'healthy factory'.<sup>243</sup> Moreover, prior to the outbreak of war, evidence from the Annual Reports of the Chief Inspector of Factories also points to a growing concern with industrial health. Thus, the Report of 1937 stated:

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<sup>240</sup> Newlands, *Civilians into Soldiers*, p.32.

<sup>241</sup> Newlands, *Civilians into Soldiers*, p.94.

<sup>242</sup> Zweiniger-Bargielowska, *Managing the Body*, p.334.

<sup>243</sup> Long, *The Rise and Fall of the Healthy Factory*, pp.85-129.

Each year shows an increasing interest in the effect of industry on the health of the worker and with that interest comes an effort to correlate ill-health with specific employment. In future, a medical student will be expected to take a course in this branch of medicine.<sup>244</sup>

This would point to the fact that, in addition to the new legislative measures being introduced, attempts were also being made to disseminate workplace health and safety issues to a wider audience.

### War and Occupational Health and Safety

The war had a direct impact upon conditions of work on the home front. Indeed, Tweedale has commented that 'during the Second World War, strategic concerns pushed health issues into the background.'<sup>245</sup> For example, after the fall of France in 1940, working hours increased dramatically. Inman stated that after Dunkirk engineering R.O.Fs were working 10-12 hour shifts, seven days a week.<sup>246</sup> The intensification of production was noted by Johnston & McIvor who commented that: 'working hours peaked following Dunkirk in May 1940, when a seventy to eighty hour, seven day working week was not uncommon.'<sup>247</sup> After Dunkirk there was a production spurt over 1940-41 when the country was gripped with the need to replenish lost equipment and provide planes and munitions to repel a planned German invasion. Moreover, the rules and regulations of the Factory Act (1937) were relaxed for the duration of the war and this included the ban on women working nightshift also being removed. The Chief Inspector of Factories commented on this in his Report in 1945.

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<sup>244</sup> *Annual Report of the Chief Inspector of Factories, PP 1937* (Cmd.5802), p.53.

<sup>245</sup> Tweedale, *Magic Mineral to Killer Dust*, p.280.

<sup>246</sup> Inman, *Labour in the Munitions Industries*, p.294.

<sup>247</sup> Johnston & McIvor, 'The War and the Body At Work', p.119.

He wrote: 'Though many sections of this came into force in July 1938, others were postponed by the Act until July, 1939, so that little progress had been possible in regard to the enforcement of the provisions when the work was interrupted by the war.'<sup>248</sup> Indeed, the report goes on to mention that significant progress had been made by Factory Inspectors (whose workload was decreasing as a result of the end of hostilities) in improving adherence to the 1937 Factory Act in 1945.<sup>249</sup> McIvor has commented that the Factory Acts were suspended during the war in order to facilitate production, he notes that this had also occurred during the First World War.<sup>250</sup> This indicates that production and the war effort was more of a priority for the state than the health and welfare of the workforce. It should be noted that the Factory Inspectorate had commented, in 1937, that there had been marked progress toward compliance with the Act, but that because of the more detail specific nature of the 1937 Act compared with that of 1901, and the fact that it was more complex, securing its 'complete working must necessarily be a gradual process' a process which was interrupted by the outbreak of war in 1939.<sup>251</sup> While the 1939 Factory Inspectors Report commented that there would have been a more 'marked advance' in implementing the conditions of the 1937 Act had it not been for 'the intervention of war.'<sup>252</sup> The Second World War led to increasing trade union membership, and there were strikes and lockouts protesting against poor working conditions.<sup>253</sup> However, Bevin, as Minister of Labour, introduced various Emergency Orders to ensure maximum production and good

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<sup>248</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.35.

<sup>249</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.35.

<sup>250</sup> McIvor, *A History of Work in Britain*, p.143.

<sup>251</sup> *Annual Report of the Chief Inspector of Factories, PP 1937* (Cmd.5802), p.6.

<sup>252</sup> *Annual Report of the Chief Inspector of Factories, PP 1939* (Cmd.6251), p.2.

<sup>253</sup> McIvor, *A History of Work in Britain*, p.143.

industrial relations and these imposed control on employers and well as workers. It appears that Bevin was trying to counter the worst effects of the suspension of the 1937 Factory Act by introducing first aid and medical facilities as well as provisions to ensure the welfare of the workforce. For example, workers were now working for longer each day, but to counter this the Factories (Canteens) Order of 1940, aimed to ensure the workforce was well fed.

That there were variations in occupational health and safety conditions during the war years has previously been noted, with 1943 being regarded as something of a watershed regarding the scaling down of war production and a lessening in the number of hours worked. As demonstrated in table 4.1 in Chapter Four, accidents dropped as production eased. Indeed, in 1943 the number of non-fatal accidents was 10.5% less than in the previous year and the number of fatal accidents 1.1% less.<sup>254</sup> Certainly it seems that 1943 might have been something of a turning point in the war, with a greater recognition that longer working hours did not result in increased production.<sup>255</sup> The excessive hours of 1940-41 were a repeat of mistakes made during the First World War, and suggest that, despite research such as that published by the Health of Munition Workers Committee, similar mistakes in labour utilisation occurred. The Chief Inspector of Factories as early as 1940 wrote: 'some valuable lessons of the last war had been widely forgotten.'<sup>296</sup>

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<sup>254</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), p.5-6.

<sup>255</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), p.19.

<sup>296</sup> *Annual Report of the Chief Inspector of Factories, PP 1940* (Cmd.6316), p.3.

### Wartime Legislation: Emergency Orders

Although in some instances the war hampered improvements in health and safety it is possible to argue that it may also have prompted positive changes. For example, as a result of both poor lighting and the blackout the Factories (Standards of Lighting) Order (1941) was introduced. This recommended higher standards of lighting than that which had been previously the legal minimum. Indeed, blackout regulations had a negative impact on both accident rates and ventilation, something noted in the Reports of the Chief Inspector of Factories.<sup>256</sup> This prompted some employers to introduce better ventilation systems. Again, this is noted in the Factory Inspectors Report for the year 1940: 'inspectors mention many cases of factories now being ventilated more efficiently than they were in pre-war days.'<sup>257</sup> Indeed, the war drew attention to pre-existing problems, and in some cases, intensified the issues. Just as had occurred in the period 1914-1918, addressing these issues led to the introduction of some improvements within the workplace, as the Factory Inspectors noted:

War production led to a great increase in dust and fume producing processes, particularly grinding, welding, magnesium founding, aluminium scrap recovery and heat treatment of metals. This has necessitated the installation of many more systems of local exhaust than were needed in normal times.<sup>258</sup>

As previously mentioned war had delayed the introduction of the 1937 Factory Act and this impacted at many levels. For example, the 1944 Report of the Chief Inspector of Factories noted that section 42 of the Act called for the compulsory provision of

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<sup>256</sup> *Annual Report of the Chief Inspector of Factories, PP 1939* (Cmd.6251), pp.12,19.

<sup>257</sup> *Annual Report of the Chief Inspector of Factories, PP 1940* (Cmd.6316), p.7.

<sup>258</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.33.

washing accommodation in all factories from 1939 but ‘there were difficulties installing this due to lack of both men and materials.’<sup>259</sup>

Despite the war there was progress in occupational health and safety. Perhaps two of the most notable advancements were the Factories (Medical and Welfare Services) Order 1940, which enabled the Chief Inspector of Factories to direct factory owners engaged in war work to appoint doctors, nurses and welfare staff, and the Factories (Canteens) Order 1940, which compelled factory owners who employed 250 or more workers engaged in the war effort to provide canteen facilities. There were also a number of emergency orders and special regulations passed, some of which regulated the hours of work for women and young people, for example, the General Emergency Order (1940). Coal workers' pneumoconiosis was added to the list of diseases eligible for compensation under the Workmen's Compensation Act in 1942. State regulation and provision deepened significantly during the war years. The Ministry of Fuel and Power were also responsible for improvements, for example; the creation of the Mines Medical Service in 1944, which consisted of 10 full time doctors and 8 regional mines medical officers is further evidence of a growing concern with industrial health. However, these 18 doctors and medical officers were responsible for the health of 750,000 miners.<sup>260</sup> In addition, in 1945 the docks: ‘employ[ed] some 106,000 workers and separate medical services for them have been established in Liverpool, Manchester and Glasgow.’<sup>261</sup> The 1944 Annual Report of the Chief

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<sup>259</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.34.

<sup>260</sup> C.H. Lee, *British Regional Employment Statistics 1841-1971* (Cambridge University Press: Cambridge, 1979) The figures published here were taken from the census returns, and therefore the mining category includes various different types of mining such as lead, copper and tin as well as quarrying.

<sup>261</sup> ‘Education in Industrial Health’, p.160.

Inspector of Factories commented on the docks medical services stating that the services on Clydeside had continued to develop and were an ‘unqualified success’.<sup>262</sup>

However, these were recent

developments and it was noted that, ‘these services necessitate the appointment of adequate medical and nursing staff.’<sup>304</sup> This suggests that the numbers of medical personnel in the docks medical services could be increased. Clearly then, the war and the subsequent need to keep bodies fit, healthy and productive, prompted some advancements in occupational health and safety provision.

From 1940, firms involved with war production were, under the Emergency Powers (Defence) Factories (Medical and Welfare Services) Order, compelled to employ a medical officer. This order allowed the Chief Inspector of Factories to direct medical, nursing and welfare staff to work in essential works. Johnston and

McIvor state that:

The formal duties of these officers included examining the workforce, screening workers involved with dangerous work processes, educating workers regarding health and work, advising management on matters of general hygiene within the factory and liaising with outside health services.<sup>263</sup>

The positive impact of this order is demonstrated in an article in the *British Journal of Industrial Medicine* in 1946, which argued that great strides had been made in industrial health during the Second World War. Doig states: ‘Apart from certain government-owned concerns ... there were probably no full-time industrial medical officers before 1923. In 1944 there were 180 doctors working full time in 275

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<sup>262</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.72.

<sup>304</sup> ‘Education in Industrial Health’, p.160.

<sup>263</sup> Johnston & McIvor, ‘Marginalising the Body at Work?’, p.135.

factories.’<sup>264</sup> This clearly shows a great increase in the number of medical professionals in industry over a short period of time. Johnston and McIvor comment that: ‘numbers of medical personnel in industry during World War Two more than doubled,’<sup>265</sup> a result of Bevin’s 1940 Factories (Medical Services) Order. The Industrial Health Research Board also reported improvements during the war: ‘There can be little doubt that the wartime extension of industrial medical and personnel services, and also of canteens and hostels has done much to prevent illness.’<sup>266</sup> The Chief Medical Inspector of Factories also noted in the 1940 report that ‘an increasing number of whole and part time medical officers continue to be appointed to factories.’<sup>267</sup> Additionally, in the 1942 Annual Report, Merewether, Chief Medical Inspector of Factories commented: ‘Industrial health services have come into the public eye latterly because of a great and growing public opinion, stimulated by war necessities, of the need for them.’<sup>268</sup> McIvor and Johnston state: ‘the two wars stimulated an awareness of the importance of a healthy workforce, but the main driving force was the need for increased productivity.’<sup>269</sup> Additional evidence supporting the argument that the war led to an increased interest in industrial health and an advance in medical infrastructure in the workplace can be found in the *British Journal of Industrial Medicine*: ‘It may be said that the impact of two wars and the necessity of maintaining a high standard of output under the prevailing difficulties of transport and blackout conditions at work,

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<sup>264</sup> A.T. Doig, ‘Medical Supervision in Factories’ Abstracts; *British Journal of Industrial Medicine*, Vol.III, No.3, July 1946, pp.196-206, p.135.

<sup>265</sup> Johnston & McIvor, ‘The War and the Body At Work’, p.133.

<sup>266</sup> *Medical Research Council, Industrial Health Research Board, Report No.86, ‘A Study of Certified Sickness Among Women in Industry’, S. Wyatt, (London, HMSO 1945), p.23.*

<sup>267</sup> *Annual Report of the Chief Inspector of Factories, PP 1940 (Cmd.6316), p.22.*

<sup>268</sup> *Annual Report of the Chief Inspector of Factories, PP 1942 (Cmd.6471), p.27.*

<sup>269</sup> McIvor & Johnston, ‘Whatever happened to the Occupational Health Service?’, p.79.

made the supervision of the health of the workers a primary national consideration.<sup>270</sup> This demonstrates that there was a greater interest in the health of the workforce, but also that this was generally motivated by the 'necessity of maintaining a high standard of output.'<sup>271</sup> It can be surmised that the Factory (Medical Inspection) Order (1940), introduced by Bevin accelerated this increase. However, the effectiveness of Bevin's 1940 Factories (Medical and Welfare Services) Order was hampered by the war effort and the resultant shortage of doctors and nurses available for work in industry. This was noted by Merewether in the 1942 Annual Report of the Chief Inspector of Factories. He stated that the expansion of industrial medical services: 'was considerable, but is now limited by a shortage of doctors and nurses.'<sup>272</sup> The 1940 Factories (Medical and Welfare Services) Order could be regarded as successful in so far as an increase in medical personnel would allow. Overall however, it can be argued that the war led to a greater interest in occupational health and a direct increase in the number of medical professionals in industry, prompted by the British State.

### Industrial Medical Services

Attempts were made to encourage smaller firms to establish shared medical and welfare services. An example of such facilities can be found at Hillington Industrial Estate in Renfrew which established a health centre with a doctor and nurse in 1943. However, the success of this was limited: 'only 26 of Hillington's 100 companies

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<sup>270</sup> W.T. Russell, G.P.B. Whitwell, & J.A. Ryle, 'Occupational Morbidity', *British Journal of Industrial Medicine*, Vol.III, No.3, July 1946, pp.54-59, p.57.

<sup>271</sup> Russell, Whitwell, & Ryle, 'Occupational Morbidity', p.57.

<sup>272</sup> *Annual Report of the Chief Inspector of Factories, PP 1942* (Cmd.6471), p.28.

supported the scheme financially and the centre closed shortly after the war.<sup>273</sup> The fact that such a scheme existed during the war, when employers were compelled by the state to provide such services and the fact that they closed after the war, when they were no longer compulsory suggests a lack of employer support for such facilities. The Annual Report of the Chief Inspector of Factories in 1944 commented:

‘in the Clydeside area special methods have been evolved for dealing with cases suffering from industrial fatigue.’<sup>274</sup> This is likely to be a reference to the Emergency Medical Service, first developed in Scotland. However, traditionally there had been a greater concern with accidents than health problems and this can be seen in the pages and tables devoted to accidents in the Annual Reports of the Chief Inspector of Factories. Provision of medical facilities remained patchy and uneven across industries, much also often depended on the size of the firm and the capital they had at their disposal. Workers often remained unaware of the risks inherent in their employment and generally, when injured, were simply patched up and sent back to the hazardous environment, the emphasis clearly on cure rather than prevention.

Improvements to health were not restricted to the workplace. In fact, the Department of Health for Scotland enacted many changes during the war, it had responsibility for the Emergency Medical Service (this was established in 1938 in preparation for expected casualties from air raids) and the Emergency Hospital Scheme as well as administering the Supplementary Medical Service. These initiatives, Jenkinson argues, were pioneering: ‘the coming of the NHS was to some extent influenced by central and Scottish governmental policy responses to a unique series of difficulties in hospital

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<sup>273</sup> Johnston & McIvor, ‘Marginalising the Body at Work?’, p.138.

<sup>274</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.72.

provision during the wartime emergency.<sup>1275</sup> The Supplementary Medical Service, also known as the Clyde Basin Experiment, was launched in January 1942 by Tom Johnston. It allowed GPs to recommend workers suffering from fatigue to rest and recuperate in the special emergency hospitals which had been established to accommodate injured civilians. This was a significant move from curative to preventative health care. Jenkinson states: 'The Clyde Basin Experiment was a revolutionary proposal to permit the DHS (Department of Health for Scotland) to use the Emergency Hospital Scheme hospitals situated in the Clyde Valley as centres for the recuperation of hard-pressed industrial workers.'<sup>1276</sup> In this Scotland was unique as the Scottish Secretary of State had complete control of the Emergency Medical Service, which undoubtedly enabled the creation of the Clyde Basin Experiment. In England and Wales control of the Emergency Services remained fragmented, equivalent recuperative treatment to the Clyde Basin Experiment was only introduced in 1944, and even then this was restricted to factory and mine workers. It is widely regarded that the centrally administered Emergency Medical Service in Scotland was a precursor to the NHS.<sup>277</sup> However, the focus on preventative medicine, demonstrated in the Clyde Basin Experiment failed to make a lasting impact on the NHS, which focused more on curative than preventative medicine. This resulted in the 'work wounded being patched up and returned to unsafe working environments ... little positive contribution was made to addressing the root causes of occupation-related diseases, mortality and morbidity from workrelated diseases.'<sup>320</sup>

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<sup>275</sup> Jenkinson, *Scotland's Health*, p.395.

<sup>276</sup> Jenkinson, *Scotland's Health*, p.404.

<sup>277</sup> Johnston & McIvor 'Whatever happened to the Occupational Health Service?', p.85.

<sup>320</sup> McIvor & Johnston, 'Whatever happened to the Occupational Health Service?', p.79.

The wartime rest-breaks scheme was an initiative supported by the Scottish Trade Union Congress (STUC). In an undated letter (from c.1944-45), Bailie William Elger, chairman of the War-Time Rest Breaks for Industrial Workers, Scottish Area Committee, wrote:

Our scheme has been established to provide the necessary facilities for rest and recuperation before an actual breakdown, thus saving many weeks loss of production through illness, as well as saving the individual unnecessary anxiety and discomfort. A number of Rest Break houses have been established in England and Wales, and I am now sending you particulars of Uplands, Bridge of Allan, for women workers in Scotland....<sup>278</sup>

In addition, this letter demonstrates that the committee chairman was a member of the STUC General Council, while Miss Eleanor Stewart, another member of the committee, was also a member of the STUC. Clearly the STUC was heavily involved in this scheme. Trade union interest in such schemes is significant, as it confirms the view posited by Long that the trade unions did indeed adopt a preventative approach to the health of the worker in industry.<sup>279</sup> The objectives of this wartime rest-breaks scheme is laid out in a pamphlet contained in the STUC General Council minutes:

‘the object is to reach the flagging worker, *at her work*. Great care has been taken not to confuse rest breaks, which are purely preventative, with ordinary annual holidays on the one hand and post-illness convalescence on the other.’<sup>280</sup> In this scheme individual workers were recommended as eligible by the factory medical or welfare officer, and all female industrial workers were considered eligible although those on

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<sup>278</sup> STUC; *General Council Minutes, April 1944 - April 1945*, Undated letter, Bailie William Elger to STUC General Council.

<sup>279</sup> Long, *The Rise and Fall of the Healthy Factory*, p.83.

<sup>280</sup> STUC; *General Council Minutes, April 1944 - April 1945*, ‘Definition of Rest-Breaks’ War-Time Rest Breaks for Industrial Workers Committee.

essential work received priority.<sup>281</sup> However, the initial preoccupation with restbreaks for women suggests that the trade unions were, in a similar way to the state, paternalistic, taking care of women first. This rest breaks scheme is also commented upon in the Annual Report of the Chief Inspector of Factories for the year 1941, with the Senior Medical Inspector commenting that 'much good has been done' in establishing this scheme and stating 'it is not intended as a means of convalescence for the worker after illness, its aim is to get to the worker before he falls ill.'<sup>282</sup>

### Medical Professionals & Company Doctors

The Royal College of Physicians commented in 1945: 'there are nearly 200 whole time and over 700 part-time doctors with regular duties of medical supervision.'<sup>283</sup>

While Bullock has commented on the increasing employment of nurses within industry that by 1944 'the number of nurses had risen from 1,500 to 7,800.'<sup>284</sup> However, when considering the role of medical professionals and company doctors in providing industrial healthcare in the workplace it is important to take into account the fact that it may have been difficult for them to remain impartial. They tended to occupy a position not dissimilar to managers, a middle ground between labour and employer.<sup>285</sup>

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<sup>281</sup> *STUC; General Council Minutes, April 1944 - April 1945*, 'Definition of Rest-Breaks' War-Time Rest Breaks for Industrial Workers Committee.

<sup>282</sup> *Annual Report of the Chief Inspector of Factories, PP 1941* (Cmd.6397), p.21.

<sup>283</sup> *Royal College of Physicians of London; Social and Preventative Medicine Committee 'Second Interim Report: Industrial Medicine'*, January 1945, p.7.

<sup>284</sup> Bullock, *The Life and Times of Ernest Bevin: Vol. II*, pp.78-9.

<sup>285</sup> Perchard, *The Mine Management Professions*; Perchard, 'The Mine Management Professions and the Dust Problem in the Scottish Coal Mining Industry.'; Tweedale, *Magic Mineral to Killer Dust*.<sup>329</sup> Glasgow University Archives *DC57 Papers of Professor Thomas Ferguson: 57/156 Industrial Hygiene as a Phase of Public Health*.

Professor Thomas Ferguson commented on the possibility of a conflict of loyalties, stating:

The work of a medical officer is by no means easy. It implies scrupulous fairness and, if the best results are to be obtained, it ought to imply also a position of quasiindependence, which would enable the doctor to act with absolute impartiality in those cases where his motives must often be suspect from the very fact that he is paid by the employers...<sup>329</sup>

He proposed that the way in which company doctors were paid should be reviewed so that they were not left 'the servant of the owner of the factory.'<sup>286</sup> This is also noted by the Royal College of Physicians in a 1945 report which stated: 'workers may be suspicious of medical officers who are paid by and therefore directly responsible to the 'management''. Although this report continues to state that there was no grounds for such assertions, and argues that industrial medical officers had 'loyally served workers in the past despite just such an arrangement.'<sup>287</sup> Although the date of Fergusons' paper is unclear, the content suggests it dates from the period around the Second World War, therefore, clearly medical professionals were aware of the deficiencies in medical provision in the workplace, and in particular were aware of the conflicting role occupied by medical personnel during the period under review. This is also evident from the papers of the City of Glasgow Corporation which noted the difficulties faced by company doctors: 'it is a distinct advantage that the industrial medical officer should be a member of the staff of the public health department, because he is less likely to

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<sup>286</sup> Glasgow University Archives *DC57 Papers of Professor Thomas Ferguson: 57/156 Industrial Hygiene as a Phase of Public Health.*

<sup>287</sup> *Royal College of Physicians of London; Social and Preventative Medicine Committee 'Second Interim Report: Industrial Medicine'*, January 1945, p.17.

be regarded with suspicion both by employers and management.'<sup>288</sup> This is also commented upon in the *British Journal of Industrial Medicine*: 'Workers have suggested that the factory doctor is the 'employers man' and therefore biased. The success of the doctor depends on his having the confidence of both sides.'<sup>289</sup> This demonstrates an awareness among medical professionals of the difficulties faced by the doctor in industry. The potential for company doctors and welfare officers to be biased in favour of employers is something also noted by the trade union movement. A report of the Organisation of

Women Committee from 1945 stated:

In a discussion on the need for female welfare officers in factories Miss Fyffe of the clerical and administrative workers union: 'asked if we would ever get the welfare services we wanted as long as welfare officers were answerable to firms, and should there not be some other way of appointing such officers than having them appointed by employers?'<sup>290</sup>

Clearly then, although the numbers of medical personnel in the workplace increased during the war years these professionals were not always independent and free from bias.

### Factory and Mines Inspection

However, there were limitations to wartime improvements; it became more difficult for both the Mines and Factory Inspectorates to police legislation and ensure safe working practices due to the additional work imposed on them, such as the inspection

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<sup>288</sup> Glasgow University Archives D-TC8/16B/23/3 'Scottish Counties of Cities Association: Statement for Submission to Industrial Health Services Committee' p.4.

<sup>289</sup> Abstracts; *British Journal of Industrial Medicine*, Vol.IV, No.2, April 1947, p.135.

<sup>290</sup> *STUC General Council Minutes April 1944- April 1945* 'Report of Proceedings of the Seventeenth Annual Conference 1944, on the Organisation of Women and Report of Committee.'

of works air-raid shelters. Moreover, there were fewer Medical Inspectors of Factories at the end of the war than there were in 1938. For example, in 1938 there were 11, this number increased to 13 in 1942 and then fell in 1945 to 10.<sup>291</sup> Of the 10 Medical Inspectors in 1945, only one was stationed in Scotland.<sup>292</sup> The papers of Dr. Thomas Ferguson illustrate that this was a continuation of pre-war practice.<sup>293</sup> This suggests that the wartime emergency prompted an increased need for Medical Inspectors of Factories, and that this need diminished at the end of the war. In a report on Industrial Medicine published in 1945, the Social and Preventative Medicine Committee commented that the number of Medical Inspectors within the Factory Inspectorate was 'clearly an insufficient number for the areas to be covered and the large number of factories involved.'<sup>294</sup> Clearly, in this respect the Factory Inspectorate was seriously under-staffed in terms of medical officers, which would undoubtedly have had a negative impact on what it was able to achieve. However, the numbers of Factory Inspectors had increased from 320 at the outbreak of the war to 440 by 1945.<sup>295</sup> This is significant and supports a more optimistic view of policy. However, it is important to note that the duties of the Inspectorate were increased during wartime. Moreover, Factory Inspectors were not exempt from being conscripted

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<sup>291</sup> *Annual Report of the Chief Inspector of Factories, PP 1938*(Cmd.6081), p.9; *Annual Report of the Chief Inspector of Factories, PP 1942* (Cmd.6471), p.11; *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.64.

<sup>292</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.64.

<sup>293</sup> Glasgow University Archives *DC57 Papers of Professor Thomas Ferguson: 57/156 Industrial Hygiene as a Phase of Public Health*, p.10 (n.d).

<sup>294</sup> *Royal College of Physicians of London; Social and Preventative Medicine Committee 'Second Interim Report: Industrial Medicine'*, January 1945, p.7.

<sup>295</sup> *Annual Report of the Chief Inspector of Factories, PP 1939* (Cmd.6251), p.64; *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.91.

to the Armed Forces, and in 1945 there were 14 Inspectors serving in the Armed Forces.<sup>296</sup>

### Bevin and Occupational Health and Safety

When discussing the reaction of the government to occupational health and safety in wartime it is important to note the influence of key individuals. Arguably, one of the most important was Ernest Bevin, Minister for Labour from 1940. It is widely agreed that Bevin played an influential role in improving health, safety and welfare at work. For example, Jones has argued that Bevin made safety and health at work a priority.<sup>297</sup> Further evidence that Bevin himself played a pivotal role in improving occupational health and safety during the war years can be found in the fact that he convened a major conference on industrial health in 1943. Munitions historian Inman comments that 'the new Minister for Labour, Mr. Bevin, took a very strong personal interest in the welfare of industrial workers.'<sup>298</sup> Biographer Alan Bullock also comments on the positive influence Bevin had upon working conditions: 'Bevin had long been concerned about health in relation to industry' hence his introduction of the Factories (Medical and Welfare Services) Order in 1940.<sup>299</sup> In addition, he also established a Factory and Welfare Department, which included a Factory and Welfare Board which comprised representatives from trade unions, employers, medical professionals and existing Factory Inspectorate staff. The aim of this Board was to provide advice on welfare

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<sup>296</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.37.

<sup>297</sup> H. Jones, *Health and Society in 20th Century Britain* (London: Routledge, 1994), p.105.

<sup>298</sup> Inman, *Labour in the Munitions Industries*, p.225.

<sup>299</sup> Bullock, *The Life and Times of Ernest Bevin: Vol. II*, p.74.

matters. In Scotland, a Scottish Consultative Council was created under the Factory and Welfare Board.<sup>300</sup> In a letter to Bevin, one member of the Board commented:

The improvement in industrial welfare during the last twelve months represents a considerable achievement for which proper credit must be given to the Officers of the Ministry and others concerned with government contracts. I hope that I may be permitted to add that this improvement justifies the emphasis which you have yourself placed upon industrial welfare.<sup>301</sup>

Bevin's appointment to the Ministry of Labour gave him the power and influence he had lacked prior to the war, and thus he was able to make some positive changes. These changes should be viewed in the context of wartime, when the state was under considerable pressure.

Some of Bevin's more significant improvements have already been discussed, the Factories (Medical and Welfare Services) Order 1940, and the Factories (Canteens) Order 1940, being perhaps two of the most significant changes he introduced. Indeed, the increase in the numbers of both whole and part time doctors in industry has already been demonstrated, while the success of the Factories (Canteens) Order 1940 is demonstrated by Bullock: 'by 1944 the number of canteens set up under the 1940 Order had passed the 5,000 mark and the effect of the Ministry's campaign had extended to many smaller firms which were not subject to compulsion another 6,800 of them had established canteens by the end of the war.'<sup>302</sup> Additionally, it appears that Bevin was aware of the benefits of joint consultation, perhaps a result of his trade union background: 'In March 1943 Bevin appointed a strong Industrial Health Advisory

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<sup>300</sup> *Minutes of General Council Meeting STUC, 15<sup>th</sup> October 1940, p.84.*

<sup>301</sup> *Minutes of General Council Meeting, STUC 8<sup>th</sup> July 1941; Industrial Welfare (Copy for private information of General Council), p.77.*

<sup>302</sup> Bullock, *The Life and Times of Ernest Bevin: Vol. II, p.80.*

Committee with 20 doctors, industrialists and trade unionists as members and appointed himself as chairman.<sup>303</sup> Evidently Bevin himself played a major role in the wartime improvements of health, safety and welfare. Clearly the position of power within government gave Bevin the leverage that was needed and which was lacking beforehand, to make improvements in occupational health and safety provision. Moreover, with Bevin occupying the role of Minister for Labour the trade unions were in a better position to influence policy. However, while evidence demonstrates how proactive Bevin and the Ministry of Labour were in improving health, safety and welfare standards, it must be understood that not all industries came under the remit of the Ministry of Labour.

Inman argues:

Supply Ministries remained somewhat neglectful of health and welfare problems despite encouragement by the Ministry of Labour. The Ministry of Aircraft Production argued that the responsibility for welfare provision rested solely with employers.<sup>348</sup>

This demonstrates differences between the Ministries of Supply and Aircraft, who were primarily concerned with increasing production, while the Ministry of Labour also concerned itself with the hardship of workers. Moreover, it also indicates the difference between compulsion and voluntary codes. It should also be noted that Bevin's effectiveness differed between industries, indeed, dock work provides a good example of this variation. The relationship between the Glasgow dockers and Bevin was a fractious one, particularly in the interwar years. These poor relations stemmed from Bevin's critique of casualism and support for registration. Kenefick commented

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<sup>303</sup> Bullock, *The Life and Times of Ernest Bevin: Vol. II*, p.240.

<sup>348</sup> Inman, *Labour in the Munitions Industries*, p.226.

that 'registration, in the minds of the dockers of Glasgow was seen as a principle method of imposing control over them and their work.'<sup>304</sup> Despite the fact that Bevin noted that the system of casualisation allowed employers to exploit labour, the process of registration found little support among the Glasgow dock workers.<sup>350</sup>

### Medical Knowledge and Research

Waldron argues that industrial medicine played a great part in the Second World War, and that there was growing enthusiasm for the subject,<sup>305</sup> while Johnston and McIvor state that 'During the Second World War there was an even greater interest in the medical supervision of the workforce.' However, it is argued that this stemmed more from the need to maximise production rather than out of concern for the health of the workforce.<sup>306</sup> In fact, Waldron is so convinced of the popularity which industrial medicine enjoyed during the Second World War he states that 'the enthusiasm and prospects for occupational health were never greater or stronger than during the Second World War'<sup>353</sup> implying that much enthusiasm waned after the war ended. In fact, the failure of the NHS to include an occupational health service could be seen as verifying such a statement. Moreover, the fading of interest in occupational health after the war also suggests that the concern with industrial health was motivated not by a desire to improve the health and working conditions of the workforce, but rather, by the desire to maximise production in order to boost the war effort. Therefore, the war allowed for

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<sup>304</sup> Kenefick, *Rebellious and Contrary*, p.240.

<sup>350</sup> Kenefick, *Rebellious and Contrary*, p.53.

<sup>305</sup> Waldron, 'Occupational Health During the Second World War', p.197.

<sup>306</sup> Johnston, & McIvor, 'Whatever Happened to the Occupational Health Service?', p.82.

<sup>353</sup> Waldron, 'Occupational Health During the Second World War', p.212.

some limited improvements in occupational health and safety provision. However, in peace time employers and government officials saw no urgency in sustaining much of this and the pace of progress slowed.

The increasing interest in industrial health was mirrored by an increasing interest in the health of military personnel. In both areas there was great concern with optimum working conditions and nutrition. This is evident from the Medical Research Council's *Report on War Years*, which itself makes links between industrial workers and the armed forces, commenting on the need to 'find the conditions required for the highest possible efficiency, safety and comfort of fighting personnel and of industrial workers in all the circumstances and tasks of war.'<sup>307</sup> Moreover, a subsection of the report entitled 'Factors in Human Efficiency' notes

the type of research just outlined [regarding improvement of environmental and instrumental conditions to ensure operator efficiency in the military] for the maintenance of optimum efficiency, comfort and safety of service personnel has long been the subject of study in industry by the Industrial Health Research Board of the Medical Research Council.<sup>308</sup>

Further links between military and industry are evident regarding nutrition, inter-war concern with nutrition evolved in tandem with the social hygiene movement and this continued during the war, for both civilians and military personnel. Indeed, a significant similarity was the recognition that certain grades of both military personnel and industrial worker needed more food than others. For example, in industry, miners were awarded extra rations while in the armed forces, commandos and airborne troops

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<sup>307</sup> Medical Research Council *Report on War Years* (Cmd. 7335) p.14.

<sup>308</sup> Medical Research Council *Report on War Years* (Cmd. 7335) p.21.

received more.<sup>309</sup> Newlands has also commented on this similarity. She noted that daily provision in the army 'included specific amounts of meat, fish, vegetables, pulses and cereals...' as well as that 'feeding the civilian workforce also became a primary government concern in order to stimulate good health and consequently, industrial production.'<sup>310</sup> The report also notes that the knowledge exchange between military and industrial health research worked both ways. It commented that there were some important developments in industrial health during the war years,

The first was widespread application of methods of research in industrial physiology and psychology to the personnel problems of the fighting services, and conversely the finding that the results of many researches carried out initially for one or other of the services had far reaching practical applications also to industry.<sup>311</sup>

The growing but gradual interest in all aspects of health at work is further evidenced in the widening of the remit of the Industrial Health Research Board (IHRB, created 1929) in 1942 to include the study of the psychological effects of work. This research body was geared towards prevention of illness resulting from the working environment. Long notes the increasing interest in the psychological impact of work on health during the war.<sup>312</sup> In addition, the creation, in 1943, of an Industrial Health Advisory Committee makes it clear that attention was being devoted to industrial health, since this branch was responsible for 'collecting and disseminating information as to developments and discoveries of a technical and scientific character and other matters having a bearing on industrial health problems.'<sup>313</sup> Moreover, attention was

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<sup>309</sup> Medical Research Council *Report on War Years* (Cmd. 7335) p.100-101.

<sup>310</sup> Newlands, *Civilians into Soldiers*, p.56.

<sup>311</sup> Medical Research Council, *Report on War Years* (Cmd. 7335) p.154.

<sup>312</sup> Long, *The Rise and Fall of the Healthy Factory*, p.27.

<sup>313</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), p.4.

also being devoted to the dust hazard within industry, this is witnessed in the creation of the Industrial Dust Hazard Panel, set up within the Factory Inspectorate in 1944. The report stated that the aim of this panel was to examine difficulties encountered in 'the sampling, counting, sizing and analysis of hazardous industrial air-borne dusts, and in testing more modern methods of examination to this end.'<sup>314</sup> Once again, however, the emphasis appears to be on controlling the hazard rather than preventing it. The growing interest in health and safety is further evidenced in the increasing demand on the Factory Inspectorate for educational lectures and demonstrations 'both in connection with health and safety 'weeks' in factories and also as the basis for discussion with actual workers in their trade unions or in their factory groups.'<sup>315</sup>

However, although there was an increase in scientific research into industrial health in the 1930s and during the war years it could often be slow to filter down to workplaces. Professor Thomas Ferguson noted in *Industrial Medicine* that the proliferation of research on the physiological approach to industrial hygiene resulted in a vast body of knowledge. However, he also stated that, 'action often lags far behind scientific knowledge.'<sup>316</sup> This indicates that more effort was needed to publicise the findings of medical and scientific research into industrial health so both workers and employers became more aware of the dangers and risks.

The Factory Inspectors Report for the year 1944 acknowledged that the war highlighted the need for better industrial healthcare although it simultaneously

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<sup>314</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.25.

<sup>315</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), p.38.

<sup>316</sup> Glasgow University Archives *DC57 Papers of Professor Thomas Ferguson: 57/65 The Ideals of Industrial Medicine and the General Means by Which it is Hoped to Attain Them*, p.2. <sup>364</sup>  
*Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), pp.45-6.

hampered the ability to meet these needs. The report cited examples of the growing interest in occupational health, such as departments of industrial health being established at several universities as well as the Royal College of Physicians issuing a report on the topic and the Trade Union Congress (TUC) issuing a statement.<sup>364</sup>

The Royal College of Physicians established a Social and Preventative Committee which issued its second interim report in January 1945. This report focused solely on Industrial Medicine, which in itself highlights the growing awareness of the importance of industrial health. The Report acknowledged the rising interest in industrial health and that '...during the war the increasing interest of the public in health matters has been obvious and this attitude should be encouraged among 'consumers' of the industrial health service.<sup>317</sup> Additionally, the Factory Inspectors Report for 1944 noted examples of industries and employers themselves collaborating with universities and producing their own research into occupational disease.<sup>318</sup> However, this is problematic, since if research is funded by owners and employers then they as a result have a large degree of control over the knowledge of health risks and hazards. Perchard's research into dust disease in the British coalmining industry and Tweedale's research into the asbestos industry have highlighted the dangers of owner-funded research. These studies have demonstrated owners suppressing negative research findings with regards to ill-health.<sup>319</sup> H.M Medical Inspector of Factories, Merewether also noted that employers were

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<sup>317</sup> *Royal College of Physicians of London; Social and Preventative Medicine Committee 'Second Interim Report: Industrial Medicine'*, January 1945, p.12.

<sup>318</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), pp.45-6.

<sup>319</sup> Perchard, *The Mine Management Professions*; Perchard, 'The Mine Management Professions and the Dust Problem in the Scottish Coal Mining Industry'; Tweedale, *Magic Mineral to Killer Dust*.<sup>368</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.64.

financing research into industrial disease.<sup>368</sup>

A further indicator that there was a growing interest in industrial health during the war years was the creation of the *British Journal of Industrial Medicine* in 1943. Early articles in this journal include research on chronic carbon tetrachloride intoxication, heating and ventilation, nutrition and the industrial worker, treatment of burns, as well as research into hazards associated with coal mining and radiation, the use of pneumatic tools and the prevention of accidents and specific diseases such as byssinosis and silicosis. Moreover, this journal also demonstrated an increasing interest in the physically disabled, volume four contains an article on rehabilitation, this, coupled with the passage of the Disabled Persons Act of 1944, indicates a growing interest in those suffering from physical disabilities.<sup>320</sup> Indeed, there existed a growing trend toward rehabilitation during the war, Anderson has argued that this stemmed from the need to 'reconstruct the body to serve the wartime state in any capacity.'<sup>321</sup> Disabled people were employed more readily during and after the Second World War due to the manpower shortages experienced by the country. The importance of the employment of disabled people during the war was noted by Fisher in 1944:

in 1941 the Ministry of Labour started a scheme to help those who had been injured on active service, in air-raids, and in factories or elsewhere, to take up employment suited to their disability and to help those with pre-war disablement to prove their capacity for useful work, so that they could play their part in the war effort.<sup>322</sup>

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<sup>320</sup> 'Resettlement and Industrial Medicine' *British Journal of Industrial Medicine*, Vol.II, No.4, October 1945, p.221.

<sup>321</sup> J. Anderson, *War, Disability and Rehabilitation in Britain* (Manchester: Manchester University Press, 2011) p.5

<sup>322</sup> S.W. Fisher, 'Health Hazards in Coal Mining' *British Journal of Industrial Medicine* Vol. 1 No.3 1944 p.199

In addition, the Disabled Persons (Employment) Act 1944 also encouraged the employment of disabled people. Anderson points out that due to medical improvements there were greater numbers of disabled people after the Second World War, since medical improvements saved their lives when previously there might have been little doctors could have done, additionally she notes the growth in physiotherapy and use of artificial limbs.<sup>323</sup> The Second World War also witnessed a growth in the popularity of rehabilitation, Anderson states: 'it was argued successfully that all those involved with the war effort should be provided with access to rehabilitation schemes as it was imperative that important civil defence and industrial work continue.'<sup>324</sup> Once again, however, the motivation was improving the war effort, not concern for people's health.

In volume one of the *British Journal of Industrial Medicine* areas for improvement are suggested: 'In future medical services will have to give more attention to prevention and achievement of positive health. There must be a vast extension of the existing industrial medical services, for it has been estimated that only 25 percent of the working population are covered.'<sup>325</sup> Moreover, this article also commented upon the fact that industrial medical officers had not been trained in preventative medicine which, it is possible to argue, should have been the main focus. This suggests that medical professionals were aware of the poor standards of medical services in industry during the war years. Moreover, the fact that this article mentioned the importance of

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<sup>323</sup> Anderson, *War, Disability and Rehabilitation in Britain*, p.79.

<sup>324</sup> Anderson, *War, Disability and Rehabilitation in Britain*, p.80.

<sup>325</sup> 'Proceedings: Glasgow Group' *British Journal of Industrial Medicine*, Vol.I, No.2, April 1944, p.141.

preventative health care is important as it demonstrates that professionals were aware of, and advertising the importance of prevention rather than solely cure. This increased focus on preventative care is also evident in the papers of the City of Glasgow Corporation. There, it was found that the Corporation had been involved in campaigning for an industrial health service, 'with a strong bias towards prevention.'<sup>326</sup> An article published in the *British Journal of Industrial Medicine* in 1945 also commented upon the increased attention devoted to industrial health, noting the need for industrial medical services and arguing that these should have been integrated with the other health services of the country. It noted that the Social and Preventative Medicine Committee recommended that 'an industrial health service be planned as an integral part of the National Health Service.'<sup>327</sup> Clearly, both medical professionals and the trade union movement wanted occupational health included within the remit of the NHS. Despite this, the NHS, introduced in 1948, failed to incorporate an occupational health service, something indicative of the low priority that had traditionally been shown to industrial health.

The Reports of the Chief Inspector of Factories also noted changed attitudes towards working conditions as a result of the war, as well as an increasing interest in health and safety. Workers themselves were reported to be showing a greater interest in health, safety and working conditions and gaining more input and influence over these issues whilst there existed a greater degree of collaboration between management, employers, trade unions and workers.<sup>328</sup> This was achieved through the

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<sup>326</sup> Glasgow University Archive D-TC8/16B/23/3 'Scottish Counties of Cities Association: Statement for Submission to Industrial Health Services Committee' p.3.

<sup>327</sup> 'Industrial Medicine and Reform' *British Journal of Industrial Medicine*, Vol.II, No. 1, January 1945, p.48.

<sup>328</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), pp.44-5.

creation of bodies such as the Industrial Health Advisory Committee and the Factory and Welfare Board, both of which had mixed membership including representatives from employers and trade unions. At the workplace level the Joint Production Committees which proliferated in wartime also embraced health and safety issues. It is also worth reiterating that the trade unions finally obtained some serious influence over occupational health and safety matters as a result of Bevin's role as Minister of Labour. The 1944 Annual Report of the Chief Inspector of Factories looked towards the future, and expressed a hope that working conditions would continue to improve. However, Chief Inspector of Factories, Garrett added a warning at the end of the report that everything mentioned within it regarding the improvements in occupational health and safety and knowledge of hazards was also said at the end of the First World War – yet nothing was done, it was ‘forgotten in the intervening years’ to which he enquired, ‘can we see that it does not occur again?’<sup>329</sup>

### Conclusion

The 1930s witnessed a growing interest in occupational health and safety, evident in the creation of various different research bodies. Moreover, the Factory Act (1937) was undoubtedly a positive progression in the history of occupational health and safety legislation, as were the Asbestos Regulations, for example. Indeed an argument can be made for increasing state intervention in the workplace, witnessed in the growing body of workplace legislation. However, the impact of state intervention was patchy, much depended on industry, firm size and location. While the traditionally paternalistic

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<sup>329</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.44.

British state continued to prioritise the protection of women and young persons in industry. The pressures of war brought new challenges to occupational health and safety provision, and the 1937 Factory Act was suspended for the duration of war. This, along with the intensification of production undoubtedly had a negative impact. However, Bevin, in his role as Minister for Labour introduced some measures to counteract this in order to ensure both maximum production and good industrial relations. These measures experienced some success, for example the emergency orders increased both the numbers of doctors and nurses in industry and the number of canteens available to the industrial workforce. Therefore, there was some progress in spite of the complex pressures of war. Indeed, the number of advisory panels, research bodies and similar initiatives set up during the war years indicates a commitment, despite the hardships of war, to improving occupational health, safety and welfare. Nevertheless, it is clear that there was not a steady positive improvement in workplace health, safety and welfare. For example, conditions were worse during the early stages of war, when the country was in a state of emergency and the drive for production was vitally important. Moreover, pre-war variations in experience and provision persisted throughout the war years, with some industries better regulated than others. This thesis will now examine the lived experiences of working conditions, accidents and safety, and health by utilising worker testimony and a range of other sources, in order to determine if this was the case on the shop floor. The situation was clearly complex for the war acted as a catalyst for improvement, although at times it hampered the application of positive changes. With that stimulus removed, after the Second World War, interest in occupational health and safety issues was less notable. Although it is worth stating the post-war reports of the Factory Inspectorate do mention the necessity

of implementing the terms of the 1937 Factory Act. For example, the 1945 report commented on the importance of ensuring that welfare arrangements met the 'standards required by the Act'<sup>330</sup>

### **Chapter Three: Working Conditions**

This chapter will examine and analyse working conditions in a variety of industries, but primarily those most important for the war effort on Clydeside during the Second World War. Working conditions in shipbuilding and repairing, coal mining, iron and steel making, engineering, munitions, chemicals, dock work and textiles will be considered. The aim is to understand the impact that war had upon working conditions, and the ways in which work conditions interacted with health during wartime. Discrepancies in working conditions according to industry will be analysed in order to determine why some industries fared better than others. For the purposes of this chapter, the term 'working conditions' is used as a broad term to describe hours of work, the working environment (for example, whether work took place in – or outdoors) lighting and ventilation, canteen facilities as well as washing and sanitary facilities and other contractual conditions such as holidays. The attitudes of the workforce to changes in working conditions will also be considered. Finally, while an

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<sup>330</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.3.

analysis of ventilation and noise in the working environment is included in this chapter (as they fall under the term ‘working conditions’) the impact of these upon the health of the worker will be analysed more fully in chapter five.

### Working Hours & Fatigue

The Factory Act (1937) limited working hours to 48 a week, however this was suspended at the outbreak of the Second World War and hours of work increased in a repeat of the mistakes made at the outbreak of the First World War. The average number of hours worked per week in 1938 was 47.7 and by 1943 this had increased to 52.9 hours per week.<sup>331</sup> As we have already noted, working hours increased to 70 or more hours a week in some industries and regions, while the pace of work was intensified.<sup>332</sup> This was particularly the case in the Clydeside region with its reliance on the older traditional industries such as shipbuilding and repairing, coal mining, iron and steel making, engineering, dock work, chemicals, munitions and textiles. This rise in both the pace and hours of work served to increase fatigue amongst the workforce, while also prolonging the amount of time in which the workforce were exposed to the hazards accompanying their jobs and lessening time at home for recuperation. Moreover, fatigue has the potential to lead to an increase in accidents, something which had been identified by the Health of Mmunition Workers Committee (HMWC) as early as 1918. The committee’s final report *Industrial Health and Efficiency* stated:

An important and early sign of fatigue in the nervous centres is a want of co-ordination and failure in the power of concentration. This may not be subjectively realised, but

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<sup>331</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), pp.19-20.

<sup>332</sup> McIvor, ‘Manual Work, Technology and Industrial Health’, p.182.

may be shown objectively in an increased frequency of trifling accidents, due to momentary loss of attention.<sup>333</sup>

This point is reiterated in the *British Journal of Industrial Medicine* in 1944 by Vernon: 'Fatigue is normally the most potent cause of excessive accidents, and this fatigue is generally due to the hours of labour being too long.'<sup>334</sup> Clearly then, medical professionals had pointed out the correlation between excessive working hours, fatigue and an increased accident rate from 1918, and this point was still being made during the 1940s.

Research by the HMWC during the First World War proved a direct link between the reduction of working hours, the introduction of rest breaks and increased productivity. The final report of the HMWC stated:

...the length of hours of employment provisionally recommended two years ago are now too long and can be reduced without any loss of output...By economising time, apart from any increased rapidity of working, the hourly rate of output can be considerably increased....<sup>335</sup>

However, despite these findings in 1918, the prevailing belief amongst Clydeside employers at the outbreak of the Second World War was that long working hours increased production.<sup>336</sup> Johnston and McIvor have noted this slow diffusion of research regarding hours of work, commenting that such research was 'ignored in the panic of the early years of the Second World War' and that 'after the war a government

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<sup>333</sup> *Health of Munitions Workers Committee, Final Report, Industrial Health and Efficiency, PP1918 (Cmd.9065), p.18.*

<sup>334</sup> H.M. Vernon, 'Prevention of Accidents' *British Journal of Industrial Medicine*, Vol.II, No.1, January 1945, p.5 .

<sup>335</sup> *Health of Munitions Workers Committee, Final Report, Industrial Health and Efficiency, PP1918 (Cmd.9065), p.122.*

<sup>336</sup> Johnston & McIvor, 'The War and the Body at Work', p117.

enquiry lamented the slow diffusion of the 'human factor' research findings of the interwar years...<sup>337</sup> Oral testimony illustrates the long hours of work endured by those in the Clydeside shipbuilding and repairing, coal mining, iron and steel making, engineering, munitions and chemicals industries during the Second World War. One shipyard worker recalls working 'all-nighters' during the war,<sup>338</sup> in some cases the job was finished early, however in others, the men had to work through the night.<sup>339</sup> Colin, who worked in the shipyards during the war recalls having to do all-nighters, commenting:

Now, you were lucky or unlucky...you would do the particular job, and you might be lucky, and you'd be away at seven o'clock, you could be sitting in the pub and a pint, and that's you getting paid for that, right on to the next morning. Then again you'd be unlucky sometimes. You would work, really hard, the whole night long.<sup>340</sup>

In his research on the chemicals industry, Walker notes that working hours at Imperial Chemical Industries (ICI) were increased during the war from 48 per week to 56 in 1940. This evidence also demonstrates that even in more renowned 'welfarist' firms, such as ICI, working hours rose during the war.<sup>341</sup> Working hours were particularly high in war-related work, such as the munitions factories, over 1940-41.<sup>342</sup> In their oral evidence war workers made frequent references to long working hours and gruelling work regimes. Bernard Murray, an apprentice engineer at the Royal Ordnance Factory

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<sup>337</sup> Johnston & McIvor, 'The War and the Body at Work', pp.119-120. McIvor has also commented on this in 'Manual Work, Technology and Industrial Health, 1918-1939' p.182.

<sup>338</sup> In this case the interviewee means working throughout the night to complete the job, however, if it was finished early then the workers would get to go home.

<sup>339</sup> D. Crooks, *Made in Govan*, p.29.

<sup>340</sup> D. Crooks, *Made in Govan*, p.29.

<sup>341</sup> D. Walker, 'Occupational Health and Safety in the British Chemical Industry, 1914-1974' (Unpublished PhD Thesis) University of Strathclyde, 2007, p.54.

<sup>342</sup> C. Wightman, *More than Munitions: Women, Work and the Engineering Industries 1900-1950* (London: Routledge, 1999), p.163; Inman, *Labour in the Munitions Industries*, pp.293-4.

(R.O.F) in Dalmuir, Clydebank recalled working twelve hour shifts and 'six days a week at least'.<sup>343</sup> Bert Cording, who worked in Caley Pride locomotive works, commented that 'we worked twelve hour shifts...you worked seven days a week'.<sup>393</sup> Shipyard worker, Alex Scullion, who was a sixteen year old apprentice in 1941, recalled being expected to do overtime 'and because it was wartime they expected you to do at least two nights to nine o'clock and a Sunday all day plus a Saturday afternoon, if you didn't do that they stuck you in the home guard. At least you got something for working overtime'.<sup>344</sup> This provides a good example of a utilitarian attitude to war 'service'. This would have resulted in up to a 64 hour week, significantly higher than the 48 hour week laid out in the 1937 Factory Act(although this was suspended on the outbreak of war and not enacted beforehand). Another Fairfield's employee recalled that 'you were expected to work three hours (overtime) Tuesday and Thursday....virtually seven days a week...' <sup>345</sup> Jim McFadzean, an apprentice pattern-maker in Simon's shipyard stated that 'when the war started, we went onto overtime right away.' This consisted of working from 8am until 9pm Monday to Thursday, 8am until 5pm Friday, half day Saturday and all day Sunday.<sup>396</sup>

Working overtime was not a practice restricted to the shipbuilding industry. Edmund Barrie, a crane driver in Dalziel steel works in North Lanarkshire, recalled

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<sup>343</sup> Bernard Murray, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/12), p.3. <sup>393</sup> Bert Cording, interviewed on 30<sup>th</sup> April 1998. 200 Glasgow Lives Project held at Glasgow Museums Resource Centre.

