Death on the Warwickshire Coalfield: an examination of the contribution of miners, coalowners and the State to the decline in mining fatalities in the British coal industry in the period of expansion 1840 to 1913.

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Abstract

This thesis examines the development of health and safety in the British coalmining industry in the period of rapid expansion 1840 to 1913 through a case study of the Warwickshire coalfield. It will assess the contribution of the miner, the coalowners and the State to improvements to mine safety. Although historians have been attracted to this period of coalfield expansion, they have tended to concentrate upon the complex economics necessary for success or the fractious record of industrial relations, with health and safety marginalised to the periphery. They have also mainly taken their exemplars from the important coal exporting activities of the North-East and South Wales, together with the larger coalfields of Scotland, Lancashire, Yorkshire and Nottinghamshire. By studying the Warwickshire fatalities and comparing that experience with the neighbouring counties of the East Midlands and national data, this thesis will reveal how local factors influenced safety in the mines.

The individual miner had little influence upon mine safety in the period 1840 through to the mid 1870's when the sub-contracting butty system removed owners from the responsibilities of production. The establishment of a permanent Warwickshire Miners' Association from the 1880's, characterised by moderate leadership who sought to work closely with employers, gained for the Warwickshire miner superior earnings and conditions of employment, even when compared to neighbouring coalfields in the prosperous Midland Division. This undermines the national caricature of coalowners as brutal capitalists with little regard for their workers or communities where they gained their wealth. The results showed conclusively that it was not the mode of management but the size of the enterprise that was the dominating factor. Fatalities increased in the large deep mines that became more common at the turn of the century and were more susceptible to deaths from falls of coal and men crushed by wagons on the surface. The role of the State was somewhat patchy. Mine Inspectors could recommend that horses employed in oncost haulage should work in shafts rather than chains and that low tension batteries should be used to bring down coal, but owners were free to ignore this advice, with fatal consequences to the workforce. They were more successful in promoting the professionalization of mine management and at the turn of the century legislation was the dominant factor in the adoption of patent explosives to replace the use of gunpowder in Warwickshire mines.

This thesis builds upon recent studies by McIvor and Mills which have sought to address this neglect of health and safety in the British coal mining industry. By approaching this through the study of a small coalfield that has largely been ignored by mining historians, it reveals how local factors influenced the contribution of the miner, the coalowner and the State to the problem of accidents and fatalities in the coal industry.

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List of Abbreviations

CRO .....Coventry Records Office

DRO .....Durham Records Office

WCRO .....Warwickshire County Records Office

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Introduction

The British coal industry has been explored extensively by historians with certain areas having attracted more attention than others. Historians have been fascinated by the complex economics that had to be mastered to secure success[1] and conversely there has been a vociferous debate on the responsibility of coalowners for the diminishing productivity that condemned the industry to decline in the 20th century.[2] The combative approach to industrial relations adopted by coalowners against miners' trade unions[3] was such that some accounts of regional trade unions have attracted a succession of scholars.[4] Social historians and sociologists have immersed themselves in the study of coal mining communities, with some believing that their relative isolation from other members of the working class meant that they developed unique characteristics of strong bonds in the work force resulting in increased militancy.[5] However the need to identify dangers in the mines and assess the measures adopted to address them has been consigned to the periphery of historical investigation. This thesis will build upon recent studies by McIvor and Mills[6] to contribute to remedying this omission through an examination of the Warwickshire coalfield which is largely invisible in the literature of the development of the British coal industry in its period of expansion from 1840 through to 1913.

In the second half of the 19th century the production of coal in Britain rapidly increased as it fuelled the factories and foundries, railways and steamships that drove the industrial

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[1] C. Pamely, *The Colliery Manager's Handbook* (London, 1898); R. Redmayne and H. Bulman, *Coalmining and the Coal Miner* (London, 1920).

[2] A. Taylor, 'Labour Productivity and Technological Innovation in the British Coal Industry 1850 to 1914', *Economic History Review* X1V (1961) 48-67, and A. Taylor, 'The Coal Industry', in D. Alcroft, (ed.), *The Development of British Industry and Foreign Competition* (London, 1968) pp. 37-70.

[3] R. Church and Q. Outram, *Strikes and Solidarity: Coalfield Conflict in Britain 1889 to 1866* (Cambridge, 1998).

[4] N. Emery, *The Coalminers of Durham* (Stroud, 1992), H. Beynon and T. Austrin, *Masters and Servants: Class and Patronage in the Making of a Labour Organisation; the Durham miners and the English Political Tradition* (London, 1994).

[5] C. Kerr and A. Siegel, 'The Inter-industry Propensity to Strike: an international comparison', in A. Kornhauser, R. Dubin and A. Ross (eds.), *Industrial Conflict* (New York, 1954) pp. 189-212. See also R. Church, Q. Outram and N. Smith, 'The Isolated Mass Revisited: strikes in British coal mining', *The Sociological Review* 39.I (February 2001) 55-87.

[6] A. McIvor and R. Johnston, *Miner's Lung: a History of Dust Disease in British Coalmining* (Aldershot, 2007); C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010).

revolution. To satisfy these increasing demands mine owners sought out the deeper seams of virgin coal but this exploitation came at a cost to miners' lives. The aim of this thesis is to examine how the rise in fatalities was addressed in this period of expansion from the first government intervention into the health and safety of the coal industry in 1840[7] through to the pinnacle of development in 1913 when Britain was the premier coal producer in the world. This is achieved through a case study of the Warwickshire coalfield and the role played by the miners, the owners and the State.

This thesis will be anchored in a relatively unknown minor inland coalfield that will supplement the dominant exemplars in the literature from the exporting coalfields of the North-East of England and South Wales. By studying the Warwickshire fatalities and comparing that experience with the neighbouring counties of the East Midlands and national data, it will reveal how local factors influenced safety in the mines. McIvor has recently lamented that safety issues were marginalised by trade unions for the sake of increased wages and 'they failed as a countervailing force.'[8] This study will investigate what Warwickshire miners did both underground and at the surface to reduce fatalities and what means they employed to protect their families from the consequences of misfortune. The examination of local coalowners will test the hypothesis that as mine engineers were the experts on mine safety the mines that they controlled may exhibit a greater record of safety than those mines run by landowners or colliery companies. Catherine Mills has criticised the State as an inconsistent and reluctant innovator[9] and this study will question this analysis together with the impact of such intervention on the Warwickshire coalfield. While accepting her general conclusions, the thesis will stress the need for the State to reconcile competing demands and develop a consensus to make meaningful progress.

Chapter One examines the historiography of the British coal industry. Given the importance of the industry to the national economy early histories stressed its economic development. They tended to take their exemplars from the important coal exporting regions

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[7] Lord Ashley began the Children's Employment Commission in 1840 although the first report was not issued until 1842.

[8] A. McIvor and R. Johnston, *Miner's Lung: a History of Dust Disease in British Coalmining* (Aldershot, 2007) p. 24.

[9] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) p. 243.

of the North-East and South Wales and neglect the inland coalfields like Warwickshire with their different markets and managerial traditions. To overcome the problem of supervision owners insisted upon payment by results with fines for incorrectly filled tubs deemed underweight or containing too much rock, and special payments negotiated for working abnormal places with difficult geological conditions. Such a system appeared designed to generate discontent and industrial unrest was the inevitable consequence.[10] Many historians have been drawn to this conflict between capital and labour and the area of health and safety has been somewhat neglected. Early trade union histories adopted a heroic approach to their role in this conflict through an inevitable progression towards socialism,[11] although later scholars, who replaced the trade union officials and sympathetic commissioned historians as authors, have utilised a wider range of sources and taken a broader and more complete interpretation of these events.[12] The rise of social history from the 1960's and community studies from the 1980's[13] have both increased our understanding of the coal industry, and the examination of health and safety that follows will contribute to this developing historiography.

Chapter Two charts the development of the Warwickshire coalfield from the Roman era to the rapid expansion prior to the First World War. There is no trade union history of Warwickshire and although a Warwickshire colliery currently holds the record for annual output of any colliery in Europe[14] little is known of the coalfield's past. This chapter will attempt to remedy this by utilising all available research with particular emphasis on the period 1840 through to 1913. It will show that although deep pits dominated the coalfield from the turn of the century smaller collieries also survived, either as scavenger pits taking

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[10] Miners would obviously resent the fact that they were to receive no payment for a tub rejected by an official or that they faced dismissal for refusing to work in difficult geological conditions where it was impossible for them to earn what they considered a fair day's pay.

[11] See for example R. Page Arnot, *The Miners: a history of the MFGB to 1910* (London, 1947); *The Miners: Years of Struggle. A history of the MFGB from 1910* (London, 1953), *The Miners: Crisis and War* (London, 1961) and *The Miners: One Union, One Industry* (London, 1979).

[12] Contrast R. Page Arnot, *A History of the South Wales Miners* (London, 1967) with C. Williams, *Capitalism, Community and Conflict: The South Wales Coalfield 1898 to 1947* (Cardiff, 1998).

[13] Community studies became increasingly popular from the 1980's although there are examples from the 1950's.

[14] In 2008 at Daw Mill Colliery, Warwickshire, a new European record coal output of 3,120,000 tons, was produced by a workforce of 680 men. In 2009 it set another record producing 3,218,000 tons. *Daily Mail*, 21 March 2009 'The New King Coal: the unlikely comeback of the Mining Industry.' Daw Mill, the last Warwickshire colliery, closed in 2013 following a fire caused by spontaneous combustion *Guardian* 7 March 2013.

advantage of temporary coal shortages or as specialist collieries to extract ironstone for Black Country furnaces[15] or clay for the brick and tile industry.

Chapter Three examines the danger faced by Warwickshire miners through the records of fatal and non-fatal accidents and compares these dangers to those encountered by miners elsewhere in the Midland District and in the British coal industry as a whole. It will utilise both the Mine Inspectorate's Annual Reports and coroner's court proceedings reported in local newspapers. Falls of coal were the main cause of fatalities in Warwickshire as was the case elsewhere on the coalfields, but it will also explain why Warwickshire underground haulage deaths were higher and surface deaths lower than in other districts. Although gas explosions were a relatively minor factor in Warwickshire due to the geological advantage of possessing fewer gassy seams, the Baddesley disaster of 1882 was the greatest single cause of loss of life in the county and merits a detailed investigation. The difficulties of obtaining non-fatal accident figures will also be addressed. Despite being slow to be recognised or for the medical profession to offer any amelioration, the data relating to occupational diseases that were inherent in the coal industry will be explored. By comparing the statistics for tons of coal raised per life lost and deaths per thousand employed for both the coal industry as a whole and Warwickshire in particular, it maps the extent of the dangers in mining coal in this county and how these dangers changed over time.

Chapter Four investigates what individual miners could do to reduce the risk of accidents, the role of the trade union in contributing to this decline and what steps miners took to protect their families from the consequences of adversity. It particularly highlights the issue of working in a male dominated environment where risk taking was accepted practice. By reference to evidence from field clubs, trade union insurance schemes, permanent relief societies and insurance companies, the myth of the feckless miner who did little to protect their families from the consequences of working in a dangerous occupation is exposed.[16] The role of the trade unions at the national and local level is investigated and evaluated with

[15] Wyken Colliery Sales Ledger revealed that most of the ironstone production went to four Black Country ironworks with over £18,000 sales to Bankfield Ironworks, Bilston. CRO 285//3/1

[16] See for example J. Benson, 'Coalminers, Coalowners and Collaboration: the Miners` Permanent Relief Fund in England 1860 to 1895', *Labour History Review* 68.2 (2003) 181-194.

particular stress upon the moderating influence of William Johnson's leadership of the Warwickshire Miners' Association.[17]

Chapter Five identifies the influence of coalowners in reducing fatalities using evidence from selected Warwickshire collieries, and discovers if there are any difference in the safety records of those owners who came from a landed gentry background, those who led companies and those who were mine engineers. There is a negative perception of coalowners that characterises them as grasping capitalists unconcerned for the welfare of their workforce[18] but as Warwickshire miners patently received superior pay and enjoyed better working conditions compared to miners elsewhere, this local evidence suggests that the stereotype requires revision.

Chapter Six charts the development of State intervention in promoting safety through the Mine Inspectorate, the professionalization of management and the involvement of the law courts, and evaluates the contribution of each to improved safety in the mines. The Mine Inspectorate established in 1850 has received vociferous criticism from trade unions for alleged failure to rigorously promote safety.[19] The difference between the limited powers of the Mine Inspectorate and trade union aspirations is contrasted, together with the need for the passage of time to create the political will and the technological solutions to problems. Nevertheless the Inspectors' call for miners to be better trained remained mere platitudes until the 1890's and mine rescue was not addressed until 1911.

With sincere deference to Church who stated that 'it is impossible to assess the relative importance of factors that led to an increase in mine safety,'[20] the conclusion draws together the relative contribution from the miner, the coalowner and the State to such improvements that have been identified in the thesis. It advances the argument that future research at the local/regional level is needed to gain a more detailed understanding of the complexity of the development of health and safety in the British coal industry.

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[17] William Johnson (1849-1919) led the Warwickshire Miners' Association 1885 to 1918. See *Dictionary of Labour Biography Volume 2*.

[18] *The Times*, 11 July 1842 and 27 November 1916. Quentin Outram has specialised in the study of coalowners. See 'The Stupidest men in England: The Industrial Relations strategy of the Coalowners between the lockouts 1923 and 1924', *Historical Studies in Industrial Relations* (1997) 65-95.

[19] See for example the Evidence of B. Owen, Minutes of Evidence of the Select Committee Appointed to Inquire into the Operation of the Acts for the Regulation and Inspection of Mines. 431. (1866).

[20] R. Church, *The History of the British Coal Industry: Volume 3 1830 to 1914* (Oxford, 1986) p. 587.

This thesis builds upon recent developments in the historiography of the British coal industry. It is anchored in a minor county which has largely escaped the attention of historians and as part of the relatively prosperous and moderate East Midlands coalfield with its different traditions of paternalistic management practice and consensual industrial relations, gives a nuanced perspective on the development of the British coal industry. By centring this study in the reduction of potential injury and death that overshadowed all that worked in the mines, it will contribute to a wider understanding of the social history of coal.

Chapter One: Historians and the Coal Industry

The late 19th century saw the emergence of the coal miner to a predominant position among the industrial working class. Production and employment soared reflecting an increased demand for coal to warm houses, power factories and drive railways and steamships and by 1913 miners accounted for 10 per cent of the male working population.[1] The miners' trade unions were the most powerful in the country and had twice in 1893 and 1912 prompted the unprecedented intervention of the State in an industrial dispute. The most important single factor in the increased demand for coal was the iron industry[2] and a government Select Committee of 1873 blamed the national shortage of coal in the early 1870's on the iron industry's 'insatiable demand.'[3] It was still consuming 10 per cent of coal production in 1913. But the most striking success was the exploitation of overseas markets. In 1855 less than 10 per cent of coal production was exported accounting for 3 per cent of British exports. By 1913 a third of coal produced was shipped abroad and was valued at 10 per cent of British exports.[4] It is therefore not surprising that such an important industry should attract the attention of so many historians.

The following analysis will evaluate the historiography of the coal industry and explain why interpretations of this history changed over time. In order to present the literature in a meaningful way the following structure has been adopted. The first section will examine economic histories of the coal industry which appeared in the late 19th century as mainly professors of mining or economics described and analysed the industry that had come to underpin the surging economy. A focus upon the economic principles of coal production dominated most of the 20th century but was expanded to include a social perspective from the 1960's. The second section looks at mining institutional histories of the trade unions and how these created the myth of miner solidarity and how subsequent researchers from the 1970's sought to challenge this simplistic view of industrial relations in the British coal industry. Such revisionist views nevertheless underplayed the formidable strength of the miners' union which was capable of impacting on the national economy. Section three, community studies,

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[1] J. Rowe, *Wages in the Coal Industry* (London, 1923) statistical appendix.
[2] N. Buxton, *The Economic Development of the British Coal Industry* (London, 1978) pp. 56-8.
[3] Quoted in the *Nuneaton Chronicle*, 26 July 1873.
[4] N. Buxton, *The Economic Development of the British Coal Industry* p. 91.

examines the literature that has sought to understand the life of the miner outside the confines of the coal mine. Originating in the 1930's they became increasingly popular in the 1980's as researchers charted the impact of industrial decline. In section four attention is turned to the coalowners and their characterisation in the existing historiography. Historians have been challenged by the lack of source material, particularly from the coalowners themselves. In stark contrast, section five's analysis of industrial relations has a surfeit of historical commentary. Here the fiction of the militant miner constantly on strike will be challenged by the statistical analysis of historians like Church and Outram. Section six investigates the contribution of autobiography and biography to the history of the coal industry and how such studies have increased the depth of our understanding. In section seven the spotlight is turned upon the neglected area of State intervention into the health and safety of those who worked in the industry. The final section examines the limited historiography of the Warwickshire coalfield.