<sup>344</sup> Glasgow Museum Oral History Project 'Voices from the Yard'; Interview with Alex Scullion.

<sup>345</sup> Glasgow Museum Oral History Project 'Voices from the Yard'; Interview with Pat McChrystal. <sup>396</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.4. <sup>397</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.2.

working both Saturdays and Sundays during the war, stating that this was a common occurrence.<sup>397</sup> Those employed in lighter engineering industries, such as aircraft manufacture, also experienced longer working hours during the war. Ken Milne, an employee of Rolls Royce, stated the ‘hours were massive, you started at half past seven, and you finished at ten past seven in the evening.’<sup>346</sup> Oral testimony from Clydeside workers clearly supports McIvor's argument that at the outbreak of the Second World War there was an increase in working hours and the labour process was intensified.<sup>399</sup> Whilst this applied to some sectors in Scotland, hours of work differed widely according to industry, ranging in these examples drawn from oral testimony from 50 to 84 hours a week.<sup>347</sup> It is difficult to provide more specific data here as information on working hours was not broken down according to region or industry, what remains clear however, is that oral testimony illustrates that for some workers on Clydeside, working hours were significantly higher than the U.K 1943 average of 52.9 per week. Moreover, the working hours of women and young people were subject to stricter government control than those of men. Clearly, despite the importance of increasing the labour force the state retained its paternalistic role, protecting both women and young people from some of the negative effects of long working hours.

Marion McGinnigle, who worked in Pinkston power station in Springburn recalled working until 9pm twice a week as well as a full day on a Sunday.<sup>348</sup> Another female interviewee, Mary Barden, who worked for British Polar Engines, also

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<sup>346</sup> BBC Scotland Documentary; ‘Scotland’s Road to War’ Transmitted on 3<sup>rd</sup> September 2009. <sup>399</sup> McIvor, ‘Manual Work, Technology and Industrial Health’, p.182; McIvor, *A History of Work in Britain*, p.143.

<sup>347</sup> The average weekly hours worked per year is further illustrated in table 4.1, p.169 Which also demonstrates the average hours worked in relation to accident rates.

<sup>348</sup> Marion McGinnigle, interviewed on 3<sup>rd</sup> March 1998. 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

commented upon the long working hours expected during the war years, stating it was ‘very long hours ... I had only two and a half days holiday, and of course it was working at weekends and night-times.’<sup>349</sup> Therefore, despite the fact that the Factory Inspectorate, the HMWC and the IHRB (Industrial Health Research Board) had publicised the dangers associated with extended hours of work during the First World War, working hours on Clydeside did increase significantly during the Second World War. Moreover, oral testimony demonstrates that working overtime was commonplace and rarely optional, and the Scottish trade union movement was also aware of the negative impact of the extension of working hours. During the forty third annual STUC conference in 1940, Congress urged the General<sup>350</sup> Council to discourage overtime ‘because of the physical deterioration in the health of the workers which systematic overtime causes, and its denial of the workers’ rights to reasonable periods of leisure and opportunities for social and cultural recreation.’<sup>403</sup> The STUC also appeared to be aware of the correlation between output and excessive hours noting that ‘the industrial capacity of the workers suffered by long hours and excessive overtime’.<sup>351</sup> Demonstrating that the STUC was well aware of the links between long working hours and fatigue and ill-health.

The Factory Inspectorate were amongst those trying to get the message across that reducing hours of work did not necessarily lead to a commensurate fall in output. In 1941 they commented that ‘A firm employing women in the making of hand grenades found that they produced more when working a 50 hour week than when they

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<sup>349</sup> Mary & Jean Barden, interviewed on 19th October 1998. Serial No: MJB:00. 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

<sup>350</sup> *rd Annual Report of the Scottish Trades Union Congress*, 1940, p.176.

<sup>351</sup> ‘*Women Workers in Wartime*’ *Report of the Proceedings of the Thirteenth Annual Conference (1940) on the Organisation of Women and Report of the Committee. STUC.*

were working a 56 hour week.<sup>352</sup> This point was also stressed by the Mass Observation publication of 1942, *People in Production*, which stated that ‘it has been proved over and over again that the extension of the usual hours of work does not for any length of time give a proportional increase in output. On the contrary, it causes the rate of output to decline with increasing rapidity.’<sup>406</sup> This publication also points out that although well publicised during the First World War, these lessons concerning productivity had been largely ignored during the early phase of the Second World War. In the 1930s the STUC campaigned for shorter working hours but its support for the introduction of the forty-hour week was put on hold in September 1939 and that ‘it was decided to suspend consideration meantime because of circumstances arising from the war situation.’<sup>353</sup> The work of the STUC in reducing working hours was clearly hampered by the war.

In 1940, due to increased aerial bombardment and the fall of France, working hours were increased further, in order to replace materials used and equipment damaged during this time. Calder commented on the shortages experienced at this time: ‘major sources of things such as timber, iron, phosphate, flax, hemp and pit props for industry...were now denied to Britain.’ Perhaps more crucial for this research was the loss of equipment such as tanks and artillery which would now need to be replaced by industry.<sup>354</sup> Indeed, the Chief Inspector of Factories reported that in this period working hours have ‘once again reached extravagant proportions.’<sup>355</sup> The rise in working hours with the fall of France in 1940 suggests that the amount of hours worked

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<sup>352</sup> *Annual Report of the Chief Inspector of Factories, PP 1941* (Cmd.6397), p.23.

<sup>406</sup> Mass Observation., *People in Production*, p.158.

<sup>353</sup> *STUC Report of Organisation Committee Meeting*, Monday September 18<sup>th</sup> 1939, p.105.

<sup>354</sup> Calder, *The People's War*, p.114.

<sup>355</sup> *Annual Report of the Chief Inspector of Factories, PP 1940*, (Cmd.6316), p.19.

appeared to fluctuate depending upon the needs and demands of the war. For example, there was a need for increased production in the aircraft industry during the Battle of Britain and so 'in the summer of 1940 it [the aircraft industry] was ordered to work as it had never worked before...British losses of fighters, not only in the air, but bombed on the ground, far outstripped the rate of new production from the factories.'<sup>356</sup> Alex McNeish, a retired Ayrshire miner, who began work in 1941 recalled the long hours that he had to work:

I started in 1941 when the war was on, and as you know industry was crying out for coal to keep the war going and I couldnae have landed at a worse time, because you were thrown in at the deep end and they *demande*d...Do you remember an 11 day fortnight? Eleven, aye...Well that was compulsory, that if you didnae dae what they said you were fined for it.<sup>357</sup>

This narrative refers to wartime discipline with reference to fining and a sense of class antagonism, the interviewee refers to 'them and us'.<sup>358</sup> This interviewee mentions being fined for not working an eleven day fortnight, which would have left miners, especially those with families to feed, little choice other than to work the long hours demanded. Clearly, the need to maximise coal production translated to long working hours for coal miners. However, it is vital to bear in mind that evidence relating to working hours obtained from oral testimony has the potential to be exaggerated. Interviewees may be influenced by the desire to emphasise their own personal role in, and contribution to, the war effort, particularly so since as noncombatants their contribution was perceived culturally as secondary to those in the armed forces. Indeed, Robb has illustrated this

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<sup>356</sup> Calder, *The People's War*, pp.150-2.

<sup>357</sup> Alex McNeish, interviewed by R. Johnston, 5 July 2000, (SOCH/017/C13), pp.2-3.

<sup>358</sup> This will be returned to later, chapter four, p.147.

point well in her research into cultural representations of civilian workers in wartime. She notes the existence of a hierarchy of contribution to the war effort, in which the industrial worker was below the fighting man. She continues,

... fundamentally although repeated efforts were made by the state to show the civilian man as a crucial part of the war effort it was undermined by the irrefutable heroism and bravery shown by those in the armed forces and which those in most civilian occupations could never achieve.<sup>359</sup>

Moreover, the minutes of the Special General Meeting of the Clyde Shipbuilders' Association (CSA) illustrate that the government was calling for an increase in production in 1941.<sup>360</sup> They comment that firms should work overtime *at least* three nights a week, and that the aim was for all firms to be working a 60 hour week.<sup>361</sup> Clearly long and injurious hours of work were demanded by many occupations on Clydeside during the war, particularly those - such as coal mining and shipbuilding - which were vital for the war effort.

In addition to demonstrating that increasing hours of work were not accompanied by increased production, the HMWC's final report in 1918 stressed the importance of rest breaks throughout the shift which allowed for recovery from both fatigue and monotony.<sup>362</sup> In 1932 the IHRB also advocated the introduction of rest pauses,<sup>363</sup> while the Factory Inspectors Report for 1941 suggested that boredom and

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<sup>359</sup> L. Robb, 'Fighting in Their Ways?: The Working Man in British Culture 1939-1945.' (Unpublished PhD Thesis) University of Strathclyde, 2012. pp.66, 81.

<sup>360</sup> TD241/1/34 *Clyde Shipbuilders Association: Minute Book No.28 'Special General Meeting of the Association 20 March 1941, p.40.*

<sup>361</sup> TD241/1/34 *Clyde Shipbuilders Association: Minute Book No.28 'Special General Meeting of the Association 20 March 1941, p.40.*

<sup>362</sup> *Health of Munitions Workers Committee, Final Report, Industrial Health and Efficiency, PP1918 (Cmd.9065), p.122.*

<sup>363</sup> *Industrial Health Research Board, Annual Report, 30<sup>th</sup> June 1932, pp.21-2.*

monotony could contribute to fatigue.<sup>364</sup> Evidence tends to suggest that rest pauses were by no means universal, and there were no legal requirements for employers to implement this either before or during the war. The situation was that knowledge existed as to the benefits of rest pauses, but they were not formally introduced into the workplace. Indeed, Mass Observation illustrated this point 'among 1,050 factories chosen at random by the National Institute of Industrial Psychology in 1938, 52.9% had official rest pauses and 14.7% unofficial ones.'<sup>419</sup> Illustrating that out of a random selection of *factories* only just over half had official rest pauses in place prior to the outbreak of war. Indeed, the report continues, 'the good effect on production and morale of recognising and regularising pauses in work is now well proved both by research and experience, though still not recognised by many factories.'<sup>365</sup> Moreover, there is little evidence in oral testimony to demonstrate that official rest pauses were common on Clydeside.<sup>366</sup> One Clyde shipyard worker, who began work in 1940, stated that 'when I started, there was not such a thing as an official tea break. You had to do it surreptitiously.'<sup>422</sup> While Alex Whyte, a blacksmith in Fairfield's during the war recalled, 'tea-breaks weren't known...if you got caught making tea or smoking you got sacked.'<sup>367</sup> William Galloway also commented on the lack of tea breaks and that 'it was only after the war I started taking tea.'<sup>368</sup> Oral testimony reveals that munitions

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<sup>364</sup> *Annual Report of the Chief Inspector of Factories, PP 1941* (Cmd.6397), p.19.

<sup>419</sup> Mass Observation, *People in Production*, (1942), p.173.

<sup>365</sup> Mass Observation, *People In Production*, (1942), p.173.

<sup>366</sup> Charlotte Tomelty, interviewed by Patricia Williams, December 1998, (SOCH/015), p.2; Elizabeth Gibb, interviewed by Patricia Williams, December 1998, (SOHC/015), p.9; Alex Scullion, (no date) Glasgow Museum Oral History Project 'Voices from the Yard'. <sup>422</sup> D. Crooks (ed) *Made in Govan*, p.19.

<sup>367</sup> Alex Whyte, 6 October 1989; Glasgow Museums Oral History Project 'Voices from the Yard'.

<sup>368</sup> William Galloway (no date); Glasgow Museums Oral History Project 'Voices from the Yard'. <sup>425</sup> Elizabeth Gibb, interviewed by Patricia Williams, December 1998, (SOHC/015), p.9.

workers did not benefit from tea breaks either. ICI employee Elizabeth Gibb mentioned not having tea breaks in her testimony,<sup>425</sup> while Harry McGregor, an apprentice at North British Locomotive at Hyde Park in Springburn, recalled that 'you didn't get a tea break. You had to hide things if you're making tea in the morning.'<sup>426</sup> According to testimony from Robert Scobie the situation was little better in the coal mining industry. When asked what time they were allocated for lunch and rest breaks he replied '...oh we had...twenty minutes we got, that was just for oiling the machinery, while it was getting oiled, that was part of your piece time.'<sup>427</sup> It appears there was a wide variation in practice on rest breaks. For example, J. D (anonymous female respondent), who worked in a small firm in Wishaw making panel pins for bailey bridges, recalled getting breaks, but not getting paid for them.<sup>369</sup> Clearly the 1918 research findings of the HMWC had yet to filter down to significant numbers of employers in various different industries on Clydeside, who, at the outbreak of the Second World War insisted on damaging hours of work, with little or no rest breaks, believing that this was the way to maximise production. Indeed, the medical profession was still expounding the benefits of rest pauses in 1947, with Hunter estimating that: 'rest pauses can increase output from 5-10 per cent.'<sup>370</sup> Which suggests that as late as 1947, employers had still not recognised the benefits of allowing rest-breaks - which suggests that war was not the reason for the lack of rest pauses, since they were still not being implemented in 1947. Clearly, rest-pauses were

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<sup>426</sup> Harry McGregor , interviewed by Arthur McIvor , 13 July 2009 (SOHC/050/06), p.14 <sup>427</sup>

Robert Scobie, interviewed by Nicola Graham, 19 June 2012. (SOHC/051/10), p.2.

<sup>369</sup> J.D.,(anonymous female respondent), interviewed by Nicola Graham, 12 June 2012. (SOHC/051/6), p.8.

<sup>370</sup> Abstracts: 'Industrial Medicine, D. Hunter (1945)' in *British Journal of Industrial Medicine*, Vol.IV, No.1, January 1947, p.73.

not a regular part of paid employment prior to or during the war, therefore the lack of rest pauses experienced by the workforce during the war years should be seen as an extension of pre-war practise.

Despite the dangerous nature of some wartime jobs, many could be boring and repetitive, especially in the mass-production processes in munitions, vehicles and aircraft manufacture. Croucher, writing on the engineering industry during the war comments that ‘in general women’s work in engineering factories was repetitive and boring.’<sup>371</sup> While one female Clydeside munitions worker described her work as ‘...a kind of hum-drum job...it got a bit monotonous.’<sup>372</sup> In an attempt to combat boredom and monotony the BBC programme ‘Music While You Work’ was relayed through loudspeakers to workers on the floor in some factories from 1940, in two half hour programmes during the day. Korczynnski, Robertson, Pickering and Jones have demonstrated the positive impact this had upon women's working lives. Utilising oral testimony, most of the respondents quoted recalled enjoying wartime factory life.<sup>373</sup> This article argues that music and singing in the workplace was an ‘anthropological necessity’ and was necessary in order that the workforce could cope with boring and repetitive tasks.<sup>374</sup> The enjoyment women gained from music in the workplace is evident in some of the Scottish oral testimony. Women seem to remember music and singing when recalling happy memories of work. May Martin, who worked

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<sup>371</sup> Croucher, *Engineers At War*, p.254.

<sup>372</sup> Margaret Sheddon, interviewed by Patricia Williams, December 1998. (SOHC/015), p.3.

<sup>373</sup> M. Korczynnski, E. Robertson, M. Pickering, & K. Jones, ‘‘We Sang Ourselves Through That War’’: Women, Music and Factory Work in World War Two’ *Labour History Review*, Vol.70, No.2, August 2005, pp.185-214, pp.189-90.

<sup>374</sup> Korczynnski, Robertson, Pickering, & Jones, ‘‘We Sang Ourselves Through That War’’, p.194. <sup>434</sup> May Martin, interviewed on 21<sup>st</sup> February 1997. 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

in Dexter clothing factory in Cathcart during the war recalled that 'in the factories you used to have that 'Music While You Work' and it would be *quite good* listening to all that music.'<sup>434</sup> Munitions worker Elizabeth Gibb recalled music in the factory and 'they had wirelesses and that at dinner time' and when questioned further about music at work commented that 'we only had half an hour'<sup>375</sup> which was likely a reference to the BBC's 'Music While You Work' programme. In addition to music being played at work some women remember singing at work. Ann McCabe, a wartime munitions worker recalled, 'I spent many *happy* days there and all the girls were all very nice. We used to have singsongs'. 'I have happy memories [of her time in Ardeer]. After we'd been for our lunch we'd sing songs.'<sup>436</sup> This interviewees' happy memories of her time working in munitions seemed tied up with music and singing at work. So it is clear that some employers made an effort to create a more pleasant working environment. However, it is important to note that attitudes towards

music in the workplace varied, and although it had some degree of state support - indeed Bevin himself was a supporter of the idea - it was not prescribed by the state.

Korczynnski, Robertson, Pickering and Jones stated that:

following research on the effect of music in the workplace on boredom and output undertaken by the Industrial Health Research Board in 1937, bodies such as the Industrial Welfare Society, the National Institute of Industrial Psychology, the BBC, and various government departments became committed to the idea that music in the workplace could both help worker 'morale' and help to increase of sustain output.<sup>376</sup>

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<sup>375</sup> Elizabeth Gibb, interviewed by Patricia Williams, December 1998,(SOHC/015), p.9. <sup>436</sup>

Ann McCabe, interviewed by Patricia Williams, November 1998, (SOHC/015), p.1.

<sup>376</sup> Korczynnski, Robertson, Pickering, & Jones, 'We Sang Ourselves Through That War', p.203. <sup>438</sup>  
*Annual Report of the Chief Inspector of Factories, PP 1942* (Cmd.6471), p.4.

Working conditions fluctuated with the fortunes of war. After the 'crisis' period of 1940-41 and the threat of invasion disappeared, working hours dropped back. In 1942 the Factory Inspectorate noted a reduction in hours of work: 'It is good to see, at last, a decided improvement in public opinion towards accepting the fact that long hours do not necessarily mean a proportionate increase in output.'<sup>378</sup> The reduction in working hours was a trend continued in 1943, although some factories continued to demand injurious hours of work from employees. Indeed, the Factory Inspectorate commented 'Inspectors...comment on the general reduction in working hours in 1943.'<sup>377</sup> It is noteworthy that in 1943 the position of Britain in the war had begun to significantly improve. Calder argues that after British success at El Alamein in 1942 there were only victories to report. Moreover, he notes that the turning point of the war occurred in 1943 with German surrender in Russia.<sup>378</sup> The 1943 Factory Inspectors Report stated: 'this year has shown a greater appreciation of the fact that production is not in direct ratio to hours worked.'<sup>379</sup> This reduction in working hours is further noted in the Factory Inspectors Report for 1945, which shows that working hours had been reduced as the war wore on, and in 1945 a 44 or 45 hours working week was common. It also noted the growing popularity of the five day working week and the decline in shift work.<sup>380</sup> It is important to bear in mind, however, that the HMWC's research into working hours was not motivated by concern for the workforce, but by a need to increase production. Furthermore, it appears that the primary concern of the Factory Inspectorate was similar in that they were concerned

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<sup>377</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd. 6563), p.5.

<sup>378</sup> Calder, *The People's War*, pp.305,347.

<sup>379</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), p.19.

<sup>380</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6698), p.29.

with improving working conditions and health and safety, but only 'where possible without retarding the war effort.'<sup>381</sup>

Research conducted (across various firms and areas) by Mass Observation for its 1942 publication *People in Production* demonstrates that workers accepted longer working hours because of the war, but suggests that this would not be acceptable to workers in peacetime. The report stated 'the commonest comments on hours of work was that they were *all right for wartime* but would be too long in peacetime.'<sup>382</sup> However, oral testimony fails to reveal similar attitudes amongst the Clydeside industrial wartime workforce, indeed long hours appear to have been accepted as normal practice, rather than because of the war effort. For example, Isabella Henderson, a munitions worker, recalled complaining about having to work on a Saturday: 'I would say 'do we need to go to our work, today's Saturday?' My mother would say, 'do they let soldiers home on a Saturday? They don't, on your way.'<sup>383</sup> While one shipyard worker described his working hours, commenting on having to work late two nights a week as well as a Saturday and that 'this was the norm.'<sup>384</sup> Bert Cording, who worked long hours in a locomotive works in Springburn commented that 'this was the normal acceptable thing. We didn't think this was unusual.'<sup>385</sup> When asked about working overtime during the war, Antonia Hunter, who was employed in a factory constructing bailey bridges, replied 'Oh it never bothered me ... working late didn't bother me. Didn't bother me.' She later commented that 'it was a long day. But...I

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<sup>381</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.26.

<sup>382</sup> Mass Observation., *People in Production*, pp.161-162.

<sup>383</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998, (SOHC/015), p.10.

<sup>384</sup> Pat McChrystal, 13 October 1989; Glasgow Museum Oral History Project 'Voices from the Yard'.

<sup>385</sup> Bert Cording, interviewed on 30<sup>th</sup> April 1998. 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

can't remember, but I don't think it...I think you just took it in your chance...but that was the work, you know?!'<sup>386</sup> These statements demonstrate an acceptance of long working hours, that workers did not think working overtime and long hours were unusual occurrences, while also implying that they were accustomed to such hard work. In general, much of the oral testimony utilised in this research suggests that the workforce accepted long working hours as simply 'the way it was'. This attitude is depicted well by Bernard Murray, when asked how he felt about his working hours he stated that he 'Never thought about it, you just done it (laughs)!!! A young boy, you know, you just, it was part of life, you just done it, you know.'<sup>387</sup> Willie Dewar, an apprentice draughtsman in North British Locomotive at Hyde Park, recalled the long hours of work, but commented that the workforce never showed tiredness 'they never, never showed it.

Never complained about it. Never heard anybody saying 'oh I'm too tired, I cannot do this job', you know.' However, he also recalled that generally people were 'quite happy to work overtime to finish a job off' because of the war effort.<sup>388</sup> Perhaps such attitudes were influenced by the belief that the war would not last long. Calder illustrates that this was the belief of Neville Chamberlain, who, in a letter to his sister in November 1939 wrote 'I have a 'hunch' that the war will be over before the spring', while a Mass Observation study in 1940 illustrated that only one in five people believed the war would last three years or more.<sup>389</sup> For some, perhaps many, there was no choice but to work long hours. Apprentice pattern-maker Jim McFadzean, when asked about hours

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<sup>386</sup> Antonia Hunter, interviewed by Nicola Graham, 19 June 2012. (SOHC/051/8), pp.2,7.

<sup>387</sup> Bernard Murray, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/12), p.3.

<sup>388</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.41.

<sup>389</sup> Calder, *The People's War*, p.62; T. Harrison, 'What is Public Opinion?' *Political Quarterly*, Vol.XI, No.4, 1940, p.371.

of work and overtime, stated that 'you didn't have any option...but you're also enthusiastic to help the war effort' he also noted that by working overtime, he really felt like he was contributing to the war effort.<sup>390</sup> Clearly then the overriding factor in worker acceptance of long hours of work was simply that it was the 'norm'. Indeed, in the oral testimony analysed here, only two interviewees (James McFadzean and Willie Dewar) were further motivated to accept long hours of work by their contribution to the war effort.

However, such attitudes to long working hours were not universal. George Syme, an engineer, stated he was 'bloody fed up with the fire watching and long hours.'<sup>453</sup> Nevertheless, he is one of few interviewees to express a negative attitude towards such long working hours. It is difficult to determine what motivated the majority of workers acceptance of longer hours of work in war time, perhaps, as the above testimony suggests, it was simply accepted as 'the way it was'. Summerfield has discussed how the 'heroic' women she interviewed composed their experiences of the war in a way which emphasised their value and contribution.<sup>391</sup> But the oral testimony utilised above has shown that the desire to 'do ones bit' for the war effort was not a major motivating factor in workers accepting increased hours of work as Mass Observation argued.<sup>392</sup> In fact, long working hours increased the earnings of the worker, and often efforts to reduce working hours and overtime were met with resistance from employees and trade unions, who were concerned about the drop in earnings. This economic incentive to work long hours is commented upon by Willie

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<sup>390</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.8. <sup>453</sup> George Syme, (no date) Serial No: GS.210. 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

<sup>391</sup> Summerfield, *Reconstructing Women's Wartime Lives*, p.20.

<sup>392</sup> Mass Observation., *People in Production*, pp.161-162.

Dewar, an apprentice draughtsman. When questioned whether the extended hours of work resulted in men becoming tired he replied 'I think they could be, but they never showed it ... well they were getting extra money for it, so obviously they wanted to.'<sup>393</sup> He also mentioned the benefit of double time, 'again, you were getting double time over night time, so that was extra money'.<sup>394</sup> Further evidence from the Clyde Shipbuilders' Association illustrates that the Confederation of Shipbuilding and Engineering Unions were opposed to the reduction in working hours below fortyseven hours per week.<sup>458</sup> While another North British Locomotive employee, Harry McGregor, when asked whether the workers felt the need to speed up production for the war effort, replied 'No, no. It all meant work for money...It was all about the money.'<sup>395</sup> Steelworker Edmund Barrie, when asked how he felt about having to work overtime, commented: 'I was quite happy with the money in my pocket!'<sup>460</sup> Clearly, for many interviewees' the extra money was incentive enough to work overtime. Bunbury states that in one factory 'a general reduction throughout the factory was opposed vigorously by the works manager and by many of the workers, the latter because it would have meant a reduction in wages.'<sup>396</sup> This point is also made by Braybon and Summerfield that a 'reduction of hours was not a popular issue among men whose first consideration was to maximise earnings.'<sup>397</sup> Inman has provided an example of worker

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<sup>393</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.41.

<sup>394</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.41. <sup>458</sup> TD241/1/33 *Clyde Shipbuilders Association: Minute Book No.27 'Special General Meeting' 18 November 1940*, p.148.

<sup>395</sup> Harry McGregor, interviewed by Arthur McIvor, on 13 July 2009 (SOHC/050/06), p.35. <sup>460</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.2.

<sup>396</sup> E.D. Bunbury, 'Psychiatric Advice in Industry III' *British Journal of Industrial Medicine*, Vol.II, No.1, January 1945, p.46.

<sup>397</sup> Braybon & Summerfield, *Out of the Cage*, p.222.

resistance to the lowering of working hours on the shipyards of the Clyde, noting that ‘an attempt on the Clyde to reinforce the 48 hour maximum for those under 16 caused the boys to threaten strike action.’ The workforce welcomed longer hours because they increased the pay packet.<sup>398</sup> It is also likely that workers desire to maximise earnings was further influenced by the insecurities of the 1920s and 1930s, when unemployment was high. Indeed, Johnston and McIvor have commented on the ‘irregular employment and downward wage drift which characterised the heavy industries in Scotland in the 1920s and 1930s Depression.’<sup>399</sup> Braybon and Summerfield’s point that reduction of working hours was unpopular specifically among men, suggests that attitudes to working hours varied according to gender, with men more concerned with maximising earnings than women. This would be consistent with the ideals of breadwinner masculinity and this is supported by a survey carried out in 1943 which demonstrated that half of women workers considered their hours too long.<sup>465</sup> However, the oral testimony utilised for this thesis fails to reveal different attitudes to working hours according to gender where few, if any, Clydeside female interviewees complained about long working hours.

In addition to long hours of paid employment, the civilian population often had other war duties, such as air raid precaution or fire watching. MacKay states that in the U.K. there were ‘1.5 million civilians in ARP’s ‘fourth arm’ of wardens, firefighters, rescue workers, ambulance drivers, medical staff, telephonists and messengers, no less than four-fifths were volunteers.’<sup>400</sup> There were around a further 2 million in the Home

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<sup>398</sup> Inman, *Labour in the Munitions Industries* pp.308, 127-8.

<sup>399</sup> Johnston & McIvor, ‘The War and the Body at Work’ p.138.

<sup>465</sup> Braybon & Summerfield, *Out of the Cage*, p.219.

<sup>400</sup> MacKay, *Half the Battle*, p.132.

Guard, most of whom were also unpaid volunteers. These extra duties increased the time away from the home, and, as such, decreased the amount of time available to the worker for the rest and regeneration necessary to avoid fatigue. Jones' recent research has illustrated the dangers involved in additional work, such as roof spotting, which could lead to accidents. She cites the example of a twenty-three year old roof spotter from London, who fell while climbing the ladder to his lookout post where 'he had been working at least fiftythree hours a week, so he must have been extremely tired.'<sup>401</sup>

### The Factory

Inspectorate report for the year 1944 also commented on this, citing the example of a 17 year old male who: 'in addition to working a 49 hour week, did 10-15 hours a week on Home Guard duty and that he had to 'stand-to' all the previous night'<sup>402</sup> meaning he had been awake all night. Harry McGregor recalled being on guard at North British Locomotive at Hyde Park all night, finishing at 6am and being expected to show up for work again at 9am, noting that 'it's a bit stupid when you think about it.'<sup>403</sup> While in his autobiography, Pat McGeown, a steel worker and member of the Home Guard recalled 'sometimes when manoeuvres had me crawling through hedges and ditches all night long, I wondered how I would survive the hours on the furnace, but I always managed.'<sup>404</sup> Another steelworker, Edmund Barrie recalled his voluntary work as a 'street-watcher'. His duties in this role involved patrolling the street during air raids to make sure incendiaries did not set fire to buildings. This meant that during an air raid he could be patrolling throughout the night and still have to get up and go to work the

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<sup>401</sup> Jones, *British Civilians in the Front Line*, p.119.

<sup>402</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.11.

<sup>403</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p. 25.

<sup>404</sup> P. McGeown, *Heat the Furnace Seven Times More* (London: Hutchinson, 1967), p.161.

next day.<sup>405</sup><sup>406</sup> Voluntary work, such as fire-watching, was also an apparent concern of the trade unions. The 1941 STUC annual report commented that ‘in the mining and iron and steel trades they had men being called upon to do a night’s fire-watching after a very heavy day’s work and, as a consequence, losing very necessary sleep.’ They proposed that fire-watching duties be substituted for the ordinary day’s work, which demonstrates that the STUC was aware of the extra burden placed upon workers, as well as the negative impacts of such additional work.<sup>472</sup>

Oral testimony demonstrates the prevalence of such voluntary work on Clydeside in wartime. Jim Fyfe, who worked in shipbuilding during the war years, recalled: ‘I was working in the shipyards all day, but one night a week I had to go to the Home Guard and I used to have to go home and get changed into that bloody awful uniform.’<sup>407</sup> This testimony illustrates that Jim was required to complete Home Guard duties once a week, as well as demonstrating his disdain for the uniform. Apprentice pattern-maker, Jim McFadzean, an employee of Simon's shipyard, was also a member of the Home Guard, (he was lance corporal in charge of signals). He recalled having to stand guard at the shipyard one night a week and still go to work the next day, while his other duties in the Home Guard meant he had to go to lectures twice a week.<sup>408</sup> Further testimony illustrates the long hours experienced by those undertaking fire-watching duties. Willie Dewar, an apprentice draughtsman at North British Locomotive, in their Hyde Park works in Springburn, recalled undertaking fire-watching. In his testimony he mentions getting three shillings for a full night fire-

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<sup>405</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012. (SOHC/051/14), pp.3-4.

<sup>406</sup> *Annual Report of the Scottish Trades Union Congress*, 1941, p.137.

<sup>407</sup> Jim Fyfe, (no date) Serial No: JF. 057. 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

<sup>408</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), pp. 5-6.

watching (although he does state that apprentices were only supposed to be on duty until ten o'clock). He clearly remembered the long hours involved:

...you'd go to night school, come out at quarter to ten at night and then go home. Hurriedly pick up your stuff and then go up to the office....it's about four or five o'clock before you get down to have a sleep. Then, of course, the cleaners come in at six....and then you went home and got washed and all the rest of it and then you came back to your office for nine o'clock.<sup>409</sup>

This interviewee, at the time a young apprentice, was also called up to the Home Guard, demonstrating that paid employment was only one of the demands placed on the civilian body during wartime. According to Willie Dewar, he was required to fulfil his duty one night per week in the Home Guard:

If you were on guard two hours on and four off so you were up half the night. And then you had to go home in the morning...I was in the works at the time, started at five to eight. You had to get home, change, and you didn't have time for anything to eat generally because you had to start at five to eight. And then go to night school at night...you'd think they're under stress now but you never thought about stress then you just carried on.<sup>476</sup>

This evidence demonstrates both the long hours demanded of civilians in wartime as well as stoic acceptance by the interviewee of such circumstances. Willie Dewar was steadfastly 'carrying on' for the war effort, despite the strain of long hours. In addition, for this interviewee, being a member of the Home Guard seemed to be a source of pride. He likened the Home Guard to the army and talked unprompted about both guns and uniform and mentioned getting 'two stripes'. His pride in this promotion is evident

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<sup>409</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.15. <sup>476</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.17.

from his repetition of this fact even when he later commented that 'I wasn't a military man'.<sup>410</sup> Later in his testimony Willie Dewar compared the

Home Guard to the army, suggesting that civilians were, in some respects worse off. He commented that members of the Home Guard had to go to work straight after a full night on guard duty, while in contrast, soldiers got the next day off.<sup>411</sup>

Service in the Home Guard, which had its own uniform, provided industrial workers with a means by which to reassert their masculinity, which had been damaged by remaining on the home front and not in uniform. The military male was the dominant masculine identity during the war, Connell has referred to this as the hegemonic masculinity.<sup>412</sup> Robb has also commented, arguing that during wartime masculinity took on 'very specific meanings' because of the new expectations of men in wartime as soldier and hero. She refers to a hierarchy of masculine roles during the war, 'a hierarchy in which the male industrial worker featured below the fighting man.'<sup>413</sup> Moreover, according to Robb, working class masculinity relied heavily on occupation for definition.<sup>414</sup> Therefore these ideals of masculinity were challenged in wartime, with the creation of the 'soldier - hero' figure. Robb points out that the influx of women into the wartime workforce 'may have undermined the extent to which men in the reserved occupations could draw upon their occupational skill as a source of masculine

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<sup>410</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050.04), pp.17-18.

<sup>411</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.43.

<sup>412</sup> R. Connell, *Masculinities*, p.14. Sonya Roses' work is also important here, see 'Temperate Heroes: Concepts of Masculinity in Second World War Britain' in S. Dudink, K. Hagemann, and J. Tosh, eds., *Masculinity at War and in Peace* (Manchester: Manchester University Press 2004)

<sup>413</sup> L. Robb, 'Fighting in Their Ways?: The Working Man In British Culture 1939-1945. (Unpublished PhD Thesis) University of Strathclyde, 2012. p.66.

<sup>414</sup> L. Robb, 'Fighting in Their Ways?: The Working Man In British Culture 1939-1945.' (Unpublished PhD Thesis) University of Strathclyde, 2012, pp.28-9.

pride.<sup>415</sup> Therefore, the Home Guard, with its weapons and uniform, provided a means by which industrial workers could reassert their masculinity.<sup>416</sup>

Females with no children were also expected to take on voluntary work. Ellen Markey, a spinner, recalled having to take on fire-watching duties three nights a week, although she conceded she was paid extra for this.<sup>417</sup> Moreover, a letter from Sir Andrew McCance of Colvilles Ltd. demonstrated that 'voluntary' work such as fire watching was often actually compulsory and was 'expected to be carried out by all except those who hold an exemption certificate.'<sup>418</sup> Fire-watching was clearly a serious business, evident from the papers of the Lanarkshire branch of the Amalgamated Engineering Union which in 1943 argued that 'those who failed to do fire-watching duties should be reported to the police.'<sup>419</sup> In fact, from 1941, firewatching was compulsory for men between the ages of sixteen and sixty who worked less than sixty hours a week, and it became compulsory for women up to the ages of forty five who worked under forty-five hours a week from 1942.<sup>420</sup> But fire-watching was 'unpopular with no *esprit de corps*...'<sup>421</sup> Interviewees mentioned having a choice between overtime and volunteer

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<sup>415</sup> L. Robb, 'Fighting in Their Ways?: The Working Man in British Culture 1939-1945.' (Unpublished PhD Thesis), University of Strathclyde, 2012) p.33.

<sup>416</sup> See P. Summerfield, & C. Penniston-Bird, *Contesting Home Defence: Men, Women and the Home Guard in the Second World War* (Manchester: Manchester University Press, 2007) for more on masculinity and the Home Guard.

<sup>417</sup> Ellen Markey, interviewed on 4<sup>th</sup> June 1998/17<sup>th</sup> June 1998. 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

<sup>418</sup> UGD 104/9/1 – File: Colvilles Ltd – miscellaneous correspondence 'B', 1939-1943; *Letter from McCance to Sir A. Steven Bilisland, dated 30<sup>th</sup> October 1943.*

<sup>419</sup> TD1383/1/1 *Mid Lanarkshire Minutes 1941-1949; 17 January 1943.*

<sup>420</sup> Jones, *British Civilians in the Front Line*, p.101.

<sup>421</sup> Jones, *British Civilians in the Front Line*, p.101.

work and Alex Scullion, a shipyard worker noted that if you did not do overtime they 'stuck you in the Home Guard.'<sup>422</sup> Clearly

'voluntary' work in the Home Guard or ARP served to increase what were often already long hours of work, limiting the time needed for rest and regenerating the body.

In addition to prompting increased hours of work the Second World War also caused an increased pace of work. Indeed, Johnston and McIvor have commented on this, 'overstrain was exacerbated, moreover, by crude attempts to speed-up the work.'<sup>423</sup>

This could contribute to bodily damage, particularly when coupled with fatigue and overstrain.<sup>491</sup> Increasing the pace of work was often accomplished through the use of piece work and bonus payments systems, which were common methods of payment prior to the war, and encouraged workers to increase their production levels in order to maximise their earnings. Walker has outlined the prevalence of this method of payment in the British chemical industry across the period 1914-1974, and has illustrated the negative impact of this upon the workforce.<sup>424</sup> The proliferation of payments by results wage systems included the Bedaux system which used incentive payments and time and motion studies to increase the pace of work. Payments by results quickly became a popular feature of the war. Croucher demonstrates its prevalence within the engineering industry noting that 'in 1945 it was estimated that about 90% of women in engineering were paid by the piece.'<sup>425</sup> In the shipbuilding industry many trades

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<sup>422</sup> Alex Scullion, (no date); Glasgow Museums Oral History Project: 'Voices from the Yard'.

<sup>423</sup> Johnston & McIvor, 'The War and the Body at Work', p.120. <sup>491</sup> Johnston & McIvor, 'Dangerous Work, Hard Men and Broken Bodies', p.138.

<sup>424</sup> D. Walker, 'Occupational Health and Safety in the British Chemical Industry, 1914-1974' (Unpublished PhD Thesis), University of Strathclyde, 2007, p.60.

<sup>425</sup> Croucher, *Engineers At War*, pp.201-2.

<sup>494</sup> D. Crooks, *Made in Govan*, p.27.

were on piece work payments. One shipyard worker, talking about the early years of the Second World War stated that ‘everything was PBR – Payment By Results – if you didn’t make it, you didn’t get it, see....’<sup>494</sup> The minutes of the Clyde Shipbuilders’ Association illustrate the dangers of the extension of piece work methods of payment<sup>426</sup> while in some areas of munitions work, such as packing and blasting, workers were paid by the piece.<sup>427</sup> Increasing the pace of work, combined with long working hours had a negative impact upon the health of the worker and increased the risks of both fatigue and accidents. This is commented on by the Clyde Shipbuilders Association in 1942, which noted that

at one establishment where the contract system had been introduced on staggers work there had been a considerable increase in accidents; and the men had attributed this to the speed with which they were induced to work when employed on piecework.<sup>428</sup>

Piece work and bonus methods of payment were also associated with increased levels of stress in the worker, something noted in 1945 in the *British Journal of Industrial Medicine*.<sup>429</sup>

Shift work was also common in some industries during the war, due to a need for continuous production. Workers in the chemicals industry on munitions during the war frequently worked shifts. (something that was a characteristic of work in the industry from the 1910s, as Walker’s work has shown).<sup>430</sup> Indeed, shift work was

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<sup>426</sup> TD241//1/35 *Clyde Shipbuilders Association: Minute Book No.29 'Special General Meeting' 18 June 1942, pp.217-8.*

<sup>427</sup> Elizabeth Gibb, interviewed by Patricia Williams, December 1998 (SOHC/015), p.4; Zemla Logue, interviewed by Patricia Williams, August 1998 (SOHC/015), p.2.

<sup>428</sup> TD241//1/35 *Clyde Shipbuilders Association: Minute Book No.29 'Special General Meeting' 18 June 1942, pp.217-8.*

<sup>429</sup> D.E. Bunbury, ‘Psychiatric Advice in Industry III’ *British Journal of Industrial Medicine*, Vol.II, No.1, January 1945, p.45.

<sup>430</sup> D. Walker, ‘Occupational Health and Safety in the British Chemical Industry, 1914-1974’ PhD Thesis, University of Strathclyde, 2007, p.55.

common practise in the industry prior to the war, so the continuation of this during the war years was simply an extension of normal practise, however it should be remembered that, for the many women entering the work place for the first time during the war, shift work would have been a wholly new experience. Shift work in the munitions industry was usually some variation of dayshift which was 7am until 3pm, backshift - 3pm until 11pm and nightshift - 11pm until 7am. H.R (anonymous respondent), a female employee in the munitions works in Bishopton recalled working a similar shift pattern: 'we did shifts, when we started at first we done the three shifts without a day off the shifts in this factory being 6am until 2pm, 2pm until 10pm and 10pm until 6am.' She concedes that this had a negative impact upon her sleeping patterns and that 'it was stressing at the time, I felt it was stressing at times.'<sup>431</sup><sup>432</sup> Bert Cording, who worked in Caley Pride locomotive works as a rivet heater, commented on the changing shift patterns he endured: 'you did a night shift after a day shift ... which meant that you started work at 6 o'clock at night until 6 o'clock in the morning.'<sup>501</sup> While Edmund Barrie, an employee of Dalziel steel works also worked shifts, 6am until 2pm, 2pm until 10pm, and 10pm until 6am. He recalled the shift pattern being working day-shift one week, then back-shift the next and night-shift the week after.<sup>433</sup> Shift work was also endured by those, including women, who worked in the iron foundries. One female interviewee, E.B. (anonymous respondent), who worked in a variety of different foundries recalled working alternately, day-shift, back-shift and night-shift. However, she made no mention of any negative impact of this

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<sup>431</sup> H.R.(anonymous female respondent), interviewed by Nicola Graham, 20 June 2012 (SOHC/051/11), pp.6-7.

<sup>432</sup> Glasgow Lives; Interview with Bert Cording. Interview Date: 30<sup>th</sup> April 1998.

<sup>433</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.2.

except to say that working back-shift meant she could not go to the dancing.<sup>434</sup> Nonetheless, shift work had the potential to have a negative impact upon the health of the worker, due to constantly rotating shifts.

This was noted by Bunbury in the 1945 edition of the *British Journal of Industrial Medicine*, in which she commented 'The question of the frequency of shift changes is important. Workers may complain of anorexia, dyspepsia and insomnia at the time of change of shift...'<sup>435</sup> Moreover, the IHRB, in a report upon certified sickness absence among women in industry, found that absenteeism among women on permanent day shift was less than among women on shift systems.<sup>436</sup> Clearly nightshift and irregular shift patterns took its toll on the workforce, perhaps even more so on women, who before the war were banned from working nightshift by the Factory Acts.<sup>437</sup>

### Working Environment

'Atmospheric conditions have considerable effect on efficiency' noted an article in the *British Journal of Industrial Medicine* in 1944, they also impacted upon worker health and accident rates.<sup>438</sup> Extremes of temperature, dirty and dusty workplaces, poor lighting, confined spaces and work outdoors in inclement weather were environmental factors which the Clydeside workforce had to contend with in varying degrees. Moreover, much of these were exacerbated by the war and the blackout in particular.

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<sup>434</sup> E.B (anonymous female respondent), interviewed by Nicola Graham, 19 June 2012 (SOHC/051/9), p.2.

<sup>435</sup> Bunbury, 'Psychiatric Advice in Industry III', p.45.

<sup>436</sup> Medical Research Council, Industrial Health Research Board: 'A Study of Certified Sickness Absence Among Women in Industry', S. Wyatt, (London: HMSO, 1945), p.30.

<sup>437</sup> Factory Act 1937 accessed on 12.10.15 via <http://www.legislation.gov.uk/ukpga/1937/67/section/73/enacted>

<sup>438</sup> R.S.F. Schilling, 'Industrial Health Research: The Work of the Industrial Health Research Board, 1918-1944' *British Journal of Industrial Medicine*, Vol.I, No.3, July 1944, p.147.

The shipyards were a notoriously harsh environment in which to toil. The work was physically demanding and was often completed in the open air, with little protection from the elements. Those employed in shipbuilding on Clydeside during the Second World War recalled working in such conditions, Colin, an engineer who began work in the industry in 1940 recalled:

You had to be well wrapped up, because you were exposed to the vagaries of the climate. There was no shelter at all, none whatsoever. Whether it rained or snowed you were there...it's been known for the spanner to stick to your hands.<sup>439</sup>

Alex Scullion, a former shipwright stated that 'Conditions ... during the war, were absolutely abysmal ... I remember shovelling sixteen inches of snow off a deck.'<sup>440</sup> Workers in other industries on Clydeside were exposed to the elements as well. One woman, who worked transporting cordite on bogies in Ardeer during the war, recalled working in the rain: 'they did supply you with things, but you were going about during the night and you were soaking.'<sup>510</sup> Another female munitions worker recalled having a long distance to walk to the huts where she worked and that 'if it was wet you got [a] soaking! Nobody asked where you would dry your clothes; you just hung them up and hoped for the best.'<sup>511</sup> H.R. (anonymous respondent), a female employee at the Bishopton munitions factory commented on working outside. Her job was transporting the high explosive powder on trucks throughout the factory and when asked if she had

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<sup>439</sup> D. Crooks, *Made in Govan*, p.8.

<sup>440</sup> Alex Scullion, (no date); Glasgow Museums Oral History Project 'Voices from the Yard'.<sup>510</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.2. <sup>511</sup> Cathy Wilson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.2. <sup>512</sup> H.R.(anonymous female respondent), interviewed by Nicola Graham, 20 June 2012 (SOHC/051/11), p.8.

to continue working outside in rain she answered 'Aye, it didn't matter, snow as well, all right?!'<sup>512</sup> Miners employed at the pithead also had inclement weather to deal with as part of the job. As Robert Scobie recalled that

It was hard work, I can tell you...and pouring of rain and nothing to cover you, out in the open, at this pithead at the Marshall, you're soaking before eight o'clock in the morning and you had to keep working on. I'm telling you.<sup>441</sup>

At this time the interviewee was only fourteen years of age. Clearly, therefore, workers were expected to endure tough working conditions as simply part of the job.

While those working outdoors often had inclement weather to contend with, other trades toiled in high temperatures and dusty environments. As Bella Docherty recalled of her time in Ardeer, talking about where the cordite was heated and dried out 'there was different heat in these big presses, the heat was terrific.'<sup>442</sup> Miners were another group who had to work in extremes of temperature. Fisher states that working in hot temperatures with poor ventilation could result in skin rashes and boils, noting that 'heavy sweating and drinking large amounts of water may cause severe muscular fatigue and even severe cramp.'<sup>443</sup> Clearly the temperature in which the worker toiled was liable to have an impact upon their well-being, while it may also have increased the likelihood of accidents.<sup>444</sup> In the 1920s the IHRB conducted research into the impact of environmental conditions such as vibration and heat on productivity. Its findings demonstrated the negative impact that extremes of temperature could have on

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<sup>441</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.5.

<sup>442</sup> Bella Docherty, interviewed by Patricia Williams, November 1998 (SOHC/015) p.6 .

<sup>443</sup> S.W. Fisher, 'Health Hazards of Coal Mining' *British Journal of Industrial Medicine*, Vol.I, No.3, July 1944, p.158.

<sup>444</sup> Schilling, 'Industrial Health Research', p.147.

productivity and that high temperatures caused loss of production and cold temperatures resulted in a loss of manual dexterity and an increased risk of accidents.<sup>445</sup>

The negative impact of heat on production and accident rates is also noted by Hunter in 1947,<sup>446</sup> and Schilling in the *British Journal of Industrial Medicine*, where he stated that 'in many industries the adverse effects of high temperatures have been shown.'<sup>447</sup>

Extremes of heat were a fact of life in a wide range of industries. High temperatures were present in some elements of shipyard work, for example. Alex

Whyte, a blacksmith, described his experience: 'oh the heat was terrible; sometimes you had to put a tin in front of you to keep the heat away from you.'<sup>448</sup> Further oral testimony demonstrates the extremes of heat faced by those in shipbuilding and that the yards were particularly dirty places in which to toil. Recalling the blacksmiths shop in the 1930s and 1940s one worker stated:

I was convinced I was looking into Dante's Inferno. I was convinced I was looking into hell: black with dirt, everything was covered in dirt, and all I could see was their teeth and their eyes, gloomy, you know. It was hellish.<sup>521</sup>

The steel industry provides another example of work carried out under extremes of temperature:

...work is often carried on, even in the best plants, in an intense heat. There is very little one can do, handling ingots almost white-hot, even mechanically, to remain clean and fresh. To stand within yards of the cogging and slabbing

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<sup>445</sup> McIvor, 'Manual Work, Technology and Industrial Health', p.168.

<sup>446</sup> Abstracts: 'Industrial Medicine, D. Hunter (1945)' *British Journal of Industrial Medicine*, Vol.IV, No.1, January 1947, p.73.

<sup>447</sup> Schilling, 'Industrial Health Research', p.147.

<sup>448</sup> Alex Whyte, 6 October 1989; Glasgow Museums Oral History Project 'Voices from the Yard'.

<sup>521</sup> D. Crooks, *Made in Govan*, p.8.

mills is like standing in the atmosphere of the hot room of a Turkish bath.<sup>449</sup>

The above evidence dates from 1948, although the assumption can be made that circumstances during the war were similar, given the blackout and preoccupation with production. When asked about working conditions Edmund Barrie recalled the working environment being very warm, uncomfortably so at times: 'Oh aye you were roasting...aye!' Edmund also commented that the temperature was exacerbated by the blackout, and named the extreme temperatures faced by the steelworkers as the main hazard.<sup>450</sup>

It must be noted, however, that high temperatures were regarded as preferable to failing to comply with blackout restrictions, and that high temperatures presented less of a threat than that of being bombed. Evidence from the Amalgamated Engineering Union illustrates that engineering workplaces experienced uncomfortable temperatures. For example, minutes of the mid-Lanarkshire branch commented on the extremes of heat found on the nightshift in one engineering firm, which were above 37 degrees Fahrenheit, and that the Factory Inspector agreed that the situation needed improved.<sup>451</sup> This not only demonstrates extremes of heat in engineering but also illustrates that some Clydeside unions were pro-active in campaigning for improved working conditions. Excessive temperatures were noted by females in the engineering industry, one women, recalling working on an crane commented 'the heat's terrible...'<sup>452</sup>

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<sup>449</sup> UGD 104/9/6 – File: Colvilles Ltd – miscellaneous correspondence 'B', 1948-1952 *'Progress Report on Steel'* by John Mullaney, in *Business: The Journal of Management in Industry*, June 1948, pp.41-42.

<sup>450</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), pp.5-6.

<sup>451</sup> TD1383/1/1 *Mid-Lanarkshire Minutes 1941-1949*, 17 January 1943.

<sup>452</sup> Croucher, *Engineers at War*, p.261.

The Factory Inspector Report for the year 1942 also comments on high temperatures, noting that controlling excessive temperatures was a difficult problem and that 'many cases of excessive temperatures' had been discovered.'<sup>453</sup> While the Engineering Branch of the Factory Inspectorate pays special attention to heating and general ventilation issues in the 1945 report, indicating that temperature remained an issue in engineering throughout the war years.<sup>454</sup>

Working conditions in coal mining varied widely. Much depended upon geology and the kind of seams the miners were working on, with deep pits tending to have the highest temperatures. In general however, the mines were often wet and dirty, while the majority of the work was undertaken underground in the absence of natural light. Moreover, hand hewing often necessitated the miner kneeling or lying on his side, maintaining an uncomfortable and unnatural working position for long periods. William Dunsmore recalled spending a lot of time working on his knees, due to the heights of the coal seams: 'Fae the day I started down the pit, I worked on my knees.'<sup>455</sup> Even when promoted to the coal face onto the stripping he worked low seams which meant working on his knees. Another ex-miner recalled working in uncomfortable conditions drilling down the pits, and often working with water running over him: 'I went to the coal face and the water was running 'oor the top of me a' the time.'<sup>456</sup> Another miner commented on damp and wet conditions: 'You're seeing mud and you went into a section and the water was running on the top of

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<sup>453</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), p.19.

<sup>454</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.42.

<sup>455</sup> William Dunsmore, Interviewed by R. Johnston, 11 July 2000 (SOHC/017/C16), p.2.

<sup>456</sup> Andrew Lindsay, Interviewed by R. Johnston, 29 June 2000 (SOHC/017/C4), p.2.

you.<sup>457</sup>

Coal mining was not the only industry in which workers had to toil in damp conditions, those employed in textiles, particularly those employed in the dyeroms also had to endure poor working conditions. Duncan Murray, a textile mill worker recalled that conditions were 'terrible' in part due to the steam, which resulted in workers getting soaking wet and continually working in a damp and unhealthy atmosphere, and that 'ye wis pretty damp, especially in the winter.'<sup>458</sup> According to his recollections such conditions were the norm during the war years, 'but latterly...after the war, we'd steam extraction fans.'<sup>459</sup> One ship's plumber described his working conditions as 'Horrendous, Horrendous. When you think back now, you know. Oh it was a cold, cold place.'<sup>460</sup> In addition to the cold and wet conditions often endured by those who worked in shipbuilding, many had to work in confined and cramped spaces. In fact, the minute books of the Clyde Shipbuilders' Association contain many claims from trade unions regarding payment of extra money for various trades working in confined spaces.<sup>461</sup> Indeed this was a common issue in shipbuilding and the trade unions were active in campaigning against this. It has often been argued that the trade unions were guilty of prioritising money over preventative measures.<sup>462</sup> Although as Melling has pointed out that increased wages, in this case the payment of extra money to those working in

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<sup>457</sup> Archie McLaren, Interviewed by R. Johnston, 29 June 2000 (SOHC/017/C5), p.11.

<sup>458</sup> Duncan Murray; Scottish Working People's History Trust; Archived at the SOHC at the University of Strathclyde, p.60.

<sup>459</sup> Duncan Murray; Scottish Working People's History Trust; Archived at the SOHC at the University of Strathclyde, p.58.

<sup>460</sup> SOHC/16/A2, interviewed by R. Johnston, 22 December 1998, p.13.

<sup>461</sup> TD241/1/35 *Minute Book No.29; Conference and Claims Committee Meeting, 16 January 1942; TD241/1/35 Meeting of Executive Committee 23 February 1942.*

<sup>462</sup> P. Weindling, 'Linking Self-Help and Medical Science', p.10; Tweedale, *Magic Mineral to Killer Dust*, p.78.

confined spaces, would, through the financial cost, encourage employers to improve conditions.<sup>463</sup>

Aside from working in cold and wet weather, the shipyards were also extremely dirty places to work, an ex-rigger on Clydeside described conditions:

When you see the conditions in the Clyde it was like fighting an atomic war with a bow and arrow, you know. You hadnae a chance...And when the tide did come in and then went out, it left all this residue. All rotting fruit that had fallen off ships and dead dogs and what have you. And the men had to go down and work amongst that, you know. And you can imagine the conditions in the middle of winter. It would be frozen, and the smell. You couldn't win....<sup>537</sup>

Andy McMahon, a shipwright also recalled that 'When the tide came in not only did you have human waste, but you had condoms and what have you, and there were men working up to their knees in this.'<sup>464</sup> An insulation engineer, who, as a subcontractor, worked in a variety of shipyards in the 1940s commented: 'When I started working it was *disgraceful*, I mean you shared your cabin, whatever, you built the cabin *yourself practically*. You shared it with the rats and everybody else. That was in the shipyards.'<sup>465</sup> Working in the steel mills was little better, post-war testimony and evidence highlights the persistence of poor working conditions within the industry in Scotland. Tommy Brennan, who began working in Dalzell steelworks after the war in 1947, recalled that 'the steel industry will always be a dirty, dangerous, hazardous

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<sup>463</sup> Melling, 'The Risks of Working Versus the Risks of Not Working', p.16.

<sup>537</sup> SOHC/16/A18, interviewed by R. Johnston, 3 February 1999, pp.7-8.

<sup>464</sup> Andy McMahon, 10 November 1989; Glasgow Museums Oral History Project 'Voices from the Yard'.

<sup>465</sup> Hugh Cairney, interviewer unknown, 26 March 2005 (SOHC/016), p.5 .

<sup>540</sup> Tommy Brennan, interviewed by David Bradley, 7 March 2011, p.1.

industry, but let me tell ye, in the forties it was a hundred times worse.’<sup>540</sup> This is confirmed in John Mullaney’s 1948 ‘Progress Report on Steel’, which noted

by no stretch of the imagination can many steel jobs be called clean....the air around blast furnaces on a sunny day the whole atmosphere scintillates and sparkles with the particles of solidifying carbon. They look pretty, but as they settle they are very black and very dirty.<sup>466</sup>

James Phillips, an engineer in North British Locomotive, recalled the working environment and that ‘it was a filthy place to work...you were coming out black.’<sup>467</sup> This atmospheric pollution was a major factor in the epidemic of work-related respiratory diseases, including pneumoconiosis, which will be examined in more detail in chapter 5.

### Training For Work

Another factor to take into account when reviewing working conditions is that of training. It appears that, despite the continuance of apprenticeship schemes, little training was provided to dilutees during the Second World War. Moreover, traditional training of apprentices became more difficult as a result of the war. The Motherwell branch of the Amalgamated Engineering Union protested against ‘the system of apprentice training in these works [Clyde Alloy] alleging that conditions are not suitable for training of apprentices,’ referring to conducting training of apprentices

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<sup>466</sup> UGD 104/9/6 – File: Colvilles Ltd – miscellaneous correspondence ‘B’, 1948-1952 ‘*Progress Report on Steel*’ by John Mullaney, in *Business: The Journal of Management in Industry*, June 1948, pp. 41-42.

<sup>467</sup> James Phillips, interviewed on 15th May 1997. 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

during wartime.<sup>468</sup> This had the potential to create a very dangerous working environment. Moreover, it should be remembered that wartime conditions necessitated increased production, which meant unskilled and untrained workers entering positions for which men usually had to serve an apprenticeship. Therefore, issues of training must be seen in the context of war, where time was of the essence. In shipbuilding for example, workers received no formal training. They simply worked alongside a time-served journeyman and learnt the trade from him. However, it should be noted that this was an extension of peacetime practice and cannot be regarded as a direct result of the war. According to William Galloway 'you just worked along with a tradesman, it would depend on the tradesman what you learned.'<sup>469</sup> Clearly the benefits of this differed according to who was instructing you and how willing they were to impart their knowledge. Indeed, this was noted by one interviewee who commented, 'if you were along with a good tradesman, you were on a good thing. But if he was a poor tradesman, you didn't learn the same, you know.'<sup>470</sup> Alex Whyte, a former blacksmith in Fairfield's recalled the scarcity of formal training, and that 'You just made the best of it.'<sup>471</sup>

Such memories are problematic given that working conditions undoubtedly improved over time, therefore it is likely that the work environments of the 1940s are going to be recalled in negative terms, especially when compared to present day conditions. Indeed, discussing workplace training during the war, although only one interviewee made the explicit comparison between past and present practice - Alex Whyte noted

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<sup>468</sup> AEU TD1383/1/1 *Mid Lanarkshire Minutes 1941-1949*, 28 August 1942.

<sup>469</sup> William Galloway, (no date); Glasgow Museums Oral History Project 'Voices from the Yard'.

<sup>470</sup> D. Crooks, *Made in Govan*, p.4.

<sup>471</sup> Alex Whyte, 6 October 1989; Glasgow Museums Oral History Project 'Voices from the Yard'.

that it was not like nowadays when ‘they all go to school.’<sup>472</sup> However, it is important to consider how much of this testimony is affected by the present and to what extent the interviewee is adopting a ‘bad old days’ discourse. Portelli has discussed this phenomenon:

Changes which may have subsequently taken place in the narrators’ personal subjective consciousness or in their socio-economic standing, may affect, if not the actual recounting of events, at least the valuation or ‘colouring’ of the story...Acts considered legitimate and even normal or necessary in the past may be therefore now viewed as unacceptable and literally cast out of tradition.<sup>548</sup>

Therefore, by this argument, changes in the way training in the workplace now takes place might have influenced interviewees attitudes to the training offered in the 1940s. The acts considered ‘normal’ in the past, the lack of proper training for the job for example, are now seen in comparison to the greater value and emphasis placed on training in the workplace in the present day.

### The Working Environment

Sanitary conditions were poor in the shipyards in the 1940s and oral testimony contains many examples of this, one shipyard worker recalled: ‘They actually had iron toilets there with a bar, all spiked, so you couldn’t lie back and enjoy yourself.’<sup>473</sup> Moreover, shipyards occupied vast areas, so often toilet facilities were located some distance from workplaces, so the actual workplace as used as a urinal and those working on piece rates and in squads were unlikely to stop work while one member of the squad walked

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<sup>472</sup> Alex Whyte, 6 October 1989; Glasgow Museums Oral History Project ‘Voices from the Yard’.

<sup>548</sup> Portelli, ‘What Makes Oral History Different’, p.38.

<sup>473</sup> Crooks, *Made in Govan*, p.13.

the distance to the toilets.<sup>474</sup> Clearly, this led to very unhygienic working conditions, especially so for plumbers and similar trades who had to work in these areas after the riveting squads finished. In some yards employees were timed for using the toilet. Those who went over their time could be ‘quartered’, losing a quarter of an hour's pay.<sup>475</sup> One engineer reflected that ‘there wasnae even any toilets aboard the boat that you could use. Och it was something awful. Eh you just didnae think of it. You just worked on.’<sup>552</sup> This demonstrates the stoic acceptance of the tough working conditions and that ‘you just worked on’ It is clear that the workforce were accustomed to such poor facilities and conditions, and rarely questioned it: ‘you just didnae think of it’. Despite this, one shipyard worker recalled conditions improving during the war years. Jim McFadzean, an employee of Simon's shipyard commented that 'It was halfway through the war before we got a decent toilet...They built a new one during the war, yeah.’<sup>476</sup> It is significant that improvements were noted halfway through the war, when the drive for production had eased somewhat. Prior to this though, toilet facilities in Simon's appear to have been as basic as those described by employees of other yards.

As Jim McFadzean noted

The toilet that we had was, corrugated iron, with no heating, it was just....hard to describe. The front was corrugated iron, a sloping roof, and inside was partitions, and a big board with holes in it, where you sat.  
And...eh...you were...they didn't let you sit too long!!<sup>477</sup>

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<sup>474</sup> Crooks, *Made in Govan*, p.13.

<sup>475</sup> Alex Scullion, (no date); Glasgow Museums Oral History Project ‘Voices from the Yard’.

<sup>552</sup> SOHC/16/A15, interviewed by R. Johnston, 17 February 1999, p.13.

<sup>476</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.8.

<sup>477</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), pp.8-9.

Sanitary facilities appear to have been sparse in the mining industry too. According to testimony from Robert Scobie 'Oh there was no much toilet facilities at the work....very little. There was a toilet right enough, but that was about all. There were no fancy hand basins hot or cold water...nothing like that.'<sup>478479</sup> Conditions in the steel industry appear to have been varied. Some oral testimony demonstrated that prior to the 1960s there was one toilet for 50 men.<sup>556</sup> However, this is contradicted by Edmund Barrie, employed in Dalziel steelworks during the war, who suggested that 'the toilets were handy...each department had its own toilets and that...'<sup>480</sup> However, when asked about wash hand basins and other sanitary facilities, he replied 'Nah not really...that all came after the war.'<sup>481</sup>

It appears that although conditions varied, sanitary facilities were of a relatively poor standard during the war. The minutes of the mid-Lanarkshire branch of the Amalgamated Engineering Union illustrate that complaints were received from the shop steward of Campbell Binnie and Reid in Hamilton regarding sanitary conditions. In this case it was agreed that the union secretary would inform the Factory Inspector of the poor conditions.<sup>482</sup> This demonstrates that sanitary conditions were regarded as an important issue for trade unions, and that they were active in attempting to secure some improvements despite the pressures of war. It also illustrates that employers were not too concerned and were happy to refer it to the Factory Inspector to decide. The papers of the Clyde Shipbuilders Association contain little mention of sanitary

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<sup>478</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.4.

<sup>479</sup> /20.12.79/J. Hutcheson/1/1 *Glengarnock Oral History Project, 1979-1980* (School of Scottish Studies, University of Edinburgh).

<sup>480</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.4.

<sup>481</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.4.

<sup>482</sup> TD1383/1/1 *AEU Mid Lanarkshire Minutes 1941-1949, 25 January 1942.*

facilities, indeed it appears they were more concerned with the installation and operation of canteens, than improving workplace sanitary facilities.<sup>483</sup> Nevertheless, during the war sanitary provision remained poor, particularly in the older areas of the economy (which dominated the Clydeside region), despite Johnston and McIvor arguing that Bevin forced companies ‘to radically extend company welfare facilities and improve sanitary and safety provision.’<sup>484</sup> One of the areas of the Clydeside economy in which it appears that washing and sanitary facilities were of a better standard appears to have been munitions factories. H.R. (anonymous respondent) a female employee in the Bishopton R.O.F recalled being provided with lockers in which to store the clothing they wore to and from work.<sup>485</sup> Indeed, this suggests that the difference in hygiene facilities was not solely dictated by industry but that gender was also a contributing factor. It is no coincidence that the industries which experienced better facilities were the newer ‘sunrise’ industries which employed women. (These and further issues regarding women and working conditions will be addressed more fully in a later section in this Chapter.). Although many emergency orders were issued by the Minister of Labour for the purpose of improving such conditions, oral testimony has demonstrated that these were not uniformly implemented across industry as a whole. However, once more it is vital to be aware that interviewees may be imposing today’s standards of hygiene and cleanliness upon the past.

The Minister of Labour and National Service, Ernest Bevin, in a 1943 speech to the General Council of the STUC commented upon washing facilities in industry and that

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<sup>483</sup> TD1059/1/1 *Records of the Scottish Engineering Association 1939-1945*; TD241/1 *Records of the Clyde Shipbuilders Association, 1939-1945*.

<sup>484</sup> Johnston & McIvor, *Lethal Work*, p.55.

<sup>485</sup> H.R.(anonymous female respondent), interviewed by Nicola Graham, 20 June 2012 (SOHC/051/11), p.9.

we are looking forward to the day when we shall not only be providing baths for miners but when proper facilities will be established as part of the general factory equipment to enable all workpeople to go home clean from their work.<sup>486</sup>

Clearly then, by his own admission, washing facilities were not universally in place throughout industry by 1943. Other evidence found in the minute books of the Scottish Engineering Employers' Association demonstrates a willingness among some employers to comply with the regulations regarding washing facilities, as set out under section 42 of the Factories Act (1937) before the outbreak of the Second World War. These minutes illustrate that some firms already had such facilities in place while a number of others had been in contact with the Factory Inspectorate enquiring what adequate facilities would be.<sup>487</sup> In early 1939, engineering employers in Scotland were clearly willing to comply with the Factory Act (1937) in providing washing facilities for employees. Issues such as the provision of washing facilities must be seen against the backdrop of the war and it appears that efforts to install washing facilities were, at least initially, hampered by the outbreak of the Second World War. It is reasonable to make the assumption that these issues would have been less of a priority in wartime when materials and labour were scarce. Additionally, there were bigger worries facing both the state and the civilian population, such as rationing, food and clothing shortages and bombing. However, this must be balanced alongside the argument that such 'welfarism' directly contributed to improving morale, industrial relations and

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<sup>486</sup> *STUC Minutes of General Council Meetings; April 1943 – April 1944*: Ministry of Labour and National Service Pamphlet 'Industrial Health Advisory Committee: Speech Delivered by Ernest Bevin April 5<sup>th</sup> 1943', p.3.

<sup>487</sup> TD1059/1/1/27 *Records of the Scottish Engineering Employers Association; Minute Book No.28, 29 March 1939*.

productivity. Indeed, Bevin was trying to enact protective legislation to counteract the higher hours and increased intensity of work during the war.<sup>488</sup>

Washing facilities in the shipyards appear to have been of a poor standard; only cold water was available, and there was no soap or towels. Alex Scullion recalled that 'there was no facilities for washing your hands.'<sup>489</sup> In comparison to the poor sanitary facilities on offer in the majority of the shipyards, it appears that conditions were much better at Whites Chemical Works in Rutherglen. One employee recalled soap, washrooms, towels and baths being provided for the use of the workforce.<sup>567</sup> While at Ardeer, Imperial Chemicals Industries had medical and welfare facilities for the workforce.<sup>568</sup> Evidence from employees of ICI at Ardeer resonates with the argument put forward by many historians that newer areas of the economy, such as the chemicals industry, experienced better working conditions than the older heavy industries. For example, Waldron has argued that war demands worsened conditions in some of the older chemical process plants and that newer and more progressive plants, such as those owned by ICI, were more likely to have welfare departments.<sup>490</sup> That said, evidence from workers employed at Whites of Rutherglen tends to oppose this argument, since it was older, having been in operation since 1820. However, further oral testimony adds to the argument that the older, traditional industries had poorer washing and sanitary facilities. James Phillips, an engineer, recalled demanding better working conditions and facilities as a shop steward. He mentioned the lack of facilities

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<sup>488</sup> McIvor, *A History of Work In Britain*, p.123.

<sup>489</sup> Alex Scullion, (no date); Glasgow Museums Oral History Project 'Voices from the Yard'. <sup>567</sup> Richard Fitzpatrick, interviewed by David Walker, 13 August 2004 (SOHC/022), p.5. <sup>568</sup> Johnston & McIvor, 'Marginalising the Body at Work?', p.134.

<sup>490</sup> Waldron, 'Occupational Health During the Second World War', pp.198, 202.

at both Mirlees and Watson and North British Locomotive where ‘conditions weren’t that great, you know. They were dirty and...a lack of certain things that should’ve been elementary...well washing up facilities...but again the wash hand basins...a lot of them were smashed.’<sup>491</sup> He commented that the Rolls Royce aircraft factory at Hillington, where he worked in the late 1940s, had much better working conditions than both Mirlees & Watson and North British Locomotive, providing further evidence that newer industries had better working conditions than the old traditional heavy industries.<sup>492</sup> This is consistent with McIvor’s assertion that there was a dichotomy in welfare standards between the older traditional sectors of the economy and the new ‘sunrise’ industries, including more modern sanitary arrangements.<sup>493</sup><sup>494</sup> Facilities in the steel industry were also of a poor standard, up until the 1960s, there was a lack of running water, and one employee recalled drinking water being in pails.<sup>573</sup> Further evidence supporting the traditional argument that older industries had poorer facilities can be found in the testimony of miner Robert Scobie, when asked about washing facilities he replied:

‘No, there was no pit baths in these days no. Not where I was...No, you had to wash when you went home.’<sup>495</sup> Moreover, the Factory Inspectors report for 1943 mentioned that where these facilities existed, more use was made of them by women and young people.<sup>496</sup> This suggests a degree of socialisation on the part of male workers in the

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<sup>491</sup> James Phillips, interviewed on 15th May 1997. 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

<sup>492</sup> James Phillips, interviewed on 15th May 1997. 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

<sup>493</sup> McIvor, *A History of Work in Britain*, p.135.

<sup>494</sup> /20.12.79/J. Hutcheson/1/1 *Glengarnock Oral History Project, 1979-1980 (School of Scottish Studies, University of Edinburgh)*.

<sup>495</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p. 3.

<sup>496</sup> *Annual Report of the Chief Inspector of Factories, PP 1943\_(Cmd.6563)*, p.33.

heavy industries on Clydeside into the acceptance of such conditions, indeed Johnston and McIvor have noted that 'entrenched work habits were difficult to erode'.<sup>497</sup> It is also possible that the neglect of such facilities by the male workforce links to masculinity. As 'hard' men, inured to hard work in dirty and dangerous conditions, they perhaps felt no need to use sanitary and washing facilities. Johnston and McIvor have commented that 'a cult of toughness characterised the Clydeside heavy industries and young male workers adapted to this and absorbed it through peer pressure.'<sup>498</sup> They quote an extract from H. Munro's novel *The Clydesiders* which illustrates some correlation between dirt and *real* work. The extract is of a shipyard rigger's intense dislike of clerical workers: 'arrogant behind his own dirty face he saw their clean ones as an affront,' which appears to associate dirt with both masculinity and real hard work.<sup>499</sup> Indeed, the lack of use of such facilities amongst the male workforce could be seen to be a result of peer pressure to conform to dominant models of masculinity.

As we have noted, few pits had facilities where the miners could wash and change clothes before travelling home, which meant that often they had to walk home in dirty and wet clothing. Archie McLaren recalled that 'you came out of the pit at night and you were soaking. You had to walk home. I've seen us walking about two or three miles to where we stayed.'<sup>500</sup> However, Andrew Lindsay did recall being provided with some form of protective clothing. He mentioned being given oilskins to wear in order to prevent his own clothes getting wet: 'if they gave you a set of oilskins you'd to strip naked and put these oilskins on because the water just went out

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<sup>497</sup> Johnston & McIvor, 'Masculinity in the Clydeside Heavy Industry', p.144.

<sup>498</sup> Johnston & McIvor, 'Masculinity in the Clydeside Heavy Industries', p.138.

<sup>499</sup> Extract from H. Munro, *The Clydesiders* (1961) quoted in Johnston & McIvor 'Masculinity in the Clydeside Heavy Industries' p.140.

<sup>500</sup> Archie McLaren, interviewed by R. Johnston, 29 June 2000 (SOHC/017/C5), p.16.

through them. Just like brown paper. You werenae half an hour in until you were soaking.’<sup>501</sup> He also commented on the practice of ‘double shifting’, stating there were not enough oilskins to go around, so they were being immediately passed on to the next shift although they would still be wet and dirty:

And they were aye soaking. That’s why you took off your moleskins and your shirt and that and put these on to your bare skin. Oh no. You werenae half an hour in until you were sponging, and that’s why we had to take our clothes off to have some dry clothes to come home with.<sup>502</sup>

Clearly in pits where protective clothing was issued this was inadequate and often in short supply.

It is worth noting that the improvements to hygiene noted across some Clydeside workplaces did not occur in a vacuum. Indeed, there was a greater and growing concern with sanitation and hygiene in society more generally in the years prior to the Second World War. Zweiniger-Bargielowska has shown that there was a growing concern with public health in the period 1880-1939, citing more vaccinations, sanitary and health reform and the decline of epidemic disease (which in itself suggests improve hygiene and sanitation) as evidence for this.<sup>503</sup> In this way the Clydeside workplace during the Second World War can be seen as reflecting wider trends in society. These issues and the wider social hygiene movement have previously been discussed in Chapter Two.

It can be argued that the war led to improved working conditions as a result of the many special orders issued by the state, for example the Factories (Canteens) Order.

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<sup>501</sup> Andrew Lindsay, interviewed by R. Johnston, 29 June 2000 (SOHC/017/C4), p.14.

<sup>502</sup> Andrew Lindsay, interviewed by R. Johnston, 29 June 2000 (SOHC/017/C4), p.14.

<sup>503</sup> Zweiniger-Bargielowska, *Managing the Body: Beauty, Health & Fitness in Britain, 1880-1939* (Oxford:Oxford University Press, 2011) p.5.; Porter, *Health, Civilisation and the State* (London: Routledge, 1995) p.7.

Indeed, the significance of these should not be undersold. This was a new level of state involvement in the workplace and must be seen in the context of the war, when it could be argued that the state had more pressing concerns. For example, throughout the years 1940-41 Britain was involved in the Battle of Britain, undergoing bombings in the Blitz and facing severe equipment shortages, in addition to dealing with the failure at Dunkirk and the fall of France. Despite this the Factory Inspectorate reported a great increase the number of firms providing canteen services to their workforce, stating that by the end of 1942, 98% of factories subject to the order of 1940 had canteens either in place or in preparation. However, interestingly, this report also notes that a large number of workplaces not subject to the 1940 Order, and therefore not obliged to provide canteen facilities, had voluntarily provided these facilities for the use of the workforce.<sup>504</sup> This suggests that some employers were keen to improve facilities, and perhaps that they were recognising the benefits of doing so. The 1942 STUC annual report also commented on the increasing incidence of canteens within industry and that 'there were now more than 5,500 works' canteens serving a substantial meal on six days a week...Workers were now consuming between six million and seven million meals a day at their works.'<sup>584</sup> This statement demonstrates that canteens were popular with the workforce. Oral testimony also suggests that the war was the catalyst propelling the introduction of canteens into workplaces. Bert Murray, an apprentice engineer in the R.O.F factory in Dalmeir, recalled 'well during the war you had a canteen to get a good meal.'<sup>505</sup> The

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<sup>504</sup> *Annual Report of the Chief Inspector of Factories, PP 1942* (Cmd.6471), p.42.

<sup>584</sup> *45<sup>th</sup> Annual Report of the Scottish Trades Union Congress 1942*, p.37.

<sup>505</sup> Bernard Murray, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/12), p.3.

phrasing of his statement, particularly the phrase *during the war*, suggests that there were no canteen facilities in this works prior to the war. By way of a contrast, it is to be noted that there was an increasing number of workplace canteens during the First World War, but that these closed at the end of the war. Pat McChrystal, a foreman shipwright in Fairfield's commented on this and that 'in the First World War there was a canteen...in what was at that time Fairfield's shipbuilding and engineering'. He also noted that this facility was closed after the war and that there were no canteens in many shipyards until the outbreak of the Second World War, and stated 'and that was common throughout the Clyde.'<sup>506</sup><sup>507</sup> That improvements in industrial welfare made during the First World War were short lived is something also commented upon in the annual reports of the STUC, which in 1941 noted that 'it was a strange thing that industrial welfare was seldom or never thought of except in wartime. During the last war welfare schemes came into being, but immediately after the war finished most of them died'<sup>587</sup> - strongly suggesting that maximisation of production was the primary motivation for the introduction of such facilities. Working conditions were better in Ardeer munitions factory, which was equipped with a canteen and the company held social events for its workforce. Further oral testimony reveals both Whites Chemical Works in Rutherglen and ICI's Cargenbridge plant were equipped with canteens.<sup>508</sup> Another R.O.F factory in Bishopton in Glasgow also appears to have been well equipped with canteen facilities.

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<sup>506</sup> Pat McChrystal, 13 October 1989; Glasgow Museums Oral History Project 'Voices from the Yard'.

<sup>507</sup> *Annual Report of the Scottish Trades Union Congress*, 1941, p.160.

<sup>508</sup> Richard Fitzpatrick, Interviewed by David Walker, 13 August 2004 (SOHC/022), p.12; MP, Interviewed by David Walker, 8 October 2005 (SOHC/022), p.21.

The BBC Scotland documentary, 'Scotland's Road to War' demonstrates the vast geographical size of this works, and that it had one main kitchen which supplied 20 canteens across the site.<sup>509</sup> Harry McGregor, an employee of North British Locomotive's Hyde Park works also recalled canteen facilities in the plant.<sup>590</sup> In addition to providing a hearty and hot meal for the workforce (hence contributing to maintaining productivity), canteens also provided the setting for entertainment. Indeed, McIvor has succinctly argued that 'the extension of company welfarism also helped cement worker consent to the war effort.'<sup>510</sup> Bernard Murray mentions live music being played in the canteen of the R.O.F factory in Dalmeuir, while E.B. (anonymous respondent) recalls some of the iron foundries in which she worked putting on variety shows in the canteen during the dinner break.<sup>511</sup> This undoubtedly helped to maintain morale in wartime, when, with long working hours, the time and energy available for leisure was diminished. Indeed, Korczynski et al. have commented that music and singing in the workplace 'gave joy, consolation, community and beauty' to women, while also noting its positive influence as an 'anthropological necessity' that it lifted the spirits of women engaged in boring and repetitive tasks.<sup>593</sup> The coal industry provides an interesting contrast to those industries mentioned above. Supple states that 'In June 1942 the M.F.G.B (Miners

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<sup>509</sup> BBC Scotland Documentary; 'Scotland's Road to War' Transmitted on 3<sup>rd</sup> September 2009.

<sup>590</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.38.

<sup>510</sup> McIvor, *A History of Work in Britain*, p.167.

<sup>511</sup> Bernard Murray, interviewed by Nicola Graham, 21 June 2012 (SOHC051/12), p.3; E.B.(anonymous female respondent), interviewed by Nicola Graham, 19 June 2012 (SOHC/051/9), p.2. <sup>593</sup> Korczynnski, Robertson, Pickering, & Jones, 'We Sang Ourselves Through That War', p.165, p.194.

Federation Great Britain) claimed that canteens serving hot food existed at only 59 of the countries hundreds of pits.<sup>512513</sup> Although this applies to the whole of Britain it clearly demonstrates the low numbers of canteens operating in the mining industry across the country as a whole. Mr P. Burt of the National Union of Scottish Mineworkers, speaking at the 45<sup>th</sup> Annual Trades Union Congress, commented that 'many of the pits in his area had no proper canteens but the men were supplied with a meal in sandwich form by a Glasgow baker.'<sup>595</sup> The shipbuilding industry on Clydeside also appears to have made poor progress with the installation of canteens. Visits from H.M Chief Inspector of Factories Garrett to various shipyards on the Clyde made clear that Bevin was unhappy with the limited progress. Indeed, the provision of canteen facilities was deemed 'a matter of the utmost urgency and importance.' He further noted that there was so much pressure for canteens that he would need to issue orders forcing certain firms to establish them.<sup>514</sup> Clearly then some employers, particularly shipbuilding employers on Clydeside, had to be compelled by the Factory Inspectorate to provide canteen facilities. Canteen facilities were not always of the highest standard in engineering industries. For example, there were a number of complaints from shop stewards about canteen facilities in Anderson Boyes, an engineering firm which manufactured mining equipment.<sup>515</sup> Such evidence also illustrates the positive influence of the trade unions in improving canteen facilities. For example, an AEU representative visited one Wishaw engineering firm with a Factory Inspector in order

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<sup>512</sup> B. Supple, *The History of the British Coal Industry Vol.4 1913-1946* (Oxford: Clarendon Press, 1987), p.525.

<sup>513</sup> *th Annual Report of the Scottish Trades Union Congress, 1942*, pp.121-122.

<sup>514</sup> TD241/1/34 *Clyde Shipbuilders Association Minute Book No.28 'Special General Meeting: Canteen Facilities' 20 March 1941*, p.41.

<sup>515</sup> TD1383/1/1 *AEU Mid Lanarkshire Branch Minutes 1941-1949, 28 December 1941, 3 May 1942.*

to convince management 'that a canteen was essential.'<sup>516</sup> Nonetheless this illustrates that working conditions and provision of facilities such as canteens varied widely, with some industries, such as shipbuilding and coal mining, faring worse than others. Additionally, it demonstrates that employers' attitudes towards such welfare facilities varied.

There were often difficulties in installing welfare facilities such as canteens however, and the STUC noted that due to a lack of space. The 1941 STUC annual report noted that the installation of canteens had 'not been an easy task because in days past the welfare of the workers had never been considered, and they found in many factories there was no room available for canteens.'<sup>599</sup> Indeed, workers themselves often failed to use such facilities. One former shipyard worker, Alex Scullion, who started work in 1941 recalled Fairfield's having a canteen, but in describing this canteen it clearly showed that it was poorly laid out and unhygienic. He recalled how the structure was open steel work, with exposed steel rafters, where, he stated, birds would perch, and as such he recalled being liable to get bird droppings on you when you took your tea.<sup>517</sup> Robert Scobie, who worked at the pithead during the war, said there was no canteen facilities available for the workforce: 'No canteen no. No canteen. We had a thermos flask with us, that's what we had to do...There was nae canteens then...oh...we never thought about a canteen.'<sup>601</sup> In addition, the sheer scale of some of the larger shipyards, such as Fairfield's, meant that canteen facilities were often located some distance from where men were working. This resulted in many

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<sup>516</sup> TD/1383/1/1AEU *Mid Lanarkshire Branch Minutes 1941-1949*, 7 June 1942.

<sup>599</sup> *44<sup>th</sup> Annual Report of the Scottish Trades Union Congress*, 1941, p.160.

<sup>517</sup> Alex Scullion, (no date); Glasgow Museums Oral History Project 'Voices from the Yard'.

<sup>601</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.2.

employees shunning canteens and taking their tea and 'piece' where they could instead. Alex recalled 'you had to sit down wherever you could in the shipyard, because the canteen was away the far side of the yard, it would take you twenty minutes to walk down to it and twenty minutes to walk back, that didnae leave much of your forty-five minute meal break.'<sup>518</sup> So instead of utilising canteens, due to the impracticality of this, men would often heat their tea up by putting a hot rivet in their tea can, or finding an open fire or a burner.<sup>603</sup> Other recollections include one wartime shipyard worker recalling how they used to heat up a bit of scrap metal upon which to toast their 'piece' - sandwiches brought from home.<sup>519</sup> It appears that the Clydeside steelworks faced the same difficulties when it came to encouraging workers to utilise canteens. Crane driver Edmund Barrie recalled Dalziel steelworks having a canteen but commented 'it was at the other end of the work, it wasn't worthwhile going away there.' Instead, in a similar fashion to the shipyards, many steel workers took a 'piece' to work with them.<sup>520</sup> Some workplaces had difficulties installing both canteens and sanitary facilities due to shortages of materials and labour, a problem noted by Inman.<sup>606</sup> For many years during the war each Factory Report had a chapter on canteens. However, although this was omitted in the 1946 Report, the Reports for subsequent years all include sections on canteen facilities, which indicates a commitment to maintain canteen facilities after hostilities had ended, and further indicates that the benefits of hot meals for the workforce had been accepted.

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<sup>518</sup> Alex Scullion, (no date); Glasgow Museums Oral History Project 'Voices from the Yard'. <sup>603</sup> David Bruce and Robert McGowan, interviewed by Nicola Graham, 17 June 2010 (SOCH/051/1), p.5.

<sup>519</sup> Crooks, *Made in Govan*, p.14.

<sup>520</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.3.

<sup>606</sup> Inman, *Labour In the Munitions Industry*, p.233.

The war illustrated inefficiencies in existing heating and ventilation systems while at the same time hampering the ability of employers to address such issues, a result of the need for continuous production and a shortage of materials, fuel and labour. In a letter to Sir Andrew McCance of Colvilles Ltd., Mr Russell of Govan Shafting and Engineering mentioned that the Factory Inspector had expressed concern that the standards of lighting were well below those required by the Factory Acts, and had urged them to bring this up to the required standard. The response to the inspector was 'in view of the call for fuel economy we did not propose to take any steps in the matter at the moment.'<sup>521</sup> Such inadequacies in lighting would have been worsened by the blackout, but the employer's ability to improve matters was hampered by the war and the 'fuel economy'. Similar difficulties concerning lighting were evident in the engineering industry too. A 1941 letter from the Coatbridge branch of the AEU noted that 'part of the roof has been blown off and the tuners are asked to work with inadequate light which they consider dangerous', and it was agreed by the union that this matter be forwarded to the Ministry of Supply.<sup>608</sup> This evidence again serves to illustrate the poor lighting standards encountered in industry on Clydeside as well as demonstrating that the unions were aware of this and were attempting to improve the situation. However, conditions varied according to industry and although working conditions, and in particular lighting and ventilation, but while many industries suffered during the Second World War this was not the case in coal mining, where, according to Fisher 'working conditions below ground have been less affected by the

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<sup>521</sup> UGD 104/9/3 – File: Colvilles Ltd, Sir Andrew McCance, miscellaneous correspondence, 1944 *Letter from R. Russell, Govan Shafting & Engineering Co. to McCance, dated 2<sup>nd</sup> November 1944.* <sup>608</sup> TD1383/1/1 AEU Mid Lanarkshire Minutes 1941-1949, 14 September 1941.

war than other industries on the surface. Blackout has not interfered with ventilation'.<sup>522</sup>

The blackout had an adverse impact upon many different kinds of work. Firstly it resulted in many people going to and returning from work in pitch darkness, which increased the potential for road and other accidents. Calder commented 'In September 1939 the total of people killed in road accidents increased by nearly one hundred per cent. This excludes others who walked into canals, fell down steps, plunged through glass roofs and toppled from railway platforms.'<sup>523</sup> In addition, it caused many trips and falls in shipyards and there are reports of dockers drowning, having fallen into the water due to the lack of light. Isabella Henderson, a munitions worker stated:

On the back shift there wasn't a light of any kind. In the wee hut you were...and it was all blacked out. The fumes off the gelatine, when you went up for your tea you nearly fell asleep because you were doped. Then when you came out it was as dark as a pitch, not a light any place, and there were wee railway lines for the bogies to run along...<sup>524</sup>

This demonstrates how dangerous the blackout made work. Not only was there an increased hazard of tripping or being knocked down by the bogies, but it also had a negative impact upon ventilation and many workers were inhaling dangerous fumes. Another munitions worker, H.R. (anonymous respondent) recalled how dark work was on both the back-shift and night-shift as a result of the blackout.<sup>612</sup> Robert Scobie, a miner who worked at the pithead at the outbreak of the war also recalled the difficulties

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<sup>522</sup> Fisher, S.W., 'Health Hazards of Coal Mining' *British Journal of Industrial Medicine*, Vol.I, No.3, July 1944, p.153.

<sup>523</sup> Calder, *The People's War*, p.63.

<sup>524</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.1 .

<sup>612</sup> H.R.(anonymous female respondent), interviewed by Nicola Graham, 20 June 2012 (SOHC/051/11), p.10.

of working during the blackout. When asked whether he thought this was dangerous he admitted it was, but stoically added 'but...that's just the way of life' demonstrating an acceptance of difficult and dangerous working conditions.<sup>525</sup> However, not all workers were as accepting of such working conditions, and the minutes of the North West Engineering Trades Employers' Association commented on brassmoulders who had refused to work overtime until blackout restrictions were modified because 'it was detrimental to their health to be working all day under artificial light.'<sup>526</sup>

The dangers of limited ventilation, a direct result of the blackout, were commented upon in the 1940 Factory Report, although this report also mentioned some improvements in ventilation as a result of the blackout. The Chief Inspector wrote that 'Inspectors mention many cases of factories being now ventilated more efficiently than they were in pre-war days.'<sup>527</sup> This would seem to indicate that larger firms were spending money introducing ventilation systems for the first time, as a direct result of the negative impact of the blackout upon ventilation. Conversely, the safety officer from Yarrow's shipyard 'expressed the view that full observance of the provisions of the shipbuilding regulation relating to ventilation would require to be relaxed temporarily owing to the difficulties of the present times.'<sup>528</sup> Thus, in this example, the war had a negative impact upon ventilation as well as demonstrating the positive influence of safety officers was constrained by the war. The blackout also impacted upon work in the furnaces in Whites in Rutherglen. Richard Fitzpatrick recalls having

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<sup>525</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.1.

<sup>526</sup> TD1059/1/1/28 *North West Engineering Trades Employers Association; Minute Book No. 28. Executive Meeting 16 May 1940.*

<sup>527</sup> *Annual Report of the Chief Inspector of Factories, PP, 1940* (Cmd.6313), p.7.

<sup>528</sup> TD241/12/159 *Clyde Shipbuilders Association. Safety Officers Reports, Part 1. 27 May 1942.*

shades on each furnace, that lighting was all dimmed and that there were no windows. Despite the lack of windows and doors, there was no ventilation system according to this interviewee.<sup>529</sup> Patrick McGeown, a steelworker, commented on the blackout

many times we worked in a grey haze which was sometimes thick enough to blot out the furnace next to us. We were all in it; furnace-men, pitmen, scrap-men, cranemen, and all the maintenance trades, and it ruined many a chest before it increasingly improved.<sup>530</sup>

Another steelworker, Edmund Barrie, recalled the lack of ventilation and 'the windows...they needed to keep them shut for the heat' and that there was no other means of ventilation.<sup>531</sup>

The papers of the Clyde Shipbuilders' Association indicate that ventilation was also an issue in some shipyards. The shipwrights' society had raised this issue with the employers association in 1940. Indicating both that unions were aware of yards with poor ventilation and that they were proactive on the matter, raising such issues with the shipbuilding employers'. This evidence shows that the employers' association was willing, at least on paper, to attempt to remedy the situation. Their minute book states that it was agreed to send a letter to members of the association 'to remind them of the necessity of every precaution being taken to supply adequate ventilation'. Because of the lack of ventilation the union claimed for an extra 3d per hour, but this was rejected by the employers.<sup>532</sup> Likewise, it appears that inadequate ventilation was an issue for workers at Simons shipyard. Journeymen and apprentice welders went out on strike

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<sup>529</sup> Richard Fitzpatrick, interviewed by David Walker, 13 August 2004 (SOHC/022), p.18.

<sup>530</sup> McGeown, *Heat the Furnace Seven Times More*, p.159.

<sup>531</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.5.

<sup>532</sup> TD241/1/33 *Clyde Shipbuilders Association, Minute Book No.27. 22 November 1940*, p.155.

there on the 30th October 1941, refusing to work in certain spaces until an 'efficient system of ventilation' was arranged.<sup>533</sup> Clearly, some workers were willing to strike despite the war conditions, in order to improve working conditions.

In a discussion of developments in Scotland, McIvor asserts that, unlike the First World War, the improvements made to working conditions in the form of better sanitary arrangements were kept in place after hostilities ceased and that 'improved factory sanitation and washing facilities, more frequent rest breaks and more extensive welfare provision introduced during World War II became permanent features of industry thereafter.'<sup>622</sup> A closer investigation of developments in wartime and the post-war period tends to broadly support this argument.

As the war progressed more and more attention was directed towards working conditions and their improvement. The Factory Inspectors Report for the year 1942 noted the increasingly favourable public opinion towards personnel and welfare departments as well as noting the large increase in the number of companies which employed personnel or welfare managers.<sup>534</sup> This growing attention to the working environment in the form of personnel and welfare departments is further evidenced in the inclusion of a chapter devoted to the topic in the 1943 Factory Inspectors report.<sup>624</sup> The timing of this is significant, as was noted previously 1943 marked a turning point in the British war effort. Perhaps as a result of the war progressing in a more positive direction the state had more time and resources to focus on industry. Growing enthusiasm for improving working conditions was also evident amongst the workforce.

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<sup>533</sup> TD241/12/241 *Clyde Shipbuilders Association. Illegal Stoppages of Work: 'CSA Statement of Particulars of Strikes Since the Beginning of the War.'* (November 1941). <sup>622</sup> McIvor, 'Women and Work in Twentieth Century Scotland', p.158.

<sup>534</sup> *Annual Report of the Chief Inspector of Factories, PP 1942 (Cmd.6471)*, pp.21-2.

<sup>624</sup> *Annual Report of the Chief Inspector of Factories, PP 1943 (Cmd.6563)*, p.18.

Mass Observation stated that ‘workers are showing an increased interest in the improvement of their surroundings at work.’<sup>535</sup> Nonetheless, it appears that in Scotland and Clydeside, the concern with personnel and welfare departments increased throughout the war. The Factory Inspectors Report for 1947 stated that ‘very considerable developments have, for example, taken place in Scotland, where it is reported that more interest has been shown in personnel management in 1947 than at any other period.’<sup>536</sup> Therefore, the interest in working conditions and welfare appears to have continued beyond the end of the war as can be seen in John Mullaney’s 1948 ‘Progress Report on Steel’ which asserted that ‘Welfare, too, is receiving priority treatment, and this is something indeed in a heavy industry.’<sup>537</sup> Therefore, it is clear that there existed a growing interest in the welfare of the workforce during the Second World War, and evidence suggests that this interest continued beyond the end of the war, well into 1947 and 1948. Therefore, a significant (though somewhat neglected) element of the rise of the welfare state in the post 1945 years was this expansion of work-based welfare.

However, just as the outbreak of war caused an upheaval in working conditions, so too did the end of the hostilities. The many factories which had converted production to aid the war effort were now returning to producing their original products. The Factory Inspectors Report for 1945 lists some examples:

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<sup>535</sup> Mass Observation, *People in Production*, p.242.

<sup>536</sup> *Annual Report of the Chief Inspector of Factories, PP 1947 (Cmd.7621)*, p.6.

<sup>537</sup> UGD 104/9/6 – File: Colvilles Ltd – miscellaneous correspondence ‘B’, 1948-1952 ‘*Progress Report on Steel*’ by John Mullaney, in *Business: The Journal of Management in Industry*, June 1948, pp. 41-42.

‘general munitions to baking machinery, landing crafts to pre-fabricated houses, parachutes to shirts, machine gun parts to roller skates.’<sup>538</sup> Moreover, both machinery and older buildings were in need of maintenance work at the end of the war, a result of the shortages of both labour and building materials during the war as well as the fact that they had been operating for extended hours. However, this would be difficult to accomplish in the immediate post-war years as many hospitals and schools also needed reconstruction as did factories and workplaces which had suffered bomb damage. Despite such difficulties, the post-war Factory Inspectors Reports tend to suggest a continuing improvement in welfare and working conditions:

Broadly speaking the reports of inspectors indicate that industrialists are paying increased attention to the safety, health and welfare of their workers, as has been stated in earlier post-war reports, increasing demands are being made on the inspectorate to advise on conditions in factories.<sup>539</sup>

### Women & Working Conditions

Historians such as Lang, Braybon and Summerfield, and Croucher have suggested that working conditions in various industries were developed as a result of women entering the workplace in wartime. In previously all-male places of work, facilities had to be adapted to accommodate women and Croucher argues that ‘women were more prepared to take action on their conditions of work than the men they worked with.’<sup>540</sup> Indeed, he provides an example of a Scottish female shop steward complaining about

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<sup>538</sup> *Annual Report of the Chief Inspector of Factories PP 1945* (Cmd.6992), p.1.

<sup>539</sup> *Annual Report of the Chief Inspector of Factories, PP 1949* (Cmd.8155), p.6.

<sup>540</sup> Braybon & Summerfield, *Out of the Cage*, p.230; Lang, *Keep Smiling Through*, p.41; Croucher, *Engineers at War*, p.262.

poor washing facilities and attempting to set up a female committee to deal with this issue. Women walked out of another engineering works in protest against the cold, with the result that the management attempted to improve the heating.<sup>541</sup> Likewise in the USA, Hepler too commented that: ‘many supervisors noted that women followed health and safety regulations more scrupulously than men,’ and that women were demanding protective clothing. (As will be discussed in Chapter Four). Recognition of women’s influence in improving working conditions is not restricted to secondary studies. The Factory Inspectorate also noted the influence of women in the 1942 annual report and how the ‘the influence of this increase in the number of women employed has in many respects made for the improvement of factory conditions and has certainly aided the inspectors in their task.’<sup>542</sup> Indeed the Factory Inspectors report for 1943 provides an example of a shipyard in which improvements were made:

It is hoped that, after the women depart, not only will the amenities provided for them be enjoyed by the men, but the fact that they were so provided will lead to the conviction that a high standard of such amenities is an imperative need for all employees irrespective of sex.<sup>543</sup>

Male workers recognised the improving influence of women in the workplace. One male shipyard worker, discussing canteen facilities, noted that ‘There wasn’t another canteen until the Second World War, and it was the advent of women coming into the thing that improved the conditions that they got the canteen.’<sup>634</sup> The increasing

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<sup>541</sup> Croucher, *Engineers at War*, pp.262-3.

<sup>542</sup> *Annual Report of the Chief Inspector of Factories, PP 1942* (Cmd.6471), p.3.

<sup>543</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), p.58.

<sup>634</sup> Crooks, *Made in Govan*, p.14.

number of workplace canteens may have been a result of both a paternalistic state and the 1940 Factories (Canteens) Order. Toilet facilities were also improved with women's entry into shipbuilding which saw the 'introduction of canteens, leisure rooms, improved toilets, and for the first time, lockable toilets.'<sup>544</sup> Another shipyard employee commented on the positive influence of women:

It was appreciated that they had a good improving influence on the shipyards. When the girls got their restrooms, well we said can we not at least have toilets that you can sit on properly. When the girls got the facilities for washing, well we said can we not at least have a door on the toilet, and how about supplying some toilet paper. So we learned from them.<sup>545</sup>

Women's ameliorative influence upon working conditions was also recognised by steelworker Edmund Barrie. When asked what changes in facilities and working conditions he noticed upon returning to the steelworks after being demobbed he commented:

Nah, there weren't a lot of changes...maybe better...eh...washing facilities and that...because you know how with women coming in and they had to....' He conceded that some facilities did improve as a result of women entering the workforce, because employers' had to provide 'different facilities for them.'<sup>546</sup>

It appears that facilities in North British Locomotive in Springburn also improved with the entry of women into the workplace, because as William Dewar noted, 'of course, you had to make toilets and rest rooms for the womenfolk.'<sup>547</sup>

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<sup>544</sup> Crooks, *Made in Govan*, p.30.

<sup>545</sup> Pat McChrystal, 13 October 1989; Glasgow Museums Oral History Project 'Voices from the Yard'.

<sup>546</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.12.

<sup>547</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.23.

Evidence from both oral testimony and the Factory Inspectorate clearly demonstrates that women had a positive impact on conditions of work. Therefore, it is possible to argue that the war resulted in advancing working conditions, a direct result of the influx of female labour into industry. However, this must be treated with a degree of caution. Summerfield, in *Women's Wartime Lives*, has shown that gender identities varied, and they were not a monolithic group. Thus it would be misleading to assume and argue that all women actively campaigned for improved working conditions, although it is clear that on the whole women were *more likely* to do so than men. In fact, it seems that women were the recipients of 'protective' state welfare and trade union policies. Indeed, it would seem clear that a paternalistic state was more proactive in regulating the conditions of employment of women than men. However, it is important to consider that men were less likely to protest against poor working conditions than their female counterparts because they had been acculturated to such poor conditions over a long period, while many women were entering the workplace for the first time. Johnston and McIvor have shown how men in the Clydeside heavy industries were accustomed to poor working environments and risk, they note that work habits were entrenched and difficult to erode, commenting that 'dangerous, dirty, dusty and physically exhausting work...hardened boys up *de-sensitising* them to danger and *socialising* them into a competitive macho environment.'<sup>548</sup> Indeed, Croucher has commented on welfare in engineering during the war, drawing attention to the differing male and female attitudes, he noted 'men might not mind such conditions, but they were definitely not suited to women.'<sup>640</sup>

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<sup>548</sup> Johnston & McIvor, 'Masculinity in the Clydeside Heavy Industries' p.138 & p.144.

<sup>640</sup> Croucher, *Engineers at War*, p.262.

Moreover, women's primary and traditional role as care-giver may also have contributed to their readiness to agitate for improved working conditions and, if so, as Summerfield has argued, this would indicate that traditional gender dynamics remained unchanged.<sup>549</sup>

### Disparities in Working Conditions

It is the diversity in experience of working conditions in wartime that stands out. The Factory Inspectorate Report of 1946 highlighted this issue stating that with regards to sanitary facilities factories of 'medium size, say 100-250 and above being markedly better than the smaller works.'<sup>550</sup> The Social and Preventative Medicine Committee, in a 1945 Report, also illustrated this:

...it is in the smaller factories, that, generally speaking, it is difficult to maintain good working standards, to provide such amenities as canteens and rest rooms, ambulance and clinic services, and other measures directed towards health and welfare.<sup>551</sup>

This was partly due to the difficulties smaller firms had in securing space and money to make such improvements. Moreover, smaller factories may have been rented which may have resulted in a reluctance to improve the building at one's own expense.

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<sup>549</sup> Summerfield, *Reconstructing Women's Wartime Lives*, pp.284-5.

<sup>550</sup> *Annual Report of the Chief Inspector of Factories, PP 1946* (Cmd.7299), p.34.

<sup>551</sup> 'Industrial Medicine' Second Interim Report (Abbreviated) of the Social and Preventative Medicine Committee, Royal College of Physicians, London, January 1945, *British Journal of Industrial Medicine*, Vol.II, No.1, January 1945, p.51.

Braybon and Summerfield and Nichols also point out that welfare conditions appeared worse in smaller factories.<sup>552</sup>

That significant variations in working conditions existed within industries is noted by some workers. Pat McChrystal, an ex-shipyard worker, commented upon the differences in both wages and conditions in shipbuilding, noting that it was common to have better conditions in the upper Clyde than in the yards on the lower Clyde.<sup>553</sup> While Inman comments that ‘conditions also varied widely between factories and yards of a similar type.’<sup>554</sup> Moreover, she points out that Royal Ordnance Factories were diverse in standards, drawing comparisons between older factories lacking in facilities and newer ones which were much better equipped. The majority of the newer factories were built after the 1937 Factory Act, and therefore, were built with the requirements of the Act in mind.<sup>555556</sup> Differences in working conditions were also noted by the Scottish Trades Union Congress in Motion No. 23 of the 42<sup>nd</sup> Annual Report. This motion was proposed by Mr C Milne of the National Union of Vehicle Builders, in which he noted that ‘there were considerable differences in conditions in aircraft factories even in close proximity to one another, and the best of conditions left a lot to be desired.’<sup>648</sup> It is clear that the provision of welfare and sanitary facilities varied across different industries, while in others conditions

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<sup>552</sup> Braybon & Summerfield, *Out of the Cage*, p.226; Nichols, *The Sociology of Industrial Injury*, p.161.

<sup>553</sup> Pat McChrystal, 13 October 1989; Glasgow Museums Oral History Project ‘Voices from the Yard’.

<sup>554</sup> Inman, *Labour in the Munitions Industries*, p.233.

<sup>555</sup> Inman, *Labour in the Munitions Industries*, p.234.

<sup>556</sup> *nd Annual Report of the Scottish Trades Union Congress*, 1939, p.205.

remained poor or non-existent. In dock-work, for example, conditions barely altered.