Economic Histories

Given the significance of coal to the British economy it was not surprising that the earliest histories of the industry attempted to explain the economics of coal production. Robert Galloway was a colliery owner and mine engineer whose brother was the first Professor of Mining at Cardiff University in 1891. His *History of Coal Mining in Great Britain* published in 1882 concentrated upon the technological development of coal mining. His later *Annals of Coal Mining and the Coal Trade* published in 1898 and a second series in 1904[5] arose from articles published in the *Colliery Guardian*[6] and were intended for a more specialised audience. Galloway delves into the minutiae of technical detail but can still be useful to the historian that does not possess an engineering background. One example is how he describes and evaluates each technical improvement in the design of safety lamps by different engineers which explains why so many diverse types were in use in the late 19th century.[7] In 1915 Stanley Jevons published his classic study of *The British Coal Trade.*[8] Although he taught at Cardiff University as a professor of economics, this was the first book

[5] R. Galloway, *History of Coal Mining in Great Britain* (London, 1898) and *Annals of Coal Mining and the Coal Trade* (London, 1904).

[6] The *Colliery Guardian* first published 1858 was the main newspaper of the coal industry and voice of the colliery owners.

[7] R. Galloway, *History of Coal Mining in Great Britain* (London, 1898) pp. 263-4.

[8] H.S. Jevons, *The British Coal Trade* (London, 1915).

intended for the general reader rather than participants in the coal industry. This volume of over 850 pages explored every aspect of the industry but was a description of the coal industry in 1913 rather than a history of coal production. His eclectic style is easily accessible to the modern reader and the scope of the book is such that he even includes two chapters on social history. In 'Miners Life and Work' and 'Housing of Miners' he comments upon the recent introduction of pit head baths, mining communities, the character of miners and their political and academic achievements.[9] Similar descriptive and weighty volumes were produced by Pamely, Redmayne and Bulman but were intended for colliery managers.[10] The period before the mid nineteenth century expansion was admirably covered in the inter-war years by Ashton and Sykes' 1929 study of *Coal Mining in the Eighteenth Century* and Nef's two volumes *The Rise of the British Coal Industry* published in 1932.[11] Yet in his 1935 historiographical survey of the *Basic Industries of England 1850 to 1914,* Beales lamented that; 'the history of mining trade unions is more accessible than that of mining enterprise or the coal trade.'[12] It had become almost the credo of coal mining trade union leaders to proudly publish the history of their well-established institutions but for the important period of the coal industry's growth in the late 19th century Beales claimed there were only dated sources for the student of history.[13]

For forty years no historian attempted to fill the gap identified by Beales to provide a national history of the coal industry. From the 1970's a number of books began to appear that charted its economic development. Some like Kirby's *The British Coalmining Industry 1870 to 1946*[14] published in 1977 grew from the Taylor inspired controversy of a decade before that coalowners had failed to develop the technological and organizational structures to counter the declining productivity that was to condemn the industry to decline in the 20th

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[9] H.S. Jevons, *The British Coal Trade* pp. 608-36 and 637-59.

[10] C. Pamely, *The Colliery Manager's Handbook* (London, 1898); R. Redmayne and H. Bulman, *Coalmining and the Coal Miner* (London, 1920).

[11] T. Ashton and J. Sykes, *The Coal Industry in the Eighteenth Century* (Manchester, 1929) and J. Nef, *The Rise of the British Coal Industry* (London, 1932).

[12] H. Beales, 'Historiographical Studies 5: The Basic Industries of England 1850 to 1914', *Economic History Review* 5 (April 1939) 99-112, especially p. 102.

[13] For example in South Wales before the First World War there were two histories, both contemporary accounts, written by employees of the Coalowners Association after industrial disputes to justify the actions of employers. W. Dalziel, *The Colliers' Strike in South Wales* (Cardiff, 1872) and D. Evans, *Labour Strife in the South Wales Coalfield 1910 to 1911* (Cardiff, 1911).

[14] M. Kirby, *The British Coalmining Industry 1870 to 1946* (London, 1977).

century in the face of increased foreign competition.[15] Buxton's *Economic Development of the British Coal Industry* published in 1978 is arguably the best introduction currently available.[16] Despite attempting to cover the full history of the industry in less than 300 pages it manages to give a succinct summary of economic issues and can be used as a framework for extended study. In 1984 Mitchell published the first detailed economic study of the coal industry in the 19th century.[17] It covered the usual topics of capital, labour, technological developments, wage bargaining, pricing and productivity, but admits in the preface a neglect of social history. As it originated in a doctoral thesis on the inland coalfields it was particularly interesting for this study as it used a limited number of exemplars from the Warwickshire coalfield. This important period of expansion was further developed by Church in his 1986 *History of the British Coalfields: Volume Three 1830 to 1913.*[18] In eight chapters covering some 630 pages this now seminal work attempted to summarise available research on every aspect of the industry.

Church's monograph was part of a five volume official history of the British coalfields sponsored by the National Coal Board that was published between 1984 and 1993.[19] Historiography had now moved a very long way from Jevons' aim to provide 'facts and a point of view.'[20] Such histories now saw a social dimension as an essential part rather than an optional addendum. In a later study Church and Outram outlined their methodology; 'we have attempted to combine the statistical approach with narratives that are illustrative rather than descriptive, interpretive rather than synoptic.'[21] With the aid of research assistants the authors were able to tap into a wealth of primary sources and academic investigations and bring them to the attention of a more general readership. By applying statistical vigour to such sources they brought new interpretations to the history of the industry. To cite but one

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[15] A. Taylor, 'Labour Productivity and Technological Innovation in the British Coal Industry 1850 to 1914', *Economic History Review* X1V (1961) 48-67, and A. Taylor, 'The Coal Industry', in D. Alcroft (ed.), *The Development of British Industry and Foreign Competition* (London, 1968) pp. 37-70.

[16] N. Buxton, *The Economic Development of the British Coal Industry* (London, 1978).

[17] B. Mitchell, *The Economic Development of the British Coal Industry 1800 to 1914* (London 1984).

[18] R. Church, *History of the British Coal Industry: Volume Three 1830 to 1913* (Oxford, 1986).

[19] *History of the British Coal Industry:* T. Hatcher, Volume One: Before 1700 (Oxford, 1993), M. Flynn, Volume Two: 1700 to 1830 (Oxford, 1984), R. Church, Volume Three: 1830 to 1913 (Oxford, 1986), B. Supple, Volume Four: 1913 to 1946 (Oxford, 1987) and W. Ashworth, Volume Five: 1946 to 1982 (Oxford, 1986).

[20] Cited in the book review section of the *Economic Journal* (June 1916) 240.

[21] R. Church and Q. Outram, *Strikes and Solidarity: Coalfield Conflict in Britain 1889 to 1866* (Cambridge, 1998) p. XV1.

example, Taylor in 1961 used output per man year figures to suggest that declining productivity began in the last quarter of the 19th century. Church analysed output per man shift statistics and found that the decline in productivity only became pronounced after 1909.[22] These figures are more accurate as they take into account the number of hours miners actually worked but are only available from 1894.

The strengths of such economic histories are that they clearly highlight the unique difficulties of running a successful colliery enterprise. Demand was subject to seasonal and cyclical fluctuations and the few marketing schemes attempted by owners in the North-East, South Wales and Lancashire all failed.[23] As largely price takers the skill of management was therefore to control the supply side of the industry, yet capital once sunk in a pit had no resale value and geological changes could derail the most fastidious planner. All economic histories describe the complex wage structure including piece rates for coal produced, wage bargains for working different seams and places, and fines for improperly filled tubs that were intended to overcome the difficulties of supervision. They also describe the tensions and industrial conflict that inevitably flowed from such a system. A major weakness of these histories is an over reliance of exemplars from the important exporting districts of the North-East and South Wales. Consequently there is an under representation of inland coalfields with their different markets and managerial traditions and often a total neglect of smaller coalfields like Warwickshire. This thesis will make a contribution to remedying this oversight.

Miners' Trade Unions

Early histories of the miner as distinct from the coal industry as a whole became synonymous with the history of the trade unions. In 1894 the socialist writers Sidney and Beatrice Webb[24] published *A History of Trade Unionism* detailing the roots and development of the British trade union movement.[25] Their archival detective work and a utilisation of union records was to influence future labour historians. The communist historian Robin Page

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[22] R. Church, *History of the British Coal Industry: Volume Three 1830 to 1913* (Oxford, 1986) p. 471.

[23] M. Kirby, *The British Coalmining Industry 1870 to 1946* (London, 1977) p. 9. For the coalowners' view of the Coalowners' Associations see Mining Association of Great Britain, *Historical Review of Coalmining* (London, 1924) pp. 351-77.

[24] *Oxford Dictionary of National Biography:* Sidney Webb (1859-1947), Beatrice Webb (1858-1943).

[25] S and B. Webb, *History of Trade Unionism* (London, 1976).

Arnot[26] was commissioned by the Miners' Federation of Great Britain formed in 1888 and its successor, the National Union of Mineworkers established in 1945, to write their history.[27] He adopted a sympathetic approach attributing much of the improvements in working conditions to the efforts of the union.[28] He charted the transition from support for the Liberal Party to Socialism[29] and used a similar approach to his regional histories of the Scottish and South Wales miners' unions[30] making full use of union records and prompting one critic to describe them as his 'resolutionary histories.'[31] Some regional or district histories predate Page Arnot's national four volume history, yet they share his dated reliance on union records and omission of internal tensions. Most of the mining districts, with the exception of Warwickshire and some of the smaller coalfields, have produced a trade union history, with the regional NUM often assuming the role of publisher.[32] Such histories are sympathetic to the trade union movement and tend to stress the presence of socialist beliefs, class consciousness and solidarity. The image that was created was that of the militant miner, a mythical 'class warrior' who achieves success and suffers failure through the auspices of his trade union. Their narratives are enlivened by passionate descriptions of industrial battles, the suffering of the community and the benefits achieved for its members by the union. Page Arnot's description of the 1893 strike is still required reading for anyone interested in that dispute, even if his conclusion that the miners had gained a wage independent of the price of

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[26] ODNB: Robin Page Arnot (1890-1986). A founder member of the British Communist Party in 1920 he was a prolific author and pamphleteer.

[27] R. Page Arnot, *The Miners: a history of the MFGB to 1910* (London, 1947); *The Miners: Years of Struggle. A history of the MFGB from 1910* (London, 1953), *The Miners: Crisis and War* (London, 1961) and *The Miners: One Union, One Industry* (London, 1979).

[28] For example he claimed that the 1893 strike secured a minimum wage but miners did not achieve this until the 1911 Act.

[29] The MFGB was one of the last trade unions to affiliate to the Labour Party in 1909 and in 1910 three miner MPs from the North-East refused to sign the Socialist Charter and continued to sit as Lib-Labs. Two Midland MPs were expelled from the Labour Party in 1914 for their continued support for their local Liberal Party. This will be discussed in Chapter Four. See R. Gregory, *The Miners and British Politics 1906 to 1914* (Oxford, 1968) pp. 37-9.

[30] R. Page Arnot, *A History of the Scottish Miners* (London, 1955) and *A History of the South Wales Miners* (London, 1967).

[31] S. Berger and N. Evans, 'Two Faces of King Coal: the impact of Historiographical Tradition on Comparative History of the Ruhr and South Wales coalfields', in S. Berger, A. Croll and N. Laporte, (eds.), *Towards a Comparative History of Coalfield Societies* (Aldershot, 2005) p. 38.

[32] For example R. Fynes, T*he Miners of Northumberland and Durham: a history of their political and social progress* (Sunderland, 1923), W. Garside, *The Durham Miners 1919 to 1960* (London, 1971) and C. Griffin, *The Leicestershire and South Derbyshire Miners 1840 to 1914* (Coalville, 1981).

coal was erroneous.[33] When peace talks broke down in November 1893 because the employers refused to countenance the union's insistence upon a minimum living wage, the subsequent government intervention made no mention of the term and the following July wages were cut by the new National Conciliatory Board citing the fall in prices.[34] Yet the leader of the South Wales NUM made clear in the preface to the 1981 history of his union that these histories were intended to act as a rallying call to promote strength through unity.[35] These underlying political partialities, together with a tendency to rely on official union documentation and national personalities, have come under increasing scrutiny. Berger and Evans describe them as; 'works of left wing antiquarianism … useful to modern historians as sources of narrative and quarries of information rather than analysis.'[36] Nevertheless they remain a valuable insight into how trade unions saw themselves and how they coloured a view of trade unions in others.

Trade unions saw the gradual erosion of laissez-faire capitalism as a direct result of their petitioning of parliament and actions in the courts in defence of injured miners. At the turn of the century they were powerful established bodies with their leaders' influential in the corridors of power. Such leaders or union officials were proud to record their institutional history and highlight their perceived successes. Fynes published the history of the Northumberland and Durham union as early as 1873, Wilson the Durham union in 1907, Edwards the South Wales union in 1938, Griffin the miners of Nottingham in 1955 and Machin the Yorkshire miners in 1958.[37] Each documented the conditions that colliers were forced to endure, the difficulties and persecutions that the founders faced in establishing the union and the progress that the union had accomplished.

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[33] R. Page Arnot, *The Miners: a history of the MFGB to 1910* (London, 1947) pp. 230-53, particularly p. 253.

[34] See K. Burgess, *The Origins of British Industrial Relations: the 19th century experience* (London, 1975) pp. 205-7.

[35] Preface, H. Francis and D. Smith, *The Fed: a history of the South Wales miners in the 20th century* (London, 1980) p. XV.

[36] S. Berger and N. Evans, 'Two Faces of King Coal: the impact of Historiographical Tradition on Comparative History of the Ruhr and South Wales coalfields', in S. Berger, A. Croll and N. Laporte (eds.), *Towards a Comparative History of Coalfield Societies* (Aldershot, 2005) p. 38.

[37] R. Fynes, *The Miners of Northumberland and Durham: a history of their political and social progress* (Sunderland, 1923), J. Wilson, *A History of the Durham Miners' Association 1870 to 1904* (Durham, 1907), N. Edwards, *The History of the South Wales Miners' Association* (London, 1938), A. Griffin, *The Miners of Nottingham* (Nottingham, 1955) and F. Machin, *The Yorkshire Miners* (Barnsley, 1958).

Yet despite their obvious scholarship, the perceived ideological bias[38] and limited source selection of many of these works has been challenged by subsequent historians. Ackers notes:

> *This tradition combines a curious brand of Marxist romanticism with an institutional focus on central union resolutions and minutes at the expense of sources which could illustrate a wider more complex social history.*[39]

He argues that Marxists tend to neglect the economic basis of mining industrial relations and attribute setbacks not to vagaries of the trade cycle or wider economic pressures but to the betrayal of renegade union leaders, the management and/or the government. By defining a miner as a trade union member, such histories must vilify or neglect those that chose not to walk that path or deviated from it in ways critical to the Marxist approach to history. The 1980 study of the South Wales miners by Francis and Smith discovered that in the 1930's[40] membership averaged only half those in employment suggesting that 'The Fed' could not be a history of all Welsh miners. Like Page Arnot's history it suffers similar limitations but has a more sophisticated methodology. Francis and Smith relied more on oral evidence to supplement union records and acknowledged the divisions amongst miners. However written at a time of growing industrial tension it remains a tool of union propaganda by emphasising the advantages of miners' solidarity.[41]

Since the 1970's there has been a more sceptical view of working class formation and solidarity and Marxism has been replaced as an analytical tool by a more consensual view of social relations that stresses the sectional splits in the working class.[42] Yet researchers can still make profitable use of institutional histories, partly by drawing upon them as a source of narrative and detail as highlighted by Berger and Evans cited above, but also taking

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[38] Page Arnot was a communist and most of the writers of regional histories were socialists who believed in the eventual nationalisation of the coal industry.

[39] P. Ackers, 'Christian Brethren; Union Brother', (Unpublished PhD thesis, University of Wolverhampton 1993) p. 6.

[40] H. Francis and D.Smith, *The Fed: a history of the South Wales miners in the 20th century* (London, 1980) p. 106.

[41] In his study of the South Wales coalfield Chris Williams makes the point that 'The Fed' remains a strong basis to build upon rather than replace. C. Williams, *Capitalism, Community and Conflict: The South Wales Coalfield 1898 to 1947* (Cardiff, 1998).

[42] A good summary of this is found in R. Fagge, *Power, Culture and Conflict in the Coalfields: West Virginia and South Wales 1900 to 1922* (Manchester, 1996) pp. 1-2.

cognizance of how many working class people interpreted their lives through such heroic images and sentiments.

The search for a 'wider more complex social history' of the coal industry was first pioneered by Williams in his 1962 study of Derbyshire miners.[43] This challenged the traditional historiography by introducing a greater emphasis on cultural and social factors to supplement the stress on political and economic approaches to the past. In this he mirrored a general trend across the discipline of history in the late 20th century. From Challinor's 1972 study of the Lancashire miners, through Campbell's 1979 and 2000 studies of Scottish miners, Emery in 1992 and then Beynon and Austrin in 1994 account of the Durham miners, Bayliss' 1993 study of Yorkshire miners and Gildart's 2001 study of the miners of North Wales, few would now attempt a district union study without a significant social history element.[44] These new writers were not employees of the union or commissioned historians but independent academics that were prepared to use the full range of sources available to them. Benson described this change as follows;

> *slowly the history of industrial labour is being rewritten from the standpoint of the rank and file workers rather than the vantage point of the union head office.*[45]

In his pioneering 1980 study of the social history of 19th century coalminers, trade unions are relegated to one section of a chapter on 'the Miner and his Clubs', the main thrust of which was to challenge the stereotypical view that miners failed to provide insurance cover for their families in times of need. Instead he examines the homes in which miners lived, the conditions in which they worked, the ways in which they received their pay, spent their money, looked after their wives and children and protected themselves from an uncertain future. He shows how miners struggled to better themselves and how they shared in the gradual improvement in living standards in the latter half of the 19th century. Such an approach has influenced those who have attempted a more panoramic history of the industry.