Phillips states that:

Although decasualisation (in 1941 all dock workers became employees of the Ministry of War Transport, and thus had to show up for work every day) was partly designed to enhance the status of dock workers, very little was done to develop the quality and range of welfare and other services in the ports.<sup>557</sup>

Sanitary conditions here remained poor throughout the war years. For example, standard toilet facilities were ‘a pale latrine emptying directly into the dock, canal or river, situated in an iron or wooden shanty without protection from the elements.’<sup>650</sup>

The Glasgow docks had a separate medical service, however despite this seemingly significant improvement, conditions remained poor. As noted earlier the older heavy industries had poorer working conditions than newer industries, evidenced by The Factory Inspectors Report for 1949, which stated that ‘the older industries on the other hand are often housed in factories constructed without a thought of amenities.’<sup>558</sup> Johnston and McIvor have demonstrated that traditional industries such as heavy engineering and shipbuilding were less likely to have company health and welfare schemes for their workforce as a result of the volatile nature of the markets in which they operated.<sup>559</sup> However, existing historiography shows that this is a much contested issue. For example, Inman has argued that the newly built Royal Ordnance Factories were better equipped than older industries, whereas Minns argues that the newer

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<sup>557</sup> J. Phillips, ‘British Dock Workers and the Second World War: The Limits of Social Change’ *Scottish Labour History Society*, Journal No.30, pp.87-103, p.97. <sup>650</sup> Phillips, ‘British Dock Workers’, p.97.

<sup>558</sup> *Annual Report of the Chief Inspector of Factories, PP 1949* (Cmd.8155), p.161.

<sup>559</sup> Johnston & McIvor, ‘Marginalising the Body at Work?’, p.133.

factories often had 'poor sanitary and safety conditions.'<sup>560</sup> It is therefore evident that wide variations in working conditions and inequalities in experience existed on Clydeside and that these persisted throughout the war. There was a divergence in working conditions according to industry, firm size and location, while much also depended on the willingness and ability of employers to initiate improvements.

### Conclusion

The early years of the Second World War witnessed an extension in working hours. The lessons learned during the First World War, and expounded in the HMWC's final report as well as Mass Observation publications, the Reports of the Chief Inspector of Factories and IHRB publications were largely ignored or forgotten by employers, who insisted on long and damaging hours of work. Nonetheless, it is important to point out that working hours varied greatly both across and within different industries on Clydeside. While it is clear that the hours of work of women and young people were subject to a greater degree of state regulation than those of men. However, to view the situation as the workers battling against management and the government for a reduction in working hours is too simplified. It is important to be clear that often workers themselves were opposed to any reduction in working hours since their primary concern was maximising their earnings. During the war the situation was worsened by a lack of rest pauses and breaks, as well as the payments-by-results wage system which encouraged the speed-up of production. In addition, voluntary war work has been shown to have placed additional strain upon the workforce. It is clear that the wartime workforce was toiling for longer, in often poorly lit and badly ventilated

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<sup>560</sup> Inman, *Labour in the Munitions Industries*, p.235; Minns, *Bombers and Mash*, p.34.

workspaces. The war, and in particular the blackout, had a negative impact on lighting and ventilation. Nevertheless, this was not uniform and in some cases the poor conditions resulting from the blackout led to employers improving artificial lighting, heating and ventilation systems. Therefore, although the Second World War initially worsened working conditions, it simultaneously acted as a catalyst for positive change and prompted some employers to make improvements. However, while highlighting inefficiencies in working conditions the war also hampered the ability of employers to remedy them due to shortages of labour (lack of maintenance and janitorial staff) and materials (for making general building improvements such as improved toilet facilities), a factor which was exacerbated by the fact that many workplaces were in operation twenty-four hours a day, seven days a week for the duration of the war. Standards of washing and sanitary facilities varied on Clydeside, with the older traditional heavy industries faring worse than newer areas of the economy. This may have been linked to the improving influence of women, and the fact that they were largely employed in the newer industries. However, this should be balanced with some significant advances including the introduction of canteen facilities to many workplaces. State intervention in welfare played a positive role in forcing minimum standards up. While it is also clear that the trade unions made some efforts to force employers to improve certain working conditions. What is also clear is that there was an increasing degree of consultation between employers, the state and trade unions. Additionally, the improving influence of women in some industries in terms of working conditions is also evident.

Therefore, it is difficult to give a simple answer to the question ‘did working conditions improve during the Second World War?’ For it is clear that there were wide disparities

in working conditions both across and within different industries, (with the older heavy industries faring worse,) as well as according to the size of the workplace or factory and the capital owners had at their disposal. Nevertheless, there was an overall positive improvement in working conditions on Clydeside during the war, with a greater appreciation of the impact of working hours and conditions on the body as well as increasing state intervention regarding welfare provision, and the movement of women workers into industries that were hitherto fully the preserve of men. Indeed, the war acted as a catalyst for change in industry on Clydeside.

#### **Chapter Four: Risk and Danger at Work**

An increased incidence of accidents was to be expected during the war for a variety of reasons. These included the large rise in the numbers employed and extension of working hours, combined with the infiltration of a new and relatively inexperienced workforce. As a result of a third of people of working age being conscripted, during the Second World War female labour flooded the labour market. Indeed, the numbers of females in paid employment in the U.K increased from 4,837,000 and 27% of the

total labour force in 1939 to 6,283,000 and 38% of the total labour force in 1945.<sup>561</sup> This was a result of compulsion, for example the National Service (No.2) Act, which made conscription of women legal. At first only widows without children and single women aged 20-30 were called up, although this was later extended. Additionally, with full employment greater numbers of the workforce now toiled in the most dangerous industries, such as coal mining, iron and steel, dock work and shipbuilding, while the pace of work was increased, encouraged by the escalating use of piece work payment systems in wartime. Moreover, overtime was also encouraged during war time, and many people undertook this in order to further maximise their earnings. Clearly many factors combined to increase the potential for accidents in the workplace on Clydeside during the Second World War. This chapter will examine accident rates and frequency, accident causation, safety provision and first aid facilities in order to determine what impact the Second World War had upon accidents and safety in the Clydeside workplace. Moreover, it will also address the issue of worker agency, using oral testimony to determine workers attitudes towards accidents, safety and risk in the workplace.

### Accident Rates and Frequency

Although the accident figures in the Factory Inspectors Reports take account of the whole of Britain, as opposed to Scotland or Clydeside, and focus on factories, they remain useful as a general indicator of accident trends. However, it is important to bear in mind that the Reports only count the numbers of reported accidents which resulted

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<sup>561</sup> P. Howlett, *Fighting with Figures: A Statistical Digest of the Second World War* (London: Central Statistical Office, 1995), p.38.

in an underestimation, since many less serious ones were not reported. The qualification for a 'reportable accident' was one which resulted in three or more days absence from work. The Factory Inspectors Reports also give an indication of the most common causes of accidents.

Table 4.1 included below, illustrates the numbers of both fatal and non-fatal accidents during the war years. However, it is important to mention that this only refers to reportable accidents, those which have occurred in a factory and resulted in either death or disablement for more than three days.

*Table 4.1: Reportable Fatal and Non-Fatal Accidents 1938-1945 and Average Weekly Hours Worked. Figures in brackets show accident figures as a percentage of total.*

Year	Fatal Accidents	Non-fatal Accidents	Average Hours Per Week.
1938	944 (9.93%)	179,159 (8.88%)	46.5 Hours
1939	1,104 (11.61%)	192,371 (9.54%)	-
1940	1,372 (14.43%)	230,607 (11.43%)	-
1941	1,646 (17.32%)	269,652 (13.37%)	-
1942	1,363 (14.34%)	313,261 (15.53%)	-
1943	1,220 (12.83%)	309,924 (15.37%)	50.0 Hours
1944	1,003 (10.55%)	281,578 (13.96%)	49.2 Hours
1945	851 (8.95%)	239,802 (11.89%)	47.0 Hours
Total	9,503 (99.96%)	2,016,354 (99.97%)	48.2 Hours

*Source: Annual Report of the Chief Inspector of Factories, PP 1945 (Cmd.6992) p.6; Howlett, Fighting With Figures, p.236.*

These figures (Table 4.1) demonstrate a steady increase in the numbers of both fatal and non-fatal accidents across the years 1938 to 1943. Indeed, when viewed as a percentage of the total number of accidents across the eight years it is clear that the

years 1941 and 1942 were the worst overall, this is followed by some improvement in the numbers of both fatal and non-fatal accidents. This attracted the attention of the media in Glasgow. *The Glasgow Herald* reported a new high level of industrial accidents in Britain in 1942,<sup>562</sup> while the *Glasgow Evening News* in July 1942 commented: 'It is estimated that serious accidents are happening at the rate of about one every 40 minutes of the day and night all year round.'<sup>563</sup> In 1943, for the first time since pre-war years, there was a significant decrease in the numbers of fatal but only a slight decrease in the numbers of non-fatal accidents. This is perhaps attributable to the reduced hours of work, as it appears that employers finally understood that shorter hours of work were not accompanied by a fall in production levels. The reduction in working hours would lead to less instances of fatigue, therefore, it would seem on these calculations, reducing the risk of accidents. Indeed, this argument can be supported by the fact that in 1945, when the average number of hours worked had decreased to 47 per week, the rates of both fatal and non fatal accidents had also fallen, fatal accidents had fallen to 8.95% of the total whilst nonfatal accidents were 11.89% of the total for the war years.<sup>564</sup> Therefore, a reduction in the number of hours worked led to a decrease in the numbers of both fatal and non-fatal accidents. It is also significant that the reduction in the accident rate occurred in 1943, as this is regarded as the turning point in the war. Higher accident rates in previous years are likely to have been influenced by Britain's position in the war. For example, the fall of France and the battle of the Atlantic necessitated increased production in order to replace armaments and ships lost. The downward trend for both fatal and non-fatal accidents continued in

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<sup>562</sup> *The Glasgow Herald*, 7th October 1943.

<sup>563</sup> *The Evening News*, Glasgow 9th July 1942.

<sup>564</sup> Howlett, *Fighting With Figures*, p.236; Table 4.1, p.169.

both 1944 and 1945. Moreover, the 1945 Factory Inspectors Report noted the lowest number of fatal accidents in ten years. This was accompanied by a decrease in the number of nonfatal accidents.<sup>565</sup> These figures seem to suggest deterioration followed by some improvement in accident rates from 1943 onwards, in spite of the larger workforce.

However, it is important to point out that, although accident rates decreased from 1943, the number of non-fatal accidents remained higher than 1938 levels. For example, the number of fatal accidents in 1945, was down 10% on 1938, while the numbers of non-fatal accidents in 1945 remained 33% higher than 1938. However, this still represented a decrease of 14.8% on 1944 figures.<sup>659</sup> Clearly then, there was a deterioration followed by some improvement in accident rates during the war years - although the numbers of non-fatal accidents remained higher than pre-war years, they still show an improvement on the numbers recorded in the early war years. Moreover, this evidence suggests that accident rates were linked to the war effort, since they were at their highest when the war effort and drive for production was at its peak.

The fact that numbers of non-fatal accidents remained higher in 1945 than in 1938 is likely to be attributable to the fact that during the war years the numbers employed were much greater, while the workforce was more concentrated in the most dangerous industries. However, occupational health researcher H.M. Vernon noted another factor that increased the potential for accidents which accompanied the growth in the new wartime workforce: 'perhaps the most important factors of all in accident causation',

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<sup>565</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.5.

<sup>659</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.6.

he argued, 'relate to the age and experience of the workers. Usually the two factors are so closely bound together that it is impossible to disentangle them.'<sup>566</sup> The Factory Inspectors Report for the year 1939 also acknowledged the role of the changing nature of the workforce upon accident rates, stating that an increase in the accident rate 'was not abnormal having regard to the much larger numbers of persons employed, and longer hours of exposure to risk, the speeding up of production, and the transfer of workers to industries with which they are not familiar.'<sup>567</sup> The increasing numbers of older people entering the workforce is also noted in the 1943 Factory Inspectors Report: 'it is not uncommon to meet workers of 74 and 75 years of age'<sup>568</sup> The areas of the economy which expanded during the war were also those which were the most dangerous, for example; munitions production, shipbuilding and repairing, aircraft manufacture, steel making, engineering and dock work.<sup>569</sup> Clearly the war necessitated these changes in the labour force, which then resulted in a higher accident rate.

Lack of training and education also exacerbated this situation. Training was lacking in two ways. Firstly, training for the particular job an employee was to undertake was often of limited usefulness. This was compounded by the fact that, during the war years new and inexperienced workers entered more dangerous workplaces in vast numbers. For example, the number of women in paid employment rose from 4,997,000 in 1938 to 7,253,000 in 1943, an increase of 66.42% in five years.<sup>570</sup> Wartime miner William Dunsmore, commented that 'there wasnae such a thing as training. Training costs

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<sup>566</sup> Vernon, 'Prevention of Accidents', p.2.

<sup>567</sup> *Annual Report of the Chief Inspector of Factories, PP 1939* (Cmd.6251), p.3.

<sup>568</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), p.3.

<sup>569</sup> Johnston & McIvor 'The War and the Body at Work', p.116.

<sup>570</sup> Calculated from figures from Howlett., *Fighting with Figures*, p.38.

money, and they were sending men in there who had never seen power-loading, which created a danger.'<sup>569</sup> The importance of training the workforce is something that the medical profession was aware of during the war years, as demonstrated by Vernon in an article in the *British Journal of Industrial Medicine*: 'A great reduction of accidents can be effected by training and supervision.'<sup>570</sup> The Factory Inspectorate continually asserted that the increase in the accident rate and frequency experienced during the early years of the war was, in part, attributable to the new and inexperienced workforce and the lack of training they had received.<sup>571</sup>

Safety training and education on safe working practices was also lacking. This was noted in the minutes of the General Council of the STUC and in a speech by Ernest Bevin in April 1943, which stated that 'Educational work in safety measures must still be improved.' He also referred to the need to use compulsion to urge employers to educate workers on issues surrounding safety at work.<sup>668</sup> This evidence clearly indicates that both the Minister of Labour, and the STUC, was aware of the importance of educating workers in order to create a safer working environment. Despite Bevin noting the need to improve safety education in 1943, both Esbester and Rhodes have noted the increasing popularity of educative safety campaigns in the 1920s and 1930s.<sup>572</sup> Rhodes commented that 'a recurring theme in the 1930s...was the need for educating people to have a proper regard for safety.'<sup>573</sup>

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<sup>569</sup> William Dunsmore, interviewed by R. Johnston, 11 July 2000 (SOHC/017/C16), p.8.

<sup>570</sup> Vernon 'Prevention of Accidents', p.5.

<sup>571</sup> *Annual Report of the Chief Inspector of Factories, PP, 1940* (Cmd.6316), p.5.

<sup>668</sup> *Minutes of General Council Meetings, April 1943- April 1944*, p.4.

<sup>572</sup> M.O. Esbester, "'Dead on the Point of Safety': Occupational Safety Education on the Great Western Railway, c 1913-39' PhD thesis, University of York, September 2006, p.25; E. Rhodes, *Inspectorates in British Government Law Enforcement and Standards of Efficiency* (London, 1981).

<sup>573</sup> Rhodes, *Inspectorates in British Government Law Enforcement*, p.70.

What is likely is that safety education and training had been improving in the interwar years, but had, during the war years, been less of a priority when the main concern was production for the war effort. Having said this, however, there were some forms of safety education present in some workplaces. E. B (anonymous female respondent) recalls a poster in her workplace advising employees to switch off machinery before cleaning.<sup>574</sup> Stephen's shipyard also printed and displayed safety posters.<sup>575</sup> However, this form of education relied upon what Esbester has termed 'voluntary consumption', where 'employees had to make an active decision to receive the safety messages.'<sup>673</sup> This was not wholly successful according E.B., she recalled a woman injuring her hand while cleaning moving machinery, therefore it is possible to argue that the poster was limited in its effectiveness or was simply ignored. Another form of safety training was safety pamphlets and booklets. The safety officers from the shipyards of the Clyde created and published a safety booklet entitled 'slips and trips'. However, letters from the Clyde Shipbuilders' Association to individual member firms illustrates that very few employers had purchased this.<sup>576</sup>

Indeed, a letter from the Factory Inspectorate to the Clyde Shipbuilders' Association in September 1943 commented on the poor response to the 'ships and slips' pamphlet, noting that only six firms (Blythwood, Connell, Inglis, Ailsa, Denny and Barclay Curle) in the area had purchased copies.<sup>577</sup> Perhaps because this was an added cost for employers, this would suggest there was some lack of concern shown for safety on the

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<sup>574</sup> E. B (anonymous female respondent), interviewed by Nicola Graham, 19th June 2012 (SOHC/051/9), p.6.

<sup>575</sup> TD241/12/159 *Clyde Shipbuilders' Association; Safety Officers Reports, Part 1. 27 May 1942.*

<sup>673</sup> Esbester, M.O., "'Dead on the Point of Safety': Occupational Safety Education on the Great Western Railway, c 1913-39' PhD thesis, University of York, September 2006, p.149.

<sup>576</sup> TD241/12/159 *Clyde Shipbuilders' Association; Safety Officers Reports, Part 2. 10 September 1943.*

<sup>577</sup> TD241/12/159 *Clyde Shipbuilders' Association: Safety Officers Reports, Part 2. 2nd Septemeber 1943.*

part of the Clydeside shipbuilding employers. Although once again there is evidence demonstrating that standards varied, and some employers more proactive in terms of safety than others.

Robert Scobie, a miner, recalled the presence of a training officer during the war years, who encouraged the workers, and himself in particular to undertake first aid training.<sup>578</sup> But safety training clearly varied according to industry and much also depended on the willingness of individual employers to provide such training. Despite the apparent lack of safety training, which would suggest that workers were not always made aware of the hazards attached to their jobs, it is important to point out that in some cases workers did demonstrate an awareness of the dangers associated with their employment. For example, Isabella Henderson, a munitions worker, compared the risks of bombs dropping to those involved with working in the chemicals industry when expressing the view that 'we were in more danger every day of our lives than any aeroplane dropping anything on us.'<sup>579</sup> This clearly demonstrates that this employee was aware of the dangers associated with her wartime employment. It is important to differentiate this from more formal safety training such as first aid training or the training offered to the 'Bevin Boys' (conscripted miners not used for military as they were not passed as A1 and fully fit) in mining. Nevertheless, it appears that education and training was not a priority during the war years for the majority of workplaces, despite the fact that both medical professionals and the state had acknowledged its importance.

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<sup>578</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.3.

<sup>579</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.5.

Mining was a particularly hazardous industry, something which is noted in the STUC Annual Report in 1940, which commented that

...the miners felt that they had suffered more from accidents than workers in any other industry. A miner was injured on the average every three minutes of every day, and every day on the average five miners were killed. The recent disaster at the Valleyfield Pit in Fifeshire had caused the death of 35 men and in addition 24 others had been seriously injured.<sup>678</sup>

In a later Annual Report, the President of the STUC General Council, Mr Henderson, discussed the coal industry in particular in his opening address, stating that 'it must always be remembered that he too is a warrior facing danger every day of his life, his battle being fought under dangerous conditions. Hundreds are wounded daily and at least five are killed on each working day.'<sup>679</sup> This clearly and unequivocally demonstrates that the STUC were fully aware of the dangers faced by those employed in the mining industry. Moreover, the phrasing of this statement, particularly the use of words such as 'warrior', 'battle' and 'wounded', depicts the miner in a similar fashion to the soldier. Miners contribution to the war effort is emphasised by the use of military language. However, accidents were not only a frequent occurrence in coal mining. Different industries presented differing degrees of risk. Another of the more hazardous industries in which to work on Clydeside was

<sup>678</sup> 43<sup>rd</sup> Annual Report of the Scottish Trades Union Congress, 1940, p.160.

<sup>679</sup> 46<sup>th</sup> Annual Report of the Scottish Trades Union Congress, 1943, p.175.

shipbuilding. Thomas Stewart who worked in the shipbuilding industry during the war noted the frequency with which accidents occurred:

Dreadful, the industrial accidents, in my lifetime...there was one man got decapitated...another man got his arm torn off,

and a few men have lost their eye, and minor accidents, that's the sort of serious ones...minor accidents...at one particular time, you could be sure that every single one of they men would meet with a major accident during their lifetime, and some of them was dreadful.<sup>580</sup>

Serious and fatal accidents were not a rarity on the Clyde during the war. James

McFadzean recalled witnessing a fatal accident in Simon's shipyard:

...And I was working on the winch, this cry from up the....there was men, there was two planks across the beams...there was a shout...one of the planks had broken, three men in mid-air. Two were killed, the other one hit a board and rolled, and he survived.<sup>581</sup>

Another industry in which workers were at risk from accidents was textiles. Mrs Anderson, a textile worker, recalled a serious accident where a female colleague who was working at bobbing was pulled into the machine by the wrist, and her hand was effectively amputated by the moving machinery: 'her hand wis on the, lyin' on the floor...took it right off.'<sup>682</sup> This incident also suggests that machinery was not adequately fenced or guarded, although this problem was not unique to the war years.

Despite the war effort and a larger inexperienced workforce, the Factory Inspectorate do note improvements in accident prevention, with a special mention of the shipyards and ship repairing yards in Scotland where 'well organised meetings of safety officers have been held since 1941.' These meetings resulted in accident statistics being recorded and used for identifying the causes of accidents.<sup>582</sup> The records of the Clyde Shipbuilders' Association document the issues addressed in these meetings. Moreover,

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<sup>580</sup> Thomas Stewart, interviewed on 10<sup>th</sup> June 1996. 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

<sup>581</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.18. <sup>682</sup> Interview with Effie Anderson, Interviewed by Ian McDougall, 28.11.96; Scottish Working People's History Trust; Archived at the SOHC at the University of Strathclyde, p.43.

<sup>582</sup> *Annual Report of the Chief Inspector of Factories, PP 1943*. (Cmd.6563), p.13.

they also demonstrate that there was consultation between safety officers, employers and Factory Inspectors and suggests that Clydeside shipbuilding employers' were making some attempt to improve safety. Indeed, evidence from both the Clyde Shipbuilders' Association records and the Glasgow Chamber of Commerce indicates that some Clydeside employers were making a positive contribution in wartime attempts to improve safety. For example, the *Monthly Journal* of the Glasgow Chamber of Commerce noted the increased numbers of accidents and suggested 'that the Ministry of Labour should institute an enquiry into the causes with a view to a reduction in the suffering involved and in the impairment of the national war effort.'<sup>583</sup>

There clearly was not a steady positive improvement in health and safety at work throughout the war and standards could vary and be reversed.<sup>584</sup> New methods of work brought new risks and hazards. For example, increased use of welding in place of riveting in the shipbuilding industry during the war brought new problems of providing effective ventilation from welding fumes in enclosed spaces, as well as a great number of workmen of different trades suffering from eye-flash. The Factory Inspectors Report of 1945 noted that more could be done to prevent eye flash from the welding torches 'by the greater use of screens and goggles.'<sup>585</sup>

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<sup>583</sup> TD241/12/159 *Clyde Shipbuilders Association; Safety Officers Reports Parts 1 & 2*; Glasgow Chamber of Commerce *Monthly Journal*, Vol. 25, (Glasgow; Bell and Bain, December 1942), p.157.

<sup>584</sup> McIvor, *A History of Work in Britain*, p.113.

<sup>585</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.13.

## Accident Causation

Environmental factors, such as temperature and lighting, could have an impact upon accident rates. As early as 1922, Osborne and Vernon demonstrated the link between extremes of temperature and accident rates and they found that:

In munitions factories (for fuses and shells) the minor accidents incurred were relatively frequent at low temperatures, but with a rise of temperature they gradually sank till they reached a minimum at 65 – 69 degrees. Then they rose again more and more with further rise of temperature.<sup>586</sup>

Antonia Hunter, employed by a small engineering firm assembling bailey bridges, commented upon cold temperatures at work and that ‘it was a hell of a cold place...Of aye, it was a big big big place, and the one door...the one was always open, and it was a cold place, it was a cold place.’<sup>587</sup> Vernon points out that accidents appear to increase at both low and high temperatures because:

...the hands of the workers lose some of their dexterity because they get numb owing to contact with the metal objects manufactured and with the steam of soapy water in which most lathe-produced articles are turned. At high temperatures on the other hand, the workers tend to get more inattentive and more easily fatigued.<sup>689</sup>

The extremes of temperature in which some of the Clydeside workforce toiled are something which interviewees have drawn attention to. One coal miner recalled ‘we were working in temperatures of 85 degrees at the face where humidity was close to

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<sup>586</sup> Vernon, 'Prevention of Accidents', p.5.

<sup>587</sup> Antonia Hunter, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/8), p.4.

<sup>689</sup> Vernon, 'Prevention of Accidents', p.5.

100%. And it was so bad that we said ‘right, unless you do something we’re refusing to work in it’<sup>588</sup> Steelworker Edmund Barrie also commented upon the extremes of temperature he endured at work, and that this was worsened by the lack of ventilation.<sup>589</sup> Medical professionals were aware of the negative impact of extremes of temperature in the workplace as early as 1922. However, oral testimony illustrates that extremes of both cold and heat remained issues in many different industries during the war years. This can be attributed to the war as the blackout worsened ventilation and fuel shortages hampered the ability to heat workplaces.

Amongst the most common causes of accidents were slips, falls and objects falling and accidents in this category were worsened by the blackout which reduced visibility, particularly so for jobs completed outdoors.<sup>590</sup> Cathy Wilson, an ICI employee, who worked transporting cordite on bogies in Ardeer during the war commented on the difficulties of completing her job on nightshift:

I hadn’t a clue where all these rails were and you’re walking along all these single rails and in and round them, and I mean it was really dark...you went into these tunnels and they were quite dark as well; everything was all kind of dark. So it was quite eerie actually. And then when you went onto dayshift, I realised there were deep bankings you know, in between these huts and we could look down and it was quite steep and I mean you could have fallen down into these.<sup>591</sup>

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<sup>588</sup> John Orr, interviewed by A. McIvor & R. Johnston, 19 June 2000 (SOHC/017/C3), p.7.

<sup>589</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.5.

<sup>590</sup> *Annual Report of the Chief Inspector of Factories, PP 1946* (Cmd.7299), p.95.

<sup>591</sup> Cathy Wilson, interviewed by Patricia Williams, August 1998 (SOCH/015), p.2.

Shipyard worker James McFadzean also experienced this kind of accident: ‘Well when I was working on that, chiselling and filing and that, a chap dropped a hammer off the top, and see I’ve got a lump there...Split my head...’<sup>592</sup>

A further atmospheric factor which impacted upon accident rates and frequency was lighting as Vernon highlights:

Defective lighting, whether artificial or natural, may have a considerable influence on accident liability, though it is difficult to obtain clear cut evidence of the fact. For instance, the Departmental Committee on Lighting in Factories (1915) showed that in a number of industries, and especially in shipyards and docks, accidents were more numerous in the winter than in the summer, with intermediate rates in spring and autumn.<sup>593</sup>

Clearly this issue would be even more apparent during the war years when the workforce had to contend with the blackout. Robert Scobie encountered difficulties working in the blackout as a young boy sorting coal at the pithead, he recalled:

And we were working without lights...all the lights were put out during the war, we had to work with a head light that was half scooped and a wee scoop on the top, you could hardly see with it...Sometimes I just didn’t bother working with it, I just went and felt things that I used to do...you’re like a blind man working, I’m telling you.<sup>594</sup>

The Clyde shipbuilding employers' were aware of such heightened risks in wartime due to poor lighting and commented on such in 1942.<sup>595</sup> Further evidence to suggest employers were aware of the dangers of poor lighting can be found in the *Monthly*

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<sup>592</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.19.

<sup>593</sup> Vernon, 'Prevention of Accidents', p.8.

<sup>594</sup> Robert Scobie, interviewed by Nicola Graham 19 June 2012 (SOHC/051/10), p.1.

<sup>595</sup> TD241/12/159 *Clyde Shipbuilders Association; Safety Officers Reports, Part 1. 27 May 1942.* <sup>698</sup> *Glasgow Chamber of Commerce Monthly Journal* Vol. 27, No. 4, (Glasgow; Bell and Bain, April 1944), p.45.

*Journal of the Glasgow Chamber of Commerce*, which comments on a fatal accident on a gantry which was unlit and unfenced. However, it is noted that the worker had failed to use the light he had been supplied with by his employer, and that, therefore the accident was his fault.<sup>698</sup> Clearly this could be interpreted in two ways; first that the worker was negligent in failing to use the light supplied, and secondly, that the employer was at fault for not having fenced the gantry. However, employers cannot in this case be regarded as wholly responsible as they did supply a light to the worker.

Clearly then, environmental factors, such as temperature and lighting could often be the causes of accidents in the workplace during the Second World War. In the interwar years the Industrial Health Research Board published research papers demonstrating that 'workers bodies were highly sensitive to changes in temperature, humidity, noise and light.'<sup>699</sup> While further evidence has demonstrated that the medical profession were aware that environmental factors impacted upon workers bodies, and therefore, accident rates, as early as 1922. Yet oral testimony indicates that workers still toiled in extremes of heat and cold, while also having to contend with poor lighting. This confirms Weindling's statement that 'the gap between awareness of hazards and effective action to eliminate the danger is a recurrent feature in the history of occupational health.'<sup>700</sup>

### Safety Equipment & Clothing

The 1946 Factory Inspectors Report was the first report since 1939 which included a discussion of safety equipment. Additionally, pre-war reports include chapters on safety.<sup>701</sup> This suggests that safety was not a priority during the war years. This apparent neglect of safety issues in wartime must, however, be seen in context. There

was, as Johnston and McIvor have argued, a 'reconfiguration of risk' in wartime, and

<sup>699</sup> McIvor, 'Manual Work, Technology and Industrial Health,' p.167.

<sup>700</sup> Weindling, *The Social History of Occupational Health*, p.16.

<sup>701</sup> *Annual Report of the Chief Inspector of Factories, PP 1938*(Cmd.6081); *Annual Report of the Chief Inspector of Factories, PP 1937* (Cmd.5802); *Annual Report of the Chief Inspector of Factories, PP 1936* (Cmd.5514); *Annual Report of the Chief Inspector of Factories, PP 1935* (Cmd.5230); *Annual Report of the Chief Inspector of Factories, PP 1934* (Cmd.4931); *Annual Report of the Chief Inspector of Factories, PP 1933* (Cmd.4657); *Annual Report of the Chief Inspector of Factories, PP 1932* (Cmd.4377); *Annual Report of the Chief Inspector of Factories, PP 1931* (Cmd.4098).

such issues were likely to be of less significance when compared to the dangers faced

by those in the armed forces.<sup>596</sup> Moreover, the state was under pressure, particularly

in the early years of the war, so protective clothing and safety was less of a priority.

Having said that, the Factory Department had issued a pamphlet in 1940 on protective

clothing which noted the need for special protection of the feet, legs, hands, arms and

face.<sup>597</sup> Indeed, safety was a topic which received attention both throughout the 1930s

and in the post-war years, the apparent neglect of this topic in the Reports of the Chief

Inspector of Factories across the years 1939-1945 can, therefore be attributed to the

exigencies of war. However, although the reports throughout the years of the 1930s

included chapters on safety it is important to state that their main concern was the

prevention of accidents through better and more appropriate fencing of machinery.

They failed to address or introduce the idea of personal protective clothing such as

safety boots and helmets. However, this must also be seen in context. For example,

lack of ear defenders was not a problem limited to industry, the armed forces were not

supplied with these either. The 1946 Factory Inspectors Report stated that not enough

attention had been devoted to this subject and suggested that greater use of gloves and

safety boots would have prevented many accidents resulting in cuts and abrasions and

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<sup>596</sup> Johnston & McIvor, 'The War and the Body At Work', p.121.

<sup>597</sup> Vernon, 'Prevention of Accidents', p.9.

damage to toes and feet.<sup>598</sup> This indicates that there was an awareness among factory inspectors of the importance of protective clothing, such as gloves and safety boots.

The importance of safety equipment is further noted by the Factory Inspectorate in the 1946 report and that 'one of the greatest puzzles in the whole of the chemical industry is the carelessness displayed in the matter of wearing goggles, even when they have been provided.'<sup>599</sup> This demonstrates that the state regarded workers themselves as guilty of neglecting safety, when, in fact, the state or management could have made the wearing of safety goggles compulsory. Moreover, management could have avoided payments by results wage systems (which encouraged overworking and hence raised the accident risk) and devoted more resources to education, prevention and welfare. In addition, the term 'even when they have been provided' indicates that provision of safety goggles was not universal in 1946 as well as suggesting that workers did not use them. In an article published in

1945, Vernon pointed out the importance of utilising protective clothing:

In addition to protecting machinery by proper safeguards, the worker himself ought to receive protection by suitable clothing for his body, and (in many cases) by goggles for his eyes. The management is to a large degree responsible for seeing that the clothing worn is appropriate, but the worker has to play a part, and not evade the regulations laid down.<sup>600</sup>

This statement is illuminating, because it acknowledges the importance of protective clothing for the worker, but also states that the responsibility for this lies with the management, but that workers could, and did, disregard regulations. This is demonstrated repeatedly in oral testimony from workers themselves. Thomas Stewart,

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<sup>598</sup> *Annual Report of the Chief Inspector of Factories, PP 1946* (Cmd.7299), p.16.

<sup>599</sup> *Annual Report of the Chief Inspector of Factories, PP 1946* (Cmd.7299), p.85.

<sup>600</sup> Vernon, 'Prevention of Accidents', p.9.

a blacksmith, commented upon workers failing to utilise protective clothing. Discussing the benefits of safety boots, he commented that 'it was the men themselves that would not wear them, and the management would not enforce it.'<sup>601</sup> This interviewee hints that management should have made the wearing of safety boots compulsory. Evidence collected from individual shipyards on Clydeside regarding the provision and use of protective goggles also illustrates this problem.

According to the Clyde Shipbuilders' Association, Barclay Curle, Scott's and Fairfield's shipyards all supplied goggles free of charge to workers, but noted that they were not being used.<sup>602</sup> Willie Dewar, who sustained an eye injury while working in Springburn, also commented on this, and that 'we didn't wear glasses.

We should have. We never thought about it.'<sup>603</sup> Dewar's use of the word 'we', once again places the responsibility for wearing protective clothing firmly with the worker. However, he also stated that 'We (the workers) never thought about it' which suggests that employers were not advocating and advertising the importance of using safety equipment. Therefore, evidence from both medical professionals and the Factory Inspectorate indicates that in 1945 and 1946, there was growing knowledge and understanding that proper safety equipment and protective clothing could reduce the potential for accidents. This would suggest that both employers and workers should have been aware of the necessity of protective clothing during the war years.

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<sup>601</sup> Thomas Stewart, interviewed on 10<sup>th</sup> June 1996, 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

<sup>602</sup> TD241/12/445 *Clyde Shipbuilders Association; Provision of Protective Clothing, 'Memo of Telephone Conversation Between A. M. Adam of the Association and Member Firms. 30 December 1942.*

<sup>603</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.36.

Provision of protective clothing in the shipyards of the upper Clyde during the war years was poor:

The situation was that you were not provided with protective clothing, unless you were a blacksmith, they might give you a brat or something like that. But the general run of the mill, the idea was that you went to work in rags.

Another worker mentions that the majority of men wore cloth caps,<sup>604</sup> which is illustrated in photograph 4.1 below.



Photograph 4.1 "MINISTRY OF INFORMATION SECOND WORLD WAR OFFICIAL COLLECTION" (photographs) Made by: Ministry of Information Photo Division Photographer  
© IWM (D 20854)

This photograph shows two shipyard workers in a boiler room of a Glasgow shipyard, both wearing soft caps as opposed to safety helmets. However, evidence from the Glasgow Chamber of Commerce illustrates that employers were attempting to provide helmets to the workforce. In the January 1941 edition of the *Monthly Journal*, they noted 'a communication from the Association of British Chambers of Commerce regarding the scheme for the sale of protective helmets to employers for the use of their workers and setting forth the arrangements made for employers

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<sup>604</sup> D. Crooks, *Made in Govan*, p.8.

obtaining supplies of these helmets.<sup>605</sup> Which shows a clear awareness of the benefits of such safety equipment among employers. However, it is important to note that employers would need to pay for these helmets, and there is no mention of it being compulsory to provide them to the workforce. Nevertheless, it is significant as it demonstrates the Glasgow Chamber of Commerce were proactive in providing information regarding safety helmets. The state was promoting improved safety through the Navy contracts process in 1941, however this was not supported and endorsed through the Clyde Shipbuilders' Association. Indeed the Clyde Shipbuilders' Association made no recommendation to individual firms supporting this safety measure.<sup>606</sup> This is indicative of the lack of importance attributed to safety equipment amongst shipbuilding employers on Clydeside. Moreover, it also demonstrates that employer attitudes to the provision of protective clothing varied. Photograph 4.2 (below), shows a team of riveters at work in a Glasgow shipyard in 1944, without any form of protective clothing.

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<sup>605</sup> *Glasgow Chamber of Commerce Monthly Journal* Vol.24, No.1, (Glasgow; Bell and Bain, January 1941), p.14.

<sup>606</sup> TD241/1/34 *Clyde Shipbuilders Association; Minute Book No.28 'Special General Meeting of the Association, 12 February 1941.*



Photograph 4.2 "MINISTRY OF INFORMATION SECOND WORLD WAR OFFICIAL COLLECTION" (photographs) Made by: Ministry of Information Photo Division Photographer  
© IWM (D 20821)

Evidence from the minutes of the Amalgamated Engineering Union also indicates the scarcity of protective clothing. They noted that the Lanarkshire Steel Works 'refuse to provide overalls to men on dirty work.'<sup>607</sup> The supply of overalls also received attention from the Glasgow Chamber of Commerce. In 1940 they noted a shortage of overalls and it was suggested that they write a letter to the Board of Trade 'urging that workers overalls be excluded from the scheme [clothes rationing]',<sup>608</sup> therefore trade unions and employers were attempting to ensure the provision of overalls to the workforce. Another form of protective clothing which would have benefitted workers in various industries was gloves. The 1931 Shipbuilding Regulations provided that gloves, or other adequate hand protection, should be made available to those involved in transporting and stacking plates, in handling plates at machines and using acetylene

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<sup>607</sup> TD1383/1/1 *Amalgamated Engineering Union, Mid Lanarkshire Minutes 1941-1949, 24 January 1943.*

<sup>608</sup> *Glasgow Chamber of Commerce Monthly Journal*, Vol.23, No.4, (Glasgow: Bell and Bain, April 1940), p.157.

burners and blows. However, in 1942, the boilermakers society complained to the Clyde Shipbuilders' Association that their members employed on caulking, riveting, welding and burning were not being supplied with gloves or other protection.<sup>609</sup> Clearly, unions were active in attempting to ensure employers provided protective clothing for the workforce. However, the Shipbuilding Regulations (1931) show that these should already have been supplied, suggesting that the Clydeside shipbuilding employers' were failing to provide adequate safety equipment and, in doing so, they were breaching the 1931 Shipbuilding Regulations.<sup>610</sup> It is important to note that the responses of employers to the provision of safety equipment varied.

For example, evidence from the North West Engineering Trades Employers' Association illustrates that in the engineering industry some employers provided gloves 'free of cost to welders and burners and...gloves are made available by firms to riveters and caulkers.'<sup>611</sup> Unlike the Clyde Shipbuilders' Association the Engineering Employers' Association recommended that member firms provided gloves. Similarly, the supply of protective goggles to the shipyard workforce was laid out in the 1931 Shipbuilding Regulations as well as the Protection of Eyes Regulation 1938. However, enquires made by the Clyde Shipbuilders' Association to member firms demonstrate that not all firms supplied goggles.<sup>612</sup> Clearly, the provision of safety equipment varied and employers' responses were not uniform. This evidence of a lack of safety equipment in the shipyards is corroborated by James McFadzean, who mentioned a

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<sup>609</sup> TD241/1/35 *Clyde Shipbuilders Association; Minute Book No29. 'Meeting of the Executive Committee of the Association 25 May 1942.*

<sup>610</sup> TD241/1/35 *Clyde Shipbuilders Association; Minute Book No29. 'Meeting of the Executive Committee of the Association 25 May 1942.*

<sup>611</sup> TD1059/1/1/30 *North West Engineering Trades Employers Association, Minute Book No.31, 'Meeting of the Executive Committee 26 May 1942.*

<sup>612</sup> TD241/12/445 *Provision of Protective Clothing.*

complete lack of safety helmets and other protective clothing such as goggles - with the exception of welders, who were provided with the standard hood.<sup>613</sup> Such a lack of protective clothing was also the norm in the steel industry according to Lanarkshire crane driver Edmund Barrie, who, when asked about safety equipment responded ‘No, not during the war years, there was nothing like that.’<sup>614</sup> William McMaster, who worked in Clyde Alloy, stated ‘Oh, you had nae steel helmets in they days!’<sup>615</sup> His tone in this statement suggests that the idea of employers providing such safety equipment was far-fetched. Safety provision in the form of protective clothing was also of a low standard in the coal mining industry. Robert Scobie recalled wearing a cloth cap, even while working underground, because safety helmets were not available. He recounts an accident and resulting injury which befell him:

...down underground with the cloth cap too. And I was sitting at my piece time one time, and a stone fell out the roof and hit me on the head, and knock my chin into...my teeth went up through...I was like a monkey when I went home, because I was all swollen up....three stitches in the back of my head...telling you...<sup>616</sup>

Clearly then, even if accidents such as this would not have been prevented by the provision of safety equipment such as helmets, it is clear that the injury to the worker would have been much less severe.

It appears that in the immediate post-war years there was a growing appreciation for the use of safety boots. The Factory Inspectorate Report for 1947 stated that ‘there is evidence from every quarter of the country that managements and

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<sup>613</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.21.

<sup>614</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.7.

<sup>615</sup> William McMaster, interviewed by Nicola Graham, 5 September 2012 (SOHC/051/15), p.14.

<sup>616</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.6.

workers are realising the advantages of safety boots, but there is still much progress to be made before these boots are sufficiently universal in the heavier industries.<sup>617</sup> The STUC appears to have been aware of the benefits of the safety boot even earlier than the Factory Inspectorate, as noted in the Annual Report for the year 1944:

Representations were received from the National Union of Scottish Mineworkers regarding supplies of miners' pit boots and pit clothing, the representations having particular reference to (a) adequate supplies of safety pit boots, (b) a suitable non-safety boot being available when the safety boot was not in sufficient supply...<sup>724</sup>

However, a comment made in the 1948 Factory Report in a discussion of accidents due to 'falls of articles' - injuries due to things falling or people dropping items which then injured someone working below - demonstrates that even after the war safety boots were far from universally utilised as 'the absence of safety boots is considered to have aggravated this situation.'<sup>618</sup> Nevertheless, testimony from munitions worker Bernard Murray supports the claims by the Factory Inspectorate in 1947, he recalled being provided with boots during the war years and that 'we had to wear, was...eh...steel toe caps, for your feet.'<sup>619</sup> It is important to mention that workers had to purchase their own safety boots, thus, once again workers were being made responsible for their own safety. Moreover, this suggests that employers were unwilling to meet the costs of improved safety. Additionally, it should be noted that the R.O.F in which Bernard was employed was a government run organisation situated in Clydebank.<sup>727</sup> Perhaps this

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<sup>617</sup> *Annual Report of the Chief Inspector of Factories, PP 1947 (Cmd.7621)*, p.33.

<sup>724</sup> *47th Annual Report of the Scottish Trades Union Congress 1944*, p.22.

<sup>618</sup> *Annual Report of the Chief Inspector of Factories, PP 1948, (Cmd.7839)*, p.44.

<sup>619</sup> Bernard Murray, interviewed by Nicola Graham 21 June 2012 (SOHC/051/12), p.6. <sup>727</sup> The differences in occupational health and safety provision between privately and publically owned firms will be analysed in more detail later in this chapter, p.186.

indicates that government run workplaces were more safety conscious than private industry. Certainly it illustrates that safety provision could vary greatly, there was not a uniform improvement, some workplaces and industries had better safety provision than others.

Further oral testimony demonstrates the nonchalant attitudes of the workforce towards protective clothing, as Willie Dewar noted:

...I've got a slide showing a girl working a burning machine and she's bare arms up to here. Well, if you get a throw back of the flames, sometimes it would plop back at you and the small pieces of metal would come up and go on your arm. But they never said anything about that, and that was just, that was your job...And men working in the boiler with no gloves on... the majority of them that was sort of child's play to wear gloves, 'oh no', or wear glasses. 'No, no'...<sup>620</sup>

This testimony suggests that hazards, such as burns, were accepted as part of the job. Moreover, it also hints at 'macho' attitudes towards safety equipment. The wearing of safety equipment is referred to as 'child's play' suggesting that men were not in need of protection. This allows for the conclusion that both management and the state could have done more to ensure the safety of the workforce by making the use of such safety equipment and protective clothing a compulsory part of employment. Textile worker, Duncan Murray's testimony also illustrates the attitude of the workforce toward protective clothing. He recalled rubber gloves being provided to those who worked with chrome dyes, but that the workers never really utilised these: 'well, ah never bothered, ah mean, but ah suppose ye could have worn them if ye wis working 'wi'

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<sup>620</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), pp.39-40.

chrome. But we never...we just carried on.<sup>621</sup> However, it should be noted that safety equipment and clothing in the early stages (such as during the war years), was in its infancy, and as a result could often be cumbersome and difficult to work with. Willie Dewar pointed this out in his testimony, noting that men often neglected to wear gloves, because it was much easier to work with bare hands.<sup>730</sup> When asked whether either himself or any of his workmates were expressing a desire for safety equipment Robert Scobie, a miner recalls ‘No. We knew nothing about that, during the war. There was nae safety equipment for us. We didn’t bother about it, we just worked on.’<sup>622</sup> This suggests that the mining workforce were socialised into customary ways of doing the work, and simply accepted the risks as part and parcel of the job.

#### First Aid & Medical Facilities in the Workplace.

As illustrated in chapter two, the minimum requirements for first-aid and medical provision in the workplace were improved with the introduction, in July 1940, of the Factories (Medical and Welfare Services) Order. This Order enabled the Chief Inspector of Factories to direct factory owners engaged in war work to employ works doctors, nurses and welfare staff. It is important to mention however, that implementation of this Order was hampered by shortages of doctors and nurses and it was also limited in its effectiveness because it only applied to firms engaged in war production. Despite this its significance should not be understated. This was a new level of state involvement in the workplace and must be seen in the context of the war.

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<sup>621</sup> Interview with Duncan Murray, Interviewed by Ian McDougall, 22.11.96; Scottish Working People's History Trust; Archived at the SOHC at the University of Strathclyde, p.62.

<sup>730</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.40. The impracticality of utilising safety equipment will be analysed further in chapter five.

<sup>622</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.7.

The Reports of the Chief Inspector of Factories noted the limitations of the order, commenting that 'the service is, therefore, very partial in operation, and at the end of 1943 there were 147 doctors exercising full time medical supervision in 205 factories and 744 doctors attending part-time in 1150 factories.'<sup>623</sup> Despite this Order, oral testimony from Clydeside workers in varied industries demonstrates the basic nature of much of the workplace first-aid facilities.

First aid provision in the shipyards was basic and primitive, one worker recalled the first aid man, who used a stick with 'a bit of cat gut on it' to remove foreign objects from the eyes of workers, whilst another recalled having salt water poured into his eye, stating 'the cure was worse than what the disease was'.<sup>624</sup>

Another recalled a man who licked the eye if it had something in it.<sup>625</sup> William McMaster, an employee of Clyde Alloy in Lanarkshire during the war years, recalled a similar incident occurring to him: 'So this...fella says; "what is it?" and I says, "There's something in my eye." "right," he says, and he had a pen knife....and he came to my eye, and the hand was doing that [motions hand shaking] right, hold it out.'<sup>626</sup>

First aid facilities varied greatly both within and between industries. Harry McGregor, an apprentice engineer at North British Locomotive in Springburn recalled injuring his finger whilst caulking and going to the first aider for treatment. The injury was then bandaged, but upon hitting it again he was sent to the infirmary, he recalled 'the men were good towards the apprentices really, you know. They looked after them. So very

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<sup>623</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), p.52. The figures are for the whole of the U.K.

<sup>624</sup> Crooks, *Made in Govan*, p.15.

<sup>625</sup> Crooks, *Made in Govan*, p.15.

<sup>626</sup> William McMaster, interviewed by Nicola Graham, 5 September 2012 (SOHC/051/15), p.7.

good.’<sup>627</sup> Despite this, when questioned further about the first aid facilities in the plant, he conceded that they were ‘primitive’ and that it was only equipped with an ‘ambulance room’. For anything more serious, injured workers were sent to the hospital.<sup>628</sup> Edmund Barrie, a crane driver, commented that ‘during the war there was not such a thing as a safety man...it was just up to yourself to look after yourself.’<sup>629</sup> Indicating that the onus for ensuring a safe working environment remained firmly with the worker. James McFadzean recalled Simon’s shipyard having a safety man (corroborated by evidence from the Clyde Shipbuilders’ Association<sup>630</sup>) but argued ‘he was doing nothing’ and, when asked if he ever came round demonstrating safe working practices, answered ‘He should’ve but he didn’t’. He also revealed that the safety man was a carpenter by trade before being promoted to safety man.<sup>631</sup> Despite the growing number of doctors and nurses in industry, oral testimony demonstrates that first-aid facilities, where provided in industry on Clydeside prior to and during the war, were of a basic standard.<sup>632</sup>

As we have noted, the shipyards of the Clyde were a notoriously harsh environment in which to toil, and occupational health and safety standards tended to be poor. James McFadzean recalled an accident occurring to one of his workmates, in which the worker later lost his eye. When questioned with regard to procedure after such a serious accident he replied that the injured worker simply went home and then took himself to

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<sup>627</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.29.

<sup>628</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.29.

<sup>629</sup> Edmund Barrie, interviewed by Nicola Graham 26 June 2012 (SOHC/051/14), p.7.

<sup>630</sup> TD241/12/159 *Safety Officers Reports, Part 1*.

<sup>631</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.22.

<sup>632</sup> *Annual Report of the Chief Inspector of Factories, PP 1942* (Cmd.6471); *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563); *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698).

the hospital.<sup>633</sup> Moreover, when questioned about first-aid facilities in Simon's shipyard James recalled there being an ambulance room but no nurses or doctors.<sup>634</sup> Bevin's 1940 Factories (Medical and Welfare Services) Order appears not to have been an unqualified success. Clearly there were discrepancies between the standards set out in the Medical and Welfare Services Order and actual workplace practice.<sup>635</sup> Another industry with harsh working conditions was coal mining. Oral testimony from Robert Scobie demonstrated an awareness of the need for safety, and recalled doing first aid training, at the request of the training officer.<sup>636</sup> Standards of first-aid provision varied greatly however, and J. D.

(anonymous female respondent), a lathe-turner in a small engineering works in Wishaw had no experience of a first-aid room, or nurses in the workplace: 'Oh no...there wasn't an ambulance room, because there...I don't think there was really any need for that.'<sup>637</sup> This evidence indicates that occupational health and safety provision could also vary according to the size of the workplace. For example, standards were lower in smaller workplaces, such as the above mentioned engineering works in Wishaw.

When questioned about safety and welfare officers, those who worked in Ardeer mentioned that there was only an ambulance room.<sup>638</sup> However, one interviewee commented that the firm were good to the workforce. When questioned about health

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<sup>633</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.18.

<sup>634</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.22.

<sup>635</sup> The 1940 Medical Provision Order was analysed more fully in Chapter 2.

<sup>636</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.3.

<sup>637</sup> J. D (anonymous female respondent), interviewed by Nicola Graham, 12 June 2012 (SOHC/051/6), p.10.

<sup>638</sup> Elizabeth Gibb, interviewed by Patricia Williams, December 1998 (SOCH/015), p.6.

and safety checks she said ‘they always did that right enough.’<sup>639</sup> Oral testimony suggests that Ardeers were a relatively good firm to work for. Margaret Sheddon stated that they had a welfare officer, who would attempt to move you if the job ‘didn’t agree with you,’ and noted ‘I couldn’t say a word about ICI really.’<sup>640</sup> According to Mrs Henderson, the welfare officers at Ardeer were usually retired nurses.<sup>641</sup> Cathy Wilson, employed in Ardeer’s during the war thinks there was a health and safety officer, because, she said you weren’t allowed to wear anything with hooks or pins in the factory, and that ‘there were a lot of safety rules.’<sup>642</sup> Another female employee of Ardeers during the war years mentioned the clothing they were issued with - a navy overall which covered all other clothing and black shoes.<sup>643</sup>

In workplaces which had some form of first-aid provision, it was often primitive and inadequate to cover the workforce. Robert Scobie, a miner, recalled less serious accidents which were a more frequent occurrence. He remembered fingers and hands getting ‘all bashed up’ at the pithead during the war years, and he stated that if this injury were to befall you, you would ‘just have to get bandaged up, and that was you finished for two or three weeks, maybe, ‘til it healed up.’<sup>644</sup> In recalling incidents like this Robert demonstrated how stretched the first-aid facilities were in the mining industry. He remembered only a small first-aid room, and stated that the ‘ambulance man’ was stationed at another colliery – serving all the pits in the

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<sup>639</sup> Elizabeth Gibb, interviewed by Patricia Williams, December 1998 (SOHC/015), p.7.

<sup>640</sup> Margaret Sheddon, interviewed by Patricia Williams, November 1998 (SOHC/015), p.7.

<sup>641</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.6.

<sup>642</sup> Cathy Wilson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.3.

<sup>643</sup> Margaret Sheddon, interviewed by Patricia Williams, November 1998 (SOHC/015), p.7.

<sup>644</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.6.

vicinity – which he estimated would encompass around 150 men.<sup>645</sup> The Clyde Shipbuilders' Association were also advocating shared medical facilities in response to the Factories (Medical and Welfare Services) Order 1940. Oral testimony demonstrated that common practice across a varying range of Scottish industries was simply to have an 'ambulance man' who had little or no first-aid training, a factor which would limit the benefits of having workplace first-aid facilities. For example, James McFadzean fell victim to an accident in Simon's shipyard when someone dropped a hammer on his head and split his head open. He was subsequently treated in the ambulance room in the shipyard, although the treatment was very basic: 'The ambulance man's name was Mr. Watson, so he put a patch on it, a sticky plaster and stuff,' James then had to walk himself to the doctors.<sup>646</sup> However, it should be noted that the majority of the shipyards on the Clyde did have safety officers. During the war years there were regular meetings of these safety officers and members of the Factory Inspectorate. Moreover, these meetings were also attended by a representative of employers - usually a member of the Clyde Shipbuilders' Association.<sup>756</sup> This indicates a degree of collaboration between the state, employers and workers regarding safety. Safety, therefore, was not a major concern in the heavy Clydeside industries during the Second World War. Whether this is a direct result of the war seems unlikely considering conditions prior to the war were also very poor. However the war led to a growing interest in safety. This is evidenced in the greater concern about the welfare of the workforce which was demonstrated in Bevin's creation of emergency wartime

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<sup>645</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.6.

<sup>646</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.19.

<sup>756</sup> TD241/12/159 *Clyde Shipbuilders Association; Safety Officers Reports Parts 1 & 2.*

Orders such as the 1940 Factories (Canteens) Order and the 1940 Factories (Medical and Welfare Services) Order. These were both significant pieces of state intervention in the workplace in wartime. When asked who was responsible for health and safety prior to the nationalisation of the coal mines in 1947, Lanarkshire miner Harry Steel replied ‘The coal owners. But they didnae bother. I worked with Baird and Steel fae ‘41 tae ‘47 and eh, you never kent what safety was in the pit. The pit I worked in, there were about 7 men killed inside of about 3 months.’<sup>647</sup> Clearly then, standards of occupational health and safety differed according to industry, and much depended on the willingness of employers to improve safety standards.

Variations in Accident Rate & Safety Provision

Working conditions varied widely according to both industry and region (see chapter 3), and evidence tends to suggest similar divergences for accident rates. Table 4.2 below illustrates the fluctuation in accident rates according to region. The figures given are for the year 1946, because data was not available for the war years due the Annual Reports of the Chief Inspector of Factories being in shorter form.

*Table 4.2: Numbers of Fatal and Non-Fatal Accidents According to District, 1946.*

District	Fatal Accidents	Non-Fatal Accidents	Total No. of Premises
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<sup>647</sup> Harry Steel, interviewed by R. Johnston, 29 June 2000 (SOHC/017/C9), p.9.

Glasgow West	28 (22.22%)	5,914 (20.09%)	2,647 (9.20%)
Glasgow Central	14 (11.11%)	2,240 (7.61%)	3,636 (12.63%)
Lanarkshire	20 (15.87%)	5,090 (17.29%)	2,599 (9.03%)
Renfrew	19 (15.07%)	4,303 (14.61%)	2,195 (7.62%)
Ayr	4 (3.17%)	862 (2.93%)	2,207 (7.67%)
Stirling	11 (8.73%)	2,619 (8.90%)	1,348 (4.68%)
Edinburgh	13 (10.32%)	3,333 (11.32%)	4,709 (16.36%)
Fifeshire	2 (1.59%)	1,523 (5.17%)	1,548 (5.38%)
Dundee	7 (5.56%)	1,971 (6.70%)	2,943 (10.22%)
Aberdeen	8 (6.34%)	1,581 (5.37%)	4,928 (17.12%)
Scotland Total	126	29,436	28,787

*Source: Annual Report of the Chief Inspector of Factories, PP 1946 (Cmd.7299) p.116.*

The data presented in table 4.2 illustrates that districts in the Clydeside area had more fatal and non-fatal accidents than districts such as Edinburgh and Aberdeen. For example, although Lanarkshire only had 9.03% of Scotland's total number of premises subject to the Factory Acts, it account for 15.87% and 17.29% of fatal and non-fatal accidents for Scotland as a whole. This is significantly higher than Aberdeen districts 6.34% of fatal, and 5.37% of non-fatal accidents, particularly when the Aberdeen district had a much higher percentage of Scotland's total premises subject to the Factory Acts - 17.12%. Therefore, despite the fact that they had fewer premises subject to the Factory Acts than other Scottish districts such as Edinburgh and Aberdeen, districts such as Lanarkshire, Glasgow West and Renfrew all had greater numbers of fatal and non-fatal accidents. Accident rates clearly varied according to region. Indeed, the areas

in which the heavy and more dangerous industries dominated, such as Clydeside, had higher accident rates despite having fewer premises subject to the control of the Factory Inspectorate. This demonstrates both regional and industrial differences in accident rates, as those regions with higher rates of accidents, such as Glasgow and Lanarkshire, were also the regions in which much of Scotland's heavy industry was located.

Variations in working conditions and occupational health and safety standards also existed within industries. For example, coal fields in some areas of Scotland were more hazardous than others. Calder states:

In the older coal-fields, in Wales, Scotland and the NorthEast where the best seams had largely been worked out, thinner and poorer ones were now hewn, with increasing danger and discomfort. The rate of accidents, already alarming, rose horribly. In each of the years 1943-1945 it was higher than one serious accident (involving disablement for more than three days) per every four employees.<sup>648</sup>

This is further noted by the Factory Inspector in relation to shipbuilding on Clydeside, where there was a great variation in accident rates across the different yards.<sup>649</sup> Often health and safety provision could be dictated by the size of the firm and the amount of capital it had at its disposal. From the 1980s and 1990s research into occupational health and safety standards has demonstrated that any improvements were uneven and that inequalities existed according to class and gender.<sup>650</sup> This is likely to be because both class and gender dictated what kind of employment one would undertake. Moreover, the quality of occupational health and safety provision was most improved

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<sup>648</sup> Calder, *The Peoples War*, p.437.

<sup>649</sup> TD241/12/159 *Clyde Shipbuilders Association; Safety Officers Reports, Part1. 25 September 1941.*

<sup>650</sup> Jones, *Health and Society in Twentieth Century Britain*, pp.43-45.

in the newer 'sunrise' industries. This suggests that the older, traditional heavy industries which dominated the Scottish, and particularly the Clydeside economy during the war years lagged behind in improving occupational health and safety standards. McIvor argues that, in the 1940s improvements in occupational health and safety standards were much less uneven across the labour force, although wide inequalities persisted.<sup>651</sup> Indeed, evidence from both the Factory Inspectorate Reports and oral testimony tends to point towards variations in standards according to region, industry, firm size and whether the company was public or private enterprise.

In addition to accident rates varying widely according to both region and industry, the severity and causation of accidents also differed greatly between industries. Vernon cites mining and quarrying as two industries which had greater numbers of more severe accidents.<sup>762</sup> The high accident rate in coal mining in the war years is also mentioned by Fisher for 'fatal and non-fatal cases.'<sup>652</sup> McIvor has also noted the variations in occupational health and safety and severity of accidents between industries.<sup>764</sup> Table 4.3 illustrates this.

*Table 4.3: Persons Killed in Industrial Accidents, U.K.*

	Factories	Building	Coal	Railways	Shipping	Docks	Total
1939	724 (28.7%)	303 (12.0%)	783 (31.1%)	259 (10.3%)	373 (14.8%)	77 (3.1%)	2519
1940	948	323	923	293	399	101	2987

<sup>651</sup> McIvor, *A History of Work in Britain*, p.144.

<sup>762</sup> Vernon, 'Prevention of Accidents', p.9.

<sup>652</sup> Fisher, 'Health Hazards of Coal Mining', p.154.

<sup>764</sup> McIvor, *A History of Work in Britain*, p.117.

1941	(31.7%) 1117	(10.8%) 427	(30.9%) 925	(9.8%) 324	(13.4%) 360	(3.4%) 128	3281
1942	(34.0%) 991	(13.0%) 248	(28.2%) 877	(9.9%) 296	(11.0%) 315	(3.9%) 124	2851
1943	(34.8%) 939	(8.7%) 227	(30.8%) 715	(10.4%) 308	(11.0%) 319	(4.3%) 85	2593
1944	(36.2%) 773	(8.8%) 134	(27.6%) 623	(11.9%) 305	(12.3%) 268	(3.3%) 118	2221
1945	(34.8%) 663	(6.0%) 135	(28.1%) 550	(13.7%) 284	(12.7%) 306	(5.3%) 66	2004
	(33.1%)	(6.7%)	(27.4%)	(14.2%)	(15.3%)	(3.3%)	

Source: Department of Employment & Productivity, *British Labour Statistics, Historical Abstract, 1886-1968*. (London: HMSO,1971) Table 200.

This evidence demonstrates that some industries had greater numbers of fatalities than others. Indeed, it is clear when the percentage of the total is calculated that both factories and coal mining had the greatest percentage of the total number of fatal accidents for each of the war years, suggesting that these were two of the most dangerous industries. However, in order for this information to be wholly significant, the total numbers of persons employed in each industry for each year would be required. Unfortunately this data does not exist, indeed, there was no census conducted in 1941 due to the war, therefore, due to a lack of data the death rate per numbers employed - which would give a much clearer indication of which industries were more dangerous - cannot be calculated. However, Johnston and McIvor have commented upon the high accident rates in the coal mining industry noting that ‘coal mining was one of the most dangerous occupations in the country in terms of its serious and disabling injury rates.’<sup>653</sup> The Lanarkshire coal field in particular had a very poor safety record. Oral testimony also reveals the frequency with which accidents occurred in the coal mining industry. One retired miner commented ‘that’s why I had as many

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<sup>653</sup> McIvor & Johnston, R *Miner’s Lung*, p.41.

injuries. I lost a finger, three disk operations I'll come to that.'<sup>654</sup><sup>655</sup> The frequency of accidents in the coal mining industry is also noted in the STUC Annual Report for the year 1942, which remarked 'the accident rate was getting higher and higher...'<sup>657</sup>

Additionally, the size of the firm may also have impacted upon the standard of occupational health and safety provision on offer. This point was made by Vernon for 1945:

Though factory inspectors do all they can to stimulate the safety movement, safety campaigns appear to have been adopted by only a small minority of industrial firms in this country. Of the large firms, with over 1000 employees, only 1 in 5 were members of the National Safety First Association (now the Royal Society for the Prevention of Accidents), whilst of smaller firms, with 26-1000 employees, only 1 in 200 were members.<sup>656</sup>

However, this point was first being made by the Chief Inspector of Factories as early as 1942. In the Annual Report for that year comparisons were drawn between welfare provision in larger firms to that provided in smaller firms where 'a large proportion of our workers are still employed by comparatively small firms and it is in these that the work of Inspectors is perhaps most needed to obtain improved conditions.'<sup>657</sup> Additionally, Johnston and McIvor have shown that provision of occupational healthcare also varied according to geographic location, with the West of Scotland faring worse than other areas, such as Dundee.<sup>658</sup> Clearly, there were a varied range of employer responses and strategies regarding workplace safety.

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<sup>654</sup> William Dunsmore, interviewed by R. Johnston, 29 June 2000 (SOHC/17/A16), p.7.

<sup>655</sup> *th Annual Report of the Scottish Trades Union Congress, 1942*, p.177.

<sup>656</sup> Vernon, 'Prevention of Accidents', pp.9-10.

<sup>657</sup> *Annual Report of the Chief Inspector of Factories, PP 1942* (Cmd.6471), p.23.

<sup>658</sup> Johnston & McIvor, 'Marginalising the Body at Work?', pp.137,140. See also Ferguson, T., 'Early Scottish Essays in Industrial Health' *British Journal of Industrial Medicine*, Vol.V, No.3, July 1948, p.184.

Evidence from those employed in government operated industries, such as Royal Ordnance Factories (R.O.F), suggests that government run industries were more safety conscious than private enterprise. For example, Bernard Murray, who worked in the R.O.F in Clydebank, mentioned that nurses were onsite for first aid purposes: ‘they definitely had nurses on duty all the time.’<sup>659</sup> This was unusual for industry during this time as qualified nurses were rarely found in industry during the war years, although numbers were increasing due to Bevin's 1940 Medical Provision Order. Johnston and McIvor have argued that this was the case in the West of Scotland. Indeed, they draw comparisons between the level of resources directed to researching the causes of pneumoconiosis and other miner's lung diseases and the slow response to asbestos-related disease, which was 'an occupational health problem stemming predominately from private capital.'<sup>660</sup> The difference in welfare provision between public and private firms is also noted by the Chief Inspector of Factories in the 1942 Annual Report:

A real impetus has been given to the movement [personnel management and welfare supervision] by the acceptance by the Supply Ministries of the spirit of welfare and the development of Welfare Departments under highly skilled control particularly in some of the Royal Ordnance Factories.<sup>661</sup>

This point is reiterated in the 1944 Annual Report which includes special mention of medical and nursing facilities in the R.O.Fs and other Ministry of Supply establishments, stating that such services had been further developed during the course

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<sup>659</sup> Bernard Murray, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/12), p.7.

<sup>660</sup> Johnston, & McIvor, 'Marginalising the Body at Work?', p.129.

<sup>661</sup> *Annual Report of the Chief Inspector of Factories, PP 1942* (Cmd.6471), p.21.

of the year and that nursing and medical postgraduate courses had been taught.<sup>662</sup> Additionally, this Report mentions medical and welfare facilities in dockwork, with a particular mention of Clydeside. The fact that there had been an attempt to improve conditions in this industry adds more weight to the argument that publically operated industries had better provision of medical and welfare facilities than private ones. However, it should be noted that this was not a great success and poor sanitary conditions on the Clydeside docks persisted.<sup>775</sup> Once again this is particularly significant given the context of war. Moreover, the 1944 Annual Report also illustrated that variations in provision existed within industries and that 'progress has been slow in the development of similar services in other dock areas.'<sup>663</sup> Despite the pressure the state was under as a result of the war, it still managed to initiate superior facilities than privately operated firms.

That said, not all privately owned firms were neglectful of occupational health and safety. North British Locomotive Company in Springburn joined the Industrial Welfare Society (IWS) in the early 1930s, which demonstrates that private company welfare facilities were also developing.<sup>777</sup> The IWS was initially founded in 1918, (although its name changed in 1919), and was concerned with industrial welfare and personnel management. Bernard Murray, who had experience working in both private and government-run firms during the war, commented on the difference in conditions

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<sup>662</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.71.

<sup>775</sup> This has been commented on in Chapter Three, p.161.

<sup>663</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.72.

<sup>777</sup> Johnston & McIvor, 'Marginalising the Body at Work?', p.129.

between the two workplaces, arguing that ‘Well, I would say the R.O.F was better, yeah, yeah.’<sup>664</sup> Moreover, this is also noted in the Factory

Inspectors Report for the year 1945:

...much credit is due to the close supervision of the workers' health exercised by the Industrial Medical Officers, and particular reference must be made to the comprehensive service set up by the Ministry of Supply in the Royal Ordnance Factories, which served as a model to those which commenced operations later.<sup>665</sup>

Government munitions works also had better first aid facilities. H. R. (anonymous female respondent), a young women employed in the Bishopton munitions work in Glasgow from 1939-1942, recalled first-aid facilities in the factory and that ‘they had nurses there and that, you know, they had nurses there and that.’<sup>780</sup> However, when questioned further, with regards to the presence of safety men within the factory, the interviewee stated that there were safety officers, but she tended to refer to them as security men, rather than safety men.<sup>666</sup> It would appear that their prime concern was keeping a watchful eye on the workforce, or at least, this was how they were perceived.

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<sup>664</sup> Bernard Murray, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/12), p.10.

<sup>665</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.4. <sup>780</sup> H. R (anonymous female respondent), interviewed by Nicola Graham, 20 June 2012 (SOHC/051/11), p.11.

<sup>666</sup> H. R (anonymous female respondent), interviewed by Nicola Graham, 20 June 2012 (SOHC/051/11), p.12.

## Compensation

There is also the issue of the value placed on injured workers. Traditionally compensation appears to have been favoured over preventative safety measures to avoid the occurrence of accidents. In an article published in the 1944 edition of the *British Medical Journal*, Schilling noted this lack of prevention and that ‘doctors in industry have not paid sufficient attention to the *prevention* of accidents’<sup>667</sup> Anderson points out the disparities in the different compensation payouts awarded to female workers compared with males and that while ‘war duties increased the risk of being permanently disabled’ that in terms of compensation it was also ‘gender related.’<sup>668</sup> It has been noted that a lower price was often placed on women who became ill or injured as a result of the working environment, Harrison states that Workmen’s Compensation was ‘primarily for the benefit of men.’<sup>669</sup> Indeed, Workmen’s Compensation was based on earnings and so discriminated against injured and disabled women workers as their wages were, on average, half that of men. Clearly gender inequalities persisted within occupational health.

Evidence from the STUC Annual Reports for the war years demonstrates that they were petitioning the government to improve the Workmen’s Compensation Act, despite the war. Additionally, the TUC gave evidence before the Beveridge Enquiry, regarding Workmen’s Compensation in 1942 and proposed a state accident fund out with employers’ control.<sup>670</sup> It should be noted that employers’ representatives also

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<sup>667</sup> R.S.F Schilling, ‘Industrial Health Research: The Work of the Industrial Health Research Board, 1918-1944’ *British Journal of Industrial Medicine*, Vol.I, No.3, July 1944, p.147.

<sup>668</sup> Anderson, *War, Disability and Rehabilitation in Britain*, p.156.

<sup>669</sup> Harrison, *Not Only the Dangerous Trades*, p.176.

<sup>670</sup> TD1059/1/1/30 *North West Engineering Trades Association; Minute Book No.31. Executive Committee Meeting, 21 April 1942.*

presented evidence, and they largely opposed changes to the Workmen's Compensation Act.<sup>671</sup> Indeed, it might be argued that the war hindered improvements to this legislation. The government established a Royal Commission into Workmen's Compensation in 1938, however this was postponed at the outbreak of war, to be resumed in 1940 only to be suspended again in 1941. Nonetheless, in November 1943, significant amendments were made to the Workmen's Compensation Act, including increases to weekly payouts as well as increases to child allowances and to payments made to widows and dependants on the occurrence of a fatal accident. These must be viewed as significant changes considering they were implemented during the war years. There was much disagreement between trade unions and employers in the debate over changes to Workmen's Compensation during the war years. It is clear from the wartime minutes of the Glasgow Chamber of Commerce that employers wanted to retain control over workmen's compensation claims: 'from the national point of view it is most desirable that the onus of seeing that workmen are properly protected from accidents should be placed on employers.'<sup>672</sup> Indeed they established their own committee to consider the proposals of the Beveridge Report, with regards to Workman's Compensation.<sup>673</sup> A letter from John Brown's shipyard further demonstrates that employers were eager to retain control over the Workmen's Compensation Act, and it 'pointed out the need for action being taken to ensure that the rights and privileges of employers with regards to Workmen's Compensation

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<sup>671</sup> TD1670/1/32 *Glasgow Chamber of Commerce Minutes; 6th January 1939 - 23rd December 1940.*

<sup>672</sup> TD1670/1/34 *Glasgow Chamber of Commerce; Minutes from January 1943 to December 1943. 26th February 1943.*

<sup>673</sup> *Glasgow Chamber of Commerce, Monthly Journal* Vol.26, No.5, (Glasgow; Bell and Bain, May 1943), p.5.

Insurance are maintained.<sup>674</sup> Further evidence from the North West Engineering Trades Employers' Association argued that if Workmen's Compensation 'is paid for directly by the employer, its administration should continue to remain solely in the hands of the employer.'<sup>690</sup> Clearly this was a contested terrain and both trade unions and employers were involved in lobbying on the Workmen's Compensation Act, despite the pressures of war. It can be argued that by campaigning for changes to this legislation the trade unions were being pro-active in terms of workplace safety, as pursuing compensation payouts was a legitimate method by which to encourage employers to improve safety. Indeed, Long has argued that the trade union role in improving occupational health and safety has been underestimated, and that they were active in campaigning on such issues.<sup>675</sup> Melling has also added to this debate, arguing that pursuing compensation payouts was not in conflict with the promotion of workplace health and safety.<sup>676</sup> It should be noted though, that employers were against much of the proposed changes to Workmen's Compensation, and were eager to retain control over the process.

### Worker Agency

Workers responded in various ways to the state's efforts to shape and control their bodies and had various motivations for doing so; gender ideals, performance, productivity and payment, ideas about sacrifice for the war effort, and, sometimes, resistance was simply unthinking. It is important, particularly in the critique of the role

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<sup>674</sup> TD241/1/43 *Clyde Shipbuilders Association, Minute Book No.28, 10 April 1942.* <sup>790</sup> TD1059/1/1/30 *North West Engineering Trades Association; Minute Book No.31. Executive Committee Meeting, 21 April 1942.*

<sup>675</sup> Long, *The Rise and Fall of the Healthy Factory*, p.97.

<sup>676</sup> Melling, 'The Risks of Working versus the Risks of Not Working', p.16.

of employers, managers and the state in health and safety provision, not to lose sight of the fact the workers themselves have agency, and were both capable and willing to disregard rules and procedures put in place to ensure their safety. This also raises questions about complicity, indeed it seems that workers were, at times, complicit in the damage caused to their own bodies through the working environment through their neglect of safety procedures and equipment. The Mass Observation publication of 1942, *People in Production*, highlighted the human factor in causes of accidents: ‘workers remove guards from machines because they find it easier to work without them. Girls leave off the caps provided for them by management and in consequence get their hair caught in machines.’<sup>677</sup> However, it is important to bear in mind that payments by results wage systems fostered such attitudes (this will be addressed in more detail later). Additionally, it should also be noted that female workers may have neglected to wear caps to cover their hair in order to retain some femininity in a masculine working environment (this too will be discussed in more detail in this chapter). The 1946 Factory Inspectors Report also acknowledged the role of the worker in accident prevention, noting that ‘many persons were in too great a hurry for safety’ and that ‘workers often did not appreciate that work left unfinished meant a hazard to others, and they failed to provide fencing for pits and excavations and to replace manhole covers.’<sup>678</sup> The Reports of the Chief Inspector of Factories continually show that accidents were often caused by a lack of care on the part of the worker, offering one example of

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<sup>677</sup> Mass Observation, *People in Production*, p.208.

<sup>678</sup> *Annual Report of the Chief Inspector of Factories, PP 1946* (Cmd.7299), p.17.

<sup>795</sup> *Annual Report of the Chief Inspector of Factories, PP 1946* (Cmd.7299), p.90.

‘two men used a lighted match to examine the insides of a petrol tank.’<sup>795</sup> While the 1944 Factory Inspectorate report demonstrated that many accidents involving fire were simply a result of carelessness, which illustrates the vital role of the worker in ensuring a safe working environment, and may be indicative of the fact that workers took more and greater risks during wartime. The report stated that ‘many of these accidents have been due to grossly careless actions, such as throwing tins of naphtha, thinners or varnish on to fires, or boiling inflammable liquids over open gas flames.’<sup>679</sup> However, it must be noted that accidents such as these may also be a result of a lack of education and training.

Workers were perhaps more inclined to take risks because of the dangers the armed forces faced on a daily basis. The workforce may have felt a moral obligation or pressure to ignore safety procedures in order to meet targets. The 1940 Factory Report stated that ‘Inspectors have also met a certain criticism that accident prevention is rather an unworthy subject for consideration in wartime, when the men in the forces are taking every kind of risk.’<sup>680</sup> This links to Connell's notion of hegemonic masculinity, during war the military male was seen as the dominant form of masculinity.<sup>681</sup> While Rose has shown that this hegemonic masculinity was only available to those in uniform.<sup>682</sup> Those unable to join the armed forces were therefore less manly than their military counterparts and had to find alternative ways to assert their masculinity. The 1941 Factory Inspectors Report also suggested that during

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<sup>679</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.15.

<sup>680</sup> *Annual Report of the Chief Inspector of Factories, PP 1940* (Cmd.6316), p.4.

<sup>681</sup> Connell, *Masculinities*, p.35.

<sup>682</sup> S. Rose, *Which Peoples War?: National Identity and Citizenship in Wartime Britain 1939-1945*. (Oxford: Oxford University Press, 2004) pp.160-1.

wartime workers were more likely to take risks.<sup>683</sup> When questioned about the risk culture associated with Scottish heavy industry, shipyard worker James McFadzean commented that 'men were climbing up without helmets, you know and, it was just, get on with the work, get the...it's...there's a war on, you know' before admitting that production took priority over safety.<sup>684</sup> This links to discussions of masculinity, and hints that those men left behind felt less manly than those in the armed forces and neglected safety procedures in order to take risks and reassert their manliness. Manliness and masculinity are best defined in opposition to femininity; manliness is associated with physical prowess and strength, rationality and emotional reserve. According to Bourke '...the manly man was athletic, stoical and courageous'<sup>685</sup>, while Johnston and McIvor have stated:

Historically the 'essence' of masculinity has been vigorously located with reference to notions of the man as *provider*; physical prowess, toughness, homophobia; risk taking; aggression and violent behaviour; a competitive spirit; a lack of emotional display; dispassionate instrumentalism and only limited involvement in fathering.<sup>686</sup>

However, it can be argued that masculinity is specific to both time and culture. Higate states that 'masculinities...are historically and culturally contingent,'<sup>687</sup> while Johnston and McIvor comment that 'theorists tend now to see a range of masculinities that can be prevalent at any given moment, and see such masculinities as being socially constructed and subject to significant change over time.'<sup>688</sup> Therefore, during the

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<sup>683</sup> *Annual Report of the Chief Inspector of Factories, PP 1941* (Cmd.6397), p.7.

<sup>684</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.23.

<sup>685</sup> J. Bourke, *Dismembering the Male: Men's Bodies, Britain and the Great War* (London: Reaktion Books Ltd, 1996), pp.12-3.

<sup>686</sup> Johnston & McIvor, 'Dangerous Work, Hard Men and Broken Bodies', p.136.

<sup>687</sup> P. Higate *Military Masculinities: Identity and the State* (Westport: Praeger, 2003), p.45.

<sup>688</sup> Johnston & McIvor, 'Dangerous Work, Hard Men and Broken Bodies', pp.136-7.

Second World War, the dominant masculinity was that of the military male. Sonya Rose has defined hegemonic masculinity as being 'concocted from a loose configuration of characteristics that combined the young, fit, heroic man with the ordinary, home-loving, emotionally reserved, good-humoured and sportsman like team player.'<sup>689</sup> The contrast between men in the armed forces and those in essential work is made apparent in Richard Fitzpatrick's interview. He is quick to mention that he was accepted into the navy and appears to be very proud of the fact however, he was unable to go because he was in essential war work. He repeated the fact that he had been accepted into the navy, perhaps as a way of asserting his masculinity, he might have felt a need to prove to the (male) interviewer that he was a fit and healthy man.<sup>690</sup> Peniston-Bird notes the issues men remaining on the home front during the war had to deal with and that 'remaining on the home front rendered a male vulnerable to both accusations of cowardice and assumptions about his physical fitness' both of which were damaging to masculinity.<sup>691</sup> This may account for Richard Fitzpatrick's eagerness to make the interviewer aware that he had been accepted into the navy. Fisher, in an 1944 article in the *British Journal of Industrial Medicine* on coal mining hazards, emphasised the importance and masculine nature of industrial work in wartime: 'far be it from me to suggest that working underground in a mine is not "war-work" or a "man's job" – indeed it is so much so that a youth brought up in

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<sup>689</sup> S. Rose, 'Temperate Heroes: Concepts of Masculinity in Second World War Britain' in S. Dudink, K. Hagemann, and J. Tosh, *Masculinities in Politics and War: Gendering Modern History* (Manchester: Manchester University Press, 2004), p.186.

<sup>690</sup> SOHCA/022/Interview with Richard Fitzpatrick, interviewed by David Walker, 18 August 2005 (SOHC/022), p.17.

<sup>691</sup> C. Peniston-Bird, 'Classifying the Body in the Second World War: British Men in and out of Uniform' *Body and Society*, Vol.9, No.4, 2003, p.41. <sup>809</sup> Fisher, 'Health Hazards of Coal Mining', p.153.

other spheres of life may well be proud of having done it.’<sup>809</sup> This statement clearly reinforces notions that coal mining was a ‘manly’ occupation and something to be proud of. It also suggests that it was important war work, while hinting that it may not always be viewed as such. Additionally, it emphasises the masculine qualities of men, in particular miners, on the home front.

One may also expect an increase in accidents as a result of the men from the forces returning to their pre-war jobs following demobilisation. The high degree of risk involved in life in the armed forces may have led workers to ignore safety regulations in the workplace, since they were to a degree, desensitised to risk. Moreover, their time away from regular employment may have resulted in them being unused to the dangers of work. The 1946 Factory Inspectors report noted the high number of accidents occurring involving demobilised men and that ‘having lived dangerously for several years, they are more prone to take unnecessary risks and show a certain contempt for safe procedures.’ The report mentions a Scottish factory in which three demobilised servicemen were injured within days of returning to work in the factory.<sup>692</sup> Moreover, it is possible that these returning workers lost some skill during their service in the forces, having been away from their jobs for up to six years. Additionally, they may have become less adept at managing and operating machinery as a result of their absence.

Many men fell victim to accidents as a direct result of their own failure to wear protective clothing. The 1948 Factory Inspectorate report commented on this phenomenon of neglecting safety equipment and that ‘it is difficult to understand the

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<sup>692</sup> *Annual Report of the Chief Inspector of Factories, PP 1946* (Cmd.7299), pp.6-7. <sup>811</sup>  
*Annual Report of the Chief Inspector of Factories, PP 1948* (Cmd.7839), p.30.

attitude found among many operators who seem to consider the use of safety devices as a sign of weakness or a matter for contempt.’<sup>811</sup> Oral testimony has been utilised to demonstrate that workers themselves were often guilty of neglecting safe working practice and failing to use protective clothing. These were 'hard men', accustomed to tough and dangerous working conditions, who did not want to appear weak by wearing or utilising safety equipment. It has been suggested by Johnston and McIvor that this was a direct result of the ‘hard man’ culture which was particularly prevalent in the Glasgow and Clydeside region of Scotland. They argue that this area had ‘developed a reputation for a particularly masculinised aggressive ‘hard man’ culture.’<sup>693</sup> While in an earlier monograph they assert that ‘a deeply entrenched machismo work culture’ existed in the Clyde shipbuilding industry.<sup>813</sup> This ‘hard man’, excessively masculinised work culture is also depicted in much of the oral testimony. When asked about attitudes of the workforce to those men who did utilise safety equipment Willie Dewar stated that the workforce would say:

Oh he’s a ‘Jessie’, you know. A "Jessie" was well, like a woman, you know, but they would sort of laugh at them, you know, because they did certain things. You know they’d think "oh that’s, that’s ridiculous, we don’t need to put on gloves for that”<sup>694</sup>

These memories suggest that those men who did utilise safety equipment were emasculated by doing so. Macho attitudes to the introduction of protective clothing are evident in other oral testimony too. Thomas Stewart, a shipbuilding employee during

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<sup>693</sup> Johnston & McIvor, ‘Dangerous Work, Hard Men and Broken Bodies’, p.144.

<sup>813</sup> Johnston & McIvor, *Lethal Work*, p.81.

<sup>694</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.40. <sup>815</sup> Thomas Stewart, interview Date: 10 June 1996; 2000 Glasgow Lives Project held at Glasgow Museums Resource Centre.

the Second World War, recalled the attitudes of the Clydeside shipbuilding workforce to American workers during the war:

...it was during the war, the American forces came into the shipyard I was in and started to build floating cranes, and to see these workers walking about with heavy boots, helmets on and gloves, everyone...you would scoff at them working with gloves...you would....daft!!<sup>815</sup>

Clearly, these Americans were seen as soft by this interviewee. Many Clydeside workers viewed protective clothing as an insult to their masculinity - these were hard men inured to tough working conditions in Scottish heavy industry, and would prove their manliness by neglecting safety equipment and protective clothing. Robb comments on men emphasising risk taking behaviours, arguing that 'such actions could be seen as attempts ... to maintain a masculine identity which could be partially based on their brave actions despite their obvious separation from the masculine ideal.'<sup>695</sup> This supports the view put forward by this thesis that men took more and greater risks in wartime as both a source of pride and in order to reaffirm masculine identities, as well as to boost production.

Women also succumbed to accidents in similar ways, for the female worker similar accidents often occurred as a result of vanity and attempts to preserve their femininity. Cathy Wilson, a munitions worker, was supplied with work boots but did not wear them:

That job on the bogies, you had to wear big heavy boots, like men's boots, and socks. Well, I'll tell you, I don't suppose I'd get into any bother now, but I wouldn't wear

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<sup>695</sup> L. Robb, 'Fighting in their Ways?: The Working Man in British Culture 1939-1945.' (Unpublished PhD Thesis) University of Strathclyde, 2012, p.84.

the boots, but it was for your own safety. But I wasn't going about with those big heavy boots on.<sup>696</sup>

Gender identities influenced women's attitudes towards protection as well as men. Cathy Wilson neglected to wear safety boots in order to preserve her femininity, in a similar way to which men refused to wear protective clothing in efforts to protect their masculinity. The safety officers reports from the Clyde Shipbuilders' Association commented on women wearing unsuitable footwear. The safety officer from Blythswood shipyard had had to 'reprimand women working on board vessels for wearing high heeled footwear.'<sup>697</sup> Femininity can essentially be defined as the opposite to masculinity. For example, where masculine men were regarded as being emotionally reticent, feminine women were regarded as emotionally open. Whitehead and Barrett have defined masculinity in opposition to femininity, although this definition can also work in reverse:

The nearest that we can get to an 'answer' is to state that masculinities [or femininities] are those behaviours, languages and practises, existing in specific cultural and organisation locations, which are commonly associated with males [or females] and thus culturally defined as not feminine [or masculine]. So masculinities [or femininities] exist as both a positive inasmuch as they offer some means of identity signification for males [or females], and as a negative, inasmuch as they are not the 'Other' (feminine) [or, for the reverse, masculine].<sup>698</sup>

Summerfield has argued that propaganda and advertisements in the press encouraged women to strive to maintain their femininity, and that women were 'constantly reminded of the need to preserve some aspects of the peace-time norms of femininity,

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<sup>696</sup> Cathy Wilson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.3.

<sup>697</sup> TD241/12/159 *Clyde Shipbuilders Association; Safety Officers Reports, Part 2. 29 September 1943.*

<sup>698</sup> S.M. Whitehead, & F.J. Barrett, *The Masculinities Reader* (London: Polity Press, 2001), p.15. <sup>820</sup> Summerfield, *Reconstructing Women's Wartime Lives*, p.81.

even while they deviated from traditional gender roles.<sup>1820</sup> This is evidenced in the 'Beauty is a Duty' campaign and the many posters, newsreels and adverts produced as part of this (as noted below).



Illustration 4.1

Clearly this advertisement encouraged women to maintain their femininity, to remain beautiful while working in a more masculine environment. Indeed, the fact that the woman pictured was also in the WAAF and was shown in full time service uniform serves to reinforce this. The pre-occupation with women maintaining their femininity despite being employed on war work is also evident in other newspaper advertisements. For example, one advert published in *The Post* in October 1943 urged women that 'Whatever your war work your complexion will look its dainty best with just a protective film of Dubarry Face Powder.'<sup>699</sup> Once more encouraging women to

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<sup>699</sup> Illustration 4.1: *The Post*, 10th October 1943, ([www.britishnewspaperarchive.co.uk](http://www.britishnewspaperarchive.co.uk)), 7.6.13.

remain feminine, emphasised by the use of words such as 'dainty'. The Factory Inspectors Report of 1942 also provides examples of accidents occurring to women who wore gloves to protect their hands and nails, while the 1944 Report mentioned accidents to females resulting from their reluctance to wear protective clothing such as caps to keep long hair from becoming entangled in machinery.<sup>700</sup> In fact, the 1941 Report illustrates how common such accidents were, for example in 1941 there were 179 accidents due to hair becoming entangled in moving machinery.<sup>701</sup> Both of these examples seem to suggest a certain kind of vanity, women wearing gloves in order to protect hands and nails, and being reluctant to cover long hair under caps. Noakes commented on this type of behaviour stating 'there was a perceived need to perpetuate [traditional gender roles], in order that the social upheaval of total war should not be too great.'<sup>702</sup> Workers themselves have agency, and this often has different motivations, Shilling comments that 'exclusive gender identities are based on the suppression of bodily similarities and the exaggeration of bodily differences'<sup>703</sup>, indeed in this instance women are being encourage to demonstrate such bodily differences, in order to remain feminine. Women failing to wear protective clothing and equipment for reasons of vanity and in an attempt to preserve their femininity in a masculine working environment contrasts with male workers neglecting to follow correct safety procedures and wear protective clothing in order to assert their masculinity. Therefore, how the body is managed, for example agency and methods of exposing or protecting

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<sup>700</sup> *Annual Report of the Chief Inspector of Factories, PP 1942* (Cmd.6471), p.7; *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.9.

<sup>701</sup> *Annual Report of the Chief Inspector of Factories, PP 1941* (Cmd.6397), p.6.

<sup>702</sup> L. Noakes, *War and the British: Gender, Memory and National Identity*. (London:1B Taurus Publishers,1998) p.51.

<sup>703</sup> C., Shilling, *The Body and Social Theory* (London: Sage Publications, 2003) p.95.

it from risk, helps to maintain social roles, such as masculinity and femininity, therefore agency or 'how the body is managed' in this case aided the preservation of traditional social roles for men and women.<sup>704</sup> Evidence has demonstrated workers of both sexes

failing to utilise protective clothing in order to preserve traditional gender roles.

Conversely, in America during the war Hepler has argued that women were more receptive to safety regulations and stated that 'many supervisors noted that women followed health and safety regulations "more scrupulously" than men.' This article also provides evidence of women cutting their hair short to prevent it becoming caught in machinery and demanding suitable footwear.<sup>705</sup> In addition, the Report of the Chief Inspector of Factories in the UK noted that women were after a while, less prone to accidents than men, noting 'that women, after a period of special liability to cuts and bruises in the breaking in stages, are, for work within their strength, neater, tidier, and therefore safer workers than most men.'<sup>706</sup> Women's primary identities as wives and mothers may account for their greater concern with health and safety. The fact that they traditionally occupied the role of care-giver may have stimulated them to attach a higher degree of importance to health and safety issues in the workplace. However, it is important to consider differences within groups of women. Summerfield, for example, has defined women as either heroic or stoic. Heroic women being those who actively sought out more dangerous and masculine jobs and took great pride in their work, such as Ann, who trained as an electrician and recalled that 'you really felt, you

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<sup>704</sup> Shilling, *The Body and Social Theory*, p.66.

<sup>705</sup> Hepler, "And We Want Steel Toes Like the Men", pp.697-8.

<sup>706</sup> *Annual Report of the Chief Inspector of Factories, PP 1941 (Cmd.6397)*, p.6.

<sup>829</sup> Summerfield, *Reconstructing Women's Wartime Lives*, p.86.

really felt just so proud to be able to do this.<sup>707</sup> Conversely, stoic women were more likely to remain within traditional women's work and avoid personal risk. One such example is Evelyn Mill who stated that 'I was very sorry to have to leave there [her peace-time employment] when I was called up.'<sup>707</sup> Clearly, those defined as stoic women by Summerfield were more reluctant to undertake war work. Therefore, it is important to remain aware of the differing attitudes towards wartime employment and risk among women, as with men.<sup>708</sup>

The expectation that safety would improve with women's entry into the workplace is likely to have stemmed from the fact that women now were found in a wider range of manufacturing jobs and undoubtedly exposed to greater risk in the process. Moreover, traditionally women had been the recipients of greater state control over working hours and conditions, so perhaps this attitude is a continuation of pre-war practices, where a patriarchal state took greater concern over the female body in employment than the male. For example, the 1937 Factory Act introduced the forty-eight hour week as the maximum for both females and young people, while there was no legal maximum number of hours per week for male workers.

Whilst Johnston and McIvor suggest that a culture of risk existed within Scottish heavy industry before 1974, David Walker provides an alternative argument.<sup>709</sup> He posits that risk was forced upon workers by employers, arguing that the need to fulfil the male role of 'breadwinner' induced workers to ignore risks.

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<sup>707</sup> Summerfield, *Reconstructing Women's Wartime Lives*, p.92.

<sup>708</sup> See S. Rose., "Temperate Heroes: Masculinities in Wartime Britain," in Dudink, Hagemann, and Tosh, *Masculinity at War and in Peace* for more on this.

<sup>709</sup> Johnston & McIvor, 'Dangerous Work, Hard Men and Broken Bodies'; D. Walker, 'Danger was a thing that ye were brought up wi': Workers narratives on occupational health and safety in the workplace.' *Scottish Labour History*, Vol.46, 2011, pp.54-66.

Working men, he argues, accepted the fact that work equated with danger. Therefore, he argues against a machismo culture in which men took risks intentionally, and instead posits that risk was accepted as part of the job, that the workforce did not make a deliberate choice to neglect health and safety, but rather, that they were presented with no other alternatives. Essentially adopting a Marxist viewpoint, critical of the role of both employers and the state, Walker argues that workers had little choice but to sell their labour power despite the dangerous nature of work.<sup>710</sup> However, it was not only male workers who toiled in risky and dangerous environments, women too faced danger daily at work. A similar argument to Walkers is presented by Abendstern (et al.) who have demonstrated that such a work culture existed amongst female cotton workers in England between 1930 and 1970.<sup>711</sup> They suggest that a culture of risk-taking was evident amongst women in the cotton industry and that 'it was deeply embedded in the customs and norms of mill life, that it was closely related to the piecework system, and that it was just as powerful for women as for men, despite the different nature of male and female identity.'<sup>712</sup> This article demonstrates that women ignored risks and continued to clean moving machinery, even though it had been outlawed and the dangers of doing so were wellknown. This illustrates that it was not only male dominated heavy industries which were imbued with a culture of risk. However, while Johnston and McIvor argue that male workers in Scottish heavy industries primarily took risks as a means to demonstrate their masculinity, they also argue that risk taking culture was encouraged by the piecework methods of payment,

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<sup>710</sup> Walker, '“Danger was a thing that ye were brought up wi’', pp.54-66.

<sup>711</sup> M. Abendstern, C. Hallett, & L. Wade, 'Flouting the Law: Women and the Hazards of Cleaning Moving Machinery in the Cotton Industry, 1930-1970' *Oral History*, Vol.33, No.2, Autumn 2005, pp.69-78.

<sup>712</sup> Abendstern, Hallett & Wade 'Flouting the Law', pp.69-70.

which were common on Clydeside during and prior to the Second World War. This could also be seen as the employer forcing risk onto the workers, as Walker argues. Johnston and McIvor locate this risk culture within a wider framework of capitalist exploitation, noting synergies between class and gender.<sup>713</sup> Abendstern (et al.) conclude that the risks women took in cleaning moving machinery 'were a part of daily life and...they were tolerated because of peer pressure and managerial expectations.'<sup>714</sup> Therefore, although acknowledging that a risk culture existed amongst female employees in the cotton industry, Abendstern (et al.) also illustrate that this culture was encouraged by both managerial expectations and the wage systems which were in operation in the mills.

Accident frequency was increased by the growing use of piece work and bonus methods of payment, which encouraged the workforce to speed up production.

The minute books of the Clyde Shipbuilders' Association commented on this: 'At one establishment where the contract system has been introduced on staggers work there has been a considerable increase in accidents, and the men had attributed this to the speed with which they were induced to work when employed on piece-rate.'<sup>715</sup> It is important to note, however, that piece work and bonus payments were common wage systems prior to the outbreak of the Second World War and were widely accepted and often preferred by workers. However, this led to an intensification of the work process and could result in exhaustion, which Waldron has demonstrated could lead to increased

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<sup>713</sup> Johnson & McIvor, 'Dangerous Work, Hard Men and Broken Bodies', p.189.

<sup>714</sup> Abendstern, Hallett & Wade, 'Flouting the Law', p.77.

<sup>715</sup> TD241/1/25 *Clyde Shipbuilders Association; Minute Book No.29 'Special General Meeting 18 June 1942.*

accident rates.<sup>716</sup> Harry McGregor, an apprentice engineer who worked on a piece rate payments system, acknowledged that such methods of payment encouraged workers to cut corners: 'Well, you're way behind on piecework, you know, so you took [cut] corners, you know, to make up there... And you cut corners to get money, you know.'<sup>717</sup> Willie Dewar noted the occurrence of this too and that 'time was bonus to these men so that they didn't want to use these things [safety equipment]'<sup>718</sup> Payments by results or piecework was a common method of payment across various industries.

Wartime coal miner George Devanne recalled:

We were out for money. Every man's working for money. Now, at times we maybe done something ourselves that we shouldnae have done...Well, we're maybe going out our way to make it quicker. You know, you're cutting corners. That was it.<sup>719</sup>

Another retired miner, Bobby Strachan, also recalled taking shortcuts in order to improve wages. When discussing the role of the Mines Inspectors in the pits he stated that 'It was stupid things they picked on. I mean, things that everybody kent you should be doing but lots of folk took short cuts. They picked on they things. The men was only trying to make money.'<sup>720</sup> His statement suggests that the workforce were aware of safe and proper working practices but in effect, chose to neglect them in favour of maximizing earnings. Moreover, the miner quoted above, Bobby Strachan, also cites an example of one of his colleagues taking risks, because 'time is money'.<sup>721</sup> So workers were motivated to take risks in order to boost productivity and

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<sup>716</sup> Waldron, 'Occupational Health During the Second World War', pp.203-5.

<sup>717</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.35.

<sup>718</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.37.

<sup>719</sup> George Devanne, interviewed by R. Johnston, 29 June 2000 (SOHC/017/C6), pp.9-10.

<sup>720</sup> Bobby Strachan, interviewed by R. Johnston, 5 July 2000 (SOHC/017/C11), p.5.

<sup>721</sup> Bobby Strachan, interviewed by R. Johnston, 5 July 2000 (SOHC/017/C11), pp.6-7.

<sup>845</sup> Shilling, *The Body and Society*, p.81.

pay, Shilling has commented that 'Goffman paints a picture of individuals as actors seeking to advance their own interests by staging appropriate performances which are threatened constantly by the possibility of embarrassment of failure.'<sup>845</sup> In this case agency manifests itself in workers ignoring risks and safety procedures and equipment in order to maximize earnings - a performance which will (if successful) increase their earnings (their own interests). This evidence emphasises the point that workers cut corners and took risks in efforts to raise their earnings. However, this is a contentious point to make because the speed up of the work process, encouraged by the use of piece-work methods of payment, demonstrated here through oral testimony, was an employer led strategy. Clearly, then by favouring such wage systems, employers played a significant role in the increased numbers of accidents. Workers ability to protect themselves from risk at work was, to an extent, constrained by wage systems.

The attitudes of the workforce to risk are demonstrated in much of the oral testimony examined. Harry McGregor, when asked whether the workforce ever thought about any methods to protect themselves from hazards, answered 'Not really, no. Just carried on.' Moreover, when questioned further about attitudes to safety he replied that 'there were no attitudes towards it.'<sup>722</sup> This seems to suggest that safety was something of a non-issue in this period, clearly where safety equipment was not provided, this was simply accepted. This blasé attitude towards safety is evident in the testimony of Glasgow munitions worker Bernard Murray, who, when questioned on the kinds of hazards encountered on a daily basis at work replied 'I don't

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<sup>722</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.28.

think...eh...you didn't seem to think about it as such, you just kept your eyes open, you know, being sensible about things, as such.'<sup>723</sup> This statement also suggests that the onus for ensuring a safe working environment remained upon the worker. Moreover, when questioned about hazards at work, William McMaster, an employee of Clyde Alloy, a metal works in Lanarkshire, stated that 'They were all caused by us!! All the hazards was caused by us!'<sup>724</sup> This demonstrates an awareness amongst the workforce of their own ability to create hazards and cause accidents. This may, however, also be indicative of employers propensity to blame the worker for accidents.

Indeed, Johnston and McIvor have argued that there existed a long tradition of employers blaming the worker for accidents. Examples illustrating this argument can be found in oral testimony. Some workers, when recalling accidents which happened to colleagues, appear to exhibit this same tendency. Margaret McLaughlan, an employee of ICI recalled an accident occurring to a fellow worker on the cordite:

Bridie, she was in it, and she got the top of her fingers off. She was that anxious to get her work done that instead of....you're supposed to have one at each side of the table, and she was that busy trying to...she put her hand up to take the other handle and she took off the tops of her fingers...<sup>725</sup>

The interviewee clearly places the responsibility for the accident on the injured worker, it was her fault because '*she* was that anxious' and '*she* took off the tops of her fingers.'<sup>726</sup> Workers flouted correct safety procedure when cleaning machinery. One female iron foundry worker recalled an accident occurring to one of her workmates, a

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<sup>723</sup> Bernard Murray, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/12), p.6.

<sup>724</sup> William McMaster, interviewed by Nicola Graham, 5 September 2012 (SOHC/051/15), p.13.

<sup>725</sup> Margaret McLaughlan, interviewed by Patricia Williams, October 1998 (SOHC/015), p.1.

<sup>726</sup> Margaret McLaughlan, interviewed by Patricia Williams, October 1998 (SOHC/015), p.1.

<sup>851</sup> E. B (anonymous female respondent), interviewed by Nicola Graham, 19 June 2012 (SOHC/051/9), p.4.

direct result of cleaning moving machinery and that in one place 'where it was all machinery, there was a woman, that she was cleaning her machine with a wee brush, you know, that you get. And your cleaning you machine, and eh...she hadn't put the thing off, and she got...she lost her hand.'<sup>751</sup> This interviewee clearly places the blame for the accident upon the worker, evident in the way she says '*she lost her hand*', while later in her testimony she stated 'I mean...it was her own fault, ken she had...big notice up saying "machines off if you're cleaning it."<sup>727</sup> However, it is also important to bear in mind that managerial pressure to speed up the work process may have constrained worker agency, additionally the speed up may also have been encouraged by economic incentives. The attitudes of the workforce to accidents, blaming the injured worker, fails to acknowledge the role of underlying systems which condoned this. However, the language and tone used by interviewees clearly demonstrates that they themselves often blamed the injured worker for the accident. Shipyard worker, James McFadzean's memories also highlight the propensity to 'blame the victim'. He recalled an accident occurring involving a turning lathe which was unguarded, the young apprentices were playing hide and seek on their lunch break and one of them ran into the lathe and that 'he caught it with his...On his side. And it turned him over and over, and the man who was working the machine shouted: "I told you ya bugger! To not run round that machine"<sup>728</sup> Despite the fact that the lathe was not equipped with any fencing or guards, James McFadzean still attributed the blame for the accident with the injured worker. *The Glasgow Herald* commented on younger workers putting

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<sup>727</sup> E. B (anonymous female respondent), interviewed by Nicola Graham, 19 June 2012 (SOHC/051/9), p.6.

<sup>728</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.6.

themselves at risk by 'skylarking and other irregular conduct.'<sup>729</sup> This attitude is also evident in the Factory Inspectors Reports which noted that often accidents were caused by workers, particularly young boys, larking around and carrying on.<sup>730</sup> Willie Dewar reflects on this in his testimony, recalling:

...I know myself we used to lark around a wee bit in doing the frames. And one of the fellows, we used to vault over the... And they were lying, and the frames were lying on a trestle. You used to vault over them. Well, if he did it so can I and so you would do it. So at this time it was the tender frame but it had two big oval holes in them and once they're machined they're like razor edge, you know. And this fellow was taller than me and he vaulted over it and I tried once or twice but, and I was up in mid air, I lost heart and I came down and my knee hit the corner of the opening and cut my knee. So I had to go to the ambulance man.<sup>731</sup>

This is interesting and links to Johnston and McIvor's suggestion that there was a long tradition of employers blaming the worker for any accidents. This research has demonstrated that this attitude, of assigning responsibility to the worker, was also common among the workforce.

### Accidents & Memory

Accidents were a common occurrence, and are a recurring theme in oral testimony from workers of varying industries because they often were horrific and traumatic and so interviewees' were more likely to remember them. Abrams notes that 'narrative is a way of making sense of experience.'<sup>732</sup> This may account for the recurrence of

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<sup>729</sup> *The Glasgow Herald*, August 23th 1943, p.3.

<sup>730</sup> *Annual Report of the Chief Inspector of Factories, PP 1946* (Cmd.7299), p.10.

<sup>731</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.35.

<sup>732</sup> Abrams, *Oral History Theory*, p.121.