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[43] J. Williams, *The Derbyshire Miners: a study in social and industrial history* (London, 1962).

[44] R. Challinor, *The Lancashire and Cheshire Miner* (Newcastle-upon-Tyne, 1972), A. Campbell, *The Lanarkshire Miners: a social history of their trade union 1775 to 1874* (Edinburgh, 1979) and *The Scottish Miners 1874 to 1939* (Aldershot, 2000), N. Emery, *The Coalminers of Durham* (Stroud, 1992), H. Beynon and T. Austrin, *Masters and Servants: Class and Patronage in the Making of a Labour Organisation; the Durham miners and the English Political Tradition* (London, 1994), C. Baylies, *The History of the Yorkshire Miners 1881 to 1918* (London, 1993) and K. Gildart, *North Wales Miners: a fragile unity 1945 to 1996* (Cardiff, 2001).

[45] J. Benson, *British Coalminers in the 19th century: a social history* (Dublin, 1980) p. 214.

In his 1986 study of the 19th century coal industry Church also devoted one of eight chapters to the miner and synthesised the then current research on wages, occupational mortality and health, housing and environment, and the mining communities.[46] Industrial relations were also assigned a chapter but although this reflected the importance of trade unions it also embedded the now current view that a coal miner was more than simply a union member.

The movement towards social history as a means of studying labour had received its initial impetus from the publication in 1963 of E P Thompson's *The Making of the English Working Class.* Thompson stressed how cultural factors reflected and shaped working class responses to industrial society. This approach flourished for twenty years or so winning its battle to stand alongside political and economic history, but then its concentration upon class and Marxist conflict models of society made it look increasingly anachronistic. From the 1980's there was a move to the study of gender and ethnicity as themes in history and a greater emphasis on cultural identity. Evans described this change:

> *The emphasis was less on 'society' and particularly not society as a set of structures; it was on individuals, attitudes and beliefs. Cultural historians were interested in group activity but of a less formal kind – not so much trade unions or political societies but in carnivals, celebrations, rituals and festivals.*[47]

Just as social history was the dominant trend in the 1960's and 1970's the last decades of the 20th century saw a new emphasis upon community studies. Here the trade union moved from being the focus of study to one of a number of different strands of influence.

Community Studies

Community Studies developed in the fields of sociology and anthropology, where field workers live in an area and through the social sciences methodology of conversation and observation attempt to analyse different influences on different members of a defined community. Although not historical studies, such research opened up new perspectives on mining communities. Models were developed to explain why miners appeared to be the most militant section of the working class. In 1954 Kerr and Siegel postulated the 'isolated mass

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[46] R. Church, *History of the British Coal Industry: Volume Three 1830 to 1913* (Oxford, 1986) pp. 557 to 630.

[47] E. Evans, Social History.Articles.Making History.Institute of Historical Research www.history.ac.uk/makinghistory

theory' which stated that as miners were removed from the rest of society strikes could be seen as 'a kind of colonial revolt against far removed authority.'[48] This was challenged as early as 1959 when in a comparative international study Rimlinger discovered that Anglo-American miners were more strike prone than their Franco-German counterparts.[49] The reasons for this were not expanded but suggested that the answers lay beyond the commonality of employment. The classic British study was *Coal Is Our Life,* a 1956 examination of a Yorkshire mining village. While stressing the legend of the militant miner, Dennis et al. attempted to analyse the broader influences of 'work, leisure and the family.'[50] Later Fagge described this study as 'the most famous exposition of this view that extreme exploitation made the miner the archetypal proletarian.'[51]

In 1976 Bulmer published *Mining and Social Change: Durham County in the 20th century,*[52] a study of miners in the North-East of England, and in 1977 Samuel edited *Miners, Quarrymen and Saltworkers*,[53] a study of different extractive industries in the 19th century. Yet perhaps the most influential was Harrison's *Independent Collier: the coal miner an archetypal proletarian reconsidered*[54] published a year later. In a series of micro studies it was revealed that miners are subject to what Fagge terms;

> *different economic, geographical and cultural influences that can only be understood by examining the reality of historical experience rather than the ideal type.*[55]

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[48] C. Kerr and A. Siegel, 'The Inter-industry Propensity to Strike: an international comparison', in A. Kornhauser, R. Dubin and A. Ross (eds.), *Industrial Conflict* (New York, 1954) p. 193. See also R. Church, Q. Outram and N. Smith, 'The Isolated Mass Revisited: strikes in British coal mining', *The Sociological Review* 39.1 (February 2001) 55-87.

[49] G. Rimlinger, 'International Differences in the Strike Propensity of Coal Miners: experience in four countries', *Industrial and Labour Relations Review* 12.3 (1959) 389-405.

[50] N. Dennis, C. Henriques and C. Slaughter, *Coal Is Our Life: an analysis of a Yorkshire mining community* (London, 1956) p. 246.

[51] R. Fagge, *Power, Culture and Conflict in the Coalfields: West Virginia and South Wales 1900 to 1922* (Manchester, 1996) p. 8.

[52] M. Bulmer, *Mining and Social Change: Durham County in the 20th century* (London, 1976).

[53] R. Samuel (ed.), *Miners, Quarrymen and Saltworkers* History Workshop Series (London, 1977).

[54] R. Harrison, (ed.), *Independent Collier: the coal miner as Archetypal Proletarian Reconsidered* (Sussex, 1978).

[55] R. Fagge, *Power, Culture and Conflict in the Coalfields: West Virginia and South Wales 1900 to 1922* (Manchester, 1996) p. 2.

Harrison's work led to a serious critique of the 'militant miner' thesis. With the decline of the coal industry following the bitter dispute of 1984-85 researchers again returned in force to mining communities to analyse the divisive impact of social change at a time of industrial decline. Parker's 1986 study of a North-East town and the Open University's *Split and the Seams* are examples of this.[56] Warwick and Littlejohn's 1992 study of mining communities in West Yorkshire is particularly useful.[57] Evidence of variety is reinforced by studies of different coalfields in different counties. The moderation of the Nottingham miners was explored by Waller in 1983[58] and this was complemented by Gilbert in his 1992 comparison of Nottingham with the South Wales coalfield.[59] Gilbert used 'rational choice theory' to explain how socialists were able to permeate social institutions in South Wales but were less successful in Nottingham where the management had a less combative style. In Nottingham owners had a tradition of paternalism but in South Wales industrial relations were akin to the battlefield, symbolised by the 1910 Tonypandy Riots where Metropolitan police and the army were drafted in to the Rhondda Valley to maintain order and 500 were injured and one miner killed in the disturbances.[60] To the miners of South Wales the class enemy was visible and actively engaged against them, whereas in the Midlands he appeared more a figment of socialist rhetoric.[61]

To explain why coal mining districts should develop such differing personas historians have attempted to isolate what Barron terms the 'meanings' of community. In her 2010 study of the Durham coalfield during the 1926 lockout she investigated the collective identity and behaviour based around class and occupation, and how gender, religion, age, poverty and individual aspiration both challenged and reinforced particular characteristics. Durham continued to display support for the lockout not because the community was homogeneous

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[56] T. Parker, *Red Hill: a mining community* (Sevenoaks, 1986) and D. Waddington, M. Wykes and C. Critcher, *Split and the Seams: community, continuity and change after the 1884 coal dispute* (Buckingham. 1990).

[57] D. Warwick and G. Littlejohn, *Coal, Capital and Culture: a sociological study of coal mining communities in West Yorkshire* (London, 1992). This gives a summary of different community studies from '*Coal Is Our Life*.'

[58] R. Waller, *The Dukeries Transformed: the social and political development of a 20th century* coalfield (Oxford, 1983).

[59] D. Gilbert, *Class, Community and Collective Action: social change in two British coalfields 1850 to 1926* (Oxford, 1992).

[60] At Glamorgan assizes in 1911 a number of miners were sentenced to between three and twelve months imprisonment for their 'riotous behaviour' during the strike. See *Nuneaton Observer*, 24 November 1911.

[61] For a study of South Wales see C. Williams, *Capitalism, Community and Conflict: the South Wales coalfield 1898 to 1947* (Cardiff, 1998).

but because it could, in her words, 'subsume and integrate other categories of identity.'[62] These categories of identity had been studied previously. The importance of religion was identified by Moore in 1974 when he attempted to explain the blunting of militancy in Durham by the presence of Methodism.[63] The emergence in the 1860's of moderate Methodist leaders in the North-East who were less inclined to rely on the singular weapon of the strike, led to the first permanent trade unions. Ackers in his doctoral thesis 'Christian Brethren, Union Brother,' showed a similar influence of religion in the establishment of a union for deputies.[64]

One strand that has received increasing attention from the 1980's is that of gender. This grew from the 'history from below' movement of the 1960's and 1970's which sought to develop, through movements like History Workshop and the Oral History Society, the hidden history of the common people.[65] The first to apply this to the coal industry was Angela John in *By the Sweat of their Brow*, published in 1980.[66] This described how women continued to work on the surface and their role in trade unions and the mining community. Recent gender based studies have built on the work of John. White and Williams (1998) focussed on womens' lives in the South Wales valleys between the wars and Carr (2001) on women in the North-East in the early 20th century.[67] Gier and Mercier (2006) added an international perspective by examining the role of women in different coal communities around the world.[68] Bruley's study of women in South Wales during the 1926 lockout has made a significant contribution. In her 2007 article, 'The Politics of Food', she examined the way that although communal eating in soup kitchens reduced gender segregation, women in mining communities were more concerned to maintain support for their men rather than make

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[62] H. Barron, *The 1926 Lockout: Meanings of Community in the Durham coalfield* (Oxford, 2010).

[63] R. Moore, *Pitmen, Preachers and Politics: the effects of Methodism on a Durham mining community* (Cambridge, 1974).

[64] P. Ackers, 'Christian Brethren; Union Brother', (Unpublished PhD thesis, University of Wolverhampton 1993).

[65] Articles on the development of the History Workshop, Oral History Society and Women's History can be found at Making History, www.history.ac.uk/makinghistory/resources/articles

[66] A. John, *By the Sweat of their Brow: women workers in the Victorian coal industry* (London, 1980).

[67] C. White and S. Williams, *Struggle or Starve: women's lives in the South Wales valleys between the two World Wars* (Powys, 1998) and G. Carr, *Pit Women: coal communities in northern England in the early 20th century* (London, 2001).

[68] J. Gier and L. Mercier (eds.), *Mining Women: Gender in the Development of a Global Industry, 1670 to the present day* (New York, 2006).

social advances for women.[69] She concluded that maintaining the masculine identity of the militant miner, which necessarily incorporated male bonding and womens' subjugation, was regarded as an essential feature of the class struggle. Her 2010 book, *The Women and Men of 1926*, extends this analysis with extensive oral evidence.

The notion of masculine identity and how it impacted upon life in the pit and in the wider community, is only now receiving attention from historians. Gildart notes that;

> *'The physicality of coal mining created an individualistic and competitive strain within miners' identity that led to tensions within and beyond the workplace.'*[70]

The archetypal hard man that displayed his physical prowess would gain respect from his peers, even if his actions sometimes undermined efforts to enforce safety. In 2007 McIvor explored this ethos of masculinity through extensive oral evidence and concluded that workplace culture could act as a 'drag anchor,' slowing the pace of improved occupational health and safety standards. 'Risks were taken, especially if the trade-off was higher wages or a shorter work shift.'[71] In this he echoed the findings of Weyman, Clarke and Cox who in 2003 attempted to develop a model of coal miners' attributions on risk taking at work. The three main factors they identified were time pressures, the management commitment to mine safety and the miner's confidence in their ability to deal with risk.[72]

The historiography of the coal miner has now moved far beyond the narrow parameters of the early institutional histories. Gildart however has issued a warning against their marginalisation: 'Class consciousness, institution building and industrial militancy are themes that might have been pushed to the margins in recent years but they cannot be completely

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[69] S. Bruley, 'The Politics of Food: Family, Community and Collective Feeding in South Wales in the General Strike and Miners' lockout of 1926', *Twentieth Century British History* 18.1 (2007) 54-77, and *The Women and Men of 1926: a gender and social history of the general strike and miners' lockout in South Wales* (Cardiff, 2010).

[70] K. Gildart (ed.), Volume Six: 'Industrial Relations and Trade Unionism'. In *Coal in Victorian Britain* (London, 2012) p. XXV1.

[71] A. McIvor and R. Johnston, *Miner's Lung: a History of Dust Disease in British Coalmining* (Aldershot, 2007) pp. 13-14.

[72] A. Weyman, D. Clarke and T. Cox, 'Developing a Factor Model of Coalminers' Attributions to risk taking at work', *Work and Stress* 17.4 (2003) 306-20.

ignored.'[73] For evidence he cites the numerous autobiographical and oral testimonies of miners and their families that attest to the importance of their class identity and their union. To many miners the union was more than just a protector of their interests at work. It offered education and welfare and was a vehicle of social and political change. Just as institutional histories were never a complete history of the miner without reference to the community, so community studies would be impaired without mention of the union.

The Owners

Why the coalowners have received so little scrutiny from historians is difficult to comprehend. They would certainly be handicapped by a dearth of source evidence as Church and Outram discovered in their 1998 study of coalfield conflict: 'On the coalowners we have a great scarcity of material, even biographical material.'[74] One reason may be the very negative public persona that they made little attempt to counter. In 1842 *The Times* wrote of the need for coalowners to realise 'that profits should not be made out of a barbarous and indecent system which disclaims any other law than that of productiveness,' and in 1916 it was still complaining of 'the mismanagement, obstinacy and greed of coalowners.'[75] For many there is something unattractive about a group that pursue economic goals without consideration for their social consequences. Coalowners believed that providing capital allowed them the licence to use every means at their disposal to defend their right to run their firms and their labour force as they saw fit and they appeared to many to deserve the jibe by Lord Birkenhead that they were 'the stupidest men in England.'[76]

The historiography for the coalowners is therefore somewhat limited. The Mining Association of Great Britain produced *An Historical Review of Coal Mining* in 1924 with the secretary of the Association providing a sanitised chapter on its history.[77] Church produced a

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[73] K. Gildart, (ed.), Volume Six: 'Industrial Relations and Trade Unionism'. In *Coal in Victorian Britain* (London, 2012) p. X11.

[74] R. Church and Q. Outram, *Strikes and Solidarity: Coalfield Conflict in Britain 1889 to 1866* (Cambridge, 1998) p. 59.

[75] *The Times*, 11 July 1842 and 27 November 1916.

[76] Q. Outram, 'The Stupidest Men in England: The Industrial Relations Strategy of the Coalowners between the lockouts 1923 to 1924', *Historical Studies in Industrial Relations* 4 (1997) 65-95.

[77] W. Lee, 'History of Organisation in the Coal Industry', in Mining Association of Great Britain' *Historical Review of Coal Mining* (London, 1924) pp. 351-77. The MAGB was the employers' association.

statistical analysis of business leaders in his 1986 history of the coal industry[78] and in an international comparison of industrial relations of 1990 his chapter on the British experience is a succinct summary of available knowledge.[79] Outram is one of the few historians who have attempted to study owners in depth. In his 2009 analysis of those coalowners involved in the 1926 dispute he describes them as 'class warriors' of whom only the Warwickshire representative had risen from the status of a working miner.[80] A good regional study is provided by Walters's 1975 business history of the South Wales steam coal industry 1840 to 1914. Although doctoral theses often form the basis of future publication, this was published in its entirety in 1977.[81] What emerges is that the nineteenth century pattern of ownership of family enterprise, partnerships and private companies dominated the industry through to nationalisation in 1947. The few large public companies before 1913 were mainly in the exporting regions of South Wales and Scotland. Coalowners were largely descended from coal owning families, as well as those who were involved in colliery management and consultancy and iron masters. In South Wales Walters discovered a sizeable number of coal dealers, mercantile interests and railway companies who had applied vertical integration. Many had qualified as mine engineers and served as magistrates or local councillors but few attended university or had national political aspirations.

The quality of leadership amongst coalowners is difficult to assess but a few have attempted this. Between 1923 and 1928 the *Colliery Guardian* ran a series entitled 'Men of Note in the British Coal Industry.' In 1993 Dintenfass analysed this elite from the perspective of 'family, training and career.'[82] Of the 155 listed, forty-four were from the public side of government officials, scientists and educators; seven were trade union officials although unsurprisingly the more militant miners' leaders like Smillie and A. J. Cook were omitted, and one hundred and four were from private enterprise. Of these sixty-three were coalmasters

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[78] R. Church, *History of the British Coal Industry: Volume Three 1830 to 1913* (Oxford, 1986) pp. 450-5. See also R. Church and Q. Outram, *Strikes and Solidarity: Coalfield Conflict in Britain 1889 to 1866* (Cambridge, 1998) particularly pp. 17-20, 59-60.