<sup>858</sup> Abrams, *Oral History Theory*, p.88.

memories involving accidents. In remembering events and constructing narratives interviewee's are trying to make sense of traumatic experiences they encountered. Additionally, the reasons why memories of accidents were so often recalled by interviewees may simply be because people remember what is important to them. Abrams, discussing memory and remembering, notes that 'The more emotion an event arouses in the present, the more likely a person is to recall the central details of the event.'<sup>858</sup> This provides an explanation as to why interviewees' recalled serious accidents so vividly. William McMaster, an employee at Clyde Alloy, an iron and steel works in Lanarkshire during the war years, recalled witnessing a fatal accident, and that while it was a serious accident 'there wasn't a big cry about it. But I think they were all brain dead at that time, you know!(laughs)

They couldn't care less...If it happens it happens. '<sup>733</sup> This suggests that even fatal accidents were accepted as a fact of life in heavy industry on Clydeside during the Second World War.

Accidents feature in the majority of the oral testimony gathered and examined as evidence. Willie Dewar, an employee of North British Locomotive in Springburn during the war, commented that 'People going on to grinding machines and putting the job against the grinding machine the wrong way and the stone breaking and the thing came back. Some were hit in the face, some were killed, some fell down pits, you know.'<sup>734</sup> The fact remains that accidents were a common occurrence in many industries on Clydeside and as Willie Dewar noted 'there was never a time when there

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<sup>733</sup> William McMaster, interviewed by Nicola Graham, 5 September 2012 (SOHC/051/15), p.17.

<sup>734</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.35.

wasn't somebody hurt somewhere or other.'<sup>735</sup> This is further indicated in the casual way in which accidents and the frequency with which they occurred are referred to in oral testimony. For example, Harry McGregor, who also worked for North British Locomotive in Springburn stated that 'There were quite a few accidents. You know people got killed in there.'<sup>736</sup> Moreover, when questioned about whether he ever witnessed any accidents, miner Robert Scobie replied: 'We just thought nothing of it, that was the way of work.'<sup>863</sup> It appears this attitude was also evident in the shipbuilding industry. James McFadzean also commented on the occurrence of accidents and that 'it was just, it was part of the job. We just accepted it.'<sup>737</sup> Harry McGregor, an apprentice engineer during the war reflected that 'you never thought anything about it really...just worked away and that was it.'<sup>738</sup> High levels of risk were accepted as part of the nature of employment in many industries on Clydeside during the Second World War. Moreover, this also indicates that output was the priority. Abrams states that: 'there is much evidence to show that many trauma survivors recount their experiences 'matter-of-factly' without much emotion.'<sup>739</sup> In this instance, the trauma Abrams is referring to is that endured by Holocaust survivors, however it is also applicable here because witnessing serious and fatal accidents occurring to workmates can also be considered a traumatic experience in an individual's life.

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<sup>735</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.36.

<sup>736</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.30.

<sup>863</sup> Robert Scobie, interviewed by Nicola Graham 19 June (SOHC/051/10), p.5.

<sup>737</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.20.

<sup>738</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.34.

<sup>739</sup> Abrams, *Oral History Theory*, p.94.

Similar attitudes were also evident among coal miners. These men were employed in an industry with a consistently high accident rate, and their testimonies often indicated the frequency with which accidents occurred. Miners were socialized to a high degree of risk in their work, and were brought up not to show their emotions as this was a sign of weakness. This is evident in the way in which serious accidents are recalled. One retired Lanarkshire miner recalled an accident in which a young boy lost his life: ‘...eh...and I mind he got killed in the pit...so here, he died anyway.’<sup>740</sup> The matter of fact attitude is exhibited in the way interviewees gloss over the occurrence of such serious accidents, offering the interviewer no more details about how or why they occurred in the first place. Another female employee of ICI at Ardeer, Isabella Henderson, recalled a serious explosion which killed some of the female workforce (she is not clear on how many). When asked what happened, she replied ‘oh the place rattled...It was a big explosion.’ The interviewee only offers a brief account of this accident. However, she does acknowledge that it frightened both her and her sister. After the explosion, her sister refused to return to work in the factory while she herself admitted that ‘I was really frightened up there, because there had been four girls killed.’<sup>741</sup> Despite this admission of fear, later in her testimony she stated ‘but you never thought of getting killed, you wouldn’t have went, not at all.’<sup>742</sup> This interviewee provides an example of what Summerfield would term a ‘stoic’ woman.<sup>743</sup> It seems like this interviewee did not seek out dangerous war work. Instead, she acknowledged the risks inherent in her wartime employment, but, although expressing feelings of fear

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<sup>740</sup> George Devenne, interviewed by R. Johnston, 29 June 2000 (SOHC/017/C6), p.19.

<sup>741</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998 (SOHC/015), pp.8-9.

<sup>742</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.14.

<sup>743</sup> Summerfield, *Reconstructing Women's Wartime Lives*, pp.82-105.

after hearing the news of the deaths of four female colleagues, she also commented that 'you never thought of getting killed'.

A further example of this nonchalance can be found in the testimony of some of the female ICI employees, indicating that this attitude towards serious accidents was not gender specific. When asked if there were any explosions, Elizabeth Gibb, an ICI employee noted that 'There was one where four lassies were killed' and after further prompting added that 'a hut blew up...but you're not thinking about things like that. Lassies worked with explosives.'<sup>744</sup> Accidents of this nature were expected because of the materials the women were working with. The fact that this interviewee, who was employed in dangerous wartime work, was not articulating feelings of fear when recalling this accident, and was in fact downplaying the danger, provides an example of what Summerfield has termed a 'heroic' woman.<sup>745</sup>

Clearly accidents were a feature of life in industry on Clydeside during the Second World War and memories of accidents feature heavily in much of the oral testimony gathered. Willie Dewar states:

...but these are the things, and there was quite a number of accidents and fatalities as well. Jobs coming off the chuck...And hitting the man, and a man falling down and hitting his head and such. Like that's happened in all works...There, so there was quite a few accidents. Yes, some quite serious. Some people killed, such as the slinger killed, and there were other people killed as well.<sup>746</sup>

This demonstrates the frequency with which serious accidents occurred in heavy engineering. Moreover, the detached tone used and the list of accidents indicate that

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<sup>744</sup> Elizabeth Gibb, interviewed by Patricia Williams, December 1998 (SOHC/015), pp.6-7.

<sup>745</sup> Summerfield, *Reconstructing Women's Wartime Lives*, p.104.

<sup>746</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.36.

these were not viewed as shocking isolated incidents by the interviewee. It is possible that these memories are being narrated in order to emphasise the idea that work on the home front was just as risky to life and limb as life in the armed forces.

### Nostalgia and Memory

When utilising oral testimony it is important to remain aware of the ability of the present to distort the past. Memories of the past are refracted through the prism of the present. Therefore, contemporary norms are likely to influence understanding. In this case it appears that the importance attached to workplace health and safety issues in the present day has influenced how some interviewees think about and remember conditions in the past. Harry McGregor, an apprentice engineer in North British Locomotive in Springburn stated that 'But there was always accidents in those days with the machines, you know. They're not the same as today, you know.'<sup>747</sup> The contrast between occupational health and safety in the past compared to the present day is something which many interviewees have drawn attention to. Willie Dewar, discussing protective clothing, stated that 'nowadays you're forced to do that. [to wear protective clothing].'<sup>748</sup> Apprentice engineer Harry McGregor, drew comparisons between the levels of safety equipment provided nowadays and during the war years and noted that 'now you get supplied with everything, safety glasses, you know, everything like that. A pair of tackity boots that's us, that's what we had.'<sup>749</sup> Textile worker Duncan Murray noted a lack of guards and fencing of machinery and

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<sup>747</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.34.

<sup>748</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), pp.39-40.

<sup>749</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.28. <sup>877</sup> Interview with Duncan Murray, Interviewed by Ian McDougall, 22.11.98; Scottish Working People's History Trust; Archived at the SOHC at the University of Strathclyde, p.60.

commented that it was 'no' the same as it is now.<sup>877</sup> The repetition of this phrase impresses upon the interviewer how difficult working conditions were during the Second World War, emphasising the fact that conditions nowadays are much better. The frequency with which the difference in conditions is referred to implies that interviewees were keen to impress upon the interviewer how different the situation regarding safety at work was.

Interviewees frequently drew comparisons between past and present-day occupational health and safety standards. Recalling an accident which befell him whilst working as a miner during the Second World War, for which he had to seek medical attention on his own, Robert Scobie stated of employers 'They got away with it...I don't know why. They don't get away with it in this day....No...No.'<sup>750</sup> This statement clearly illustrates the gulf between safety and first-aid provision in the workplace during the war years compared with nowadays. Additionally, it suggests that it was easier in the past for employers to neglect workplace safety issues. This contrast is often mentioned in oral testimony, suggesting a 'bad old days' discourse among interviewees. The present has an ability to affect how the past is viewed, therefore, it is possible that the importance attached to safety and first-aid provision in the modern day workplace is being projected onto how interviewees recalled their own past experiences.

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<sup>750</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.7.

## Conclusion

Evidence tends to suggest a mixed picture with regard to accidents and safety on Clydeside during the Second World War. Accident rates rose, and appear to have been directly linked to the war effort, as they began to decline when the demand for production eased in 1943. Figures clearly show a decline followed by some amelioration in accident rates. It appears that there were multiple reasons for the increased wartime accident rate. More workers, many of whom were inexperienced or aged, were to be found in the most dangerous of industries, while the increase in the number of hours worked put workers at risk of accidents for longer periods of time. Additionally, the increased pace of production for the war effort, encouraged by payments by results wage systems also contributed. Moreover, the blackout restricted heat, ventilation and light, which has also been shown to have had a negative effect on accident rates. With regard to safety equipment and first aid, it appears that the situation was rather mixed and there were wide variations between industries. However, there were some improvements in the provision of protective clothing and first-aid facilities, although these were patchy and much varied according to industry, firm size and whether the firm was publically or privately owned. Finally, it is interesting to see the ways in which interviewees recalled their experiences with regard to accidents and safety equipment. A casual attitude towards both accidents and protective clothing was common, which suggests that accidents were accepted as a fact of life in the industries of Clydeside, by both men and women and that both men and women were guilty of neglecting safety equipment in order to preserve traditional gender roles. This research adds to the debate regarding masculinity in heavy industry, noting the existence of 'macho' attitudes, as well as that risk was reconfigured in wartime. Men employed in

industry took more and greater risks in order to assert their masculinity at a time where the dominant model of masculinity was the military man. The analysis here further adds to the existing debate on female attitudes to workplace health and safety, illustrating that women also took risks and neglected protective clothing, often motivated by a desire to retain their femininity.

### **Chapter Five: Retarding Progress? Occupational Health in Wartime**

It is difficult to determine whether industrial disease increased during the war for multiple reasons, but primarily because it was difficult to determine whether some diseases were a direct result of the working environment. In addition, some industrial diseases have long latency periods (notably industrial cancers), therefore symptoms

would only manifest in the body years later.<sup>751</sup> Moreover, traditionally industrial health has been given a lower priority than accidents and working conditions thus data collection was less systematic.<sup>752</sup> Indeed, McIvor has also noted this gap in literature and only more recently has workplace health been the subject of systematic study.<sup>753</sup> This chapter will address occupational health across a range of Clydeside industries during the Second World War. It will analyse the difficulties in diagnosing industrial disease and obtaining compensation. It will also analyse the increased dangers at work during wartime and determine whether the risk of occupational illhealth was increased. In addition, it will consider worker attitudes to health and risk, both long term and short term, as well as examining differences in attitude, behaviour and levels of risk according to gender. In particular it will analyse whether the unwritten rules of masculinity and risk-taking had any impact upon health. It will also consider variations in occupational health according to industry, region and firm size. Finally, it will attempt to uncover whether workers were aware of risks to health posed by their working environment and consider whether they were adequately protected against occupational hazards.

As discussed in chapter three, the regulations concerning industrial health and conditions in factories were laid out in the 1937 Factory Act. In terms of industrial health this Act extended statutory medical inspection from the most dangerous trades

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<sup>751</sup> Perhaps the most well known industrial cancer with a long latency period is mesothelioma, Johnston & McIvor discuss this in *Lethal Work*, p.23 and Tweedale in *Magic Mineral to Killer Dust*; Pneumoconiosis also has a long latency period, as discussed in McIvor & Johnston *Miner's Lung* & Perchard, *The Mine Management Professions*.

<sup>752</sup> This is evident from the fact that Workmen's Compensation originally only provided for accidents, it was extended in 1906, although even then it only included six industrial diseases; lead, mercury, phosphorous and arsenic poisoning; anthrax and ankylostomiasis.

<sup>753</sup> McIvor, *A History of Work In Britain*, p.111; Jenkinson, *Scotland's Health*; Long, *The Rise and Fall of the Healthy Factory*; as well as the increasing interest in specific occupational diseases e.g; McIvor & Johnston, *Miner's Lung*; Tweedale, *Magic Mineral to Killer Dust*.

to 'any workplace where the Secretary of State deemed illness might be due to the nature of the work.'<sup>754</sup> Although vague, the passage of this Act was a great improvement in terms of occupational health, safety and welfare. McIvor states 'this significantly extended the 1901 Factory Act and increased somewhat the role of preventative medicine in industry.'<sup>755</sup> In addition to the 1937 Factory Act, other regulations pertaining to industrial health were the Workmen's Compensation Act (which defined the list of 'officially recognised' industrial diseases for compensation purposes), the 'special regulations' passed by the Home Office and the Emergency Orders passed by Bevin in his role as Minister for Labour, particularly the 1940 Factories (Medical and Welfare Services) Order. McIvor argues that Bevin played an important role with regards to occupational health and safety by 'cajoling and forcing employers, under threat of removal of their Essential Works Order'<sup>756</sup>, to improve company medical and welfare provision.<sup>885</sup> The impact and effectiveness of such measures on the ground in Clydeside will be analysed in this chapter.

During the Second World War the number of workers exposed to dangerous materials likely to have a negative impact upon health increased dramatically. This was a result of the expansion of the labour force. Moreover, due to the demands of war, women and young people were now exposed to such dangers, many for the first time. Additionally, the use of toxic and dangerous chemicals and minerals such as asbestos increased during the war.<sup>757</sup> The numbers employed in the chemicals and allied

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<sup>754</sup> McIvor, *A History of Work in Britain*, p.133.

<sup>755</sup> McIvor, *A History of Work in Britain*, p.135.

<sup>756</sup> The Essential Works Order, introduced in March 1941 required all skilled workers to register, the Ministry of Labour was then able to prevent them leaving jobs designated as essential. <sup>885</sup> McIvor, *A History of Work in Britain*, p.167.

<sup>757</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), pp.41-2.; Johnston & McIvor, *Lethal Work*, p10, 141.

industries, which rose by 107.9% between 1938 and 1942, illustrates this increase in the number of people at risk.<sup>758</sup> Production of dangerous chemicals also increased, for example production of nitric acid increased by 49.6% between 1941 and 1943.<sup>759</sup> Therefore, because of the increased labour force, the concentration of that labour force in the more dangerous industries, and the increased use of toxic and dangerous substances, greater numbers of the working population were now exposed to occupational hazards for longer periods of time. There are a vast number of occupational diseases and disorders. Some, such as industrial cancers, are life threatening, and others, such as dermatitis are less serious. Due to the limits of space, not every occupational illness can be analysed here. However, those most common on Clydeside during the war years will be examined, along with the reaction to them from workers as well as any preventative measures introduced to counteract them. Some of the occupational health problems this chapter will address are: noise induced hearing loss, dermatitis, industrial cancers, pneumoconiosis and chemical poisoning such as toxic jaundice.

A further factor contributing to the increased occupational health risks was the fact that during wartime a number of previously banned substances were reintroduced. Waldron points out 'the exigencies of war required that some substances banned in peacetime had to be used again; for example, benzene was once more introduced into the munitions industry.'<sup>760</sup> An article published in the *British Journal of Industrial Medicine* serves to further illuminate this point, as well as demonstrating that such

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<sup>758</sup> Howlett, *Fighting with Figures*, p.38. (figures given are for U.K.).

<sup>759</sup> Howlett, *Fighting with Figures*, p.134. (Again, figures given are for U.K.).

<sup>760</sup> Waldron, 'Occupational Health During the Second World War', p.202.

relaxations in safety precautions did not go unnoticed during the war. It stated ‘the outbreak of war, with the huge demand for aircraft and diversion of toluene to the manufacture of explosives, necessitated a slight relaxation of the high standard of protection from benzene.’<sup>761</sup> Additionally, in the Annual Report of the Chief Inspector of Factories for the year 1943, Merewether, H.M Senior Medical Inspector of Factories, noted that ‘owing to pressure of war conditions, definitely toxic solvents have been substituted unwittingly for relatively less toxic solvents without seeking advice or strengthening of preventative measures, and cases of poisoning have followed.’<sup>891</sup> This is an important point, particularly when considering the role of the state in improving industrial health. By lifting the ban on such dangerous substances, the state appears to have been prioritising the war effort over the health of the workforce. It is significant that dangerous substances such as asbestos and benzene were regulated rather than banned, and this action, or inaction, by the state ensured that sources of disease remained present. Historically, this was a common course of action for the state. For example, in 19th century matchmaking, phosphorous poisoning was common amongst the workforce, yet the state failed to ban the more dangerous white phosphorous in favour of the red safety match because of its unpopularity.<sup>762</sup> Another example of the state regulating rather than banning dangerous substances can be found in the cotton industry, where scrotal cancer was common amongst male cotton spinners. It was found in the 1920s that the source of this disease was the oil used to lubricate the spindles, yet once more this

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<sup>761</sup> ‘Benzene’ *British Journal of Industrial Medicine*, Vol.I, No.4, October 1944, p.254.

<sup>891</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563), pp.41-2.

<sup>762</sup> A.S. Wohl, *Endangered Lives; Public Health in Victorian Britain* (London: Methuen, 1982), p.268.

substance was not banned.<sup>763</sup> Further examples of increased risks to health in wartime can be found in the steel foundries and shipbuilding. The risk of silicosis in steel foundries was growing during the war due to the expansion of steel casting, while the use of electric arc welding was becoming increasingly popular in shipbuilding during the Second World War. This presented risks from inhalation of fumes as well as skin cancer.

Defining an illness as 'occupational' was notoriously difficult as both Dembe and Johnston & McIvor have demonstrated.<sup>764</sup> It was often difficult to prove this because symptoms of industrial disease may be prevalent within the general population. Dembe cites back pain, which can have multiple causes and is often not clearly work-related as an example.<sup>765</sup> Tuberculosis provides another example of a disease with multiple causal pathways.<sup>766</sup> French also posits that it was difficult for doctors to be aware of the hazards encountered by the patient in the workplace. He noted that they could sometimes remain ignorant of the threats the working environment posed to health.<sup>897</sup> This suggests the need for doctors and nurses to be educated in industrial medicine. Such difficulties are also evident in the oral

testimony of H.R (anonymous female respondent), who was employed in the Bishopton ammunition works during the war. She recalled working with acetone (a flammable solvent used in the manufacture of cordite), and developing painful blisters and swelling on her hands and arms. She visited the Victoria Infirmary in

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<sup>763</sup> A. Fowler, & T. Wykes, *The Barefoot Aristocrats* (Lancashire: Kelsall, 1987), p.187.

<sup>764</sup> Dembe, *Occupation and Disease*; McIvor & Johnston, *Miner's Lung*.

<sup>765</sup> Dembe, *Occupation and Disease*, p.32.

<sup>766</sup> A. McIvor, 'Germs at Work: Establishing Tuberculosis as an Occupational Disease in Britain, c.1900-1951' *Social History of Medicine*, Vol.25, No.4, pp.812-829. <sup>897</sup> G. French, *Occupational Health* (Lancaster: Kluwer, 1974), p.7.

Glasgow, but noted 'they couldn't think on what it was' so she was sent to another hospital with similar results. The outcome was that the doctor at the Victoria Infirmary recommended she visit the works doctor, who diagnosed acetone poisoning.<sup>767</sup> Clearly, it required the specialised knowledge of the works doctor to achieve a diagnosis.<sup>768</sup> The difficulty of ascertaining whether certain diseases should be regarded as 'occupational' is also noted in the 1944 Factory Inspectors report. This report noted that the difficulties were compounded when a victim suffered from both silicosis and tuberculosis, since one of these is occupational and the other common in the general population and it is difficult to determine which illness caused death. The report additionally noted that economic factors such as wages, housing conditions and a healthy diet also affected the causative process.<sup>769</sup> It is significant that these issues are highlighted in this report as it makes clear that the difficulties of determining whether an illness resulted from ones occupation were known during the war years. Dr. Thomas Ferguson, Professor of Public Health at Glasgow University from 1944, also pointed out the difficulties in determining whether an illness was occupational in origin. He suggested that an illness may arise from occupation or that it may be *exacerbated* by occupation. Additionally, he noted that it may also result from association with or proximity to a workmate.<sup>770</sup> Therefore, although not a direct result of the working environment, some illnesses were drastically worsened by certain occupational hazards. Johnston and McIvor have illustrated this with regards to bronchitis;

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<sup>767</sup> H. R (anonymous female respondent), interviewed by Nicola Graham, 20 June 2012 (SOHC/051/11), p.2.

<sup>768</sup> The scarcity of works doctors employed in industry was demonstrated in chapter four.

<sup>769</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.60.

<sup>770</sup> Glasgow University Archives *DC57 Papers of Professor Thomas Ferguson: 57/89 Occupational Health and Social Background*.

demonstrating that workers could become ill with bronchitis as a result of the working environment but would find it difficult, if not impossible, to claim compensation for such an illness since it was common amongst the general population and not clearly work-related.<sup>771</sup>

Exposure to dangerous dusts in the working environment weakened the respiratory system making it more susceptible to diseases common among the general population, such as bronchitis and tuberculosis. This knowledge existed prior to the Second World War, as early as the 1890s.<sup>772</sup> Thomas Ferguson also noted this link commenting that exposure to many dusty trades could produce bronchitis, fibrosis and emphysema.<sup>773</sup> Though these illnesses were responsible for much disability they were not liable for compensation. Contemporary historians have also pointed out the link between dusty working environments and increased susceptibility to lung disease. McIvor states that dust exposure through coal mining 'pre-disposed workers to T.B...'<sup>774</sup> This increased the difficulty of distinguishing whether a death or disease can be classed as 'occupational'.

However, a worker suffering from any of those respiratory diseases mentioned as a result of damage to the respiratory system incurred from the working environment would not be eligible to claim compensation as the illness was common in the general population and therefore, not clearly occupational in origin.

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<sup>771</sup> McIvor & Johnston, *Miner's Lung*, p.125. Bronchitis was not recognised as an occupational disease officially until the 1990s.

<sup>772</sup> A. Ransome, *The Causes and Prevention of Pthisis* (1890); J.L Arlidge, *The Hygiene Diseases and Mortality of Occupations* (1892), p.56.

<sup>773</sup> Glasgow University Archives *DC57 Papers of Professor Thomas Ferguson: 57/69 The Industrial Factor in Medical Diagnosis*.

<sup>774</sup> McIvor, 'Germs at Work', p.814; This link is also noted in Bufton & Melling, "A Mere Matter of Rock"; Morrison, *The Silicosis Experience in Scotland*.

Determining causation of an illness was further complicated by the fact that many industrial diseases have long latency periods. This rendered it more difficult for a General Practitioner to connect a patient's working environment many years previously to his illness in the present. Both asbestos-related disease and coal workers' pneumoconiosis are valid examples of this. Moreover, if the worker suffering from, for example, silicosis was previously employed by different companies where he was exposed to silica dust it becomes more difficult to determine where the disease came from and which company to attempt to obtain a compensation payout from. Clearly classification of diseases and ailments as

'occupational' was not a simple process, and as such, left workers at a disadvantage.

The use of asbestos materials increased dramatically during the war and Clydeside was a heavy consumer. Due to its insulating properties it was heavily utilised in chemical engineering (ICI, Ardeer) and shipbuilding and repairing. As a result of increased demand for asbestos there was much more of it manufactured (indeed, Johnston and McIvor have shown that imports of Chrysotile increased from around 20,000 in the 1930s, to 90,000 in the 1940s<sup>775</sup>), which called for greater numbers of workers in the asbestos industry, thus putting more people in contact with this deadly material. Moreover, an increasing number of women were working with hazardous materials such as asbestos in wartime. Johnston & McIvor state 'there have also been cases in Scotland of women contracting asbestos related disease which they trace back to exposure to asbestos in their World War II jobs in gas mask manufacture and in the Royal Dockyard at Rosyth.'<sup>776</sup> Many women were employed in the manufacture of

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<sup>775</sup> Johnston & McIvor, *Lethal Work*, p.10.

<sup>776</sup> Johnston & McIvor, *Lethal Work*, p.22.

asbestos products in, for example, Turners Asbestos Cement factory in Dalmuir.<sup>777</sup> One female dilutee employed here during the war remembers no safety provision in place in the 1940-41 period, despite the 1931 Asbestos Regulations.<sup>778</sup> It is clear, therefore, that the war had a negative impact upon the health of the workforce as increased demand for asbestos materials and their use in a variety of industries exposed more people than ever before to the dangers associated with it.

The dangers involved with the use of asbestos were first recorded by a factory inspector in 1898. However, regulations and legislation were slow to emerge. It was the publication of the Merewether and Price Report in 1931 before the first attempts to regulate the use of asbestos were introduced, and asbestosis became a compensatory disease under the Workmen's Compensation Act. J.C Bridge, Medical Inspector of Factories, commented on this report that 'a very full and careful enquiry made by Dr. Merewether established without question a definite pulmonary disease caused by the inhalation of the dust of asbestos.'<sup>779</sup> It is clear from the Factory Inspectors report in 1945 that the risks to health posed by asbestos were understood as in this report the inspector noted the increased use of asbestos during the war years as well as the greater number of workers exposed to it.<sup>780</sup> However, there was no great sense of urgency in improving these deadly working conditions. The report continued that 'if this risk is found to continue, the question will arise of including some statutory requirements on the subject when the Factories Act Regulations for construction and other work in ships

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<sup>777</sup> This asbestos factory was set up in 1938, and at its peak employed 320 workers, 45 of whom were women.

<sup>778</sup> SOCH/16/A22, interviewed by R. Johnston, 1 December 1999. The Asbestos Regulations of 1931 have been outlined in Chapter Two.

<sup>779</sup> J.C. Bridge, 'Some Thoughts After Thirty Years in Industry' *British Journal of Industrial Medicine*, Vol.II, No.4, October 1945, p.245.

<sup>780</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.13.

are revised and extended.’<sup>781</sup> This suggests a lack of concern for the health of the workforce during the war years. Clearly during these years greater numbers of people were exposed to asbestos yet the report states that only *if the risk continues* would something be done by the state. Evidently, in the meantime workers would continue to be exposed to this deadly substance which could, and in many cases would, result in lung disease and death. Moreover, despite a greater proportion of the workforce being exposed to asbestos, the question of ‘statutory requirements on the subject’ never arose during the war years, the years when exposure accelerated. This demonstrates an awareness, among both the state and medical professionals, of the health hazards of asbestos prior to and during the war. However, it is important to locate this evidence within the knowledge and thinking around asbestos in the 1930s and 1940s. Cancer and mesothelioma were not known of, while asbestosis was believed to have a dose-response relationship. Therefore, the exposure of new subjects for a short period was considered relatively innocuous. It is also interesting to note that the Reports of the Chief Inspector of Factories for each year of the 1930s included a short section on asbestosis and silicosis. However, this section was omitted in the early wartime Reports, and was not included within the annual reports again until 1943.<sup>782</sup> This suggests the Ministry of Labour were conscious of the need not to undermine worker morale and may reflect that industrial health was receiving less of a priority in the early years of the war.

Evidence from the Clyde Shipbuilders’ Association illustrates that both employers and trade unions were, to a certain degree, aware of the health risks

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<sup>781</sup> *Annual Report of the Chief Inspector of Factories PP 1945* (Cmd.6992), p.14.

<sup>782</sup> *Annual Reports of The Chief Inspector of Factories, PP. 1931, 1932, 1933, 1934, 1935, 1936, 1937, 1938, 1939, 1940, 1941.*

associated with asbestos during the war years. Indeed, a meeting of the Executive Committee of the Clyde Shipbuilders' Association in 1945 addressed the 'increased use of asbestos in shipyards'. At this meeting it was agreed that the precautions set out in a circular from the Chief Inspector of Factories would be accepted by the shipbuilding industry.<sup>783</sup> This suggests that, on paper at least, shipbuilding employers were prepared to comply with state regulations on asbestos, albeit at the very end of the war. However, in 1943 this employers' association refused a claim from the joiners trade union for extra money for joiners who were working on insulation materials. They refused to pay extra to joiners using asbestos although they agreed to pay an allowance for those working with tar and bitumen treated slab cork.<sup>784</sup> This is illuminating in two ways: first, as it suggests that the trade unions prioritised extra payments over preventative measures; and secondly, the fact that the employers' association rejected these claims suggests that they were downplaying the risks associated with asbestos in wartime. The trade unions were active in campaigning for improvements to the Workmen's Compensation Act. Indeed, they submitted evidence to the Royal Commission on Workmen's Compensation requesting that all lung diseases caused by inhalation of occupational dust qualify for compensation. They further requested that 'compensation should be payable irrespective of industry or process'.<sup>785</sup> This is significant in terms of asbestos because the 1931 Asbestos Regulations only applied to those involved in the manufacture of asbestos. Therefore,

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<sup>783</sup> TD241/1/38 *Clyde Shipbuilders Association: Minute Book No.32. Executive Committee Meeting, 31 October 1945.*

<sup>784</sup> TD241/1/36 *Clyde Shipbuilders Association; Minute Book No.30. Conference and Claims Committee 20 April 1943.*

<sup>785</sup> TD1059/7/24 *North West Engineering Trades Employers Association; Circular Letters No.118 July 1939 - December 1939.*

by calling for all diseases caused by the inhalation of dust to qualify for compensation it can be argued that the trade unions played a positive role in campaigning for improvements to industrial health.

Despite the 1931 Asbestos Regulations, those who worked with asbestos products (and therefore were not protected by the 1931 Asbestos Regulations, which applied only to those involved in the manufacture of the product) remained uncertain of the risks involved in working with, or near, asbestos. Oral testimony demonstrates the existence of this as late as the 1950s and 1960s and George Hannah, a plumber in the shipbuilding industry, argued that 'everybody was pig ignorant as far as I was concerned, at the end of the day. I never heard one person saying that there was anything up with asbestos, and it was everywhere.'<sup>786</sup> This quote also illustrates the fact that occupational hazards were often not restricted to the tradesmen working directly with the dangerous materials. Additionally, in his interview James McFadzean, who worked in Simon's shipyard during the war years, also mentioned asbestos. Indeed, this is his first thought when questioned about health in the shipyards. However, this may well be attributable to the amount of publicity this illness has received in more recent years. Nonetheless, his testimony is interesting in that it alleges that the workforce were unaware of the hazards associated with asbestos. When asked whether they were made aware of the risks involved in utilising asbestos materials James replied, 'No, no, not to my knowledge, no.'<sup>787</sup> Oral testimony suggests that knowledge of the hazards associated with asbestos was slow to filter down to those on

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<sup>786</sup> George Hannah, interviewed by Nicola Graham, 18 June 2010 (SOHC/051/2), p.3.; These issues will be more fully analysed in the section entitled 'Attitudes to Risk and Awareness of Hazards' in this chapter, p.251.

<sup>787</sup> James McFadzean, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/13), p.23.

the shop floor. Indeed, Johnston and McIvor commented that the 'lack of knowledge and information on the hazards of asbestos left many in ignorance of the danger they were in. Either people were not told or they were informed the risk was minimal.'<sup>788</sup>

Pneumoconiosis referred to a range of diseases resulting from inhalation of dusts. The term pneumoconiosis includes asbestosis, byssinosis, silicosis, siderosis and coal workers' pneumoconiosis, which was recognised as an industrial illness and became eligible for compensation in 1942, at which point 'the numbers with the disease rocketed.'<sup>789</sup> The fact that coal workers' pneumoconiosis became eligible for compensation during the war in 1942 suggests an increasing interest in the health of the worker during the war years. It indicates the states concern for the workforce despite the pressures of war (although it should be noted that the enquiry that led to this reform was set up by the Medical Research Council in 1937). Coal workers' pneumoconiosis, or 'black lung', is similar to asbestosis in that it has a long latency period. Retired miner Robert Scobie commented upon the health problems associated with coal mining, stating: 'I went for this pneumoconiosis, to see if it was in my lungs and they found nothing in it!!! After thirty-eight years in the coal mines!! But, I've got chronic bronchitis, through the work.'<sup>790</sup> The tone of his statement seems to be one of surprise that, after so long in the industry he had not contracted pneumoconiosis. However, his health was still affected by his employment in the form of chronic bronchitis, an illness which was notoriously difficult to prove was caused by the working environment because it was common among the general population (and

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<sup>788</sup> Johnston & McIvor, *Lethal Work*, p.72.

<sup>789</sup> McIvor & Johnston, *Miner's Lung*, p.54.

<sup>790</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.8.

linked to smoking). The impact of such health problems are evident further into the interview, when his recollections were interrupted by a bout of coughing: '...(coughs) excuse me for this cough...that's what you call chronic bronchitis...that's from the days in the coal mines, I'm telling you...(struggles to clear throat.) You never get rid of it.'<sup>791</sup> It is important to note that the risks of contracting coal workers' pneumoconiosis increased both before and during the war. This was a direct result of changing work practices, namely the increasing mechanisation of coal getting, which created more dust. This undoubtedly had a negative impact on the numbers of miners suffering from 'black lung', particularly since dust dampening did not become common practice until the post-war years. Moreover, it is also necessary to consider the fact that coal mining was a reserved occupation, and as such, miners were obligated to toil in a dangerous atmosphere and could not leave through personal choice. Additionally, in 1943, due to the severe shortage of coal, Bevin introduced conscription for mining and one in ten men of call-up age were then directed to work in the countries coal mines.<sup>792</sup> In 1944, Fisher commented upon the number of industrial diseases associated with coal mining, stating the need for continued study of these in order to prevent them and stressed that 'it is worth noting that all mining industrial diseases are to a greater or less extent preventable.'<sup>793</sup> However, Fishers article also commented on the need to obtain a greater understanding of pneumoconiosis and its affect on the worker.<sup>794</sup> The fact that he makes such a comment in his article suggests that limited knowledge as to the cause and effects of this respiratory disease existed in 1944, although it had already

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<sup>791</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.11.

<sup>792</sup> <http://www.bbc.co.uk/history/ww2peopleswar/timeline/factfiles/nonflash/a6652019.shtml> (Date accessed; 6.9.13).

<sup>793</sup> Fisher, 'Health Hazards of Coal Mining', p.155.

<sup>794</sup> Fisher, 'Health Hazards of Coal Mining', p.155.

become eligible for compensation in 1942. This paints a more nuanced picture of industrial health in coal mining during the war years. Conditions were worsened by the mechanisation of coal getting, which generated more dust, however, there were some significant improvements, such as pneumoconiosis becoming eligible for compensation in 1942 and some dust prevention measures being implemented, notably in South Wales.<sup>795</sup> It is possible to argue that the war worsened working conditions in coal mining, and as a result, drew greater medical and state attention to the health hazards associated with this occupation.

The numbers employed in the munitions industry ballooned during the war, and this was a particularly popular option for women. However it carried a very great and very real risk of industrial illness. Dangers faced by those employed in the chemicals and munitions industry included the risk of fire and explosion, splashes and spills from toxic substances and poorly lit and badly ventilated workplaces. In addition to the above dangers, exposure to toxic fumes, gases and liquids frequently had a negative impact upon the lungs, skin, nose, eyes and teeth of the workforce. Evidence from oral testimony demonstrates the varying ailments encountered by those employed in the munitions industry. John Miller, a munitions worker at the ICI plant at Ardeer who worked with nitroglycerine, recalled the headaches he suffered as a result but stated that ‘you became accustomed to it with the constant use.’<sup>796</sup> This statement indicates that workers adjusted to difficult working conditions and suggests some form of acceptance. This same respondent goes on to mention that dynamite also appeared to

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<sup>795</sup> McIvor & Johnston, *Miner's Lung*, p.132.

<sup>796</sup> John Miller, interviewed by Patricia Williams, November 1998 (SOHC/015), p.4; Ann McCabe, interviewed by Patricia Williams, November, 1998 (SOHC/015), p.3.

cause heart problems. When questioned about the effects of cordite upon her health, Mrs Docherty, who worked in Ardeer in the 1940s, stated that it ‘made you sleepy’ which was certainly dangerous, and may have increased the potential for accidents.<sup>797</sup> Mrs Henderson also recalled working with materials that made you sleepy: ‘oh aye it made you sleepy, but not as long as you got fresh air, but during the war you couldn’t open the door.’<sup>798</sup> They were not allowed to open the door due to the blackout restrictions, which once again highlights the negative impact of the blackout upon working conditions.

Work in certain areas of the munitions and chemicals industries also posed a risk of respiratory disease, as the environment was often dusty. Richard Fitzpatrick who was employed in chromate manufacturing in J & J Whites Chemical Works in Rutherglen during the war, recalled that ‘there were always dust flying about ye know specially there again we’re back tae the chromic acid ye know.’ Although when questioned about whether there were ventilators to reduce the amount of dust in the air he admitted there were.<sup>930</sup> Walker, however, has questioned the effectiveness of such extraction technologies.<sup>931</sup> The dusty environment of some parts of munitions work is also recalled by a female employee of ICI at the Cargenbridge plant during the Second World War. She recalled her shock upon first entering the plant. She likened it to a prison and recalled that she thought ‘has it come to this?!’<sup>799</sup> At one stage in her employment in the plant she worked emptying the gun cotton from machines into large

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<sup>797</sup> Bella Docherty, interviewed by Patricia Williams, November 1998 (SOHC/015), p.9.

<sup>798</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.14. <sup>930</sup> Richard Fitzpatrick, interviewed by David Walker, 13 August 2004 (SOHC/022), p.5. <sup>931</sup> D. Walker, ‘Occupational Health and Safety in the British Chemical Industry, 1914-1974’ PhD Thesis, University of Strathclyde, 2007.

<sup>799</sup> MP, interviewed by David Walker, October 2005 (SOHC/022), pp.6-8.

bins and then had to ‘tramp it all down’. As a result of this she often ended up white with dust from the gun cotton. This was a process which, by the interviewees own admission, created a very dusty atmosphere, yet despite this the workforce employed on this process were issued with neither masks nor goggles.<sup>800</sup>

This interviewee blamed her present day breathlessness on this wartime process with the gun cotton. Another female munitions worker stated that she felt her job in Ardeers examining detonators to ensure they were fully charged, had a lasting negative impact upon her eyesight: ‘and now I’m paying for it with my eyesight, because I’m half blind looking down those wee tubes.’<sup>801</sup> Clearly, there were many ways in which work in the munitions and chemicals industries during the war could impact adversely upon health.

Both munitions and chemical workers were in contact with dangerous substances which could result in both short and long term health problems due to poisoning or gassing. Three of the more prominent types of poisoning which will be discussed here are aniline poisoning, toxic jaundice and toxic anaemia. Aniline poisoning resulted from contact with TNT and usually only lasted a short time, with recovery occurring after stopping contact with TNT. Drowsiness, dizziness, headaches, skin and eye irritation, rapid heart rate and cyanosis are some of the symptoms of aniline poisoning. The Senior Medical Inspector of Factories stated that toxic jaundice (which often followed aniline poisoning) was worse, because it affected the liver and this, he stated, was more common amongst women.<sup>935</sup> Toxic anaemia became

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<sup>800</sup> MP, interviewed by David Walker, October 2005 (SOCH/022), pp.9-10.

<sup>801</sup> Margaret Sheddon, interviewed by Patricia Williams, November 1998 (SOHC/015), p.3.

<sup>935</sup> *Annual Report of the Chief Inspector of Factories, PP 1941* (Cmd.6397), p.21.

notifiable in 1942, and was also caused by contact with TNT and benzene. The fact that such health risks were included in the Reports of the Chief Inspector of Factories during the war years, coupled with the fact that toxic anaemia was included under the Workmen's Compensation Act in 1942, demonstrates that the dangers involved in working with TNT and benzene were known by both the state and medical professionals. Clearly, the war resulted in greatly increased demands for munitions and as such, it is to be expected that the numbers of workers suffering from aniline poisoning, toxic jaundice and toxic anaemia would increase correspondingly. Evidence from the Reports of the Chief Inspectors of Factories show this to be the case.

*Table 5.1: Cases of ill health due to TNT. (U.K.)*

	1940	1941	1942	1943	1944	1945	Total
Aniline Poisoning	24	64	204	79	55	31	457
Toxic Anaemia	-	-	14	7	12	7	40
Toxic Jaundice	-	20	27	16	12	6	81
Total per year	24	84	245	102	79	44	578
Percentage of total	4.15%	14.53%	42.34%	17.65%	13.67%	7.61%	-

*Source: Annual Reports of the Chief Inspector of Factories PP 1940 (Cmd.6316), PP 1941 (C.md. 6397), PP 1942 (Cmd.6471), PP 1943 (Cmd. 6563), PP 1944 (Cmd.6698), PP 1945 (Cmd. 6992)*

Table 5.1 demonstrates the number of cases of aniline poisoning, toxic jaundice and toxic anaemia, it also illustrates the total number of reported cases of all three ailments for the war years, this demonstrates that 1942 was the peak year, 42.34% of all cases were reported in this year. As with accidents incidence peaked in 1942 and declined thereafter. However, what is most noteworthy about this data is the relative insignificance of such poisoning, given that only a few hundred cases were

recorded throughout the whole war period. It should be borne in mind however, that wartime might have resulted in under-reporting of these issues.

The Report of the Chief Inspector of Factories for the year 1940 noted the increase in cases of aniline poisoning and attributed this to the war and that 'the influence of the war is apparent in the increases in aniline poisoning and toxic jaundice and in the serious increase in the reported cases of gassing.'<sup>802</sup> An article published in the *British Journal of Industrial Medicine* in 1945 demonstrated that dermatitis was common in the chemicals industry, particularly in explosives and filling. Although this ailment was also present in mechanical engineering, transport engineering and metal work, including welding. This article noted that incidences of dermatitis had been increasing 'in recent years' in the chemical industry and in other industries in which chemical compounds were utilised. It noted that symptoms such as irritation, itching, burning, prickly sensations and skin tightness were common.<sup>803</sup> The Report of the Chief Inspector of Factories for the year 1939 also commented on the increased number of dermatitis cases being reported to them. However, it is important to mention that the reporting of this ailment was voluntary and hence likely to be a serious underestimation of the actual problems in wartime.<sup>804</sup>

*Table 5.2: Reported cases of dermatitis by year. (Figures in brackets show each year as a percentage of total)*

Year	No. of Reported Cases
1939	2952 (7.47%)
1940	4744 (12.00%)

<sup>802</sup> *Annual Report of the Chief Inspector of Factories, PP 1940* (Cmd.6316), p.11.

<sup>803</sup> M.W. Goldblatt, 'Vesication and Some Vesicants' *British Journal of Industrial Health*, Vol.II, No.4, October 1945, p.33.

<sup>804</sup> *Annual Report of the Chief Inspector of Factories, PP.1939* (Cmd.6251), p.30.

1941	-
1942	8802 (22.27%)
1943	8926 (22.58%)
1944	8108 (20.51%)
1945	5996 (15.17%)
Total Cases 1939-1945	39,528

Source: Annual Reports of the Chief Inspector of Factories PP 1939 (Cmd.6251), PP 1940 (Cmd.6316), PP 1941 (C.md. 6397), PP 1942 (Cmd.6471), PP 1943 (Cmd. 6563), PP 1944 (Cmd.6698), PP 1945 (Cmd. 6992).

Table 5.2 illustrates that reported cases of dermatitis remained high during the war years, but that they had begun to significantly decrease in 1944 and 1945.

Unfortunately, figures for 1941 are not available, although the Report of the Chief Inspector of Factories for the year 1941 stated that 'with an ever increasing number of entrants into industry and of materials used which may give rise to dermatitis, it is not surprising that the number of cases coming to our notice has increased.'<sup>805</sup><sup>806</sup> The data obtained for reported cases of dermatitis follows a similar pattern to the data for aniline poisoning, toxic jaundice and toxic anaemia and paints a more nuanced picture of industrial health during the Second World War. As with accidents, there was a period of marked deterioration until 1943 and amelioration thereafter.

The 1940 Annual Report of the STUC noted the difficulties of proving that dermatitis was contracted as a result of the working environment, noting that 'they (the miners) found great difficulty in proving dermatitis, because unless they were able to

<sup>805</sup> *Annual Report of the Chief Inspector of Factories, PP.1941 (Cmd.6397)*, p.21.

<sup>806</sup> *rd Annual Report of the Scottish Trades Union Congress 1940*, p.159.

show that it had been contracted through working in dust or liquids there could be no claim under the act.<sup>1940</sup> The abstracts section of the 1945 volume of the *British Journal of Industrial Medicine* offered some solutions to dermatitis. Of prime importance was clean industry and clean workers, other suggestions included 'dust extractors, ventilators, splash guards, washing facilities and the provision of suitable 'cleansers' are important.' It also mentioned the importance of changing clothes and using barrier creams.<sup>807</sup> The monthly journal of the Glasgow Chamber of Commerce also commented on some methods of preventing dermatitis. An article entitled 'antidermatitis preparations' demonstrates that the Board of Trade had issued a general licence allowing the supply of anti-dermatitis preparations to firms engaged on certain activities, engineering and manufacture and use of chemicals being two of the industries supplied.<sup>808</sup> This implies that Clydeside employers were aware of the existence of dermatitis in these industries and that they were providing preventative care for the workforce.

Dermatitis was addressed in an article published in the 1947 edition of the *British Journal of Industrial Medicine* where it was argued that 'the highest incidence of dermatitis occurs with tetryl, other nitro bodies, such as T.N.T are not above suspicion.'<sup>809</sup> Drawing on such evidence it could be argued that the chemicals and munitions industries were likely to have an increased risk of dermatitis amongst the workforce. This article reviews an experiment conducted early in the war in which a

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<sup>807</sup> Abstracts 'Memorandum on Dermatitis' *British Journal of Industrial Medicine*, Vol.II, No.4, October 1945, p.235.

<sup>808</sup> *Glasgow Chamber of Commerce Monthly Journal*, Vol.26, No.5, (Glasgow; Bell and Bain, May 1943), p.45.

<sup>809</sup> W.M. Cumming, M.C. Cameron, E.B. Cumming, & M.C Macrauld, 'Barrier Creams and their Evaluation' *British Journal of Industrial Medicine*, Vol.IV, No.4, October 1947, p.237.

questionnaire was sent to all medical officers at factories in order to gain knowledge about the incidence of dermatitis and the use of barriers. From the results of this questionnaire the authors stated that ‘women are more disposed to use barriers than men where face and hands are involved, and contact with air-borne and dry solid explosives seems to be the main cause, barriers are used at least twice per eight hour shift’ they continue ‘it would appear therefore, that the case for the use of barriers is justified.’<sup>810</sup> This evidence demonstrates that the use of barrier creams as protection against dermatitis was advocated during the war years. Additionally, it illustrates the difference between men and women, with women more likely to make use of such preventative treatment than men. In the case of dermatitis, it can be argued that industrial health was gendered, given evidence that women were more likely to utilise the available preventative measures than men. However, it is also possible that men had become inured to this risk while women had only recently been exposed. It is clear that incidences of dermatitis increased during the war years, as a direct result of war production, whilst the evidence also demonstrates that both the state and medical professionals were aware of this increase, and of methods to prevent dermatitis.

Despite the fact that the Annual Reports of the Chief Inspector of Factories, the Annual Reports of the STUC and the *British Journal of Industrial Medicine* all mention dermatitis, it is significant that there is rarely any mention of this ailment in any of the oral testimony examined. One exception was the testimony of a textile worker who recalled a co-worker, employed in the dye house, suffering from skin problems, he noted that ‘he used to come out in a rash...It was quite serious, oh yes it was...Oh it was

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<sup>810</sup> Cumming, Cameron, Cumming & Macrauld, ‘Barrier Creams and their Evaluation’, p.237.

quite serious.<sup>811</sup> However, this is one of few interviewees who mention skin problems, which is interesting as it was a much more visual ailment than lung disease, for example. The apparent neglect of dermatitis in respondents recollections may be because it was a relatively minor ailment and it was not lifethreatening, it was more common and taken for granted. Moreover, it is important to bear in mind that risk was reconfigured during wartime, when the possibility of bombs falling was a very real threat and young men were facing far worse dangers in the armed forces.

Another industry which presented a dangerous and dusty working environment was iron and steel manufacture. Iron foundries were amongst the worst and evidence suggests that such hazards were understood during the war years. An article published in the *British Journal of Industrial Medicine* in 1945 illustrated this, discussing at length the dust hazard in iron foundries, which, according to the authors 'has long been known.' Conducting a survey into respiratory disease in iron workers, the article noted that 'in general the degree of dustiness of the lung depends on the length of exposure to the dusty environment, and...exposure of many years duration is normally necessary before any marked changes occur.'<sup>812</sup> It is important to mention however, that the authors of this article were from the Medical Department of the Butterly Company in Derby. This increased the potential for bias. As previously discussed, medical professionals often occupied a difficult position in the workplace as they were reliant upon the employer for work. Both Tweedale and Perchard have demonstrated that this reliance could result in biased research, because employers

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<sup>811</sup> Interview with Duncan Murray, Interviewed by Ian McDougall, 22.11.98; Scottish Working People's History Trust; Archived at the SOHC at the University of Strathclyde, p.62.

<sup>812</sup> G.F. Keatinge, & N.M. Potter, 'Health and Environmental conditions in the Iron Foundry' *British Journal of Industrial Medicine*, Vol.II, No.2, April 1945, p.132.

retained control over research findings.<sup>813</sup> The article also commented on the increased risks of cancer among foundry workers, linking this to the fumes often found in the industry. This evidence, despite its potential for bias, demonstrates that medical professionals were aware of the health risks posed by employment in iron foundries, yet it appears that little was done to protect the workforce.

Another occupation which created fumes which were potentially damaging to health was welding. Welding was becoming increasingly popular during the Second World War, particularly in shipbuilding. This had the potential to cause eye injuries such as a 'flash.' The risk of getting a 'flash' in ones eye was not restricted to welders however, and other trades working in the vicinity were also exposed to this threat.

Other issues involved with welding were the fumes given off during the process, and this was worsened if welders were working on galvanised material or in confined and poorly ventilated spaces. This had the potential to result in metal fume fever or welders siderosis (also known as iron-oxide lung). Indeed, it appears that the trade unions were aware of such risks, and in 1940 petitioned the Clyde Shipbuilders' Association for extra money for those exposed to welding hazards. They argued that 'fumes were inhaled which were injurious to health and the men were subjected to burns and their eyes were affected by the flashes from the welding process. Clothing and overalls were also damaged by burns.'<sup>814</sup> The Shipwrights' Society also noted that not all firms supply fans and where they do supply is limited. It could be argued that this provides another example of the unions prioritising money over preventative measures. Nevertheless, it

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<sup>813</sup> Perchard, *The Mine Management Professions*; Perchard, 'The Mine Management Professions'; Tweedale, *Magic Mineral to Killer Dust*.

<sup>814</sup> TD241/1/33 *Clyde Shipbuilders Association: Minute Book No.27, 22 November 1940*.

<sup>949</sup> TD241/1/36 *Clyde Shipbuilders Association: Minute Book No.30. 30 March 1944*.

is significant as it demonstrates they were alive to the hazards associated with welding and were active on the issue. The response of the Shipbuilders' Association is interesting. They reply that adequate ventilation was provided for those welding galvanised material in enclosed or confined spaces, and that there were no negative effects of this upon health 'apart from isolated cases'. This provides an example of employers denying risk.<sup>949</sup> It appears that this was an ongoing issue. Indeed, in 1944 the Medical Inspector of Factories proposed an investigation into the effects of welding fumes on the health of welders. This suggests that medical professionals were not fully aware of the risks involved with this trade. Employers response to requests for this investigation is illuminating and in reply noted that 'such an investigation at this time would likely have a disturbing influence on the workpeople, and aggravate labour difficulties.'<sup>815</sup> Clearly, production still remained a priority for employers. This proposed investigation did not emanate from the trade unions however, which suggests the state were, in this case, more proactive in researching industrial illness. In fact, the unions expressed some sympathy with employers, agreeing that the present time was not an ideal time at which to conduct such an investigation.<sup>816</sup> This evidence provides an example of employers resisting medical research into occupational health and denying risk. While it also demonstrates that, in this case, the unions were not prioritising preventative measures, despite having earlier noted the risks to health posed by welding.