[79] R. Church, 'Employers, Trade Unions and the State', in G. Feldman and K. Tenfelde (eds.), *Workers, Owners and Politics in Coal Mining: an international comparison of industrial relations* (Oxford, 1990) pp. 17-29.

[80] Q. Outram, 'Class Warriors: the Coalowners', in J. McIlvoy, A. Campbell and K. Gildart (eds.), *Struggle For Dignity: industrial politics and the 1926 industrial lockout* (Cardiff, 2009) pp. 107-36.

[81] R. Walters, *The Economic and Business History of the South Wales Steam Coal Industry 1840 to 1918* (New York, 1977) pp. 51-88, particularly pp. 83-7.

[82] M. Dintenfass, 'Family, Training and Career in the British Coal Industry in the Era of Decline', *Business and Economic History* 22.1 (Fall 1993) 273-84.

defined as 'proprietors, chairman, directors and managers of coal mining enterprises', thirty-four were practical mining men like mine engineers, managers and agents, twelve were merchants and five officials of coal trade associations. Dintenfass discovered that those coalmasters with familial ties to the industry tended to attend the more prestigious schools and universities and rise to positions of power at an earlier age but that any other difference with those without family connections was marginal. He found little evidence from either group of entrepreneurship, either in the sense of creating new businesses or restructuring existing ones, and that overwhelmingly men joined existing institutions and stayed there for most if not all their career. In this he mirrored the findings of Church in 1986 who found that two thirds of a cohort of 170 mainly post 1880 coalmasters spent their entire career with one or two companies.[83] Dintenfass concluded by posing the question:

> *Is it not possible that men who remained with the same organisation for decades on end – frequently the organisation with which they began their working lives and at which they achieved professional distinction – may have found it difficult to promote the innovation in production techniques and marketing strategies that changing economic conditions demanded from British industry after 1914 and for which the coal trade for one was slow to make.*[84]

Yet this was not unique to the coal industry. In 1967 Levine, a Canadian Professor of Economics, published *Industrial Retardation in Britain 1880 to 1914.* He described the lack of technical and organisational innovation in Britain in comparison with the industrial rivals of the USA and Germany and concluded that the failure was due to poor entrepreneurial performance across all industries citing amateurism, nepotism, social immobility and neglect of education.[85]

The problem of productivity began after the fall in profits following the boom years of the early 1870's. Owners sought to offset price falls by increasing output achieved by

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[83] R. Church, *History of the British Coal Industry: Volume Three 1830 to 1913* (Oxford, 1986) p. 466.

[84] M. Dintenfass, 'Family, Training and Career in the British Coal Industry in the Era of Decline', *Business and Economic History* 22.1 (Fall 1993) 284.

[85] A. Levine, *Industrial Retardation in Britain 1880 to 1914* (London, 1967) pp. 51-78. See also J. Wale, 'Entrepreneurship in an industry subject to external shocks: British coalowners 1900 to 1946', *Management Decisions* 39.9 (1986) 729-38. She believed that the case for poor entrepreneurship between the wars is not generally justified.

increasing the inputs of labour, mainly in the unproductive oncost and surface workers. Figures presented to the 1925 Royal Commission reveal that production increased 60 per cent between 1889 and 1913 yet employment of miners went up 90 per cent and the number of surface workers increased by 188 per cent. Output per man year fell from a high of 319 tons 1879-83 to 282 tons 1889-93 and further declining to 257 tons 1909-13.[86] Owners have been blamed for the slow introduction of mechanised mining and the continued use of marginal ageing and outdated pits. Both Burgess (1975) and Kirby (1977) give good summaries of the debate.[87] Church (1986) contributed to the discussion by referring to the more accurate output per man shift figures which take account of the number of hours actually worked. These figures are only available from 1894 but he claims productivity was flat until around 1909 when it declined partly due to the introduction of the Eight Hour Day.[88]

The main issue that has interested historians is how far coalowners were responsible for this declining productivity from the late 19th century. The stereotypical view of coalowners has been summarised by Benson: 'The coal owners (their viewers, managers and other agents) are seen almost without exception as the epitome of capitalist selfishness and intransigence.'[89] The negative opinion of coalowners as effective entrepreneurs was championed by Taylor in the 1960's[90] but in the following decade historians like Buxton, Supple and most noticeably McCloskey came to their defence by offering mitigating factors to explain their shortcomings.[91] McCloskey attributed American superiority in productivity to their geological advantage of working virgin seams rather than entrepreneurial management[92]

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[86] PP Report of the Royal Commission on the Coal Industry (1925) CnD 2600 1. Table 13 p 127.

[87] K. Burgess, *The Origins of British Industrial Relations: the 19th century experience* (London, 1975) pp. 91-5; M. Kirby, *The British Coal Industry 1870 to 1946* (London, 1977) pp. 6-11.

[88] R. Church, *History of the British Coal Industry: Volume Three 1830 to 1913* (Oxford, 1986) pp. 121-30.

[89] J. Benson, 'Coalowners, Coal miners and Compulsion: Pit Clubs in England 1860 to 1880', *Business History* 44.1 (2002) 47.

[90] A. Taylor, 'Labour Productivity and Technological Innovation in the British Coal Industry 1850 to 1914', *Economic History Review* X1V (1961) 48-67, and A. Taylor, 'The Coal Industry', in D. Alcroft (ed.) ,*The Development of British Industry and Foreign Competition* (London, 1968) pp. 37-70.

[91] N. Buxton, 'Entrepreneurial Efficiency in the British Coal Industry between the wars', *Economic History Review* XX111 (1970) 427; B. Supple, 'No Bloody Revolutions but for Obstinate Reactions: British coalowners in their context 1919 to 1920', in D. Coleman and P. Mathias (eds.), *Enterprise and History: Essays in honour of Charles Wilson* (Cambridge, 1984) pp. 212-36; D. McCloskey, 'International Differences in Productivity? Coal and steel in the USA and Britain before World War One', in D. McCloskey (ed.), *Essays on a Mature Economy: Britain after 1840* (London, 1971) pp. 285-304.

[92] D. McCloskey, 'International Differences in Productivity? Coal and steel in the USA and Britain before World War One', in D. McCloskey (ed.), *Essays on a Mature Economy: Britain after 1840* (London, 1971) p. 295.

and Checkland believed that owners saw a degree of ruthlessness as an economic necessary if an enterprise was to prosper:

> *There seemed no other sensible rule but to resist claims for wage increases in good times and to enforce decreases in bad.*[93]

Wale presented a case study of a number of entrepreneurs and managers in the coal industry from 1880 to 1914 as her doctoral thesis and concluded that the case for or against entrepreneurial failure 'was still unproven.'[94] Nevertheless Church in his 1986 panoramic study concluded that the industry did not realise its potential but did not take the next logical step of condemning those that ran the industry.[95] Taylor at least offered an explanation for the self-satisfaction of coalowners claiming that they tended to measure the efficiency of their industry not by physical output but by financial return:

> *Between 1900 and 1914 mining was enjoying a run of prosperity unprecedented in the memory of either mine owner or mine worker. Under such circumstances complacency about the industry's shortcomings was perhaps pardonable but in mining unlike theology, the sin which is venial today may well become mortal tomorrow.*[96]

There is a pressing need for further studies on coalowners that digs beneath the accepted stereotype.

Industrial Relations and Class Conflict

Much has been written about the supposed militancy of the coal miner. Evidence gleaned from the great national disputes of 1893, 1912, 1921 and 1926 was mirrored in the period of nationalisation by government challenging disputes in 1972, 1974 and 1984-85. Socialist histories portrayed a fighting portrait of the miner as the heroic class warrior against capitalist exploitation. This view was challenged by Harrison in 1978 who suggested that colliers were

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[93] S. Checkland, *The Rise of Industrial Society in England 1815 to 1885* (London, 1964) pp. 164-5.

[94] J. Wale, 'The Griff Colliery Company 1882 to 1914: a case study in business history', *Midland History* 14 (1989) 98.

[95] R. Church, *History of the British Coal Industry: Volume Three 1830 to 1913* (Oxford, 1986) pp. 776-7.

[96] A. Taylor, 'Labour Productivity and Technological Innovation in the British Coal Industry 1850 to 1914', *Economic History Review* X1V (1961) 66.

more independent in their actions and given statistical credence by Church in 1986 who suggested that miners were not as strike prone as fable suggests.[97] Geary's international comparisons of 2005 further undermined the myth of the militant miner.[98] The heroic image re-emerged for its swan song in the great strike of 1984-85 when proposed pit closures meant that community survival rather than wages was at stake. Yet Gildart makes the telling point that:

> *The fact that a significant minority of miners continued to defy the NUM throughout the dispute pointed to the legacy of division and factionalism in mining trade unionism since the Victorian period.*[99]

The 1984-5 strike has been charted by Goodman in 1985 and from the hindsight of distance by Beckett and Hencke in 2009.[100] Miners shared a common identity based upon their occupational experience, which was challenged when major disputes revealed local and regional internal divisions in their trade union and community. To gain an understanding of these differences one must delve back to the formative years of the Victorian expansion of the coal fields.

The institutional histories cited above and the autobiographies and biographies addressed below all give narratives of national and regional events that rely heavily on recorded 'facts' around industrial disputes. The employers' perspective can be found in two works, Dalzeil (1872) *The Colliers' Strike in South Wales* and Evans (1912) *Labour Strife in the South Wales Coalfield*.[101] Both authors were employees of the Coalowners Association who according to Berger and Evans, were mainly attempting to justify the actions of employers in recent

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[97] R. Harrison (ed.), *Independent Collier: an archetypal proletarian reconsidered* (Sussex, 1978) and R. Church, *History of the British Coal Industry: Volume Three 1830 to* 1913 (Oxford, 1986).

[98] D. Geary, 'The Myth of the Radical Miner', in S. Berger, A. Croll and N. Laporte (eds.), *Towards a Comparative History of Coalfield Societies* (Aldershot, 2005) pp. 43-60.

[99] K. Gildart (ed.), Volume Six: 'Industrial Relations and Trade Unionism' In *Coal in Victorian Britain* (London, 2012) p. X1X.

[100] D. Goodman, *The Miners' Strike* (London, 1985) and F. Beckett and D. Hencke, *Marching to the Fault Line: the 1984 miners' strike and the death of industrial Britain* (London, 2009).

[101] W. Dalziel, *The Colliers' Strike in South Wales* (Cardiff, 1872) and D. Evans, *Labour Strife in the South Wales Coalfield 1910 to 1911* (Cardiff, 1912).

disputes, with the latter managing to do so with hardly a reference to trade unions.[102] A good description of the latter period can be found in the first volume of Page Arnot's *History of the MFGB*[103] published in 1947, with a more sober analysis[104] from Burgess (1975) *Origins of British Industrial Relations*[105] and Church's (1990) chapter on Employers, Trade Unions and the State.[106] In his 1986 *History of the British Coal Industry: Volume Three* Church devotes a chapter to industrial relations, covering the topics of coalowners' associations, the growth of trade unions, the clashes between capital and labour in 1893 and 1912, and wages and wage determination throughout the period.[107] The most fascinating section is that devoted to trade unions where official statistics are utilised to analyse the number of working days lost, the major strike issues, the results of strikes and the methods used to settle disputes. Between 1890 and 1913 published figures from the Board of Trade reveal a staggering 130 million working days were lost to strikes with 31.5 million and 24.4 million in the two main strike years of 1912 and 1893. Yet when Church calculated the number of days lost per employee per year the figure was only eight days for the period up to 1899 falling to under five days in the period after 1900. Regional figures were published after 1894 and these revealed that most strikes were in the coal exporting regions with South Wales the most strike prone accounting for 35 per cent of days lost but employing only 20 per cent of British miners.[108] When he examined the major strike issues wages declined in importance. In the period before 1899 it was cited as the major instigating factor in over half the strikes in Scotland, Lancashire, the East and West Midlands and the three minor counties. After 1900 it reached only 40 per cent in the West Midlands and the minor counties. The results of strikes revealed that roughly a quarter were successful, a quarter failed and half were settled by arbitration. The chances of success depended largely upon the stage of the trade cycle but regional

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[102] S. Berger and N. Evans, 'Two Faces of King Coal: the impact of Historiographical Tradition on Comparative History of the Ruhr and South Wales coalfields', in S. Berger, A. Croll and N. Laporte (eds.), *Towards a Comparative History of Coalfield Societies* (Aldershot, 2005) pp. 34-6.

[103] R. Page Arnot, *The Miners: a history of the MFGB to 1910* (London, 1947).

[104] As a communist and commissioned historian of the NUM Page Arnot had a socialist agenda and read changes into events that simply were not there. For example his claim that the 1893 strike gained the minimum wage was not true. However it could be argued that Burgess went too far the other way and was an apologist for the coalowners.

[105] K. Burgess, *The Origins of British Industrial Relations: the 19th century experience* (London, 1975).

[106] R. Church, 'Employers, Trade Unions and the State', in G. Feldman and K. Tenfelde (eds.), *Workers, Owners and Politics in Coal Mining: an international comparison of industrial relation.* (Oxford, 1990).

[107] R.Church, *History of the British Coal Industry: Volume Three 1830 to 1913*. (Oxford, 1986) pp. 651-756.

[108] R.Church, *History of the British Coal Industry: Volume Three 1830 to 1913* pp. 723-25.

figures reveal that failure was more common in the North-East and Scotland and success in the East Midlands. Although there were regional and national arbitration boards the vast majority of disputes were settled by pit head conciliation with official arbitration only common in South Wales. Such research has shattered the myth of the militant miner.[109]

Collective bargaining gave miners a greater say in their pay and working conditions but it did not end disputes. It was impossible to reconcile movements in wage rates with the pronounced fluctuations in coal prices during the trade cycle, or to adopt an equitable system of piece rate earnings that could accommodate for the changing working conditions in every colliery. The relative bargaining skill and potential power could have a significant impact regarding earning potential of both sides of industry. In 1913 Jevons mused:

> *Very different results have been obtained in different collieries so that there may be as much as 20 per cent difference in the cutting price of coal for the same seam under practically identical conditions between one colliery and the next.*[110]

If contemporaries found it difficult to decide what was fair and reasonable in the coal industry it is not surprising that historians have experienced a similar problem in analysing industrial relations. Most historians of the Victorian era have concluded that it was the actions of coalowners that contributed most to industrial tension.[111]

Any history of the coal industry will be coloured by the views of its author and must be read with caution. Even the statistical analysis of Church could be criticised for underplaying the reality of militancy which led a fearful government to intervene twice to protect the national economy. Yet history is more than a narrative of events and an analysis of statistical data. All history can be enlivened by viewing proceedings through the eyes of those that lived them. The following section will identify the main autobiographical and biographical sources available to the historian of the coal industry in this period of coalfield expansion.

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[109] Yet in the 50 years from the late 1880's coal mining was the most dispute prone British industry accounting for 47 per cent of strikes and 61 per cent of all working days lost to strikes. See J. Cronin, *Industrial Conflict in Modern Britain* (London, 1979) pp. 206-10.

[110] H. S. Jevons, *The British Coal Trade* (London, 1915) pp. 347-50.

[111] The role of coalowners will be studied in Chapter Five.

Miners' Lives: Autobiography and Biography

A sophisticated understanding of the coal industry cannot be gained from a simple chronology of events. An empathetic understanding of the role of different individuals helps to illuminate how their lives were shaped by what occurred around them and their motivations for their actions. This thesis will examine the lives of a number of Warwickshire coalowners and trade unionists in an attempt to discover what influenced their contribution to the county improvement in mine safety.

The leadership of trade unions has been well covered in the literature and as early as 1894 Hallam published thirty biographical sketches of miners' leaders.[112] A number of these pioneers published their own accounts of their lives like John Wilson of Durham (1910), Thomas Burt of Northumberland (1924), Robert Smillie of Scotland (1924) and Frank Hodges of South Wales (1925).[113] A notable exception to the 'pit to parliament' autobiographies is that of Edward Rymer (1898), *The Martyrdom of the Mine*.[114] He never remained attached to one particular coalfield or trade union or received any monetary rewards for his sacrifices, but in a career that spanned fifty years he travelled around helping to establish different unions and publicizing their cause in newspapers and at meetings. Of particular interest are the autobiographies of Burt and Smillie, both published in 1924, as they represent the two different political wings of the labour movement. Thomas Burt was a moderate Methodist inspired leader who served for forty-four years as the Liberal MP for Morpeth in Northumberland. In contrast Robert Smillie was a radical socialist leader of the MFGB and a founder of the Independent Labour Party, who succeeded Burt as MP for Morpeth in 1923, symbolising the move from Liberal to Labour Party support.[115] There is also a biography of the influential moderate South Wales leader William Abraham (1959), known universally as 'Mabon', who like Burt was a Lib-Lab MP for thirty-five years.[116] The miners` leaders of the twentieth century have been adequately covered by historians with

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[112] W. Hallam, *Miners' Leaders: thirty portraits and biographical sketches* (London, 1894).