Heavy engineering workplaces were often extremely noisy. Bellamy states that industrial deafness was so common in the shipyards that 'an unofficial sign language

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<sup>815</sup> TD241/1/36 *Clyde Shipbuilders Association: Minute Book No.30. 30 March 1944.*

<sup>816</sup> TD241/1/36 *Clyde Shipbuilders Association: Minute Book No.30. 3 August 1944.*

was developed.<sup>817</sup> Retired boilermaker and shipwright Andy McMahon mentioned noise levels without being prompted and referred to this unofficial sign language that existed in the yards. He stated:

you could almost identify two shipyard workers in the street where they were almost talking into each other's ear. Because, after eight hours five and a half days a week that...almost an hour, an hour and a half after you came home you were still shouting in the house and you weren't aware of it...<sup>818</sup>

The extreme noise levels encountered in the shipyards and other heavy engineering industries served to worsen working conditions. One shipyard worker commented that the noise was so loud that it rendered communication difficult, and 'that's how the hand signals came in, cos the noise was that terrible.'<sup>819</sup> When asked about what kinds of threats to health the working environment in the steelworks posed, Edmund Barrie, a crane driver at Dalziel steelworks, commented that the noise was the main danger and mentioned the lack of ear protection.<sup>820</sup> While J.D, a female employee in a small engineering works, commented 'well there was a certain amount of noise, but you got used...it's just like everything else, you get used to it, don't you?'<sup>821</sup> This suggests that noise in the workplace was accepted as a fact of life as was dermatitis. The negative effects of noise were commented on by medical professionals during the war years. An abstract in the *British Journal of Industrial Medicine* in 1945 stated that 'Experiments

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<sup>817</sup> M. Bellamy., *The Shipbuilders; An Anthology of Scottish Shipyard Life*. (Edinburgh: Birlinn, 2001), p.52.

<sup>818</sup> Andy McMahon, interviewed on 10 November 1989; Glasgow Museums Oral History Project 'Voices from the Yard'.

<sup>819</sup> SOHC/16/A2, interviewed by R. Johnson, 22 December 1998, p.14.

<sup>820</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.10.

<sup>821</sup> J.D (anonymous female respondent), interviewed by Nicola Graham, 12 June 2012 (SOHC/051/6), p.5.

show that a reduction in noise increases efficiency and output. This applies to both motor and mental skills'<sup>822</sup>

However, extremes of noise were not restricted to the shipbuilding industry. Workers in other forms of heavy engineering also had to contend with uncomfortable and damaging noise levels as did textile workers. Duncan Murray recalled the weaving shed being one of the noisiest places to work in the mill.<sup>823</sup> Many industries on Clydeside during the war were accompanied by extremes of noise, even lighter engineering such as aircraft manufacture. One woman, interviewed for a BBC Scotland production entitled 'Scotland's Road to War', recalled the noise levels polluting the areas surrounding the Rolls Royce aircraft factory at Hillington:

The noise of engine testing goes on day and night...They were on all the time, oh I could hear them here in Shettleston, quite clearly...This was just a horrendous noise, which we eventually got used to, but it went on all night as well...<sup>824</sup>

This demonstrates that noise levels from the Hillington aircraft factory were so loud that people living in the surrounding areas were affected, suggesting the levels within the factory would be extreme. Clearly, then noise was a significant health risk in many of Scotland's industries during the war.

The noise levels in some places of work could result in noise induced hearing loss (NIHL) which is described by Dembe as 'the cumulative loss of hearing that develops gradually over months or years of hazardous noise exposure.'<sup>960</sup> The fact that hearing

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<sup>822</sup> Abstracts 'Noise in Factories; Bull No.1 Derby Advisory Council on Industrial Health (1944)' *British Journal of Industrial Medicine*, Vol.II, No.2, April 1945, p.115.

<sup>823</sup> Interview with Duncan Murray; Scottish Working People's History Trust, 22.11.96; Archived at the SOHC at the University of Strathclyde, p.21.

<sup>824</sup> BBC Scotland Documentary: 'Scotland's Road to War' Transmitted on 3<sup>rd</sup> September 2009.

<sup>960</sup> Dembe, *Occupation and Disease*, p.178.

loss developed gradually over a period of time perhaps accounts for the apparent lack of concern from the workforce. Thomas Ferguson, professor of public health at Glasgow University and HM Medical Inspector of Factories, commented upon the lack of legal enactments dealing with the issue of noise in factories.<sup>825</sup> Additionally, an article printed in the January 1945 edition of the *British Journal of Industrial Medicine* illustrated further that medical professionals were aware of the impact of noise upon the body.

Deafness is also influenced by the total time of exposure and the length of each separate exposure, and there is some recovery from the effects of noise with a cessation to exposure, hence rest periods at appropriate intervals away from the noise are indicated.<sup>962</sup>

Despite this, little was provided by way of ear protection to the workforce.

Moreover, extreme noise levels presented a hazard in more ways than one; as well as causing noise induced hearing loss it also had the potential to cause accidents because it restricted workers ability to communicate with one another. Finally, it could also lead to higher levels of stress. Waldron states: ‘the heart rate is modified in response to noise being either increased or decreased depending on the type of noise, and the respiratory rate also increases.’<sup>826</sup> This was also noted during the war years by medical professionals. Thomas Ferguson stated that noisy occupations ‘tend to cause a condition of nervous irritability and strain rather than one of permanent injury to the structures of the ear.’<sup>827</sup> Therefore, noisy working environments presented many

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<sup>825</sup> Glasgow University Archives *DC57 Papers of Professor Thomas Ferguson: 57/65 The Ideals of Industrial Medicine and the General Means by Which it is Hoped to Attain Them.* <sup>962</sup> Abstracts ‘Noise in Factories’, p.115.

<sup>826</sup> H.A. Waldron, *Lecture Notes on Occupational Medicine* (Edinburgh: Wiley-Blackwell,1979), p.219.

<sup>827</sup> Glasgow University Archives *DC57 Papers of Professor Thomas Ferguson: 57/65 The Ideals of Industrial Medicine and the General Means by Which it is Hoped to Attain Them.*

dangers to the workforce. Moreover, such dangers increased during wartime as a result of increased production in the more drastically affected industries, such as shipbuilding and engineering.

The deafening noise experienced in the yards is something present in much of the oral testimony obtained from shipyard workers: 'And the noise, the noise was absolutely deafening, absolutely deafening.'<sup>828</sup> The repetition of the words 'noise' and 'deafening' serve to emphasise the interviewees' point. Extremes of noise were not a hazard restricted to the shipbuilding industry, workers in other heavy engineering jobs also had to contend with such hazards. Tommy Coulter, a retired miner commented on mechanised mining where 'the noise was horrendous. Ah mean, you couldn't speak to each other' he went on to describe how the men used to use hand signals to communicate.<sup>829</sup> Harry McGregor, an apprentice engineer in North British Locomotive in Springburn, recalled the noise levels. He mentioned that this could be particularly bad when working in a boiler surrounded by caulkers, acknowledging the lasting impact this may have had on his hearing 'And that's why I'm wearing this, I'm a bit deaf because of that.'<sup>830</sup> William McMaster also recalled that 'you got used to it. See at the very beginning you were like 'ohh' but after a wee while, you weren't bothered!'<sup>831</sup> This statement indicates a stoic acceptance of difficult and hazardous working conditions which were accepted as the norm on Clydeside. There was no indication in this section of the testimony that workers were thinking of the long term impact of the noise hazard. Oral and other evidence has demonstrated

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<sup>828</sup> D. Crooks, *Made in Govan*, p.8.

<sup>829</sup> Tommy Coulter, interviewed by Neil Rafeek and Hillary Young, 12 January 2005 (SOHC/16), p.2.

<sup>830</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.28.

<sup>831</sup> William McMaster, interviewed by Nicola Graham 5 September 2012 (SOHC/051/15), p.15.

that many workers in various industries had to endure noisy working environments with little or no protection.

Inflammation of the joints, usually referred to as either beat knee, elbow or hand were relatively common ailments among miners. McIvor and Johnston stated that ‘there were more than 10,000 new cases of the beat diseases diagnosed each year in the 1940s and early 1950s.’<sup>832</sup> These ailments were a result of the poor working posture and damp conditions of coal mining and were eligible for compensation under the Workmen’s Compensation Act from 1916. Clearly, medical knowledge about these ailments existed prior to the Second World War. Fisher’s article in the *British Journal of Industrial Medicine* explained how the beat ailments were caused and that beat hand arose ‘when the primary injury is caused by repeated jarring of the hand by the pick followed by the entry of pathogenic organisms. The infection may enter the skin by the most minute abrasion, cut or crack in the skin.’<sup>833</sup> In order to combat this any cuts or cracks should receive immediate medical attention. Beat knee was caused by injury and infection resulting from long periods working in a kneeling position and the risk of infection was much greater in wet conditions. Retired miner William Dunsmore frequently commented upon the amount of time spent working on his knees: ‘And 39 years on my knees. I applied for compensation for that and was turned down. I also had a cartilage operation, that was the knees again.’<sup>834</sup> He was not provided with any protective knee pads or other equipment, although in 1944 Fisher suggested that knee pads should be worn to prevent this.<sup>972</sup>

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<sup>832</sup> McIvor & Johnston, *Miner’s Lung*, p.51.

<sup>833</sup> Fisher, ‘Health Hazards of Coal Mining’, p.157.

<sup>834</sup> William Dunsmore, interviewed by R. Johnston, 11 July 2000 (SOHC/017/C16), p.19.

<sup>972</sup>Fisher, ‘Health Hazards of Coal Mining’, p.157.

Some health problems were common across different industries; vibration white finger, or Reynaud's Phenomenon provides an example of such. This was relatively common among those who worked with pneumatic tools in various industries. It was caused by the continual use of pneumatic tools and worsened by the cold air emitted from them. Agate and Druett have listed some of the tools which caused this disorder:

Riveting hammers and 'holding up' tools, pneumatic chisels of chipping hammers which are used for fettling castings, caulking, stone dressing etc., portable rotary tools with a flexible drive and large grindstones against which small castings are being ground...<sup>835</sup>

These work methods were common on Clydeside. This disorder resulted in a loss of manual dexterity and was worsened by the cold, which made hobbies such as gardening difficult for sufferers. The disorder could not be reversed by stopping working with pneumatic tools. Hunter stated that 'it is no safeguard to stop working with vibrating tools, and even if exposure is limited to one year the disease may still follow. Once having developed, it shows more tendency to progress than regress.'<sup>836</sup> In order to prevent this disorder, workers should have been provided with padded gloves and had regular rest breaks from using the pneumatic tools. A representative from the Boilermakers Society, in 1943, requested a conference with employers representatives 'to discuss a claim that their members working with pneumatic tools should be supplied with gloves.'<sup>975</sup> This suggests that the trade unions were aware of the harmful effects

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<sup>835</sup> J.N. Agate, & H.A. Druett, 'A Method for Studying Vibrations Transmitted to the Hands' *British Journal of Industrial Medicine*, Vol.III, No.3, July 1946, p.155.

<sup>836</sup> D. Hunter, *The Diseases of Occupations* (London: Hodder & Stoughton, 1975), pp.854-5. <sup>975</sup> TD1059/1/1/31 *North West Engineering Trades Employers Association: Minute Book No.32*. 27 January 1943.

of pneumatic tools, while also demonstrating that they were active in campaigning for preventative measures. It was agreed to provide gloves to the workforce. However, it should be noted that this was restricted to the 'structural engineering trades in this district.' Evidence submitted the following month suggests that not all firms were complying, to which the employers association responded that '*most* firms in the area do provide gloves.'<sup>837</sup> It is evident that provision of protective clothing varied, some employers were more welfare and safety conscious than others, even within the same industry.

Vibration White Finger was not included in the Workmen's Compensation Act until the 1980s, despite the fact that medical professionals understood the ailment as early as the 1930s.<sup>838</sup> Indeed, during the war years the Medical Research Council proposed an investigation into the effects of pneumatic tools on the health of workpeople. In 1944 the Clyde Shipbuilders' Association received a letter from the Medical Research Council requesting this investigation at four unnamed shipyards.

The response of the Association is illuminating. They state that such an investigation was 'undesirable, particularly under the present circumstances.' Indeed, the association recommended that no systematic examination should be agreed to by the firms concerned.<sup>839</sup> Employers were hindering medical research into occupational disease. Moreover, this evidence also suggests further the negative impact of the war.

Employers were allowing the war to take priority over the health of the workforce.

Reynaud's Phenomenon was similar to asbestos-related disease in that there was a

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<sup>837</sup> TD1059/1/1/31 *North West Engineering Trades Employers Association: Minute Book No.32. Executive Committee Meeting, 9 February 1943.*

<sup>838</sup> Agate & Drugett, 'A Method for Studying Vibrations Transmitted to the Hands', p.159.

<sup>839</sup> TD241/1/37 *Clyde Shipbuilders Association: Minute Book No.31. Executive Committee Meeting, 11 February 1944.*

significant time lag between the discovery of risk and suitable action to protect the workers. An article published in the *British Journal of Industrial Medicine* in 1945 demonstrated this awareness among medical professionals:

Workers, who use pneumatic tools, suffer from vascular disturbances which produce a local anaemia or pallor of the fingers, making them stiff and awkward and in some cases their symptoms may prevent the men from working or cause them to seek other employment.<sup>840</sup>

In summary the author states that white finger:

Occurred most frequently among workers who were using tools with a vibration rate of 2000-3000 a minute. The condition occurred most often in cold weather and cold is probably a precipitating factor. White finger rarely caused gross disability, but in three cases the condition was severe enough to make the men change their occupation....<sup>841</sup>

The war caused an increased risk from vibration white finger because: 'production methods, particularly in the aircraft industry, have required the increased use of portable grinding tools and riveting tools.'<sup>981</sup> Clearly then, the war precipitated an increased risk of occupational disorders for the workforce.

### Protective Clothing

Many of the occupational ailments and diseases outlined in this chapter would have been avoidable if effective protective clothing and equipment was provided for the worker. In the case of dermatitis, regular hand washing and the use of barrier creams would have lessened the effects of this ailment. Workers could have been protected, to a degree, from respiratory diseases such as pneumoconiosis and asbestosis had they

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<sup>840</sup> D. Hunter, A.I.G. McLaughlin, & K.M.A. Perry, 'Clinical Effects of the Use of Pneumatic Tools' *British Journal of Industrial Medicine*, Vol.II, No.1, January 1945, pp.10-11

<sup>841</sup> Hunter, McLaughlin & Perry, 'Clinical Effects of the Use of Pneumatic Tools', p.16.

<sup>981</sup> Agate & Druett 'A Study of Portable Vibrating Tools', p.141.

been provided with effective masks and respirators and the workplace equipped with ventilation. This section will analyse oral testimony and other evidence to determine whether such protective equipment was provided, as well as whether it was effective. It will also consider the attitude of the Clydeside workforce towards such equipment.

Oral testimony illustrates workers attitudes to and memories of protective clothing. Mrs Henderson, who worked in blasting in Ardeer, recalled being provided with gloves:

They put this stuff in the gelatine called glycol, and it didn't agree with some women or some men, and it gave them a bad heart. It did something to them. Then they started to give them, you know, those gloves that doctors wear, two pairs of them a day.<sup>842</sup>

Although the interviewee appears unaware of why gloves were provided, it is likely that this was to prevent dermatitis. However, the provision of gloves was not universal throughout the chemical and munitions industries. H.R (anonymous female respondent), who worked in the Bishopton munitions factory recalled that 'we didn't get gloves, no. We didn't get gloves, we didn't have gloves.'<sup>983</sup> Often, even when provided, protective clothing was cumbersome and ineffective, for example the 1945 Factory Report stated that 'more comfortable and safer breathing apparatus is being introduced.'<sup>843</sup> Evidence from shipyard workers employed in the yards of Clydeside in the 1960s indicates that it was only then that safety equipment was becoming more readily available.<sup>844</sup> Despite the risk of hearing loss, workers were not provided with

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<sup>842</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.3.

<sup>983</sup> H. R (anonymous female respondent), interviewed by Nicola Graham, 20 June 2012 (SOHC/051/11), p.7.

<sup>843</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.53.

<sup>844</sup> David Bruce and Robert McGowan, interviewed by Nicola Graham, 17 June 2010 (SOCH/051/1), p.5.

suitable protection until the late 1970s.<sup>845</sup> However, it is important to point out that these workers were inured to tough conditions. Nevertheless, it remains significant that medical professionals and others were aware of the risk of noise as well as the benefits of ear protection during the war years. Dembe also notes the lack of ear protection: 'wearing personal protective devices in or around the ears to control exposure to industrial noise was a relatively late development in the history of NIHL.'<sup>987</sup> An engineer employed in North British Locomotive in Springburn during the war mentions this lack of protection. He recalled working in a boiler, and that 'you've got caulkers working inside and you had no hearing muff or nothing...'<sup>846</sup> This respondent attributes his hearing loss to his work, where he was exposed to high levels of noise without the benefit of protective clothing. When asked by the interviewer whether the workers ever thought about any methods to protect themselves, the respondent replied 'Not really, no. Just carried on.'<sup>989</sup> This suggests that workers were unaware of protective clothing such as ear muffs, that they accepted the dangerous conditions and simply got on with the work. Retired miner Bobby Strachan recalled the noise level in the pits and 'Especially in the mine driving where it was blast-borers and things. It was horrific. You usually had something stuck in your ears. They didnae supply ear plugs or anything then. Eventually they did but no then. No nothing.'<sup>847</sup> Once again this illustrates the extremes of noise workers had to endure and the lack of protective clothing to counteract the negative impact working

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<sup>845</sup> David Bruce & Robert McGowan, interviewed by Nicola Graham, 17 June 2010 (SOHC/051/1), p.5; Robert Cowan, interviewed by Nicola Graham, 29 July 2010 (SOHC/051/3), p.5. <sup>987</sup> Dembe, *Occupation and Disease*, p.180.

<sup>846</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.28.

<sup>989</sup> Harry McGregor interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.28.

<sup>847</sup> Bobby Strachan, interviewed by R. Johnston, 5 July 2000 (SOH/017/C11), p.8.

conditions had on workers' health. Finally, his statement that 'you usually had something stuck in your ears' indicates that some men tried to fashion their own protective equipment. Bradley has shown that ear defenders did not become commonplace in the Scottish steel industry until the 1980s, and even then he argues that 'pre-established work culture(s) remained prominent.'<sup>848</sup> A work culture which eschewed protection was deeply embedded in the working classes in Scotland and in particular on Clydeside in the 1940s. However, where workers mention the lack of hearing protection it is important to consider the extent to which such statements have been influenced by the present day preoccupation with protective clothing.

Masks and breathing apparatus would have protected the workforce from respiratory illnesses had they been provided. However, even when such protective devices were issued they were often of limited effectiveness. Richard Fitzpatrick's testimony highlights the awkwardness of wearing necessary safety equipment, as well as demonstrating how basic it was.<sup>849</sup> This left workers exposed to the risks of contracting lung cancer and bronchitis. Retired Lanarkshire miner Harry Steel also recalled ineffective breathing apparatus. He stated they did not wear masks because 'We're actually in the conditions the masks werenae much good for you 'cause you couldnae breathe with them.'<sup>850</sup> Another miner, Alex McNeish commented upon protective masks:

In the Barony if you wanted them, 'Go and get them'. Now, the work was such that if you wanted to make any kind of wage at all you had to go ahead without the mask. Because these...A working man has got to breathe. Therefore, maybe *some* people used them but they maybe werenae dain much

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<sup>848</sup> D. Bradley, 'Oral History, Occupational Health and Safety and Scottish Steel, c.1930-1988' *Scottish Labour History*, Vol.46, 2011, pp.86-101, p.94.

<sup>849</sup> Richard Fitzpatrick, interviewed by David Walker, 18 August 2005 (SOHC/022), p.9.

<sup>850</sup> Harry Steel, interviewed by R. Johnston, 29 June 2000 (SOHC/017/C9), p.6.

work. So, that was that episode with the masks, that you couldnae work and wear them.<sup>851</sup>

Clearly then, even where protective equipment was provided, it was often cumbersome and ineffective and it was the responsibility of the employee to go and get such equipment. Moreover, this statement illustrates that wearing personal protective devices could slow down production, and hence have a negative impact on earnings. Indeed, Alex McNeish commented that those who utilised the masks 'werenae dain much work'. William Dunsmore, a retired miner also questioned the practicality of wearing the masks provided, noting 'how could I use a mask and give men orders with a mask on my face.'<sup>852</sup> There were practical difficulties as well as an engrained socialization into accepted and time-honoured ways of doing the job, especially amongst the older workers. The trade unions were also aware of the difficulties workers endured when utilising safety equipment. The plumbers' society made a claim to the Clyde Shipbuilders' Association for extra money for working in confined spaces and wearing respirators noting that 'the wearing of a respirator all day was a discomfort which warranted an allowance.'<sup>853</sup> Croucher also notes such difficulties in British industry as a whole: 'goggles and visors, even when supplied, were not 'suitable' as required under the 1937 Act, and were, therefore, discarded.'<sup>854</sup>

The Clyde Shipbuilders' Association were also aware of these difficulties before the war noting that 'Neither the riveters nor the heaters will use the goggles because they

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<sup>851</sup> Alex McNeish, interviewed by R. Johnston, 5 July 2000 (SOHC/017/C11), p.6.

<sup>852</sup> William Dunsmore, interviewed by R. Johnston, 11 July 2000 (SOHC/017/C16), p.12.

<sup>853</sup> TD241/1/33 *Clyde Shipbuilders Association, Minute Book No.27. Local Conference with Plumbers Society, 5 April 1939.*

<sup>854</sup> Croucher, *Engineers at War*, p.19.

say that the perspiration dims the glass.<sup>855</sup> Similarly, it was found that gloves were often difficult to work with and that 'platers had indicated that they thought the gloves were too clumsy', so they refused to wear them.<sup>856</sup> The Report of the Chief Inspector of Factories, 1943 demonstrated that workers may not know how to use the safety equipment. In the case of a worker subject to chlorine poisoning, the evidence demonstrated that he had been provided with a canister respirator but had no training with it and as a result did not know how to use it.<sup>857</sup> Clearly, in wartime the provision of protective clothing and equipment was not universal throughout industry on Clydeside, moreover, where it was provided it could prove difficult and ineffective and be perceived to adversely affect performance and hence wages, leading workers to discard it.

However, workers were capable of taking measures to protect themselves from the harmful effects of their employment. Richard Fitzpatrick recalled being provided with a muzzle, which was a crude mask constructed from muslin cloth being repeatedly wrapped around the workers face, and would clearly be ineffective in preventing smaller particles from getting through.<sup>858</sup> Robert Scobie recalled wearing some type of face mask to prevent inhalation of dusts and that he 'didn't like the dust...I sometimes wore a kind of wee mask, just...keep everything kind of fresh.' When asked if this was provided by his employers he replied 'No...I provided that myself. I think I got it from somebody who worked in the steel works...he said they were good, so I did it for a

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<sup>855</sup> TD241/12/445 *Clyde Shipbuilders Association: Provision of Protective Clothing. Telephone Memorandum, 20 April 1938.*

<sup>856</sup> TD241/12/159 *Clyde Shipbuilders Association: Safety Officers Reports, Part 1. Meeting, 27 May 1942.*

<sup>857</sup> *Annual Report of the Chief Inspector of Factories, PP 1943 (Cmd.6563), p.50.*

<sup>858</sup> Richard Fitzpatrick, interviewed by David Walker, 18 August 2005 (SOHC/022), p.9

wee while.<sup>859</sup> This testimony demonstrates that some workers were capable of taking the initiative in protecting themselves at work. Moreover, it also indicates that some industries provided more in the way of protective clothing than others, since Robert recalled being given this protective mask from someone who was employed in the steel industry. Finally, it demonstrates that this worker in particular was not attempting to conform to the traditional risktaking masculine image. This is also noted by Johnston and McIvor of some workers in the mining industry and that 'the miners who tried to shield their lungs using nylon stockings and brassieres over their mouths as dust masks clearly weren't that bothered about preserving their masculine image.'<sup>860</sup> Although the case noted by Johnston and McIvor was slightly more extreme, as the miners masculine image is likely to have suffered double the blow considering they were utilising women's underwear as protective clothing. Further evidence of workers taking the initiative in protecting themselves at work can be found in the oral testimony of William McMaster, who worked in Clyde Alloy during the war. He commented on the extreme levels of noise this workforce had to endure and recalled that 'some of the fellas used to put cotton wool in their ears...just to stop the noise...but you got used to it.'<sup>861</sup> These statements from oral testimony suggest that such actions by the workforce were not motivated by concerns about health, but rather by more immediate concerns such as comfort. Nonetheless, there are also examples to be found which imply some awareness of the risky conditions, and suggest that this was a motivating factor in workers constructing their own forms of protection. For

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<sup>859</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.9.

<sup>860</sup> Johnston & McIvor, 'Dangerous Work, Hard Men and Broken Bodies', p.143.

<sup>861</sup> William McMaster, interviewed by Nicola Graham, 5 September 2012 (SOHC/051/15), p.15.

example, retired miner John Orr, also reflected on some methods used by the workforce to protect themselves noting that 'There was no form of dust suppression of any kind, except that we all carried a big hanky, usually a big red spotted bandana which was soaked with water and we tied it round our mouth and throat.'<sup>862</sup> A further example of workers protecting themselves is found in the testimony of a retired shipyard worker, Alex Whyte, who worked in the blacksmiths shop in Fairfields during the war recalled that 'we had no gloves; we used to make our own gloves...hand rags, just get a bit of brat and double it over.'<sup>863</sup> Indeed, in the above example workers would clearly have been aware of the dangers in the blacksmiths shop, therefore their actions could be said to have been motivated by a desire to protect themselves. Oral testimony demonstrates that some workers, in various industries, constructed their own forms of protective clothing. Motivations for these behaviours varied and comfort, productivity and protecting individual health and well-being contributed in varying degrees.

#### Attitudes to Risk and Awareness of Hazards

The attitudes of workers from different industries on Clydeside towards ill health and the risks involved in their work varied. This section will examine attitudes to risk among the Clydeside workforce during the Second World War including whether these varied according to gender and occupation. Some workers adapted to the risks involved in their work, one example of such an attitude is evident in the testimony quoted above where workers fashioned their own protective clothing. This suggests that they were challenging the notion that this equipment was not necessary. Clearly,

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<sup>862</sup> John Orr, interviewed by R. Johnston, 19 June 2000 (SOHC/017/C3), p.8.

<sup>863</sup> Alex Whyte, interviewed on 6 October 1989; Glasgow Museums Oral History Project 'Voices from the Yard' .

they were not simply accepting the risk, but were in fact, attempting to protect themselves from the hazard as well as trying to ensure a more comfortable working environment whilst maintaining productivity. There existed a range of different attitudes however, and one of the more prominent was that of stoic acceptance. Often workers simply accepted difficult and dangerous conditions. Johnston and McIvor argue that there was a dominant *macho* discourse, and it appears that a stoic acceptance of risk was a characteristic of this dominant macho culture inherent in the Scottish working class male population of the mid-twentieth century. They comment that masculinity was 'cemented in *enduring* filth, brutality and risk taking at work.'<sup>864</sup> Another response to risk is that posited by Walker, who argues that workers had to accept such conditions because of their overriding need to earn money.<sup>865</sup> This is supported by a comment made by a retired miner. When asked if anybody ever refused to work because of the amount of dust, Pat stated ' No. I mean it was...It's the only thing you had, you understand. You had nothing else. Oh no...You couldnae refuse.'<sup>866</sup> Chemical worker Richard Fitzpatrick noted that 'They just took everything in their stride. Ye hid tae go intae do a shift in the furnaces, ye went in and done it, and when yer mate came in ye went away.'<sup>867</sup> The workforce accepted the risks of their employment but simply met the challenges and 'got on with it'.

Johnston and McIvor have acknowledged that workers became accepting of risk because of the overriding need to earn income, however, they also argue there

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<sup>864</sup> Johnston & McIvor, 'Dangerous Work, Hard Men and Broken Bodies' p.143.

<sup>865</sup> Walker 'Danger was a thing that ye were brought up wi', pp.54-66.

<sup>866</sup> Pat Ferguson, interviewed by R. Johnston, 5 July 2000 (SOHC/017/C12), p.10.

<sup>867</sup> Richard Fitzpatrick, interviewed by David Walker, 13 August 2004 (SOHC/022), p.4.

existed a machismo work environment, which encouraged workers to take risks.<sup>868</sup>

Oral testimony is littered with examples of these attitudes. Indeed, testimony from Willie Dewar, quoted earlier referring to men who utilised safety equipment as 'Jessie's' illustrates the peer pressure to conform as men, while demonstrating that wearing safety equipment was not regarded as masculine behaviour.<sup>869</sup> Other interviewees expressed attitudes of acceptance and resignation to risk. Robert Scobie, a miner, commented upon poor health and safety standards: 'Och, you just got on with it, whether you liked it or not. There was nothing else for it, but get on with your work.' This sentiment is repeated throughout the interview, for example he later stated: 'Oh...oh terrible...you just got on with it and never thought anything about it...that was just the way of life.'<sup>870</sup> Thomas McMurdo also expressed a similar attitude:

Well naebody bothered then in they days. Dust wasnae...It wasnae bothered. It was a living. You were getting a living. You ken what it was like in the olden days was. You were getting a living and it was a' one about your health. It was a' one about your health. Naebody bothered ken. Oh no.<sup>871</sup>

This indicates a different health consciousness in the past. It suggests that health was less of priority and that earning a living was of more importance, it also perhaps suggests that there was a lack of awareness of some occupational hazards, for example 'Dust wasnae..it wasnae bothered...'. This kind of acceptance was not restricted to coal miners. Such statements demonstrate the fact that the worker was aware of the poor

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<sup>868</sup> Johnston & McIvor, 'Dangerous Work, Hard Men and Broken Bodies'; McIvor & Johnston, *Miners' Lung*, p.134.

<sup>869</sup> Willie Dewar, interviewed by Arthur McIvor, 9 December 2008, (SOHC/050/04), p.40. This is quoted on p.196.

<sup>870</sup> Robert Scobie, interviewed by Nicola Graham, 19 June 2012 (SOHC/051/10), p.11.

<sup>871</sup> Thomas McMurdo, interviewed by R. Johnston, 11 July 2000 (SOHC/017/C20), p.7.

conditions but accepted them as 'just the way of life'. Melling suggests that this acceptance may be linked to the place where one is employed:

Far from refusing to work with toxic substances, some communities appear to have accepted the risk of serious illness as part of a traditional, if not necessarily a natural order for communities which depended on dangerous trades...<sup>872</sup>

This is a particularly relevant statement for Glasgow and the West of Scotland because of the areas dependence on the traditional heavy industries. As such the Clydeside workforce, as witnessed in the testimony quoted above, accepted risk, not only because they had little control over conditions, but also because there were few other job options in the area, therefore they were inured to tough conditions.

There were many ways in which work in munitions factories and chemical works could damage health. One interviewee, Richard Fitzpatrick recalled thinking that it was not a good place in which to work, because he had witnessed the impact of this work upon his father (he had lost the septum of his nose), who had also been employed there.<sup>873</sup> This testimony indicates that this worker assumed the working environment was dangerous, but was given no formal warning of the dangers. However, it appears despite some knowledge of the negative impact of this work upon health Mr Fitzpatrick resigned himself to working there: 'I really didnae think it was a place to be working in to be honest with ye but ah had to finish up going there – ye know.'<sup>874</sup> Fitzpatrick continued to talk about the problems both he and his father had

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<sup>872</sup> Melling, 'The Risks of Working and the Risks of Not Working', p.18.

<sup>873</sup> Richard Fitzpatrick, interviewed by David Walker, 13 August 2004 (SOHC/022), p.2.

<sup>874</sup> Richard Fitzpatrick, interviewed by David Walker, 13 August, 2004 (SOHC/022), p.2.

with their noses; both had lost the septum as a result of working with the chemicals. In addition to this Mr Fitzpatrick also had what he referred to as a chrome hole and a soda hole. The chrome hole was a result of a break in the skin on his finger through which the chemical chrome got in, (according to his testimony these were relatively common within the workforce in Whites chemical plant). He recalled a Polish worker who often worked shirtless because his job often involved heavy lifting and he had chrome holes all over his back. The soda hole he referred to was in between his toes, although he admits fault here, stating:

...course that was carelessness again by wearing soft shoes and maybe 'cause I was wheeling a one wheel big barra maybe held aboot four hundredweight a dross and I had to feed the furnaces plus ah had about a hundredweight bag of soda I had to put at certain furnaces so when you were emptying the bag there was always some got out and a wee drap – wi yer feet sweatin – and maybe a wee bit a dross got in the soda.<sup>875</sup>

This evidence suggests that workers did not always think long term, paying more attention to the immediate risks, for example, risks from explosions and accidents than to health problems one might encounter in the future. Additionally, it suggests that the workforce were not provided with safety boots, which in this instance, would have prevented the injury in question. This statement also demonstrates the role of the worker in ensuring their health at work, and that he accepts the responsibility for this injury, perhaps a result of the long tradition of the employer blaming the worker, something which has been discussed in relation to accidents in chapter three. However,

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<sup>875</sup> Richard Fitzpatrick, interviewed by David Walker, 13 August 2004 (SOHC/022), p.6. <sup>1019</sup>  
Worker knowledge of hazards will be addressed later in this chapter, p.259.

it is important to add that 'blaming the worker' became more problematic when workers were unaware of risks.<sup>1019</sup>

To a degree similar stoic attitudes are evident within the enlarged female workforce during the Second World War. Many women were aware, to some extent, of the hazards of their job, and in addition were faced with the double burden of paid employment in factories and unpaid labour in the home. While much oral testimony from men in the heavy and dangerous industries of Scotland has demonstrated their stoic acceptance of risk and danger, the oral testimony of female munitions workers at Ardeer's factory during the war illustrates a similar viewpoint and that 'it was a way of life and we didn't think nothing about it.'<sup>876</sup> Another female chemical worker argued likewise, noting 'put it this way, it was the war, and you had to do something.'<sup>877</sup> Suggesting women were making a sacrifice for the war effort. Such attitudes are to be found in much of the oral testimony collected and examined. One female interviewee employed in a chemical plant during the war stated 'it was just one of those things you accepted because there was nothing else.'<sup>878</sup> This evidence questions Johnston and McIvor's argument that the machismo work cultures evident on Clydeside encouraged workers to take risks, because women clearly also faced dangerous working conditions but 'didn't think nothing about it.'<sup>879</sup> Overall however, oral testimony has demonstrated that workers responded in different ways to risk and hazard at work, motivations for accepting such conditions included contributing to the war effort and maximisation of earnings. It is difficult, in the case of industrial health in the period 1939-1945, to argue

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<sup>876</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.6.

<sup>877</sup> MP, interviewed by David Walker, 8 October 2005 (SOHC/022), p.6.

<sup>878</sup> MP, interviewed by David Walker, 8 October 2005 (SOHC/022), p.11.

<sup>879</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.6.

that risk was gendered, as evidence demonstrates that both men and women exhibited similar attitudes to risk. The evidence presented here supports Walkers argument, that workers accepted risk because of an overriding need to earn income. Although during the years under examination a secondary motivating factor may have been an eagerness to contribute to the war effort with workers feeling a sense of duty to do their bit.

Much of the evidence from oral testimony demonstrates that in the case of health hazards, workers accepted risk because they had no other choice. This was further complicated during wartime as it was difficult for a worker to leave a job, particularly so for those in reserved occupations. The evidence supports such an argument because women expressed similar attitudes to men. However, it is important to bear in mind the testimony utilised earlier in this chapter which demonstrated that some workers were proactive in attempting to protect their health by constructing their own protective clothing. This would tend to point to a range of masculinities existing, indeed Johnston and McIvor have commented 'theorists now tend to see a range of masculinities that can be prevalent at any given moment...'.<sup>880</sup> Moreover, it also suggests that participation in the war effort and maximisation of earnings were powerful motivators for workers accepting risky and dangerous conditions. Therefore, the evidence presented here lends weight to Walkers argument that workers had to accept conditions forced upon them by those in a more powerful position. Moreover, evidence on the attitudes of female workers in wartime indicates that there was not a clear gendered division on risk and danger in the workplace.

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<sup>880</sup> Johnston & McIvor, 'Dangerous Work, Hard Men and Broken Bodies', p.136; Connell also discusses this range of masculinities in Connell, *Masculinities*, p.76.

Workers were not passive. Regardless of whether they had knowledge of the risks involved, some workers neglected to follow safe procedures and wear safety equipment. One ex-miner, when questioned about the provision of face masks, commented: 'Aye they were supposed to be ahint the machines ken. Aye. But it got offie sticky you know. Aye. So we didnae wear them. You didnae think of the future we just thought from day to day, well you didnae think you were going to get.'<sup>881</sup>

This statement is illuminating in many ways. First, it indicates that masks were 'supposed to be' available, which suggests that they were not always available and it also shows that they were uncomfortable to wear. Additionally, it demonstrates that workers themselves neglected their health. Although it could also be argued that they consciously neglected their health and well-being as an act of sacrifice, and that maximising their earnings and maintaining high levels of production for the war effort was the primary concern. However, the latter part of his statement hints that perhaps the workforce was not wholly aware of the risks posed by their working environment. Perhaps if they had been educated on the hazards then the protective measures, such as the face masks, would have been more widely utilised. Goldblatt commented upon this in the *British Journal of Industrial Medicine*. He mentioned a worker in a large chemical works who became ill after 'ignoring works instructions'<sup>882</sup> Goldblatt stated this example was provided to demonstrate the importance of making the workforce aware of the hazards involved in the job. However, Goldblatt was employed by ICI and as such may have been in a conflicted position between employer and employee. Perhaps the numbers of workers purposely neglecting safety equipment and rules could

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<sup>881</sup> David Marshall, interviewed by R. Johnston, 29 June 2000 (SOHC/017/C7), p.6.

<sup>882</sup> M.W. Goldblatt, 'The Investigation of Toxic Hazards' *British Journal of Industrial Medicine*, Vol.I, No.1, January 1944, p.21.

have been reduced by educating the workforce about the hazards involved in the job, the long-term impact of such hazards and methods of protecting themselves. Had the worker been aware of the risks and potential threats to health, he might have been more likely to follow the recommended safe procedure. The extract from oral testimony regarding breathing apparatus quoted above is also interesting because it demonstrates that this worker in particular was not deliberately taking risks to conform to the traditional masculine image of men in heavy industry, but, rather he was not wearing the equipment because it was uncomfortable. David Bradley noted something similar in oral evidence from a steel worker. He points out that the workers neglected to wear ear protection because it was impractical and meant they would not hear one another: 'In this case there was no link made between the steel industry and macho, 'hard man' working culture; earmuffs were largely regarded as impractical and a hindrance to communication.'<sup>883</sup>

The Annual Report of the Chief Inspector of Factories for the year 1944 shows an awareness of the importance of informing workers about the risks and hazards associated with their work. Merewether states 'Though much has been and is being done to educate the individual worker in self protection in specific occupations and specific industries, this is a vast problem which needs comprehensive attention.'<sup>884</sup> The fact that this is considered a 'vast problem' hints that the impact of educating the workers in self protection had, to that point, been small. This emphasis on the need to educate workers about risks inherent in their employment is reiterated in the following year's annual report. Merewether states: 'The urgent need is for more

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<sup>883</sup> Bradley, 'Oral History, Occupational Health and Safety and Scottish Steel', p.92.

<sup>884</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.47.

education, equally for the employer and the employed, so that everyone shall protect himself and any others for whom he may be responsible.<sup>885</sup> The fact that workers often remained unaware of the risks involved in their work is also noted by the Chief Inspector of Factories: 'It cannot be too strongly emphasised that the medical care of workers exposed to dangerous substances is of the utmost national importance. Men and women enter the factory ignorant of danger.'<sup>886</sup> It is significant to note here however, that the medical care of workers is of such vital importance not to protect the worker, but of 'national importance' the implication being that medical care for workers was provided as a result of the war.

Despite lay knowledge of workplace health hazards, which is indicated in common names for some occupational illnesses such as 'black spit', 'potters rot' and 'grinders asthma', oral testimony demonstrates that workers were often unaware of the extent of the dangers they faced at work. For example, a retired sheet metal worker, who worked with asbestos stated that 'They were working away all round about you. And this stuff just fell like snow, you know. And that was the standard thing 'Oh don't bother with that. It's harmless', you know.'<sup>887</sup> This statement clearly shows a lack of awareness of the risks of asbestos, the workers thought it was 'harmless'. While one female chemical worker, appears not to have been made aware of the dangers inherent in her work. She recalled being banned from wearing Kirby grips and jewellery at work, but stated that the women were never informed of the reasons behind this rule. When questioned further about the powder and dust coming off the gun cotton she

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<sup>885</sup> *Annual Report of the Chief Inspector of Factories, PP 1945* (Cmd.6992), p.60.

<sup>886</sup> *Annual Report of the Chief Inspector of Factories, PP 1939* (Cmd.6251), p.36.

<sup>887</sup> SOHC/016/A9, interviewed by R. Johnston on 1 February 1999, p.10.

stated: 'well the powder of course, you see, you don't know how it affected other people.' indeed she appears unaware of the effects it could have had on her personally, despite attributing her present day breathlessness to this process.<sup>888</sup> H. R. (anonymous female respondent), who worked in munitions also recalled being forbidden from wearing jewellery but was unclear as to the reasoning behind this and that 'Maybe just, say a ring would fall into the machines, cause a friction, so that would cause an explosion, very very...they were very cautious that way, you know.'<sup>1033</sup> Additionally, this interviewee suffered from acetone burns on her hands and arms, but states that she was unaware of the dangers of working with such substances as management did not inform the workers of the risks.<sup>889</sup> Clearly then, workers were often in contact with dangerous materials, but were ignorant of the risks involved.

Workers in the munitions industry also lacked knowledge of workplace health hazards. One female employee of Ardeers stated 'I don't know what it did to you because nobody told us.'<sup>890</sup> Mrs Donnachie mentioned that she is awfully breathless in the present day, and wonders whether this may have been a result of her work in Ardeer where she was employed blending the cordite and on safety fuses, 'but of course you never gave that a thought, the way that they do now, the least thing they complain.'<sup>891</sup> This implies both that employees were unaware of the dangers their job posed to health and also that there was a feeling that one simply had to 'get on with it'. Additionally, this statement demonstrates that the interviewee is aware of the greater importance

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<sup>888</sup> Interview with MP, interviewed by David Walker, October 2005 (SOHC/022), p.15. <sup>1033</sup>

H. R (anonymous female respondent), interviewed by Nicola Graham, 20 June 2012 (SOHC/051/11), p.8.

<sup>889</sup> H. R (anonymous female respondent), interviewed by Nicola Graham, 20 June 2012 (SOHC/051/11), p.13.

<sup>890</sup> Isabella Henderson, interviewed by Patricia Williams, August 1998 (SOHC/015), p.11.

<sup>891</sup> Mary Donnachie, interviewed by Patricia Williams, October 1998 (SOHC/015), p.4.

attached to health and safety in the present day workplace. Indeed, she was slightly disdainful when she stated that nowadays people complain at ‘the least thing’ which is juxtaposed with her and her co-workers somewhat more stoic acceptance of risk.<sup>892</sup> It is an illuminating statement however as it implies that in the past the workforce was tougher, and inured to risk, demonstrating that health cultures could change over time. What is even more interesting is that the statement came from a female worker. I would argue that, since the tone is rather dismissive of the way in which workers in the present deal with hazards, it reads more like a masculine statement, as though the worker is trying to impress upon the interviewer that workers were tougher in the past.

Those working with asbestos also remained uninformed of the health risks involved with their employment, despite the 1931 Asbestos Regulations. Johnston and McIvor stated that 'certainly in the 1930s through to the 1960s information on the hazards of contact with asbestos was withheld from the shipyard workforce.'<sup>893</sup> The fact that workers remained unaware of the risks involved in working with asbestos is further illustrated in Bernard Murray's testimony. He was an apprentice in an R.O.F in Dalmuir, Clydebank. He stated that 'Ah, but these days, we didn't know what we know now about the likes of asbestosis. No.'<sup>894</sup> Clearly, workers cannot be expected to take suitable measures to protect themselves from risk when they remained unaware of the existence of such risks. When asked when they were first made aware of the dangers of working with asbestos one interviewee, an ex-lagger who worked in the majority of the Clydeside shipyards, recalled:

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<sup>892</sup> Mary Donnachie, interviewed by Patricia Williams, October 1998 (SOHC/015), p.4; This kind of nostalgia in oral testimony has been analysed in more detail in chapter two.

<sup>893</sup> Johnston & McIvor, *Lethal Work*, p.22.

<sup>894</sup> Bernard Murray, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/12), p.9. <sup>1040</sup> SOHC/016/A23, interviewed by R. Johnston & A. McIvor, 1 December 1999, p.9.

Well, to tell you the truth we were ignorant of the fact for quite a number of years. We didnae know. I had mates – like China McLean, I was a boy then – they died, and we didnae know until later on...They put them down as they died of pneumonia until they done the thingmy on their chest.<sup>1040</sup>

Further evidence of this is found in the oral testimony of a retired insulation engineer. This raises issues of the exploitation of the workforce, since clearly employers, the state and medical professionals all withheld information on the risks of asbestos from the worker. However, it is important to note the differences between asbestosis and asbestos-related lung cancer and mesothelioma (a cancer of the lining of the lung) here, as the latter was not known until the 1950s and 1960s. Having demonstrated the fact that workers sometimes remained unaware of the risks to health posed by their work, it should also be noted that this was not universal. For example, the health hazards involved in coal mining were very well known and publicised through both the trade unions and inspection of workers. Indeed, thousands of miners received compensation for lung disease in the 1940s and 1950s. Often in oral testimony questions about the impact of work upon health are not met with such detailed response as those about accidents or working conditions. For example, when asked whether he was aware of any threats to health posed by his job, munitions worker Bernard Murray replied 'No, nope. No.'<sup>895</sup> The lack of response from interviewees on the issue of workplace health suggests that it received a lower priority. Perhaps this indicates that workers were not made aware of any risks their working environment posed to their health. Examples of this can be found in steel worker Edmund Barrie's testimony, when asked whether he thought his work was harmful to health he replied 'Aye, well only there was the noise,

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<sup>895</sup> Bernard Murray, interviewed by Nicola Graham, 21 June 2012 (SOHC/051/12), p.8.

that was it.<sup>896</sup> However, when questioned further he conceded that the dust, smoke and gas presented an uncomfortable working environment and this suggests that the interviewee was not aware that such conditions could be harmful to health.<sup>897</sup> Accidents certainly seem to be a more talked about subject matter in interviews. It is possible to speculate that this is perhaps because they were a much more visible hazard than unseen illnesses, which in some cases took many years to develop. Moreover, the immediate effects of accidents, such as the loss of fingers or hands were much more visible, also trauma was sudden whilst disease was more gradual. Generally, workers tended to brush off questions on health with some sort of stoicism. It is difficult to disentangle whether this stemmed from an ignorance of the health risks involved in work or whether they simply had little other option but to accept risks, due to the need to earn money. Certainly, there are examples of both to be found in oral testimony. Perhaps it is feasible to view such attitudes as a continuation of the traditional response to occupational health problems.

#### Compensation: The Value of Health

As with accidents it appears that compensation was the favoured way of dealing with the problem. Mr Fitzpatrick stated that both him and his elderly father claimed compensation payouts for the loss of the septum.<sup>898</sup> Walker argues that 'compensation schemes legitimised risk and danger within the workplace and set a price on the health and wellbeing of the worker'<sup>899</sup> However, evidence suggests that fewer people claimed

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<sup>896</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.10.

<sup>897</sup> Edmund Barrie, interviewed by Nicola Graham, 26 June 2012 (SOHC/051/14), p.10.

<sup>898</sup> Richard Fitzpatrick, interviewed by David Walker, 13 August 2004 (SOHC/022), p.8.

<sup>899</sup> Walker, 'Danger was a thing that ye were brought up wi', p.66.

compensation from deaths resulting from industrial illness than from accidents.<sup>900</sup> Indeed, it has already been shown that it was difficult to prove that ill-health had resulted from the working environment and this made obtaining compensation difficult. The difficulties in obtaining compensation varied according to industry, and both dockworkers and those workers who were subcontracted (such as insulation engineers) for example, found the process more problematic than others.<sup>901</sup> In fact, in terms of industrial illness, dock work was amongst the unhealthiest occupations, there is evidence of dockers contracting anthrax, lead poisoning, pneumonia, asbestosis, skin disease and bronchial illnesses. Indeed, Kenefick has noted that 'the dockers life expectancy was much poorer than that of other occupational groups.'<sup>1048</sup> When this is considered alongside the difficulties in dock workers obtaining compensation outlined in chapter two, what emerges is that dockwork was an inherently dangerous and unhealthy occupation in which compensation was most difficult to obtain.

The STUC was also preoccupied with compensation. During the war years the STUC was campaigning for amendments to the 1897 Workmen's Compensation Act, suggesting that this was the preferred way to deal with illness, accident and injury and that it was prioritised over prevention. The issue of Workmen's Compensation is addressed repeatedly in the annual reports, which often note the limitations of the Act. In the 1939 report it is noted that the allowance given was 'inadequate to meet the necessary travelling and sustenance expenses involved when the patient is attending

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<sup>900</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.61.

<sup>901</sup> The difficulties of dockworkers obtaining compensation has been noted in chapter two, and although Bevin's 1940 Dock Labour (Compulsory Registration) Order reduced the casual nature of dockwork, it persisted to some degree throughout the war, further compounding compensation difficulties.

hospital for medical and other treatment.’ It is suggested that the expenses involved in a hospital visit after an accident or illness as a result of the working environment ‘should be the responsibility of the employers and should not fall either on the injured man or, as happened in some cases on public assistance committees’<sup>1049</sup> Additionally, the compensation scheme was biased against the worker, who had to present his case in front of one single medical referee whose decision was final. Mr J Armstrong, of the National Union of Scottish Mineworkers noted that ‘there was quite definitely a growing mistrust in the minds of injured men who had to appear before the single medical referee whose decision was final and

<sup>1048</sup> Kenefick, *Rebellious and Contrary*, p.147.

<sup>1049</sup> *42<sup>nd</sup> Annual Report of the Scottish Trades Union Congress 1939*, pp.228-9.

binding.’<sup>1050</sup> A further motion presented in the annual conference in 1939 called for workers to receive full wages when incapacitated and appealed to the government to widen the schedule of industrial diseases to ‘include all diseases resulting from employment.’<sup>1051</sup>

Reforming the Workmen’s Compensation Act was an important issue for the Scottish unions and this evidence may then reinforce the criticism that they were guilty of prioritising money over prevention. However, as noted previously, in campaigning for increased compensation payouts, the trade unions may have encouraged employers to provide more healthy working environments in order to minimise their liabilities. Compensation, in other words, should have had a preventative edge. Unsurprisingly, employers appear to have been opposed to the proposed changes to Workmen's Compensation suggested by the trade unions. Indeed evidence from the Glasgow

Chamber of Commerce demonstrates that employers were keen to retain control over the compensation process: 'From the national point of view it is desirable that the onus of seeing that workmen are properly protected from accident should be placed on the employers.'<sup>1052</sup>

It can be argued that the war had a negative impact on occupational health and safety with regards to the Workmen's Compensation Act. Evidence from the STUC annual reports indicates that the government had appointed a Royal Commission to look into the terms of the Act in 1940, and the STUC was, in that year, encouraging the government to put into place the proceedings from the

<sup>1050</sup> *42<sup>nd</sup> Annual Report of the Scottish Trades Union Congress 1939*, p.230.

<sup>1051</sup> *42<sup>nd</sup> Annual Report of the Scottish Trades Union Congress 1939*, p.230.

<sup>1052</sup> TD1670/1/34 *Glasgow Chamber of Commerce: Minutes January 1943 - December 1944*. 26 February 1943.

Commission.<sup>1053</sup> However, in the 1941 annual report it appears this has had to be temporarily abandoned due to the exigencies of war: 'The government decided that the war situation made it impossible for the Royal Commission to continue its investigations.'<sup>1054</sup> The Annual Report of the Chief Inspector of Factories for the year 1939 notes the improvements made by the 1937 Factory Act and suggests that the war had a negative impact upon occupational health and safety by impeding the implementation of the requirements of this Act. In his introduction Garrett wrote:

Employers Associations and Trade Unions took an interest in spreading knowledge of the new Act to a degree that was unheard of in any previous factory legislation. Occupiers of factories were falling into line and something like a new order in working conditions was being inaugurated. Good progress was being made by all concerned in bringing factories into conformity with the new Act, and I am

convinced that, had there been no intervention of war, this would have been a year of even more marked advance.<sup>1055</sup>

Additionally, in the same report the Chief Medical Inspector, Dr Bridges commented upon the increased number of gassing and fumes accidents stating: 'an upheaval such as the war could not fail to retard progress.'<sup>1056</sup> The negative impact of war upon occupational health is further noted in the Annual Report of the Chief Inspector of Factories for the year 1944. Merewether stated that 'war conditions have pointed to the need [for the elimination of occupational diseases], and the urgency of conserving the national asset of manpower has emphasised the necessity of meeting it.'<sup>1057</sup>

<sup>1053</sup> *43rd Annual Report of the Scottish Trades Union Congress 1940*, p.158.

<sup>1054</sup> *44th Annual Report of the Scottish Trades Union Congress 1941*, p.38.

<sup>1055</sup> *Annual Report of the Chief Inspector of Factories, PP 1939* (Cmd.6251), p.2.

<sup>1056</sup> *Annual Report of the Chief Inspector of Factories, PP 1939* (Cmd.6251), p.19. <sup>1057</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.45.