[113] J. Wilson, *Memories of a Labour Leader* (London, 1910); T. Burt, *From Pitman to Privy Counsellor: An Autobiography* (London, 1924); R. Smillie, *My Life For Labour* (London, 1924); F. Hodges, *My Adventures as a Labour Leader* (London, 1925).

[114] E. Rymer, *The Martyrdom of the Mine* (Middlesbrough, 1898).

[115] In the MFGB Annual Record of Proceedings he is referred to as Mr Smellie until 1899 and adopts Mr Smillie from 1900. See MSS429MFGB 4/3 Modern Records Centre; University of Warwick.

[116] E. Evans, *Mabon: a Study of Trade Union Leadership* (Cardiff, 1959). Mabon is his bardic name in Welsh and refers to his early involvement in Eisteddfods.

some attracting more than one biographer.[117] An illuminating source for the historian of the Victorian era is the *Dictionary of Labour Biography*. Ten volumes appeared between 1971 and 2000 under the founding editors with three more volumes appearing in 2003, 2005 and 2010. The time span of each volume covers the period of industrialisation from the late eighteenth century to the present day, while entries range from national personalities to regional and local labour leaders.[118] Particularly in Volumes One and Two there are biographies of local mining officials that have otherwise escaped the attention of historians. Important to this study, William Johnson, the leader of the Warwickshire Miners Association, is covered in Volume Two.[119]

Biographies whether in the written or visual media, tend to be very personal accounts of events. Paradoxically this is both their strength and their weakness. They may not be objective and others with similar life experiences most certainly would view the world through different eyes, but they do reveal that person's observation of reality and their reaction to it. The value of an eye witness account will never be detracted by the need for the historian to treat that content with sensitivity and discrimination. This has been assisted by recent developments in the study of oral history[120] which McIvor sees being transformed from a reconstructive to an interpretive mode;

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[117] See for example A.J. Cook, Secretary of the MFGB, who published a serialised autobiography in the magazine *Tit-Bits*, during April and May 1926 before the General Strike intervened and it was never completed. P. Foot, *Agitator of the Worst Kind: Portrait of Miner's Leader A.J. Cook* (London, 1986) and P. *Davies, A.J. Cook: Miners' Leader 1883-1931* (Manchester, 1987).

[118] *Dictionary of Labour Biography*: Volume 1-10 (eds.) J. Saville and J. Bellamy, (London, 1971-2000); Volume 11 (eds.) K. Gildart, D. Howell and N. Kirk, (London, 2003); Volume 12 and 13 (eds.) K. Gildart and D. Howell, (London, 2005 and 2010).

[119] Mining communities have also attracted writers of fiction. Emile Zola's *Germinal* published in 1885 is the story of a coal miners' strike in northern France in the 1860's and Richard Llewellyn's *How Green Was My Valley* published in 1939, chronicles the life of a Welsh mining community at the turn of the century. Both have been adapted for the cinema and television. D. H. Lawrence was the son of a Nottinghamshire miner and set a number of his stories in that coalfield before the First World War. Hogenkamp has investigated the representation of mining communities in feature films and identified recurring stereotypical images. Through the dramatic narrative of the pit disaster and strike, the importance of family held together by a dominant maternal figure is highlighted. This formulaic image of the miner draws heavily on the romanticised image of the masculine, militant proletarian. See B. Hogenkamp, 'A Mining Film without a Disaster is like a Western without a Shootout: Representations of Coal Mining Communities in Feature Films', in S. Berger, A. Croll and N. Laporte (eds.), *Towards a Comparative History of Coalfield Societies* (Aldershot, 2005) pp. 86-96.

[120] See for example M. Roper, 'Oral History', in B. Brivati, J. Buxton and A. Selden, (eds.), *The Contemporary History Handbook* (Manchester, 1996) pp. 346-7; P. Summerfield, *Reconstructing Women's Lives* (Manchester, 1998); R. Perks and A. Thomson, *The Oral History Reader* (London, 1998).

practitioners now tending to be more sensitive towards the complexities of memory construction, the interrelationship between the present and the past, dominant discourses (narratives and messages) embedded within testimonies and the inter-subjective nature of the interview itself.[121]

Both the History Workshop Movement which specifically championed feminist and labour history and the Oral History Society had established themselves in Britain in the 1970's, both dedicated to revealing the 'hidden history' of the less powerful members of society through the collection of oral testimony.[122] Together they have accumulated an invaluable bank of autobiographical material that has deepened our understanding of history. McIvor for example in his 2007 study of *A History of Dust Disease in British Coal Mining* discovered from a number of interviewees that the machismo nature of working in the pits undermined statutory safety legislation.[123] In basing his study in the Health and Safety of the mines McIvor was treading relatively virgin ground. With a few notable exceptions, this important area has been neglected by historians and one aim of the study of Warwickshire that follows is to help redress this failure.

The State: Health and Safety in Mines

The history of Health and Safety regulation has failed to excite or attract historians in considerable numbers and unlike the similar omission for coalowners, the reasons for this are more problematic. There is an abundance of source material with the debates in parliament surrounding every reform recorded in Parliamentary Debates and the resulting reports and legislation familiar territory for historical enquiry. Although trade unions were critical of the pace of reform, the work of the MAGB in the 1840's and the MNU from the 1860's is testament to the importance they attributed to government intervention. Similarly social and economic reform was allied to the rise of parliamentary democracy that was central to the Whig theory of history that dominated historical study in the first half of the 20th century. Yet to historians of the coal industry health and safety in the mines has remained at the periphery. One can only speculate that it was the challenge of understanding the economic intricacies of

[121] A. McIvor and R. Johnson, *A History of Dust Disease in British Coal Mining* (Aldershot, 2007) p. 8.
[122] See G. Smith, *The Making of Oral History* www.history.ac.uk/makinghistory/articles/oral_history
[123] A. McIvor and R. Johnson, *A History of Dust Disease in British Coal Mining* (Aldershot, 2007) pp. 13-14.

coal manufacture and the drama of industrial dispute that exerted too strong an attraction to most scholars.

From Boyd[124] in 1879 to Bryan[125] in 1975 many writers simply chronicled change and attributed progress to modernisation instigated by enlightened individuals. They saw the origins of social reform in the Tory belief in social responsibility[126] or Liberal radicalism based upon the Utilitarian philosophy of Jeremy Bentham.[127] In 1958 MacDonagh postulated a new model for change that described it as an historical process that did not rely on human agency or ideology. The Government only intervened when obliged to do so by exposure to circumstances that were 'intolerable to society.' It proposed a legislative solution but then was attacked by endangered interest which brought political pressure to bear. This resulted in a compromised emasculated law that was insufficient to remove the original abuse but gave potential for widening State regulation. Inspectors who were forced to uphold an inefficient law then moved in to remove problems piecemeal.[128] This five stage model which specified stages of reform from identifying the problem to bureaucratic solution has been criticised by Parris in 1960 for its concepts of 'intolerability' and 'History as a process.'[129] Parris claimed the MacDonagh model only fitted his specialist area of emigrant regulation and reiterated the claim that the philosophy of Utilitarianism underpinned any theory of a revolution in government. Mills in her 2010 study identified a number of areas where events do not follow the theory.[130] In the 1840's the Government responded to sustained pressure for reform by appointing eminent scientists to investigate explosions and promoted a voluntary diffusion of

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[124] R. Boyd, *Coal Mines Inspection: its History and Results* (London, 1879).

[125] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975).

[126] See J. Hart, 'Nineteen Century Social Reform: a Tory Interpretation', *Past and Present* 31.1 (July 1965) 39-61.

[127] A. Dicey, *The Debt of Collectivism to Benthamism: Lectures on the Relationship between Law and Public Opinion in England during the 19th century* (London, 1905), criticised by J. Brebner, 'Laissez-Faire and State Intervention in 19th century Britain', *Journal of Economic History V111* (1948). See also D. Robert, 'Jeremy Bentham and the Victorian Administrative State', *Victorian Studies* 11 (1959) 193-210; J. Aydelotte, 'Conservative and Radical Interpretations of Early Victorian Social Legislation', *Victorian Studies X* ,(December 1967) 223-36; V. Cromwell, 'Interpretation of 19th century Administration: an analysis', *Victorian Studies 1X* (March 1966) 245-55; A. Taylor, *Laissez-Faire and State Intervention in 19th century Britain* (London, 1972).

[128] O. MacDonagh, 'Nineteenth Century Revolution in Government: a Reappraisal', *Historical Journal* (1958) 52-67, reprinted in P. Stansky, editor, *The Victorian Revolution: Government and Society in Victorian Britain* (New York, 1973) pp. 5-27.

[129] H. Parris, 'Nineteenth Century Revolution in Government: a reappraisal reappraised', *Historical Journal* (1960) 17-37, reprinted In P. Stansky, editor, *The Victorian Revolution: Government and Society in Victorian Britain* (New York, 1973) pp. 29-57.

[130] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800-1914* (Aldershot, 2010).

improved safety knowledge to avoid intervention. Similarly the systematic collection of information by Mine Inspectors would not necessarily result in legislation if, as in the 1880's debate on dust in coal mines, the conclusions were controversial.[131] She stressed the role of the individual to explain the more proactive government approach to safety from the 1870's and concluded that 'historical processes were more malleable to extraneous forces than MacDonagh originally envisaged.'[132] Nevertheless the MacDonagh theory, advanced in a short fifteen page article, remains the starting point for any historian attempting to explain government intervention in the 19th century.

The first – and only – Mine Inspector of the 1840's was Seymour Tremenheere. He was appointed following the passing of the 1842 Coal Mines Act with very limited powers. The chronology and particulars of the Act are well covered by Bryan (1975) *The Evolution of Health and Safety in Mines*[133] and the underlying principle of social control, by Heesom (1981) and Kirby (2007).[134] Heesom cites Shaftsbury`s call for reform to blunt the twin dangers of Chartism and Socialism, and Kirby the moral dangers for women and girls working with naked men. The life and work of Tremenheere has been documented by his biographer Edmonds in an article of 1963 and a book published in 1965.[135] Lacking any technical knowledge in mining, Tremenheere brought to the position his skill as a barrister and his experience gained as the first Inspector of Schools. His technique was to visit an area, gather information from a variety of sources and then report back to parliament offering his recommendations. A contrary view is offered by Page Arnot who cites the evidence of a founder member of the Miners' Association that claimed Tremenheere relied for information on colliery officials. Martin Jude[136] stated that:

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[131] C. Mills, *Regulating Health and Safety in the British Mining Industries* pp. 243-46.

[132] C. Mills, *Regulating Health and Safety in the British Mining Industries* p 246.

[133] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) pp. 31-47.

[134] A. Heesom, 'The Coal Mines Act of 1842: Social Reform and Social Control', *Historical Journal* 24.1 (1981) 69-88; and P. Kirby, 'Child labour, public decency and the iconography of the Children`s Employment Commission of 1842', *Manchester Papers in Economic and Social History* 62 (October 2007) 1-23.

[135] O. Edmonds and E. Edmonds, 'An Account of the Founding of HM Inspectorate of Mines and the work of the first inspector, Hugh Seymour Tremenheere', *British Journal of Industrial Medicine* 20 (1963) 210-17, and *I Was There: the Memoirs of H.S.Tremenheere* (London, 1965). See also R. Webb, 'A Whig Inspector', *Journal of Modern History* 27 (1955) 352-64.

[136] ODNB: Martin Jude (1803-1860) He was the Treasurer of the MAGB and an advocate of gaining parliamentary legislation to improve safety in mines.

He only went among the petty officials … the men were not in a single instance consulted. He took it for granted that what the agents told him was true and as such presented it … for all he knew or cared.[137]

Perhaps the truth lies somewhere in between these extremes. Tremenheere was against compulsion, believing that owners would use this as an excuse to neglect their responsibilities for safety. Instead he believed in what Bryan terms 'the moral and intellectual approach to mine safety'[138] If an accident was shown to be the result of an owner or manager failing to adopt a practice previously recommended by an Inspector and in successful use in other collieries, the adverse publicity would prevent a reoccurrence. However he did come to see the need for suitably qualified safety inspectors who would receive notification of all mining fatalities and offer practical advice on prevention from a position of knowledge.

The 1850 Coal Mines Act appointed four Mine Inspectors, rising to six in 1851. Unlike Tremenheere they had to possess a mining background but not be practising mine agents or owners. Their role was now more directed towards safety and they had the power to enter and examine coal mines (ironstone mines from 1860), view the working plans of the colliery and receive notice of fatal accidents. The work of the Inspectorate in these early years has been studies by Job who published articles in 1991 and 1994.[139] Edmonds (1963), MacDonagh (1967) and Bartrip (1982) have also contributed to the debate.[140] Page Arnot gives a withering critique of this early legislation describing the Act of 1850 as 'a dead letter' and citing Boyd's description of the Act of 1855 as 'a master's measure.'[141] Job is more understanding of the limited success of the Inspectorate. Even when the number of Inspectors

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[137] R. Page Arnot, *The Miners; Years of Struggle: a History of the MFGB from 1910* (London, 1953) p. 39, quoting the evidence of Martin Jude in R. Fynes, *History of the Northumberland and Durham Miners* (1873) Chapter 27. Fynes knew Jude personally, see Martin Jude ODNB.

[138] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 39.

[139] B. Job, 'The British Mine Inspectorate in the Early Years', *Bulletin of the Peak District Mines Historical Society* 11.4 (Winter 1991) 193-194 and B Job, 'The Formation and Early Development of the Mine Inspectorate 1850 to 1872', *Mining Engineer* (March 1994) 249-255. These articles are based upon his thesis of 1992, B. Job, 'The British Mine Inspectorate 1851 to 1913: Its Development and Effectiveness with particular reference to colliery explosions', (Unpublished PhD thesis, University of Keele 1992).

[140] O. Edmonds and E. Edmonds, 'An Account of the Founding of HM Inspectorate of Mines and the work of H S Tremenheere', *British Journal of Industrial Medicine* 20 (1963) 210-17; O. MacDonagh, 'Coal Mining Regulation: the First Decade 1842 to 1852', in Robson, (ed.), *Ideas and Institutions of Victorian Britain (*London, 1967) pp. 58-86, and P. Bartrip, 'British Government Inspection 1832 to 1875; some observations', *Historical Journal* 25.3 (1982) 603-26.

[141] R. Page Arnot, *The Miners: Years of Struggle; a history of the MFGB from 1910* (London, 1953) pp. 33-42.

was doubled to twelve in 1855, each had a vast area of responsibility. Job and Edmonds both see the model of politeness shown by Inspectors to owners to reflect their very limited power rather than an abdication of enforcement. Their only realistic sanction was to prosecute the most blatant abuses but this sanction was difficult in coal mining districts where the magistrates were drawn from coalowners, their families and friends and juries were comprised of men who depended upon those owners for continued employment.[142]

The subsequent development of the Inspectorate has been charted by Bryan (1975) and Mills (2010).[143] Their differing approach can be gleaned from their titles. Bryan, a former Mine Inspector, [144] talks of the 'evolution' of health and safety regulation. He charts progress through the adoption of technological innovation and scientific knowledge. Mills as a contrast comes from an academic background and is more critical of the State response:[145]

> *Beyond the assumption of progress portrayed in the historical literature lies a story of missed opportunities and indifference by the British government that resulted in a large number of men dying unnecessarily in pursuit of the nation`s mineral wealth.*[146]

Rather than the Bryan technique of explaining the technical advances in different Acts of Parliament, Mills stressed the 'agents of change,' from the early emphasis on ventilation due to the 'visibility' of the effects of explosions, the Inspectorate's ambivalence to pushing for increased power, the reasons for the Home Office move to a more proactive stance in the 1870's and the need to address the health of miners following the difficulties in recruiting fit volunteers for the Boer War campaign.[147] Both works offer fascinating insights into the history of State intervention and tend to complement rather than contradict each other.

Occupational disease, which occurs over a much longer period of time than the immediate impact of an accident, has until recently received scant attention. It lacked the

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[142] O. Edmonds and E. Edmonds, 'An Account of the Founding of HM Inspectorate of Mines and the work of H. S. Tremenheere', *British Journal of Industrial Medicine* 20 (1963) 211.

[143] C. Mills, *Regulating Health and Safety in the British Mining Industry 1800 to 1914* (Aldershot, 2010).

[144] Sir Andrew Bryan (1893-1988) was the Chief Inspector of Mines 1947 until 1951.

[145] C. Mills, 'Safety and Health Provision in the British Mining Industry with particular reference to non-ferrous metals', (Unpublished PhD thesis, University of Exeter 2004).

[146] C. Mills, *Regulating Health and Safety in the British Mining Industry* pp. 243.

[147] C. Mills, *Regulating Health and Safety in the British Mining Industry* pp. 243-6.

visibility to inspire an 'agent of change' and although the consequences of working in the pit were immediately obvious to anyone who cared to make an observation of a mining community, the medical profession could offer little hope of amelioration. The twin curses of miners' asthma and black spit were noted in the 1842 Children's Employment Commission[148] and debated in medical journals,[149] yet as late as 1927 a doctor appointed as a government adviser could still talk of the 'beneficial' effect of working in coal dust.[150] Nystagmus, identified in 1875,[151] received particular attention resulting in a seven article special from the *British Medical Journal* in 1892 to discuss the two rival theories of its cause.[152] Some believed that the oscillating eyeballs was caused by the posture of hewers working in narrow seams and forced to look up obliquely at the coal, whereas others blamed the poor illumination from working in safety lamp pits. When the latter theory was proven in the early 20th century, the introduction of electric lighting helped to diminish the disease, although reported cases reached their peak in 1922.[153] In 1943 Rosen published the first classic history of miners' diseases from ancient times and historical attempts to treat them.[154] Around the time of nationalisation of the mining industry the medical profession again turned their attention to miner's lung disease with Meikeljohn and then Holman looking specifically at silicosis from rock removal.[155] In 1972 Rogan, the Chief Medical Officer of the National Coal Board edited *Medicine in the Mining Industry* [156] with chapters covering many common ailments facing coal miners. This updated Rosen`s pioneering work of 1943. Since then standard works like Benson (1980) and Church (1986) have included sections on

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[148] Report of the Children`s Employment Commission 380 (London, 1842) p. 104.

[149] See for example R. Wilson, 'The Coalminers of Durham and Northumberland', *British Medical Journal* 19 (September 1863) 329-31; T. Peacock, 'Cornish Miner's Lung', *Transactions of the Pathological Society of London* XV1 (1865) 57-8; E. Greenhow, 'Coal Miner's Lung', *British Medical Journal* 10 (April 1869) 331-2.

[150] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 110.

[151] C. Taylor, 'Observations on Miners' Nystagmus – a new disease', *The Lancet*, 12 June 1875 pp. 821-2.

[152] 'A Discussion of Miners` Nystagmus', *British Medical Journal* 15 (October 1892) seven articles 834-40.

[153] R. Bedington, 'The Growth and Awareness of Health and Safety at Work 1780 to 1900', (Unpublished PhD thesis, University of Aston 1983) pp. 220-6.

[154] G. Rosen, *The History of Miners' Diseases* (New York, 1947).

[155] A. Meiklejohn, 'History of Lung Diseases of Coal Miners in Britain 1800 to 1943', *British Journal of Industrial Medicine* 8 (1951) 127-137, 9 (1952) 93-8 and 208-20. T. Holman, 'Historical Relationship of Mining Silicosis and Rock Removal', *British Journal of Industrial Medicine* 4 (1947) 1-29.

[156] J. Rosen (ed.), *Medicine in the Mining Industry* (London, 1972), in particular Lawrence et al, 'Accidents' pp. 252-72 and Williams, 'Beat Disease' pp. 199-208.

occupational disease.[157] In 2007 McIvor and Johnston's *A History of Dust Disease in British Coalmining* summarised available literature and added their research based upon oral testimony. What emerged was that the competitive masculine culture of the pit undermined safety legislation and that production frequently took precedence over considerations of health.[158]

A few post graduate students have also recently turned their attention to the study of Health and Safety in the mining industry. In 1981 Bedington looked at the origins of health and safety awareness.[159] She covers the full range of hazardous industries but includes sections on both accidents and the occupational diseases of miners. In 1991 Habibi gave a safety analysis of industrial accidents with reference to coal mining around the world.[160] His coverage includes the British coal mining industry from the early 19th century through to the end of nationalisation, and his analysis of the development of the industry in various countries offers interesting areas of comparison. In 1992 Job studied the contribution of the Mine Inspectorate to improvements in safety with particular reference to explosions.[161] Calvert's 1970 examination of education and training in the mining industry with special reference to the work and influence of the Mine Inspectorate,[162] offers insight into this important area and Mills' 2004 thesis on health and safety in the non-ferrous metals industries[163] became the basis for her book of 2010. Kitteringham's 2005 study of health and safety on the East Midland coalfield in many ways mirrors this current study, but concentrates on the larger Nottingham and Derbyshire coalfields and omits Warwickshire altogether.[164] This thesis follows in their footsteps and will attempt to identify the

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[157] J. Benson, *British Coalminers in the 19th century: a social history* (Dublin, 1980) pp. 44-7; R. Church, *The History of the British Coal Industry: Volume Three 1830 to 1914* (Oxford, 1986) pp. 582-8.

[158] A. McIvor and R. Johnson, *A History of Dust Disease in British Coalmining* (Aldershot, 2007) pp. 13-14.

[159] R. Bedington, 'The Growth and Awareness of Health and Safety at Work', (Unpublished PhD thesis, University of Aston 1983).

[160] E. Habibi, 'A Safety Analysis of Industrial Accidents', (Unpublished PhD thesis, University of Bradford 1991).

[161] B. Job, 'The British Mine Inspectorate 1851 to 1913: Its Development and Effectiveness with particular reference to colliery explosions', (Unpublished PhD thesis, University of Keele 1992).

[162] R. Calvert, 'An Examination of Education and Training in the Coal Mining Industry from 1840 to 1947 with special reference to the work and influence of the Mine Inspectorate', (Unpublished MPhil thesis, University of Nottingham 1970).

[163] C. Mills, 'Safety and Health Provision in the British mining industry with particular reference to non ferrous metals 1800 to 1914', (Unpublished PhD thesis, University of Exeter 2004).

[164] D. Kitteringham, 'Health and Safety in the Collieries of the East Midlands 1850 to 1911', (Unpublished PhD thesis, University of Nottingham 2005).

contribution to health and safety in the mines from the miner, the owner and the State through the prism of the Warwickshire coalfield.

The Warwickshire Coalfield

Historians of the coal industry have centred their research on the major coalfields of the North-East and Yorkshire, South Wales, Nottinghamshire, Lancashire or Scotland. Minor coalfields have been relegated to footnotes or simply ignored altogether. In rooting this study in Warwickshire, this research is following the lead of historians like Gildart for North Wales and Benson for Staffordshire in attempting to remedy this neglect of the smaller coalfields.[165]

Compared to larger coalfields the literature for Warwickshire is extremely limited. Howell, working for the Geological Society, published the first *Geology of the Warwickshire Coalfield* in 1858.[166] He was the first to prove the existence of the concealed coalfield to the west of the coal outcrop where early collieries were sited. A more accessible source is by the Warwickshire colliery manager Mitchell who published a chapter on the Warwickshire coalfield in 1950 in *Birmingham and its Regional Setting.*[167] Local history sources are surprisingly weak. The *Victoria County History* is perhaps the best known but despite publishing two Warwickshire volumes in 1908 the coal industry is limited to a description of the 17th and 18th centuries.[168] The historical/geographical literature was pioneered by Redmill (1931) and Bunker (1952) who both used census data to show the development of coal mining parishes, with Bunker expanding his MA thesis with a detailed account of agricultural and industrial development in the 19th century.[169] In 1982 Grant published a summary of his thesis in a chapter in *Field and Forest* which charted the changing perspectives of the Warwickshire coalfield.[170]

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[165] K. Gildart, *North Wales Miners: a Fragile Unity 1945 to 1996* (Cardiff, 2001); J. Benson, *Miners of Staffordshire 1840 to 1914* (Keele, 1993).

[166] H. Howell, *Geology of the Warwickshire Coalfield* (Memoirs of the Geological Survey) (London, 1858).

[167] J. Mitchell, 'The East Warwickshire coalfield', in M. Wise, (ed.), *Birmingham and its Regional Setting*. (Birmingham, 1950) pp. 289-302.

[168] Victoria County History, A *History of the County of Warwick:* Volume Two (London, 1908) pp. 217-26.

[169] C, Redmill, 'The Growth of Population on the East Midland Coalfield', *Geography* 18 (1931) 125-140; R. Bunker, 'Some Aspects of Population Growth and Structure in the Warwickshire coalfield from 1800', (Unpublished MA thesis, University of Birmingham 1952).

[170] E. Grant, 'The Changing Perspectives of the Warwickshire Coalfield', n G. Slater and F. Jarvis (eds.), *Field and Forest* (Norwich, 1982) pp. 325-46.

The engineering literature tends to be rather specialised. Brown (1906) and (Smith 1907) both give general surveys of the Warwickshire coalfield, Kendrick (1896) discusses the difficulties of sinking Kingsbury Colliery, Swallow (1903) gives an interesting review of the introduction of coal heading machines at Nuneaton Colliery, and Neath (1859) relates coal mining to the working of Griff Colliery.[171] A surprising source is the 1836 *Miners Guide* by Thomas Smith who gives a description of working at Hawkesbury Colliery where he was employed as the agent.[172] There are also *Colliery Guardian* reports relating to various collieries.[173]

The most useful sources for the Warwickshire coalfield are in the field of economic history. In 1937 Court made a detailed reconstruction of Hawkesbury Colliery in the 18th century from a single source.[174] White produced both an MA and PhD thesis in 1969 and 1972 on the Newdigates of Arbury and their Griff Colliery, both in the 18th century.[175] Grant's doctoral thesis of 1977 The Spatial Development of the Warwickshire coalfield, charts the movement of the collieries from the outcrop to the concealed coalfield, but although he is excellent on the early period he tends to treat the late nineteenth century to broad general analysis.[176] Wale's 1986 doctoral thesis studied case studies of entrepreneurs and managers in the coal industry 1880 to 1914, one of which was the Griff Colliery Company of

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[171] J. Brown', The Thick coal of Warwickshire', *Transactions of the Federated Institute of Mine Engineers* 33 (1906-07) 502-29; A. Smith, 'Brief History of Coalmining in Warwickshire', *Transactions of the Federated Institute of Mining Engineers* 34 (1907-08) 365-7; F. Swallow, 'Coalmining in Warwickshire with special reference to the use of Stanley coal heading machine in the rapid development and working of Nuneaton Colliery', *Transactions of the Federated Institute of Mine Engineers 26* (1903-04) 530-46; G. Neath, 'An historical survey of the Warwickshire coalfield with particular reference to Griff', Transcript of talk given to the Warwickshire Young Miners Association (9 December 1959), copy Nuneaton Library; J. Kendrick, 'Sinking Operations at Kingsbury Colliery, Warwickshire', *Transactions of the Federated Institute of Mining Engineers* 13 (1896-97) 259-76.

[172] T. Smith, *The Miners` Guide* (Birmingham, 1836).

[173] *Colliery Guardian:* Baddesley Colliery (1896); Charity Woodlands Colliery (15 July 1992); Exhall Colliery (25 November 1987); Haunchwood Colliery (1892); Hockley Hall and Whateley Collieries (26 June 1892); Newdigate Colliery (1904). *Colliery Journal:* Newdigate Colliery (28 December 1900).

[174] W. Court, 'A Warwickshire Colliery in the Eighteenth Century', *Economic History Review* 7 (1936/7) 221-8.

[175] A. White, 'Sixty Years of Coalmining Enterprise on the north Warwickshire estates of the Newdigates of Arbury 1680 to 1714', (Unpublished MA thesis, University of Birmingham 1969); and 'Economic Growth in Eighteenth Century Warwickshire: a study of the rise of the Warwickshire coalfield with particular reference to Sir Roger Newdigate of Griff'', (Unpublished PhD thesis, University of Birmingham 1972).

[176] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977), summarised in E. Grant, 'Changing Perspectives of the Warwickshire Coalfield', in G. Slater and F. Jarvis (eds.), *Field and Forest* (Norwich, 1982) pp. 325-46.

Warwickshire.[177] The most detailed source is Fretwell's four volumes *Warwickshire Coalfield,* published by Warwickshire Library.[178] A colliery deputy and industrial archaeologist, he spent a lifetime collecting material and writing articles on the Warwickshire coalfield. He was only an amateur historian and there are a number of minor historical inaccuracies in the body of work, but his analysis of technical detail is excellent.[179] However his negative critical evaluation of the role of William Johnson's leadership of the WMA will be challenged in this study.[180]

This study of the Warwickshire coalfield makes a significant contribution to the historiography of the British coal industry. For most of the period, from 1855 to 1910, Warwickshire was part of the four county Midland Division of the Mine Inspectorate together with Derbyshire, Leicestershire and Nottinghamshire. This area is geographically defined as the East Midlands coalfield and is treated as a homogeneous unit, but there are a number of indicators that suggest this were not so. In 1888 a committee of employers and workmen updated the special rules to comply with the Act of 1887 and produced one set for Warwickshire and one to cover the other three counties. Special rules were safety regulations that were applicable to a District and supplemented the General rules laid down for all British coal mines. Warwickshire deserved particular attention because of the geological 'peculiarities of the district,' [181] that is the unstable characteristics of the roof and working a seam up a slope of thirty degrees. Between 1890 and 1909 the Mine Inspectorate published the average number of days worked for each coalfield in their district. Taking 250 days to represent a typical year of full time employment, Warwickshire achieved this for sixteen of the twenty year period, but this falls to nine for Derbyshire and only five and four

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[177] J. Wale, 'Entrepreneurs and Managers in the British Coal Industry 1890 to 1914', (Unpublished PhD thesis, University of Oxford 1986), and J. Wale, 'The Griff Colliery Company, Warwickshire 1882 to 1914: a case study in business history', In *Midland History* 14 (1989) 95-119.

[178] L. Fretwell, *The Warwickshire Coalfield* Four Volumes (Warwick, c2005).

[179] Fretwell's *Warwickshire Coalfield* was donated to Warwickshire Central Library shortly before his death. They edited the work dividing the volumes roughly by geographical location of collieries and moving articles on engineering to the appendices.

[180] Fretwell appears to have accepted much of the unfounded criticism of Johnson that prevailed in the Tamworth area of the coalfield. I know from private conversations that he was beginning to modify this view, for example it was he who discovered that the shareholder at Birch Coppice Colliery was not the William Johnson who led the WMA, but this is not evident in the published work. See the section on Trade Unions in Chapter Four. He also has an annoying tendency to not always acknowledge where he obtained his information which means that his facts cannot be verified. See for example his assertion that Alfred Hickman took part in the Battle of Balaclava in Chapter Five.

[181] *Annual Report of Inspectors of Mines*: Midland Division 1888.

respectively for Nottinghamshire and Leicestershire. The mean average for the period was 258 for Warwickshire, 249 for Derbyshire, 233 for Nottinghamshire and 232 for Leicestershire.[182] Why should Warwickshire work on average an extra fortnight a year compared to Derbyshire and over a month in comparison to Nottinghamshire and Leicestershire? It may well be that the Warwickshire reputation for amicable relations between the coalowners and trade union had tangible rewards. Perhaps Kitteringham`s decision to omit Warwickshire from his doctoral study relating to the East Midlands coalfield is not as inexplicable as it first appeared.[183]

The aim of the present study is to investigate the engines of change to Health and Safety through the equally neglected area of the Warwickshire coalfield in the period of national coalfield expansion from 1840 to 1913. The following chapter will utilise all available research to provide a history of that coalfield.

[182] Tabulated from the *Annual Report of the Inspectors of Mines*, Midland Division 1890 to 1909.

[183] D. Kitteringham, 'Health and Safety in the Collieries of the East Midlands 1850 to 1911', (Unpublished PhD thesis, University of Nottingham 2005).

Chapter Two: Development of the Warwickshire Coalfield

This overview of the development of the Warwickshire coalfield will begin with a geological definition of the district. Archaeological evidence dates exploitation from the Roman era but written evidence, like most British coalfields, is from the thirteenth century. Section two will examine how the coalfield was established. The medieval bell pits were replaced by square tree lined shafts by the late sixteenth century when the 'great mine' at Bedworth employed five hundred men. Section three will then analyse the eighteenth century when Warwickshire was a leading innovator of technology. The arrival of steam pumping engines in the early eighteenth century proved a false dawn until the development of canals in the later part of the century allowed coal to be transported more easily to its markets. Section four charts the early nineteenth century which saw the traditional three collieries of Griff, Hawkesbury and Wyken, all in the south, being joined by another medium sized colliery of Baddesley in the central area. This period also saw the first development of the northern area of the coalfield and a number of new collieries in the south, as described in the 1842 Children's Employment Commission. Section five explores the late nineteenth century period of steady growth across the whole coalfield. Section six analyses why smaller collieries survived, sometimes mushrooming in the periods of coal shortages in the early 1870's and early 1890's, while at other times for the extraction of ironstone or clay. Some like the highly specialised Peel Colliery continued to use the pillar and bord system of extraction rather than the longwall system favoured by most coal mines.[1] The rapid expansion from the 1890's is charted in section seven with the sinking of deeper more technologically advanced collieries[2] across the prosperous Midland coalfield.