### Variations in Occupational Health

However, it is important to note that the situation with regards to work-related ill health is altogether more nuanced. Variations in industrial health existed according to industry, geographic location, firm size and whether it was publically or privately operated. Merewether, Senior Medical Inspector of Factories, noted the variations in the provision of medical services between private and public firms, singling out the Ministry of Supply (which controlled the Royal Ordnance Factories) for praise for its facilities and medical provision.<sup>902</sup> While in the report for 1943 he noted that 'a

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<sup>902</sup> *Annual Report of the Chief Inspector of Factories, PP 1942* (Cmd.6471), p.28.

chiropract service has been extended to many more Royal Ordnance Factories and a dental service started in fifteen factories.<sup>903</sup> This demonstrates the high level of industrial health care provided in government run firms. The difference in industrial health standards between public and private firms was evident and growing during the war, particularly because during that period many factories came under government control. McIvor and Johnston argue that 'it was in these premises that concern over workers health was most strongly developed.'<sup>904</sup> Waldron has also pointed out the difference between public and private firms, stating that 'a number of government departments created their own occupational health services, foremost of which was the Royal Ordnance which had its own full-time medical service and was singled out for praise.'<sup>1061</sup> However, the Royal Ordnance Factories had the advantage of much newer facilities than the old heavy industries. Since the majority of them were built after the 1937 Factory Act, they were built with the requirements of this Act in mind and that, as Inman argues, 'Canteens, washrooms and sanitary facilities, surgeries, first-aid rooms, rest rooms and adequate heating and lighting provision were planned in these factories from the start.'<sup>905</sup> It is also to be noted that according to Merewether, in 1944, the Royal Ordnance Factories appeared to have recognised the benefits of rehabilitation. The Report stated that 'In the larger factories rehabilitation centres continued to function satisfactorily and in the smaller ones the principles of rehabilitation based upon suitable job selection were applied.'<sup>906</sup> Additionally, the

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<sup>903</sup> *Annual Report of the Chief Inspector of Factories, PP 1943* (Cmd.6563) p.53.

<sup>904</sup> McIvor & Johnston, 'Whatever happened to the Occupational Health Service?', p.82. <sup>1061</sup>

Waldron, 'Occupational Health During the Second World War', p.203.

<sup>905</sup> Inman, *Labour in the Munitions Industries*, p.235.

<sup>906</sup> *Annual Report of the Chief Inspector of Factories, PP 1944* (Cmd.6698), p.71.

difference in health and safety standards between publically owned and private firms is noted by some coal miners. As McIvor and Johnston have argued, significant improvements, such as the Mines Medical Service, began under government control in wartime and were extended when coal mining was nationalised in 1947.<sup>907</sup>

There were also marked differences in work-health cultures, notably between the regions dominated by the heavy industries, like Clydeside, and the south and south east of England. Thomas Ferguson commented on Clydeside and the traditional heavy industries:

The traditional heavy industry of Scotland - and especially of Clydeside - is apt to be Spartan in its outlook: employers and workpeople have alike been bred in a hard school. It would be idle to pretend that Clydeside is accustomed to regard industrial health as a high priority....<sup>908</sup>

This statement is interesting as it notes the fact that both employers and workers were 'bred in a hard school' suggesting that both were inured to tough and dangerous working conditions. Medical services were slow to improve in some of the heavy industries in the region, despite Bevin's 1940 Medical and Welfare Services Order. This is evident from a letter from Thomas Ferguson dating from 1947, in which he writes that 'I fear that some of the Clydeside shipbuilders are pretty tough, and pretty well satisfied that things are fine as they are.'<sup>909</sup> This suggests that the Clydeside

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<sup>907</sup> McIvor & Johnston, *Miner's Lung*, pp.105-7,182.

<sup>908</sup> Glasgow University Archives *DC57 Papers of Professor Thomas Ferguson: 57/65 The Ideals of Industrial Medicine and the General Means by Which it is Hoped to Attain Them*.

<sup>909</sup> Glasgow University Archives *DC8: Principle Hector Hetherington's Papers: DC8/851 1943-7 File of Correspondence on the Department of Industrial Health 'Letter from T Ferguson to Hector Hetherington 20th June 1947*.

shipyards were lagging behind 'best practice' in providing medical facilities for the workforce as late as 1947. However, evidence from the Clyde Shipbuilders' Association indicates that the employers' association were encouraging firms to comply with the 1940 Factories (Medical and Welfare Services) Order. They advocated some sort of joint healthcare provision between the shipyards in so far as 'possible neighbouring firms should co-operate with a view to the appointment of a works doctor to serve the firms as a group.'<sup>910</sup> It should be noted that this topic received attention in this meeting as a result of the Medical Inspector of Factories visiting some Clydeside shipyards regarding the provision of medical services. Drawing on the above evidence it appears that some employers appeared willing to provide such medical facilities in 1941, however Ferguson's comments suggest that seven years later this had not materialised. The language used by Ferguson is also worth noting and in commenting that the shipbuilders are 'tough' he reinforces the traditional overly masculinised image of workers in Scottish heavy industry. Additionally, variations in the provision of occupational health care existed according to the size of the firm. A report by Mass Observation in 1942 noted: that 'it is generally held that a full-time Medical Officer is not needed unless a factory employs 3,000 or more. As over eight-tenths of workers are in factories smaller than this, they are in this respect neglected.'<sup>911</sup> It appears that such variations in the provision of medical facilities in the workplace existed prior to the outbreak of the war. The Report of the Chief Inspector of Factories for the year 1934 states:

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<sup>910</sup> TD241/1/33 *Clyde Shipbuilders Association: Minute Book No.27; Meeting of the Executive Committee, 10 October 1940.*

<sup>911</sup> Mass Observation, *People in Production*, p.204.

The larger factories, in general, may be said to have good ambulance rooms and first-aid facilities, in many cases exceeding the legal requirements. In the smaller factories the conditions, though varying in different districts, are not good, the first aid boxes being frequently found not to comply with the standard prescribed.<sup>912</sup>

Bradley has noted this in his examination of occupational health in the Scottish steel industry, and that 'a larger plant indicated a more formalised work culture while a smaller one indicated a more intimate, informal culture.'<sup>913</sup> Risk taking work cultures were likely to be much more ingrained into the workforce in older plants. Moreover, the design, layout and age of machinery would also have had a negative impact upon safety. However, the Factory Inspectors Report for the year 1941 commented on the willingness of some smaller firms to provide medical facilities, stating that in some small firms that 'medical supervision has been adopted willingly on their own initiative.'<sup>914</sup> Wartime Lanarkshire coal miner David Marshall illustrated that the size of the mine had an impact on health and safety provision.

With regard to ventilation he commented:

But wee mines, wee mines. I'm only going with mines with maybe 20 or 30 in it. Wee mines you know. The ventilation wasnae so good in...Most of they wee mines was a' pick places ken. It was a'...Because it didnae pay them to put a machine in.<sup>915</sup>

Variations in medical supervision and provision also existed according to industry, this was noted by the Senior Medical Inspector of Factories as early as 1939, and that 'Firms manufacturing foodstuffs and chemicals are more likely to realise the value of

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<sup>912</sup> *Annual Report of the Chief Inspector of Factories, PP 1934* (Cmd.4931), p.74.

<sup>913</sup> Bradley, 'Oral History, Occupational Health and Safety and Scottish Steel', p.94.

<sup>914</sup> *Annual Report of the Chief Inspector of Factories, PP 1941* (Cmd.6397), p.22.

<sup>915</sup> David Marshall, interviewed by R. Johnston, 29 June 2000 (SOHC/017/C7), p.11.

full time medical supervision than certain other undertakings of the same size.<sup>916</sup> Moreover, the traditional heavy industries fared worse than newer areas of the economy. This had a negative impact on Scotland's and particularly Clydeside's industrial health. Clydeside was predominantly reliant upon the traditional heavy industries, with only a small modern sector (e.g Hillington Industrial Estate). Therefore, there were structural as well as cultural constraints on improvements in occupational health standards on Clydeside, while clearly variations in industrial health standards also existed according to type of industry, with the old traditional heavy industries having much lower standards than newer areas of industry.

### Conclusion

It is clear, although difficult to prove due to the long latency periods involved in many of the most disabling and deadly industrial diseases, that the increased exposure to dangerous toxins and carcinogenic dusts during wartime caused high numbers of death and disability.<sup>1074</sup> However, it is also clear that the war encouraged much greater interest in industrial health, although it is important to note that often this interest was motivated by a desire to increase production rather than by paternalistic feelings toward the workforce. Nevertheless, the significance of this increased interest from the state in occupational health should not be undersold. The growing interest in industrial health issues must be viewed as compelling, particularly when considered against the backdrop of the Second World War. Moreover, the blackout brought ventilation issues

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<sup>916</sup> *Annual Report of the Chief Inspector of Factories, PP 1939* (Cmd.6251), p.35. <sup>1074</sup> Johnston & McIvor, 'The War and the Body at Work', p.132.

to the fore, and although ventilation suffered briefly to begin with it is clear that the blackout encouraged some employers to install more effective ventilation. Therefore, the blackout, by drawing attention to the poor standards of ventilation, actually encouraged improvements in this area. However, in some aspects the Second World War could be argued to have had a negative impact on the health of the workforce of Clydeside industries. Harmful substances previously banned, such as benzene, were reintroduced and the use of materials such as asbestos increased greatly as a direct result of the war.<sup>917</sup> It appears that, despite knowledge of industrial illnesses among medical professionals and industrialists, the Clydeside workforce largely remained unaware of many of the ways in which their employment affected their health. Rumours and misinformation were also rife, such as the belief that only blue asbestos was dangerous, not the more commonly used white asbestos. Moreover, workers were constrained by the fact that they had to earn a living, and those employed in the Reserved Occupations were further constrained by the restrictions on leaving such employment during wartime. Protective clothing was often not provided, and where it was made available it could be cumbersome and ineffective. Additionally, workers themselves proved reluctant to utilise it and, it appears, were more preoccupied with the impact of accidents than ill-health. This was perhaps because accidents were more visible and immediate in their effects. There were plenty of other things to worry about in wartime than the possible long-term effects of work practices or inhaling fumes and dust on the job. However, it is important to note that even within the Clydeside area wide variations in occupational health existed, with government run firms generally

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<sup>917</sup> Johnston & McIvor, *Lethal Work*, p.10 (asbestos imports increased from around 20,000 in the 1930s to 90,000 in the 1940s).

having better standards than privately owned companies. Clearly, then, it can be argued that industrial health on Clydeside worsened during the Second World War, however it is also evident that increasing attention was being devoted to this area by medical professionals and the state. This is evident in the creation and extension of research bodies such as the Industrial Health Research Board, which widened its remit in 1942 to include the study of the psychological impact of work, the proactive visits to Clydeside firms of the Factory and Medical Inspectors and the spread of company medical facilities, albeit mostly in the larger firms. I would argue that the picture is a complex one, with many variations in industrial health according to industry, firm size and location.

## **Chapter Six: Conclusion**

This thesis has analysed occupational health and safety on Clydeside during the Second World War. It has considered the attitudes of both male and female workers and has located the experience of Clydeside workers within the wider context of the home front during the Second World War. It has drawn out some key themes such as region, gender and agency, demonstrating that both men and women acted in ways which reinforced traditional gender roles. In terms of region it has illustrated that, in many ways and for various reasons, occupational health and safety was generally poorer on Clydeside than elsewhere - indeed Clydeside regions had fewer numbers of premises subject to the control of the Factories Acts than districts in Aberdeen, but had significantly higher numbers of both fatal and non-fatal accidents.<sup>918</sup> Wide variations in experience have also been uncovered within this region; for example, there existed wide variations in accident rates across the different shipyards on the Clyde, whilst oral testimony has demonstrated that some yards provided safety clothing and equipment whilst others simply did not.<sup>919</sup> Most importantly, it has highlighted the importance of worker agency, particularly in terms of risk and danger in the workplace as well as risk taking behaviours. Workers themselves were often responsible for risky working conditions - indeed there are examples in oral testimony and other evidence of workers neglecting to wear or utilise safety equipment and clothing and removing protective guards from machinery - and the different motivations behind such behaviours has been discussed and analysed. This research therefore makes a

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<sup>918</sup> See Table 4.2.

<sup>919</sup> TD241/12/159 CSA *Safety Officers Reports, Part 1*. 25th September 1941.

significant contribution to the historiography of the Second World War which has traditionally focused more on women's war work and military experience<sup>920</sup>, and to the history of occupational health and safety. Indeed, it also adds to the existing literature on masculinities and femininities in wartime.

Occupational health and safety has been the subject of much research in recent years. There have been many studies into specific industries such as coal mining and chemicals and many investigations into particular diseases such as those associated with asbestos, silicosis, byssinosis, anthrax and lead poisoning, to cite a few examples. Moreover, research has also focused on the role of managers, employers and trade unions in the provision of occupational health and safety. There have also been a growing number of studies which have incorporated an oral history methodology, examining worker attitudes to occupational health and risk at work as well as highlighting lived experiences.<sup>921</sup> This study engages with and adds to this body of research and attempts to fill a gap in the existing literature by examining occupational health, safety and welfare in industry on Clydeside during the Second World War. There have been a couple of article length studies of war and occupational health, but this thesis represents the first systematic study of occupational health and safety in a particular region during wartime. It analyses working conditions, accidents, safety and health, exploring the ways that work impacted upon the body in wartime in the

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<sup>920</sup> Summerfield, *Reconstructing Women's Wartime Lives*; Summerfield, *Women Workers in the Second World War*; Higate, *Military Masculinities, Identity and the State*; Newlands, *Civilians into Soldiers*.

<sup>921</sup> McIvor & Johnston, *Miner's Lung*; Walker, 'Occupational Health and Safety in the British Chemical Industry, 1914-1974'; Johnston & McIvor, *Lethal Work*, Morrison, *The Silicosis Experience in Scotland*, Perchard, *The Mine Management Professions*; Long, *The Rise and Fall of the Healthy Factory*; Melling & McKinlay, *Management, Labour and Industrial Politics in Modern Europe*; Beaumont, *Safety at Work and the Unions*; Braybon & Summerfield, *Out of the Cage*; Summerfield, *Reconstructing Women's Wartime Lives*.

industrial conurbation of Clydeside. By utilising oral testimony, this study illustrates the lived experience of those who toiled in industry on Clydeside during the war years. It locates the experience of Clydeside within the historiography focussing on three areas: fatigue, overstrain and working conditions (chapter three), safety, injury and death from accidents (chapter four) and illness resulting from contact with dangerous substances and materials which resulted in occupational disease (chapter five).

Health and safety legislation and enforcement in the 1930s was patchy with some industries, such as mining, protected better than others. Moreover, much also depended on the size of the firm, the capital it had at its disposal and the willingness of employers to enact positive changes. It should be noted that there existed employers who provided conditions in excess of what was required by legislation. However, these were generally few and far between on Clydeside. Whether a firm was privately owned or government operated also appears to have had some impact upon conditions of health, safety and welfare. R.O.Fs for example, tended to have better working conditions and medical facilities. Additionally, a gulf existed between legislation and actual workplace practice. So, state legislation did not always translate to healthier and safer working environments for those on Clydeside. A further variation noted in this research is that which persisted between newer and older industries, with newer industries having far superior conditions. This had a significant negative impact on Clydeside, which was over-dependant on the older heavy industries.

It is accepted that the 1937 Factory Act was a positive improvement in occupational health and safety legislation. However, the outbreak of war had a negative impact on the implementation of the terms of this act and it was suspended for the duration of the war. Occupational health, safety and welfare in the coal mines

was legislated for under the Mines Acts. However, by the 1930s, the 1911 Mines Act was somewhat outdated and vague on certain issues such as dust levels. Workmen's Compensation is often regarded as another mechanism by which the state attempted to protect the health and safety of the workforce.<sup>922</sup> Many amendments had been tacked onto this Act since its creation in 1897. This made it difficult to interpret. The fact that it was difficult to obtain compensation and payouts often remained low also contributed to its ineffectiveness in encouraging employers to make significant improvements. It is also noted that the war delayed improvements to the Workmen's Compensation Act in a similar way to which it hindered the application of the 1937 Factories Act. Similarities between Workmen's Compensation and Military Pensions are also noted here, particularly that similar monetary values were placed on the bodies of industrial workers and regular soldiers by the government in wartime. In terms of Workmen's Compensation, it appears that gender mattered. There were inequalities between men and women here, as compensation payouts were based on earnings, and women earned less than men. Therefore, for the same injury or illness, women would receive lower rates of compensation than men. This once again reinforced traditional gender roles, as the male was the family breadwinner and so received more. In exploring these issues in chapter two we also considered the effectiveness of some of the Special Regulations enacted during the 1930s, concluding that these too were of limited benefit. For example, the Asbestos Regulations (1931) only applied to those involved in the manufacture of asbestos, which, it is argued, was particularly devastating for the Clydeside region which had

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<sup>922</sup> Melling & Bufton, 'A Mere Matter of Rock', p.162; Bartrip, *Workmen's Compensation in 20th century Britain*, p.136; Long, *The Rise and Fall of the Healthy Factory*.

high volumes of workers employed in industries which utilised large quantities of this material (such as the insulation ladders). Despite the patchy and piecemeal nature of the legislation in the 1930s, acts such as the Factory Act (1937), the Asbestos Regulations (1931) and the extension of the Workmen's Compensation Act to include more industrial illnesses should not be underestimated. These were significant improvements and an acknowledgment by the state that poor working conditions should be rectified.

Factory Inspectors tended to educate and encourage employers to improve conditions, in what McIvor has termed a 'softly softly approach.'<sup>923</sup> This is evident in the small value and low numbers of fines handed out to employers by the Inspectorate. Moreover, there was a limit to how many visits the Factory Inspectorate could carry out, given the volume of premises subject to its control. Scotland was more disadvantaged than the rest of Britain in this case. The number of premises under the control of the Factory Inspectorate was far higher in the Clydeside area than in other areas of Scotland. Indeed, of the 320 Factory Inspectors employed in 1939, only 21 of these were stationed in Scotland. Mines Inspectors also had problems. It was difficult to regulate working conditions underground, and evidence suggests that the Inspectorate was understaffed at the outbreak of war. Those employed to police legislation were limited both by lack of resources and the patchy nature of existing legislation.

It was within this wider statutory and regulatory framework that Clydeside workers existed and clearly this context was important in determining the ways in

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<sup>923</sup> McIvor, *A History of Work in Britain*, p.113.

which work in wartime impinged upon the body. The deepening intensity of work during wartime is evident here. This contributed to fatigue and overstrain and it is argued that despite medical knowledge existing as to the negative effects of fatigue and overstrain on both the body and production, working hours on Clydeside did increase sharply after the outbreak of war and working conditions did initially deteriorate. This research finds a direct link between British successes and failures in the war effort and working hours, with a massive production drive in 1940-41 following the defeat at Dunkirk and 1943 being something of a watershed. Indeed, there was a general reduction in the number of hours worked after this point. However, what is also apparent is that the numbers of hours worked in the region tended to fluctuate according to both industry and firm size. It should also be understood that overtime was often compulsory, as was 'voluntary' work such as fire watching or home guard work. Both served to increase the time away from the home, time necessary for rest and regeneration in order to mitigate fatigue and overstrain. The war effort and drive to maintain production was clearly a higher priority than safeguarding the health and wellbeing of the workforce.

Generally, it appears that workers were accepting of longer working hours. That you just had to 'get on with it' was a common refrain in oral testimony. Although it is acknowledged that the Depression years and high level of unemployment experienced in the Clydeside area also contributed to such attitudes. There appears to have been little gender divide, with both men and women generally accepting the wartime need for longer hours. It should, however, be noted that it would have been unusual for many interviewees to express annoyance at increased working hours as civilian war workers were keen to portray themselves in a positive manner, supportive of the war

effort. Additionally, there was an economic incentive to work longer hours, as this increased income, so this too was a powerful motivating factor in worker acceptance of long working hours. As a result of this, many workers themselves were against a reduction in working hours for this reason. Once again highlighting the importance of individual worker agency; many workers themselves did not object to working longer hours because this increased their earnings. Oral testimony demonstrates similar attitudes to long working hours amongst male and female workers, although it appears men were more motivated by increased earnings than women, which is consistent with the breadwinner masculinity.

The working environments of the Clydeside industries varied. Some industries such as shipbuilding, for example, were outdoors, while coalminers toiled underground. The nature of some of the work on Clydeside meant that many workers toiled in extremes of temperature and dusty environments. Medical professionals were aware, from the 1930s, of the impact of extremes of temperature on the body in the workplace, as well as on accident rates. Yet, this knowledge was not utilised in order to improve conditions for the workforce. Certainly it did not filter down to the Clydeside workforce during the war years. It is also clear that the war, by means of the blackout, had a negative impact on working conditions in terms of temperature and air quality.<sup>924</sup> The blackout resulted in restricted ventilation and blocked or covered windows. Therefore, those working in hot temperatures and dusty environments had little option but to endure this. Ironically the war highlighted inefficiencies in working conditions while simultaneously hampering the ability to improve the situation.

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<sup>924</sup> Vernon, 'Prevention of Accidents', p.5.

Improvements were made as the war progressed and these did filter down to Clydeside. Although Bevin played an influential role in enacting positive change, the wartime Emergency Orders initiated by him failed to reach all industries from the outset. Improvements must be measured against the fact that it was wartime and both the labour and materials necessary to improve sanitary and washing facilities were in short supply. Finally, there were structural problems involved in modernising such facilities in the old traditional heavy industries on Clydeside. Such industries frequently lacked space to make such improvements. While the workforce themselves were inured to tough conditions. Therefore, even in wartime, McIvor's assertion that the newer and lighter engineering industries had better conditions and facilities holds true.<sup>925</sup> This was particularly devastating for Clydeside, which only has a small light engineering sector. It should also be noted that improvements to working conditions in terms of sanitary and canteen facilities did not occur in a vacuum. Indeed, there was prior to the war a greater and growing concern with cleanliness, health and nutrition, as evidenced in the Liberal welfare reforms of 1906-1914, the creation of a Ministry of Health in 1919, the activities of voluntary organisations such as The People's League of Health and the New Health Society which were active in the 1920s, and the establishment in 1934 of the Committee against Malnutrition.

It is difficult to disentangle accident rates for the Clydeside area as the Factory Inspectors Reports cite figures for the whole of Britain. Moreover, during wartime such statistics and figures were not always recorded faithfully. Data from the 1946 Factory Inspectors Report indicated clearly that the Clydeside area, Glasgow West and

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<sup>925</sup> McIvor, *A History of Work in Britain*, p.113.

Lanarkshire, had much higher rates of accidents than other areas in Scotland.<sup>926</sup> In an area which had around 33% of Scotland's working population, Clydeside accounted for 38% of fatal and non-fatal injuries from work-related accidents. Accident rates fluctuated during the course of the war.<sup>927</sup> There was an increase from the outbreak of the war in 1939 until 1943 when the first decrease in accident rates was recorded. It is significant that this year also witnessed a reduction in working hours. The high accident rates when the war effort was at its peak suggest that the war itself hampered improvements in occupational health and safety and that the accident rate was linked to the pace of production. The war thus saw an interruption to improvements in occupational health and safety. General repair and maintenance was also neglected during the war years, with the result that many workplaces were using old and unsafe machinery. The installation of fencing and guards, although promoted by the Factory Inspectors, was also hampered by shortages of materials experienced during the war years. Therefore, although U.K figures suggest some improvement in accident rates and working hours after 1943, it is clear that the war had a negative impact to begin with and that wide variations in occupational health and safety standards persisted throughout.

Safety was of less importance during the war years and this was reflected in the fact that the Factory Inspectorate Reports during the war years did not include discussions on safety equipment. Analysis of the Reports has demonstrated a lack of interest in protective clothing, something which is corroborated by the oral testimony

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<sup>926</sup> *Annual Report of the Chief Inspector of Factories, PP 1946 (Cmd.7299)*, p.96; Chapter 4, p.182, Table 4.2.

<sup>927</sup> *Annual Report of the Chief Inspector of Factories, PP 1946 (Cmd.7299)*, p.96; Chapter 4, p.182, Table 4.2.

of Clydeside workers. However, the fact that post-war reports discussed the benefits of helmets, gloves and goggles, suggests that there existed an awareness of this during the war. It certainly appears that this was not an important issue for consideration in wartime, despite the urgent need to maintain high levels of production to fuel the war effort. It appears again that the war was prioritised over the safety of the workforce. Moreover, the Factory Inspectorate Reports note that in cases where equipment was provided, it was not always utilised. This could have been resolved by the state making the wearing of such equipment and protective clothing compulsory and expounding and publicising the advantages of using it. However, once again attention should be drawn to the fact that these issues cannot be seen in isolation. Indeed, they must be set against the ongoing wartime emergency. Nonetheless, the responsibility of wearing such equipment, where it was provided, remained on the worker. Nevertheless, having drawn such conclusions it is necessary to point out once more that workers were not a monolithic group, not all responded to hazards and risk in the same way. Although not always aware of the ways in which work had a negative impact on health and wellbeing, the Clydeside workforce had some inclination towards protecting themselves. Indeed, some workers fashioned their own respirators and ear protection, using, for example, muslin cloth and cotton wool. Such actions support the argument that although peer pressure to act as men encouraged workers to take risks, they were in fact also constrained by the need to earn a living. This suggests some awareness of the dangers of the working environment and adds another dimension to Johnston and McIvor's argument about risk taking in Scottish industry.<sup>928</sup>

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<sup>928</sup> Johnston & McIvor, 'Dangerous Work, Hard Men and Broken Bodies'.

What emerges is that provision of protective clothing and safety equipment on Clydeside was mixed. In addition, where it was provided it could be cumbersome, uncomfortable and ineffective. Interviewees recount memories of having to remove equipment in order to work effectively and communicate with co-workers. It is argued that this too was not about workers deliberately taking risks, but that they were in a situation over which they had little control, in which risk was accepted, and there was incentive to maximise production to increase earnings - a powerful motivator particularly considering the inter-war depression. However, this is also indicative of the fact that workers themselves had agency, and sometimes made a choice to remove safety equipment in order to enable them to work faster, thereby increasing their earnings. Moreover, the wearing of safety equipment was rarely compulsory, which further illustrates that workers had agency and were, at times, complicit in the neglect of safety. A further factor contributing to the neglect of workers in utilising safety apparatus was the lack of training and education. Oral testimony demonstrates that despite medical knowledge existing regarding workplace hazards the Clydeside workforce often remained unaware of many of the risks to health posed by their working environment, and could be poorly educated about the benefits of using safety equipment. The intensification of the work process and the prevalence of workers cutting corners, motivated by both the war effort as well as attempts to maximise earnings also contributed to the failure to utilise safety equipment and to the rising accident rate over 1939-43.

Health was, traditionally, given a much lower priority than accidents and safety by trade unions, employers, the state, and as we have seen from oral testimony, workers themselves. Research by Dembe and McIvor and Johnston has demonstrated that it

was often difficult to determine whether certain diseases or ailments were caused by the working environment.<sup>929</sup> As with other factors surrounding occupational health and safety on Clydeside during the Second World War, the situation regarding medical provision varied greatly making it difficult to draw hard and fast conclusions. The evidence – including oral testimony – has shown first-aid and medical facilities to be basic in most heavy industry workplaces on the Clyde. They were unable to treat any bar the most minor injuries and for anything more serious workers had to go to hospital. However, Bevin's Factories (Medical and Welfare Services) Order (1940), resulted in more doctors, nurses and welfare staff in

U.K industry overall. On Clydeside, evidence from the Clyde Shipbuilders' Association records shows that employers were making some attempts to provide safety officers and similar services in the workplace. This was a significant improvement, although implementation of this Order was hampered by shortages of medical professionals. Moreover, its scope was limited to firms engaged in war production. This suggests that the motivation behind the introduction of this order lay in maximising production for the war effort rather than a genuine concern for worker safety and wellbeing. However, this should not undermine the significance of this legislation which was ground breaking and did result in some notable improvements.

The role of the trade unions with regard to industrial health has been fiercely debated. While arguing that the trade unions on Clydeside could have done more to improve occupational health and safety, this thesis finds some common ground with Long and Melling's arguments. Indeed, it argues that the unions were involved with

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<sup>929</sup> Dembe, *Occupation and Disease*; McIvor & Johnston, *Miner's Lung*.

health, safety and welfare issues on Clydeside during the war, as well as noting that by attempting to secure 'dirty' and 'danger' money for employees and securing maximum possible compensation payouts, the trade unions were trying to force employers to raise minimum standards. It is clear that they had greater bargaining power during the Second World War, a result of both full employment and the appointment of Ernest Bevin, former leader of the Transport and General Workers Union, as Minister for Labour. The trade union role in campaigning for changes to Workmen's Compensation legislation was important, and was a positive step in occupational health and safety provision. However, the trade unions could have been more proactive in protecting workers from poor working conditions, high accident rates and levels of disablement from industrial disease. This research argues that more could have been done to publicise risk and educate the workforce by the unions in wartime. The Annual Reports and the Minutes of the STUC General Council meetings for the war years contain very little mention of occupational health and safety. This is telling. The prevailing concern of the unions here appears to be monetary, and there are numerous examples of the Amalgamated Engineering Union (Lanarkshire Branch) claiming extra money for those engaged on dirty and dangerous work. Although it is possible to argue that in doing so the unions were encouraging employers to improve conditions in order to avoid paying such 'danger money'.

What is also evident from this research is that wide variations in occupational health, safety and working conditions existed within the Clydeside region. Certainly improvements are noted, but these were uneven and patchy and legislation was often poorly policed. Much could depend on the industry, the size of the business and

whether it was public or privately owned. It appears that the older heavy industries fared worse than newer ones. This was a trend which had a significant impact for the Clydeside area, which had traditionally always been dependent upon such heavy industries. R.O.Fs such as the one in Bishopton, tended to have much better sanitary and washing provision. It is suggested that this was because these industries were newer, and that the premises and facilities had been constructed with the regulations of the Factory Act (1937) in mind. In turn this suggests that the Factory Act (1937) had a significant positive impact. The wide variations in experience across and within industries on Clydeside indicates the need for further study of individual industries during the Second World War. Despite such variations, the significance of the fact that some improvements were made should not be understated. There was a growing enthusiasm and interest in health, safety and working conditions during the Second World War. It is argued that this is of particular significance considering the war emergency, and the fact that employers, the state and trade unions could all be argued to have more pressing concerns at that point. Moreover, evidence from the mid-late 1940s suggests the continuation of this interest and enthusiasm beyond the war years. What emerged during the war was a growing respect for conditions under which workers toiled as well as an awareness of how such conditions impacted on the body. This must be viewed alongside greater concern with the health and fitness of the nation more generally. Indeed, this research suggests that the growing interest in and awareness of the impact of working conditions during the Second World War was a continuation of pre-war interest in health more generally. For example the interest in nutrition (in 1934 the Committee against Malnutrition was formed), and fitness (the Physical culture movement was popular in the 1920s and 1930s) as well as the benefits

of sunlight (the voluntary organisation the Sunlight League, was very active in the 1920s) and the pre-war liberal reforms, naturally led to an interest in occupational health and safety, evident in the wartime orders relating to canteens and medical and welfare services.

Evidence has demonstrated variations in employers' responses to health and safety on Clydeside during the war, amongst large and small employers and also between those with different managerial philosophies. Strategies varied across a spectrum from welfarist to autocratic. There was agency here and some complied with and others evaded wartime welfarist legislation such as Bevin's Medical and Welfare Services Order. There were regular meetings of safety officers of the Clyde shipyards, attended by representatives of the Clyde Shipbuilders' Association and Factory Inspectorate staff. This suggests that employers' associations were beginning to see the benefits of safety improvements, and also indicates some form of tri-partite consultation between employers, the state and workers, something which should be regarded as of particular significance in wartime. Evidence from employers' association records further illustrates that the situation regarding occupational health and safety provision on Clydeside in wartime was altogether more nuanced. It demonstrates variations in responses even between firms in the same industries. Indeed, there are examples of engineering employers refusing to even supply overalls. However, it should be noted that employers cannot be held fully accountable for the poor standards of occupational health and safety provision on Clydeside during the war, indeed just as worker attitudes to risk and danger varied, so too did the responses of employers. Medical professionals, the state and employers often held knowledge of risks and this, it is clear, gave them power. For example, medical professionals and the state were aware of the damaging

impact of long working hours as early as 1918, yet long hours of work were common at the outbreak of the Second World War. Indeed this was the case with asbestos, the dangers of which were first discovered in 1897, although oral testimony illustrates that workers remained ill-informed of such dangers during the Second World War, while evidence from the *British Journal of Industrial Medicine* illustrates the existence of medical knowledge about vibration white finger during the 1930s, yet this was not eligible for compensation until the 1980s. Further research into the role of employers and managers and their role in occupational health and safety provision during the Second World War would prove useful here, in order to enable a better understanding of their attitudes towards such issues during wartime.

Accidents were accepted and tolerated as part of the nature of employment on Clydeside. The evidence presented here, although qualitative in nature, tends to concur with McIvor's suggestion that there existed a tendency to blame the worker for the occurrence of accidents.<sup>930</sup> Indeed, some of the oral respondents themselves exhibited this trait when recalling accidents to co-workers. This in turn demonstrates how ingrained this attitude was in the Clydeside workplace. It is also evident that workers themselves contributed to high accident rates, by cutting corners in order to maximise earnings. However, it is important to note that prevailing wage systems were a result of employer and managerial control and is therefore another example of the workforce being constrained by their working environment. Employers put such payment systems in place in order to maximise production. So, workers ability to protect themselves from accidents and risk was constrained by systems that tied earnings to output.

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<sup>930</sup> McIvor, *A History of Work in Britain*, p.127.

Additionally, the workforce might have felt a moral obligation to ignore safety procedures in order to meet targets, and were more inclined to take risks during wartime. This indicates that the notion of 'risk' was reconfigured during the war years.

Accidents were a common theme in the oral testimony of Clydeside workers. It is suggested that such memories were so common because witnessing accidents, particularly if serious or fatal, was a traumatic experience. The way in which accidents are remembered is also important. Interviewees tend not to make a great fuss about them which suggests that they were regarded as a fact of life in industry on Clydeside at this time. Interviewees were often nonchalant in both tone and manner when referring to accidents which further suggests that they were a relatively frequent and accepted occurrence. Clearly high levels of risk were accepted and workers on Clydeside were accustomed to this. These attitudes appear to have crossed gender divides to a greater extent than has been acknowledged in the literature to date, with women workers too acknowledging but downplaying risk in wartime.

Generally what emerges is a stoic acceptance of risk. Amongst interviewees the need to 'just get on with it' was prevalent. Indeed, this attitude was common amongst both males and females which lends support to Walker's argument. He posits that workers had little choice but to sell their labour despite the dangerous nature of the employment. However, this too becomes slightly more problematic in wartime when people were motivated by the thought of making their own contribution to the war effort and some men were prohibited from leaving certain reserved occupations during the war. One interviewee, Harry McGregor, simply stated that 'there was no attitudes

towards it [safety]<sup>931</sup> This suggests that safety was not afforded much attention in the workplace. It is postulated that this was primarily the responsibility of employers and managers who failed to disseminate knowledge of risks or provide or actively encourage the use of safety equipment and protective clothing. It is evident from much of the oral testimony that the Clydeside workforce remained poorly informed of many of the risks inherent in their work, and therefore were less able to protect themselves. Indeed, it is clear that medical knowledge regarding workplace hazards did not filter down to the Clydeside workforce during the war. Having said that, there are examples of workers hinting that they understood certain working environments and substances were harmful to them. However, it is clear from their memories and the way in which they articulate themselves that this was an intuitive assumption rather than knowledge passed on from employers, medical professionals or the state. It is suggested that some level of training and dissemination of knowledge would have been beneficial. Safety was not an issue prioritised on Clydeside during the war, witnessed in the acceptance of workers that safety training and provision was minimal. It is argued that more positive improvements could have been made if safety had been more employer led.

Interestingly, fragments of oral and other evidence suggest that female attitudes to accident and risk were similar to those of the male workers. For them too risk was generally accepted as a way of life in Clydeside industry during the Second World War. Moreover, they too showed a certain awareness that their work was of a hazardous nature. This suggests that the gendered nature of risk was somewhat neutralised by war conditions and the blurring of boundaries between men's and

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<sup>931</sup> Harry McGregor, interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.27.

women's work on the home front. Both men and women adopted stoic attitudes to tough conditions in order to do their bit and support the war effort. It has previously been pointed out that workers, both male and female were willing to take more and greater risks in wartime and this was not different with regards to industrial health.

However, in spite of having noted that the gendered nature of risk was blurred by the war effort, a gender divide seemed to exist in relation to how important men and women deemed washing and sanitary facilities to be. This has previously been noted by both Hepler and Croucher, who have suggested that women were more active in campaigning for improved welfare facilities at work than men.<sup>932</sup> Their influence here is commented upon by several male interviewees. Even then, however the improvements in sanitary facilities could be regarded more a result of the actions of a traditionally paternalistic state, than any direct actions or pressure from women themselves. Indeed, on Clydeside men were much more accepting of existing sanitary and washing facilities. They had been bred in a hard school and were used to working in heavy industry in poor conditions. Women and young men were more likely than older men to utilise such facilities where they had been provided. This research suggests that this is linked to the importance of the Clydeside heavy industry workers to appear masculine, and, for women, linked to their traditional and primary role as caregiver. This indicates that traditional gender dynamics remained unchanged. In turn this hints that, despite the upheaval of war, key elements of traditional gender roles and dynamics persisted. Masculinities are both time and culturally specific and in this case the dominant model of masculinity was that of the soldier or military man. Risk was

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<sup>932</sup> Croucher, *Engineers At War*, p.254; Hepler, "And We Want Steel Toes Like the Men:", pp.697-8.

reconfigured during wartime and workers were more likely to take risks to assert their masculinity if their occupation had effectively barred them from attaining the dominant model of masculinity, the military man. Masculine culture is also evident in the neglect of safety equipment. This neglect of safety equipment stemmed from a need or desire to emphasise masculinity. Oral testimony has provided many examples of the negative attitudes Clydeside working men held towards the provision of protective clothing and safety equipment and the peer pressure that prevailed on Clydeside to act as 'real men'. Indeed risk taking behaviours were a source of masculine pride, these men were tough, and accustomed to difficult and dangerous working conditions and they did not want to appear weak or feminine by utilising safety equipment. Interestingly, similar attitudes towards protective clothing and safety equipment existed among women. It is suggested that this was a method by which women maintained their femininity in a very macho, male dominated environment. Therefore, both men and women were neglecting safety equipment and protective clothing in an effort to preserve traditional gender roles despite the upheaval of war. It should also be remembered however, that maximisation of earnings through the speed up of the work process as well as an unthinking acceptance of risk and danger also contributed to the neglect of safety equipment.

Oral testimony has served to highlight the differences in attitudes towards health, safety and welfare according to gender. Indeed, it is clear that both men and women did take risks at work, however for different reasons. Men did so in order to assert their masculinity, which had been somewhat damaged by them remaining on the home front as they were unable to conform to the hegemonic masculinity of the time. This perceived threat to their masculinity led to attempts to bolster it by taking risks and

neglecting safety equipment in order to avoid looking like a 'Jessie'. Women, on the other hand, appeared to neglect safety procedures and take risks in order to preserve their femininity, such as trying to avoid wearing safety boots or hats. However, maximisation of earnings remained a powerful motivator for both genders. Clearly both sexes were attempting to preserve traditional gender roles.

This research recognises the validity of Johnston and McIvor's argument that there existed a culture of risk within Scottish industry, and Clydeside in particular.<sup>933</sup> However, it points out that this becomes more problematic in wartime when masculinity is contested. The epitome of masculinity in wartime was the military man and it has been argued already that this encouraged industrial workers, many of whom were in reserved occupations, to take more and greater risks in wartime. Moreover, women's neglect of safety equipment and protective clothing has also been demonstrated. Johnston and McIvor's study focuses on masculinity, however this research adds another dimension to the study of risk taking cultures. It suggests that gender and gender identities were important in the understanding of risk taking behaviour and that both male and female workers knowingly took risks in the wartime workplace.

A key point which emerged from this research was the fact that workers themselves had agency, and although other factors such as the influence of the state and employer and managerial controls over work processes were at play, individual agency was important. Indeed, workers responded in various ways to risk and the state's efforts to shape and control their bodies and they had various motivations for

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<sup>933</sup> Johnston & McIvor, 'Dangerous Work, Hard Men and Broken Bodies'.

doing so. Gender ideals, performance, productivity and maximisation of earnings as well as moral ideals about sacrifice for the war effort were all important motivating factors when it came to workers responses to risk and danger in the Clydeside workplace. Moreover, oral testimony has demonstrated that resistance to safety measures was sometimes simply unthinking. Indeed, some interviewees stated that safety was not something that was really a consideration in the workplace commenting that there 'were no attitudes towards it.'<sup>934</sup> It is clear that workers often neglected safety clothing and equipment simply because it was easier to work without them, for example, ear protection limited the ability to communicate with those working alongside you. Performing masculinity and femininity was also an important motivating factor for the neglect of safety clothing, women for example refusing to hide long feminine hair under caps, and men neglecting use of such protective equipment in order to reinforce masculinity. Maximisation of earnings, which was tied up with performance and productivity due to payments by results wage systems, also motivated workers to take more risks. It encouraged them to cut corners and speed up the work process in order to make more money, as one interviewee stated 'time was bonus to these men so that they didn't want to use these things [safety equipment].'<sup>935</sup> While other interviewees also commented on taking shortcuts and doing things that they were not supposed to do in order to speed up the process. Interestingly, evidence also suggests that workers themselves considered that the individual was responsible for their own safety, even going so far as to blame the injured worker for the accident which had resulted in injury. Indeed, it seems there was a general acceptance that high

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<sup>934</sup> Harry McGregor, Interviewed by Arthur McIvor, 13 July 2009 (SOHC/050/06), p.28.

<sup>935</sup> Willie Dewar, Interviewed by Arthur McIvor, 9 December 2008 (SOHC/050/04), p.37.

levels of risk and danger in the workplace was normal, and this attitude was not gender specific. Both male and female employees accepted risk and almost expected accidents as a normal part of their employment. Clearly, employers, the state, trade unions and workers themselves were complicit in the poor standards of occupational health and safety evident on Clydeside during the Second World War; each could have done more to improve working conditions and safety. Further research into attitudes to risk in other types of workplace during wartime may prove illuminating here, for example, it would be interesting to know if agricultural workers engaged in similar risk taking behaviours. Such research has yet to be conducted however.

Oral history methodology has proved useful and insightful for this research. It has shed light on lived experience and on workers attitudes to employment and risk in Clydeside during the Second World War, information which would have been unavailable elsewhere. These personal testimonies have contributed to the idea that gender identities became blurred during the war. As well as conducting my own oral interviews, this research made use of existing oral testimonies, which proved to be invaluable. At times this was frustrating however, as the interviewer did not always ask the questions one would have liked. That in itself has proved beneficial however, as in such cases the interviewees statements were not prompted by the researchers own agenda.

It has been shown that time and again the state prioritised the war effort over worker safety. This is evident in the suspension of the 1937 Factory Act, to allowing employers to demand long and injurious hours of work, lack of proper safety equipment and fencing of machinery due to shortages of materials, the reintroduction of previously banned substances and the increased use of dangerous and toxic materials as well as

the delays in the Royal Commission on Workmen's Compensation Act in 1941. It appears that the health, safety and well-being of the wartime workforce took a backseat to production for the war effort. That said, the occupational health problems that the war threw up were addressed, at least to some extent, by Bevin's 'protective' legislation and special regulations, as well as by rising real earnings in wartime for war production workers. Clearly the war had served to highlight poor and dangerous working conditions, although simultaneously hampering the ability of the major players in occupational health and safety to remedy the situation.

What was encouraging in the immediate post-war years was the fact that occupational injury rates fell sharply. There was a 33% fall in work-related accident deaths over the five years 1945-9 compared to 1940-44, the largest proportionate fall on record to date over a five year period allowing for the relatively full employment of the post-war years.<sup>936</sup> Moreover, attention still seemed focused on industrial health, particularly in terms of research. This is evidenced in the Safety, Health and Welfare Museum which opened to the public in July 1946. This museum supplied information to all those involved in the workplace from employers and employees and trade unions, to medical professionals, and boasted 7,000 visitors from July 1946 to December the same year.<sup>937</sup> However, despite improving medical knowledge the Factory Inspectorate still called for more information on occupational disease at the end of 1947: 'much more information on the incidence and severity of occupational sickness

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<sup>936</sup> McIvor, *A History of Work in Britain*, p. 132.

<sup>937</sup> *Annual Report of the Chief Inspector of Factories, PP 1946* (Cmd.7299), p.41. <sup>1096</sup>  
*Annual Report of the Chief Inspector of Factories, PP 1947* (Cmd.7621), p.67.

is necessary for the protection of the individual and the welfare of the nation.<sup>936</sup> This suggests a dearth of knowledge remained. Although more universities had facilities for the study of industrial disease and more doctors in general practice were becoming more aware of industrial disease.<sup>938</sup> Most telling of the post-war attitudes towards occupational health and safety was the failure of the National Health Service to incorporate an Industrial Health Service, ensuring the focus remained on the curative rather than preventative. However, this must be balanced with the introduction of the Industrial Injuries Act (1948) which was a significant improvement to the outdated and complicated system of Workmen's Compensation.

This research has highlighted that wide variations in health, safety, welfare and medical provision existed within Clydeside, across and within industries. The same must also be said for the attitudes of trade unions and employers, which ranged across a spectrum. The war caused a worsening of occupational health and safety followed by some amelioration after 1943. This is significant as improvement was witnessed only when Britain was making important gains in its war effort. Workers on Clydeside existed within this wider socio-legal framework. This research on Clydeside outlines the need for further study into occupational health and safety and work-health cultures during the Second World War. It has uncovered wide variation in conditions according to industry, region and firm size, which suggests that research into specific industries would prove a valuable exercise. Other regional studies would also complement this one, particularly, perhaps of local economies in the south and south-east of the country which were markedly different to Clydeside.

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<sup>938</sup> *Annual Report of the Chief Inspector of Factories, PP 1947 (Cmd.7621)*, p.86

This study of occupational health and safety on Clydeside during the Second World War has located the lived experience of workers in the region within the political economy of occupational health and safety in a period when this wider context was much more important, given unprecedented levels of state control over the economy during the wartime emergency. The regional focus of this thesis has allowed for examination of the impact of war and legislation on occupational health and safety, while the use of oral history methodology has enabled an analysis of worker attitudes in the West of Scotland industrial conurbation. Indeed, this research highlights that these issues would merit further study, particularly the issue of gender in workplace health cultures during wartime, for example studies of the female dominated industries such as textiles and lighter engineering would greatly add to existing literature.

This thesis has put the civilian industrial workers contribution to the Second World War to the forefront, and considered both male and female contributions alongside one another. In doing so it addresses an area of Second World War history which has been hitherto somewhat neglected. Indeed, it is difficult to understand this apparent neglect considering such a large proportion of society were found in civilian, and particularly industrial occupations, during the war years. It has highlighted the poor standards of occupational health and safety on Clydeside as well as improvements. More importantly, it has highlighted the role of human agency, demonstrating that workers themselves were often complicit in risky and dangerous workplaces and working practises. This research has added to the debate on risk cultures and masculinities at work. It has provided a new dimension to existing studies by considering attitudes of female workers in the heavily masculinised environment of wartime industry on

Clydeside. Moreover, it has noted that desire to contribute to the war effort was also a powerful motivator for both men and women to speed-up their work process. This is the first study to examine and contrast the responses of men and women to ideas of risk and workplace health and safety side by side in the context of the Second World War. It is clear that both male and female employees were influenced by wider gender stereotypes. It has been shown how both sexes neglected safety equipment and took part in risk-taking behaviours in order to emphasise their masculinity or femininity. It has demonstrated that, in wartime on

Clydeside, men and women exhibited similar attitudes to risk and working hours. Indeed, both sexes were accepting of longer working hours simply because this was accepted as the norm, although some highlighted the importance of their own contribution to the war effort, whilst they also acted in ways which reinforced traditional gender roles, regardless of the risks to the body. This thesis has demonstrated men and women acting in similar ways in order to preserve traditional gender roles. In its analysis of occupational health and safety on Clydeside during the Second World War, with its attention to the responses of the Clydeside workforce to risk, this thesis addresses a significant gap in knowledge of the social and cultural history of the Second World War and highlights areas for further study.

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These interviews were conducted and transcribed by Nicola Graham. The audio files and transcripts are stored in the Scottish Oral History Centre, at the University of Strathclyde under archive reference 051.

David Bruce and Robert McGowan (SOHC/051/1)  
D.O.B: not disclosed  
Shipyard welder (Bruce); Shipyard burner (McGowan)  
Interviewed on 17th June 2010

George Hannah (SOHC/051/2)  
D.O.B: not disclosed  
Marine plumber  
Interviewed on 18th June 2010

Robert Cowan (SOHC/051/3)  
D.O.B: not disclosed  
Pipe fitter  
Interviewed on 29th July 2010

D. S (female; anonymous) (SOHC/051/4)  
D.O.B: 15 January 1923  
Typist  
Interviewed on 12th June 2012

H. B (female: anonymous) (SOHC/051/5)  
D.O.B: not disclosed

Served in WAAF in England  
Interviewed on 12th June 2012

J. D (female: anonymous) (SOHCA/051/6)  
D.O.B: 11 March 1923  
Turning Lathe Operator  
Interviewed on 12th June 2012

Robert Leithead (SOHC/051/7)  
D.O.B: 8 February 1919  
Coal Miner  
Interviewed on 13th June 2012

Antonia Hunter (SOHC/051/8)  
D.O.B: 2 January 1922  
Bailey Bridge maker  
Interviewed on 19th June 2012

E. B (female: anonymous) (SOHC/051/9)  
D.O.B: 5 December 1920  
Iron Foundry Worker  
Interviewed on 19th June 2012

Robert Scobie (SOHC/051/10)  
D.O.B: 26 August 1925  
Coal Miner (pithead and underground)  
Interviewed on 19th June 2012

H. R (female: anonymous) (SOHC/051/11)  
D.O.B: 19 November 1919  
Munitions Worker  
Interviewed on 20th June 2012

Bernard Murray (SOHC/051/12)  
D.O.B: 19 July 1926 Apprentice  
Engineer  
Interviewed on 21st June 2012

James McFadzean (SOHC/051/13)  
D.O.B: 22 January 1921  
Apprentice Pattern Maker  
Interviewed on 21st June 2012

Edmund Barrie (SOHC/051/14)

D.O.B: 7 January 1921  
Steelworker/Crane Driver  
Interviewed on 26th June 2012

William McMaster (SOHC/051/15)  
D.O.B 24 March 1926  
Metal Worker (Clyde Alloy)  
Interviewed on 5th September 2012

### **Other SOHC interviews consulted**

The interviews below were conducted by Ronald Johnston and Arthur McIvor as research for their publication *Miner's Lung*. These transcripts are stored at the Scottish Oral History Centre Archive at the University of Strathclyde.

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SOHC/017/C4 Andrew Lindsay, interviewed on 29 June 2000  
SOHC/017/C5 Archie McLean, interviewed on 29 June 2000  
SOHC/017/C6 George Devenne, interviewed on 29 June 2000  
SOHC/017/C7 David Marshall, interviewed on 29 June 2000  
SOHC/017/C9 Harry Steel, interviewed on 29 June 2000  
SOHC/017/C11 Bobby Strachan, interviewed on 5 July 2000  
SOHC/017/C12 Pat Ferguson, interviewed on 5 July 2000  
SOHC/017/C13 Alex McNeish, interviewed on 5 July 2000  
SOHC/017/C15 David Hendry, interviewed on 27 June 2000  
SOHC/017/C16 William Dunsmore, interviewed on 11 July 2000  
SOHC/017/C17 Dick Easterbrook, interviewed on 29 July 2000  
SOHC/017/C20 Thomas McMurdo, interviewed on 11 July 2000  
SOHC/017/21 Tommy Coulter, (interviewed by Neil Rafeek and Hilary Young), 12 January 2005

The interviews below were conducted by Ronald Johnston and Arthur McIvor as research for their publication *Lethal Work*. They are almost all anonymised. These transcripts are stored at the Scottish Oral History Centre Archive at the University of Strathclyde

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SOHC/016/A9, interviewed on 1 February 1999 SOHC/016/A15,  
interviewed on 17 March 1999  
SOHC/016/A18, interviewed on 3 February 1999  
SOHC/016/A22, interviewed on 1 December 1999  
SOHC/016/A23, interviewed on 25 January 1999

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The following interviews were conducted by Arthur McIvor as part of the 'Reserved Occupations' Oral History Project and are archived at the Scottish Oral History Centre at the University of Strathclyde.

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SOHC/022 interview with MP (anonymous), interviewed October 2005

The following interviews were conducted by Patricia Williams as part of her undergraduate dissertation research into Imperial Chemicals Industries and are archived at the Scottish Oral History Centre at the University of Strathclyde.

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The following interview was conducted by David Bradley as part of his PhD research.

Interview with Tommy Brennan, interviewed on 7 March 2011  
The following interview is part of the Glengarnock Oral History Project, 1979-1980, located at the School of Scottish Studies at the University of Edinburgh.

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