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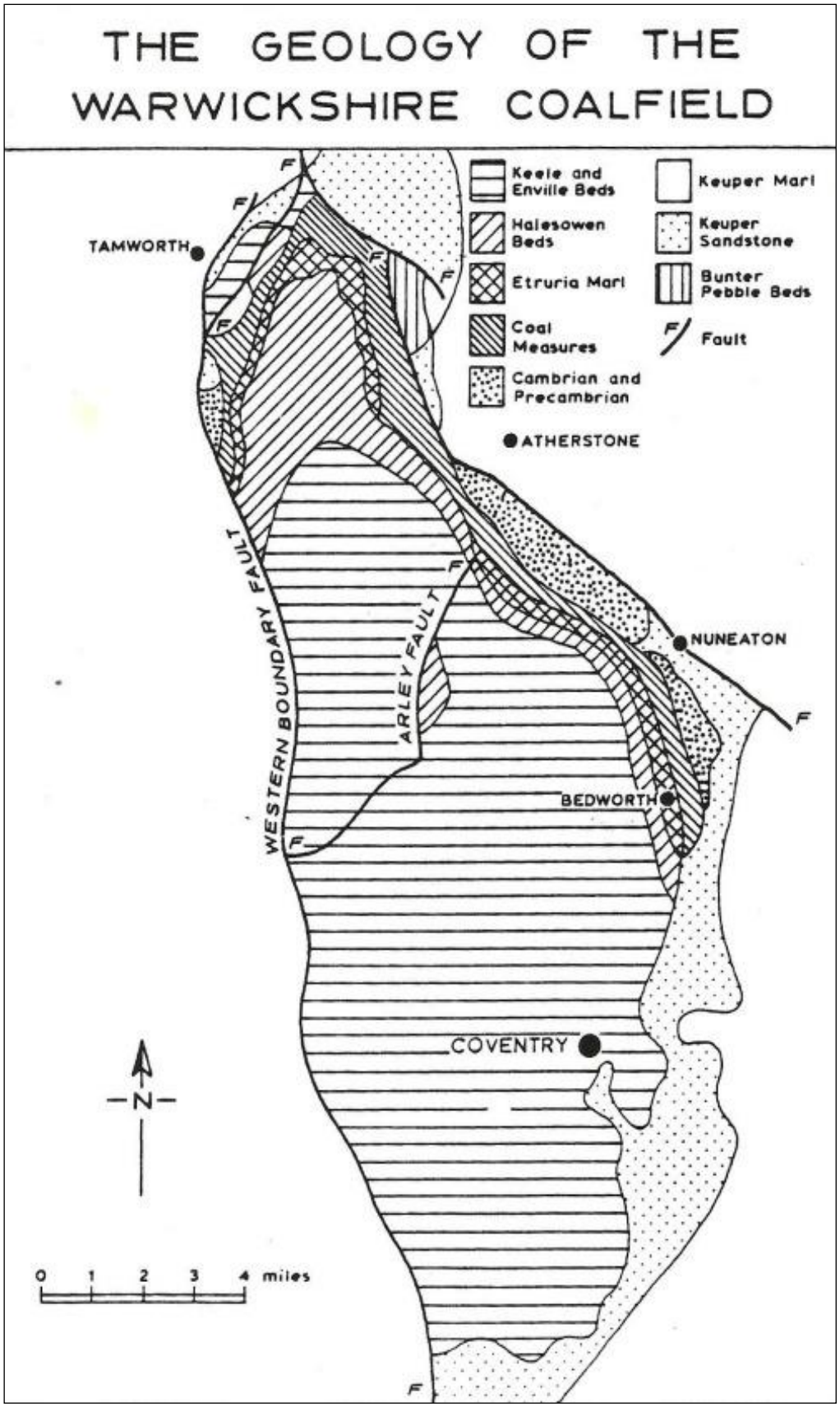
[1] The bord and stall system developed in the North-East. Bords or passageways were driven into the coal, pillars of coal were left to support the roof and men worked in small groups in areas known as stalls. The longwall system developed in Shropshire. Hewers worked together at an advancing or retreating face, allowing the roof to subside where the coal was worked out. For the variants of each system see R. Church, *The History of the British Coal Industry: Volume Three 1830 to 1914* (Oxford, 1986) pp. 328-39.

[2] Colliery is the name given to the business. Each colliery contained a number of pits at least two from 1861. The downshaft was for man riding and production. The upshaft was for ventilation. Miners often called their colliery after the name of the downshaft that they used. For example Newdigate Colliery was called 'Frankies' after Francis Pit.



Map 2:1 Map of the Warwickshire Coalfield.
Source: unknown, donated to the author by Fred Phillips of Bedworth.

Geology

The Warwickshire coalfield was situated in the north of the county.[3] The exposed coalfield had the shape of a shepherd's crook, running north-east from Coventry through Bedworth to Nuneaton, then north-west through Atherstone to Tamworth before turning south- west to Dosthill. Triangular in shape, it was one of the smallest in Britain with a length of only twenty-five miles north to south and a maximum width of nine miles at Nuneaton. The exposed coalfield covered an area of eighty square miles and there were great boundary faults to the west and to the east. The faults that edge the coalfield occurred long after the deposits that became coal were laid down. They were formed by continental drift in the form of two enormous land masses moving towards each other and squeezing the land together. The uplift occurred over millions of years in a very gradual series of movements instigated by earthquakes. The coal measures uplifted at the faults were gradually eroded away to reveal the exposed coalfield. These measures consisted of alternative layers of sandstone and shale, with beds of coal, ironstone and fireclay. Around Nuneaton there was a bed of limestone at a depth of fifty yards. The northern and eastern fringe made up the 'visible' or exposed area. This was because the coalfield was a trough or basin with the main axis of the syncline running north to south. It was not until 1858 that Howell proved the existence of the concealed coalfield and encouraged economic exploitation there.[4] The beds rose on the east and north-west edge at an angle of thirty degrees but were flatter towards the centre. To the west and the south-west the coal measures passed beneath the Permian and Triassic formations known locally as the red rocks.[5] The eastern margin was indicated by the Cambrian rocks which rose from below the coal measures from Atherstone to Bedworth where the coal measures passed beneath the red rocks. In the south the beds came together to form one seam of twenty to twenty-five feet thickness with a few small partings of dirt and fireclay between them. At Bedworth the partings slightly increased and to the north swelled out to a distance of many yards. There are fourteen seams but only five were worked in the

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[3] *Victoria County History;* (VCH) Warwickshire Volume Two (London, 1908) pp. 217-26 The VCH was a history project began in 1899 in honour of Queen Victoria with the aim of creating an encyclopaedia of each English county; See also E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) pp. 26-30.

[4] H. Howell, *Geology of the Warwickshire Coalfield* (Memoirs of the Geological Survey) (London, 1858) pp. 8-26. The Geological Survey was the first in the world. Founded in 1835 as part of the Ordanance mapping survey, its aim was to make a systematic geological survey of the UK.

[5] These were red shale, the colour derived from manganese in the rock. See H. Howell, *Geology of the Warwickshire Coalfield* p. 9.

19th century: four foot coal; two yard rider and bare coal; ell and slate coal; seven foot coal; and bench coal. Writing in 1841 the Children's Employment Commissioner for Warwickshire, Dr Mitchell, noted:

> *As in other districts of England the name given to beds of coal are not by any means characteristic. Thus the beds called slate coal are not slateier than other seams and the bed called the seven foot seam is sometimes not as thick as the two yard seam.*[6]

To exploit the mining of the coalfield engineers had to master the geological characteristics of the area, in particular the thirty degree dip of the coal seam and the covering of water laden Halesowen sandstone. When Mine Inspectors began to record every coalfield fatality from 1851 Warwickshire emerged with twice the national average of underground haulage deaths largely from having to work on a steeply inclined plane.[7]

In his 1858 geological survey Howell charts the changes in the Warwickshire seams.[8] He noted that from Wyken in Coventry to Hawkesbury in Bedworth the top five seams of two yard, bare, rider, ell and slate form the thick Warwickshire coal of some twenty-five feet. There is a fireclay seam of a foot deep between the two yard and rider seams and another larger blue fireclay seam between the ell and slate seams. The seven foot seam is some forty feet below the slate seam. At Griff in Nuneaton a new seam appears that is called the four foot above the two yard but now the partings widen out considerably. There is a fifty feet parting between the four foot and the two yard, a nine feet parting between the rider and bare, seventy feet parting between bare and slate and eighty feet between slate and seven foot. At Baddesley in the centre of the coalfield they mined a fourteen foot seam of rider and bare coal with just a foot parting between them and a six feet seven foot seam. At Birch Coppice they mined a thick seam of rider and bare that was known collectively as double coal, but both seams peter out there to be replaced by fireclay at Tamworth to the north. There were a couple of seams that Howell could not classify. At Wyken there was a seam known as lady

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[6] J. Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons, pp 89-110 of *Employment of Children Report* (London, 1842) p. 91.

[7] Fatalities are discussed in Chapter Three.

[8] H. Howell, *Geology of the Warwickshire Coalfield* (Memoirs of the Geological Survey) (London, 1858) pp. 11-17.

coal between the slate and seven foot seams and they had mined a seam called smithy at Baddesley. In the Coventry-Bedworth area and again at Baddesley ironstone was found below the slate seam but not deposited in beds but in 'balls or nodules of great size.'[9] The location of a colliery on the coalfield could have a major impact on costs and potential profits.

Emergence of the Warwickshire Coalfield

The earliest documentary reference to coalmining in Warwickshire is in 1275 [10] but archaeological evidence predates this by a thousand years. Fragments of coal discovered during the evacuation of Shakenoak Roman villa near Wilcote in Oxfordshire and analysed by the National Coal Board,[11] pronounced Warwickshire as the most likely source.[12] The Shakenoak site is some forty-five miles from the coalfield but could have been easily reached by Roman roads. The main settlement on the coalfield was Mancetter near Atherstone on the Watling Street. There were pottery and glass making kilns at Mancetter and pottery and tile kilns around Nuneaton indicating that the Romans must have been aware of local coal supplies. Outcrops at Grendon and Baddesley a few hundred yards from Watling Street and three miles from Mancetter would have provided an ideal accessible source. During the medieval period there is a reference to coal being mined at Glascote but the majority of evidence is centred on the Nuneaton areas of Chilvers Coton, Haunchwood and Stockingford, Grant noted:

> *This may imply that Nuneaton had emerged as the centre of the Warwickshire coalfield or merely reflect the biased survival of documentary evidence when so much comes from the accounts of Nuneaton Priory.*[13]

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[9] H. Howell, *Geology of the Warwickshire Coalfield* (Memoirs of the Geological Survey) (London, 1858) p. 19.

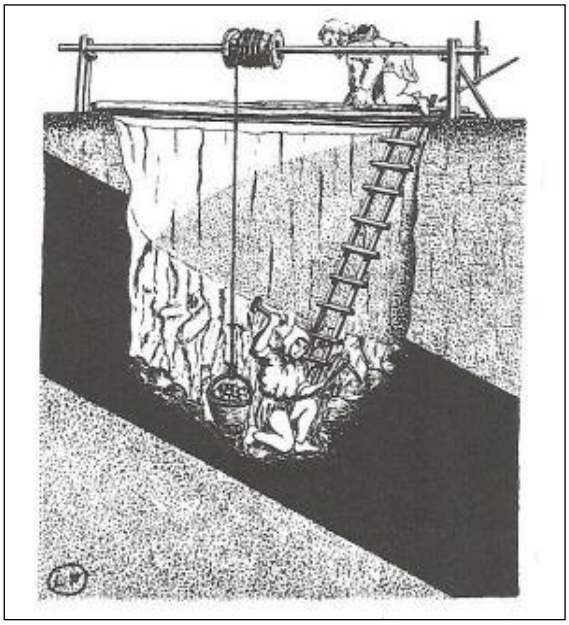
[10] *Victoria County History;* Warwickshire Volume Two (London, 1908) p. 217. The VCH gives the date of 1275; Nef inaccurately gives 1276 but this may be a printer's error. See E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) p. 46.

[11] Information from NCB deputy and industrial archaeologist Laurence Fretwell, interview February 1995.

[12] A. Brodribb, *Excavation at Shakenoak Farm near Wilcote, Oxfordshire. Part One sites A and D. Part Two sites B and H* (private publication 1968 and 1971); and E.Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) pp. 38-43.

[13] E. Grant, 'Changing Perspectives of the Warwickshire Coalfield', in G. Slater and F. Jarvis (eds.), .*Field and Forest.* (Norwich, 1982) The first record of coal mining in Warwickshire is from the Nuneaton Priory accounts.

The main method of production was working at the outcrop on the exposed coalfield in a succession of short life shallow bell pits (see Drawing 2:1 below) whose depths were governed by the length of a ladder.



Drawing 2:1 Bell Pits
Source: Fretwell *The Warwickshire Coalfield* Volume Four p 59.[14]

Nef asserts that there was a revolution in the use of fuel in the 16th and 17th centuries due to a shortage in timber supply. Throughout the British coalfields a new breed of coal master and miner emerged 'who changed not only the scale of operation but also changed the organisation, finance, labour force and status of the industry.'[15] He claimed production in Warwickshire rose from around 2,000 tons in 1550 to 70,000 tons in 1700. However Grant claimed that Nef confused potential for actual production and speculates an output of 30,000 tons annually, dropping to 20,000 tons in the absence of a major colliery working at Coventry, Bedworth or Griff. [16] There is plenty of evidence of increased mining activity as shaft work replaced outcrop and bell pits by the late 17th century but less evidence of financial success or sustained output in this period. Grant discovered seventeen documented

[14] Laurence Fretwell was a colliery deputy and local industrial archaeologist. He had spent a lifetime collecting material on the Warwickshire coalfield and generously made his archive available to me in addition to acting as my technical advisor. His work was published by Warwickshire Library in four volumes shortly before his death.

[15] J. Nef, *Rise of the British Coal Industry* (London, 1932) p. 327.

[16] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) p. 146.

areas of working from Wyken in the south to Dordon in the north along the exposed coalfield, and postulates a further five sites of likely mining activity in the 17th century. All pits were confined to the narrow outcrop and the intensity of mining decreased as one travelled north.[17] In the south much of the land had been owned by the Coventry Priory but after the dissolution of the monasteries part was purchased by Sir Thomas White's Charity[18] and administered by Coventry Corporation. The city leased the three mines at Hawkesbury, Sowe and Wyken as one enterprise to interested entrepreneurs, and the proximity of Coventry ensured a steady demand for coal and willing 'undertakers' to work the mines. Between 1595 and 1682 eleven leases were issued but the short life of many demonstrates that few were successful. Some lessees were important industrial figures like Huntingdon Beaumont (1595)[19] and his son Sir Thomas (1611), who were from a prominent Leicestershire mining family; Earl of Dover (1636) who had ran successful lead mines in Derbyshire and Sir John Winter (1671) who was a noted coalmaster from the Forest of Dean.[20] Such undertakers had to balance the high rent demands of Coventry Corporation against possible production after their initial outlay and the ongoing heavy drainage costs. A 1674 inventory of Hawkesbury lists three engine houses, an animal house with an old rag wheel and a counting house for domestic equipment, all valued at £133.[21] This was used by the next operators, Evans and Broome, who received the most favourable lease of the century and invested between £14,000 and £17,000, yet even they could not sustain a profit. When the Coventry mines closed in 1688 a new lease was not issued for thirty years.

At Bedworth the 'great mine' which employed 500 was abandoned by the Beaumonts in 1618 but revived by Bigge and Robinson in the 1620's.[22] By 1630 they had reached an output of 20-30,000 tons and are described by Nef as only one of a dozen collieries of this size in the

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[17] E.Grant, 'Changing Perspectives of the Warwickshire Coalfield', in G. Slater and F. Jarvis (eds.), *Field and Forest* (Norwich, 1982) p. 328.

[18] *Oxford Dictionary of National Biography:* Sir Thomas White (1492-1567) was a cloth merchant, founder of St John's College, Oxford and civic benefactor. His charity, still active today, allows pupils from King Henry V111 School, Coventry – and others in Bristol and Reading – to obtain scholarships to his Oxford college which was dedicated to the saint for Merchant Tailors.

[19] The date notes the year of the lease.

[20] ODNB: Huntingdon Beaumont (1561-1624), Sir Thomas Beaumont (1555-1614), Earl of Dover (1636-1708), Sir John Winter (1600-1676). See also A. White, *Men and Mining in Warwickshire* (Coventry, 1970) pp. 12-24, covers Huntingdon Beaumont and the Earl of Dover.

[21] *Coventry Council Meeting*s (28 April 1675) p 235,CRO A14 6.

[22] *Victoria County History*: Warwickshire Volume Two (London, 1908) pp. 26-30.

country.[23] They invested £4,000 on two pumping engines and a sough[24] and had an annual outlay of £2,500 on labour and equipment to drain the pits.[25] Grant claims; 'their success was due to hard work, ability and sharp practice.' [26] Like the Beaumonts they tried to buy out the opposition and were not averse to using the law to gain access to coal seams and in 1631 to resort to blatant sabotage to flood rival Coventry mines.[27] Production problems arose in the 1630's when they suffered 'quicksand' after heavy rain and were forced to employ thirty men on ten pumping engines night and day. They were in financial difficulties and when Fuller visited the town in 1662 the mines were depressed.[28]

Griff to the north was only slightly less important than Bedworth, yet Grant estimates that between 1599 and 1710 the colliery was only in operation for thirty-nine years.[29] A number of entrepreneurs initiated production but from the mid 17th century the landowning Newdigate family dominated coal production. Their fifth entry into coal mining (1700-09) was an attempt to create a large well capitalised colliery but the results were disappointing. The well planned colliery ran two miles along the outcrop and used imported Shropshire miners to teach the new longwall method of production.[30] White calculated that one hundred and twelve were employed, which included forty-two miners and forty-six waggonmen.[31] A £2,000 initial outlay was supplemented with a £2,360 water wheel in 1708. A 1705 map of the site shows that drainage was tackled by soughs, horse gin, barrel gin, water wheel and wind power.[32] In 1705 16,000 tons were raised, but an underground collapse the following year led to thirty weeks of lost production and an estimated net loss of £!,200. There is no

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[23] J. Nef, *Rise of the British Coalfield* (London, 1932) p. 360.

[24] A sough is a drainage channel dug into a hill.

[25] State Papers Domestic SP16/204/83 and SP14/133/69 PRO.

[26] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) p. 88.

[27] State Papers Domestic SP 16/204/85 PRO, and A. Lawrence, *Bedworth* (Coventry, 1951) pp. 33-4.

[28] T. Fuller, *The History of the Worthies of England* (London, 1662) p. 403.

[29] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) pp. 93-106.

[30] Arbury household cash book, WCRO CR 136/V 56 53.

[31] A. White, 'Sixty Years of Coalmining Enterprise on the North Warwickshire Estate of the Newdigates of Arbury 1680-1740', (Unpublished MA thesis, University of Birmingham 1969) quoted E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) p. 104.

[32]Newdigate Arbury Accounts, WCRO CR 136/C 147. These are different types of drainage equipment.

evidence that Sir Richard[33] made the expected fortune from his mine and when he died in 1709 he left his son the outstanding debts on his estate of £56,000.[34] There were no other major collieries north of Griff but there is some evidence of sporadic mining along the outcrop.

Stutteringly by 1710 a Warwickshire coalfield had emerged. This was created by the new coalmining landed families like the Newdigates, Astons, Pagets and Stratfords; local businessmen like Bigge, Robinson, Collins and Potter and the arrival of outside adventurers like the Beaumonts, the Earl of Dover and Sir John Winter.[35] All had to master two major production problems. The steep one-in-three dip meant that more pits were needed in Warwickshire than in other coalfields. They progressed along the narrow exposed coalfield in short life pits that were exhausted after a year or so. The deepest shaft was only 140 feet at the Newdigate colliery of 1700-09. The second problem was that of drainage. The large number of pits required proportionately more drainage equipment, and the need for more expensive drainage methods. Building a sough or tunnel was expensive to set up, but cheap to operate once the tunnel was built, yet limited to shallow pits of twenty-five feet depth. Windlass power which utilised human labour on a barrel pump or rag and chain pump, was expensive in wages, horse gins were expensive in feed and water wheels had high construction costs. Given such high fixed and operating costs, Warwickshire coal was more expensive than elsewhere.

The 18th Century: Steam Pumping Engines and Canals

The arrival and spread of steam pumping in the early 18th century was traditionally seen as an important successful phase of development.[36] The first Newcomen engine arrived at Griff in 1714 and a second in 1717 or 1718. They spread through the southern part of the

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[33] ODNB: Sir Richard Newdigate (1644-1710).

[34] Newdigate Arbury Accounts, WCRO CR 136/C 1978. Yet Grant claims this was the 'zenith of expertise for an inland coalfield.' E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) p. 101. See also A. White, *Men and Mining in Warwickshire* (Coventry, 1970) pp. 25-35; Sir Richard Newdigate, a brief summary of his MA thesis, and D. Fordham, *Coal and Water: an Industrial History of Arbury* (private publication, 2010) copy Nuneaton Library, pp. 33-60.

[35] For additional detail see *Victoria County History*: Warwickshire Volume Two (London, 1908) pp. 217-26.

[36] See E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) pp. 160-81; A. White, *Men and Mining in Warwickshire* (Coventry, 1970) pp. 25-45; J. Harris, 'The Employment of Steam Power in the 18th century', *History* 52 (1967) 133-40; J. Allen, 'Some early Newcomen engines and the legal disputes surrounding them', *Transactions of the Newcomen Society* 41 (1968-69) 181-201.

coalfield and by 1734 there were twelve – three at Griff, three at Hawkesbury and six at Wyken – though they never worked at the same time. Although they could easily drain the Warwickshire pits, entrepreneurs soon discovered that they could be an expensive liability. Steam engines were expensive to produce, involved a high carriage cost from Coalbrookdale and the expense of erecting an engine house, shaping a beam and assembly. On top of the high cost of spare parts additional costs included the payment to the patent holder until it expired in 1733 and the high consumption of coal. As Court illustrates; 'an engine might kill a weak mine, not save it.'[37] Two Staffordshire entrepreneurs, Parrot and Sparrow, were responsible for introducing steam to Warwickshire.[38] They leased Griff from the Newdigates and soon expanded into Hawkesbury and Wyken. They acted as middlemen for the holders of the patent and the owners of flooded pits and used their influence to create a monopoly position for themselves. Despite their partnership they soon fell out over perceived advantage from the engines and spent much of the time suing each other and being sued by owners of collieries that had become flooded or sabotaged during the protracted litigation. Between 1730 and 1744 the three largest collieries closed. Sir Richard Newdigate died in 1727[39] and on the advice of a commissioned respected local mining surveyor and engineer, Griff closed in 1730. Stonier Parrot, proprietor of Hawkesbury, was declared bankrupt in 1732 and when a creditor tried to work the pits he soon closed it declaring it 'a losing and prejudicial undertaking.'[40] Similarly when Henry Green, proprietor of Wyken since 1718, died in 1744 with debts of £15,000, his heir closed the pits and a new lease was not issued until 1789.[41] The southern Warwickshire coalfield had collapsed, but the north continued with short life shallow pits with little evidence of change. According to Grant: 'The root problem was a technological one: too much technology on one hand and not enough on the other.'[42] Steam power allowed mining at greater depth, but the increased output lacked the transport to get coal to customers.

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[37] W. Court, 'A Warwickshire Colliery in the 18th century', *Economic History Review* 7 (1936-37) 221-8.

[38] A. White, *Men and Mining in Warwickshire* (Coventry, 1970) pp. 37-48.

[39] This is the son of the Sir Richard that had died 1710.

[40] M . Rowlands, 'Stonier Parrot and the Newcomen engine', *Transactions of the Newcomen Society* 41 (1968-69) 49-67.

[41] Coventry Council Meeting Book, CRO A14/K pp 477-600.

[42] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) p. 179.

It was in the late 18th century that turnpikes and more importantly, canals solved this transportation dilemma, and with the adoption of the more efficient Watt steam engine for both pumping and winding, the Warwickshire coalfield at last emerged as a viable economic venture.[43] Production increased due to more medium depth pits of 150 to 750 feet although few reached 500 feet, and by 1800 the three principal collieries of Griff, Hawkesbury and Wyken were for the first time in simultaneous and successful operation.[44] The untarmaced rutted tracks that passed for roads were difficult to use in the summer months and impassable in winter. Coalmasters invested in turnpikes and in 1755-56 the Himley-Nuneaton-Coventry road was opened, with a link to Polesworth and Tamworth by 1760. But it was canals that were ideal for the transport of bulky cargo like coal. The first section of the Coventry canal was opened in 1771 between Coventry and Atherstone, and the second section to Fazely (Tamworth) in 1790. It was a difficult and expensive undertaking with a cost of £5,395 per mile compared to the Warwickshire average of £3,325.[45] The Oxford canal moved south from its junction at Hawkesbury, reaching Banbury in 1778 and Oxford in 1790. Coalmasters invested even more in canals than turnpikes. Sir Roger Newdigate of Griff invested £2,000 in the Oxford canal and £1,000 in the Coventry canal. Richard Parrott of Hawkesbury invested £1,000 in the Oxford canal, and lesser coalmasters like England of Polesworth and Ludford of Ansley, smaller sums. The joining of the Birmingham-Fazely canal to the Coventry canal in 1790 introduced competition from the cheaper and more popular Staffordshire coal. The perceived superiority of Staffordshire coal has little basis in fact as the National Coal Board classified both very similar.[46] But although it failed to dominate the local market gaining only 10 per cent penetration in Coventry by 1806-07, it did penetrate the traditional Warwickshire market of the hinterland of the Oxford canal and prevented the expected boom.[47]

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[43] A. White, *Men and Mining in Warwickshire* (Coventry, 1970) p. 49-62.

[44] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) p. 181.

[45] E. Ardeyfic, 'The Development of Canals in Warwickshire and their Influence on the Social and Economic Geography of the County', (Unpublished PhD thesis, University of Birmingham 1974); and E. Grant, ';The Spatial Development of the Warwickshire Coalfield,.' (Unpublished PhD thesis, University of Birmingham 1977) p. 185.

[46] Information obtained from Laurence Fretwell.

[47] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) p. 195

Hawkesbury was the first colliery to recover.[48] On the death of Stonier Parrott in 1744 the colliery passed to his lawyer John Bourne and his son Richard Parrott and the colliery was in production in 1748. The partners bought up adjoining land and leased further parcels from the Charity Trust. When Richard Parrott died in 1774 he was succeeded by his brother, Francis who acted as managing director. They raised £5,000 to modernise the colliery in the 1770's and in 1776 a further £4,500 to purchase from Boulton and Watt what was reputed to be the most powerful engine in the country. Its fame was such that it was known as the 'Bedworth engine.'[49] The success of the company was apparent in 1791 when they purchased the first Boulton and Watt steam winding engine in Warwickshire. They bought another engine in 1792 and a third in 1796. Capital development for land purchase and technological development was gained by widening the partnership to include Thomas Wheildon a Staffordshire potter, George Taylor a local coal merchant and reverend John Freyhough from Newcastle-under-Lyme.[50]

Sir Roger Newdigate [51] re-established a colliery at Griff in 1779.[52] He was MP for Oxford University and involved in the total rebuilding and refurbishment of his Arbury home. His estate stretched one and a half miles along the outcrop in Nuneaton. After investing heavily in turnpikes and canals to stimulate demand, he spent six years employing experts to ensure the latest advances in mining engineering was available. John Barnes, a Newcastle mining engineer, examined the former workings and drew up plans of operation in 1770-71.[53] He ordered two Newcomen engines from Caron Iron Works, Falkirk at a cost of £658 and £579, and two more in 1791 and 1793.[54] The first coal was raised in 1776 but there were a number of underground difficulties before full production could be achieved. Barnes reckoned that 500 tons a month was needed just to cover operating costs. The initial centre of

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[48] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', p. 199; A. White, *Men and Mining in Warwickshire* (Coventry, 1970) pp. 50-55; *Victoria County History*: Warwickshire (London, 1908) p. 224.

[49] Birmingham Reference Library, Boulton and Watt collection, Box 6 bundle 'Bedworth.'

[50] L.Fretwell, *The Warwickshire Coalfield* Volume Four (Warwick, c2005) pp. 70-80.

[51] ODNB: Sir Roger Newdigate (1719-1896) and A. White, *Men and Mining in Warwickshire* (Coventry, 1970) pp. 57-62.

[52] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) pp. 214-16.

[53] Arbury Estate Records, Griff Colliery, WCRO CR 136/C/626 and 640. White asserted that Sir Roger saw the failure of his father and grandfather as a lack of strategic planning and failure to stimulate customer demand. A. White, *Men and Mining in Warwickshire* (Coventry, 1970) p. 57.

[54] Arbury Estate Records, Griff Colliery, WCRO CR 136/C/633-4.

operation was Collycroft on the Bedworth border, where it used the traditional longwall extraction up the dip. In 1788 a new centre of operation was established to the north at Griff Hollows and it remained there until a further move north to Griff in the 1850's.

Edward Inge and John Stanton resurrected Wyken colliery in 1789 when they took a lease from Coventry council and further leases from other local landowners. Although they invested over £16,000 on the enterprise success was short lived. In 1810 they had a law suit brought against them by the neighbouring Hawkesbury colliery, who claimed they were extracting coal beyond their boundary. When this was proven, they closed the Bye Pit and paid out of court compensation. This coupled with the depression of 1815 led them to sublet to James and Hall in 1820. They subsequently sank the deepest shaft in Warwickshire, a 734 ft drainage shaft, but went bankrupt in the process. Finally in the 1820's a small colliery was established at Wyken that was to prove more successful and lasting. The only other colliery of note in the south was Bedworth Charity which took out a lease in 1776, but it used the old method of a large number of shallow pits at the outcrop.[55]

In the central part of the coalfield the main landowners were the Stratford/Geast/Dugdale family of Merevale Hall. Richard Geast married the Stratford heiress in 1749 and changed his name to Dugdale in 1799. This family owned coal bearing land in Baddesley, Merevale, Bentley, Mancetter, Ansley and Nuneaton. In the 18th century they dominated as leasees but there is no evidence of direct involvement until they took over the running of Baddesley colliery in 1810 and developed it into a lasting medium sized colliery. Other landowners like Aston, Ludford and Paget also leased land to those working the Stratford-Dugdale land. John Fletcher, a Derbyshire coal master, leased land from the Stratfords at Ansley and Mancetter in 1729. By 1747 his main centre was at Ansley where he sank a 165 foot engine shaft and worked a large number of short life shallow pits along the outcrop. In 1766 he was succeeded by Barker who sank a 240 foot engine pit before moving his operations to Nuneaton. Centred at Haunchwood this enterprise was larger but still worked shallow pits. Barker went bankrupt in 1780 and although Richard Geast blamed this on his management, the new leasee retained him as manager. By 1787 he had recovered his fortunes and began leasing Lowsey Meadow Colliery (now Bermuda village) in Nuneaton. Between these blocks of land was a colliery

[55] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) Inge and Stanton pp 83-6, Charity pp 20-8.

leased from the Aston family and run by Alexander Donald. All that is known of this is that it had a Bolton and Watt engine in 1797 but it was to develop into Nuneaton Colliery in the 19th century.[56] North of Nuneaton there were small mine workings at Oldbury and Mancetter but the medium sized Oakover Colliery was not established until the early 19th century. At Baddesley there were a number of short life shallow pits from 1729 but it was the arrival of the Bamberry Company in 1790 which saw it develop into a profitable medium sized colliery. It had a 300 foot engine shaft and a railway to the Coventry canal.[57]

By the end of the 18th century all three of the major southern collieries of Griff, Hawkesbury and Wyken were in simultaneous production, and were joined by a colliery at Baddesley in the central area.[58] These employed the latest steam technology for both pumping and winding and had access to the canal system to distribute their produce to a wider market. Smaller single shaft butty[59] run pits that utilised more primitive technology, existed alongside of these but left no documentary records. It is difficult to analyse output in this period with the lack of a continual series of colliery production figures. Grant estimates output by grouping collieries into rank size and using the output for each category and actual figures from large collieries if known. He claims output rose from 40,000 tons in 1750 to 145,000 tons by 1800 and 250,000 tons in 1830.[60]

Early 19th Century: Expansion across the coalfield

At the dawn of the 19th century the Warwickshire coalfield was dominated by the four collieries of Griff, Hawkesbury, Wyken and Baddesley and had a national reputation as a leader in the latest technology.[61] All the main collieries used similar technology. All pits were worked by butties who received a charter per ton of coal brought to the foot of the shaft. These were miners who possessed a little capital and employed men and provided the tools to

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[56] The destination of all Boulton and Watt engines are recorded by the manufacturer.

[57] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) pp. 222-4; L. Fretwell, *Warwickshire Coalfield* Volume Two (Warwick, c2005) pp. 258-83.

[58] For this early period up to the late 18th century a good accessible source is the *Victoria County History:* Warwickshire Volume Two (London, 1908) pp. 217-26.

[59] Butties were the men employed by owners to run the pits. Owners sank the shaft and dug the roadway; butties employed the men and provided the tools.

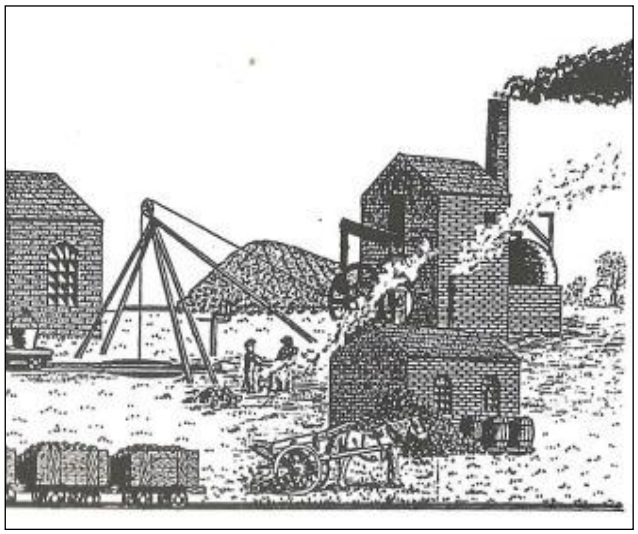
[60] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) p. 243.

[61] Arbury Estate Records, WCRO CR 136/C/624 and CR 136/C/640. Warwickshire was the first coalfield to install a Boulton and Watt engine.

work the coal. It was the owner's responsibility to sink the shaft and prepare the incline and roadways. In 1841 Dr Mitchell described his descent down the mine at Griff. He descended what he terms the Slate Colliery by standing in a skip with the agent and ground bailiff:

> *As we got near the bottom of the shaft the rush of water within the brickwork was distinctly audible. It is allowed to go to the foot of the shaft and then it rapidly rushes downwards in a torrent along the side of the mainway to a much lower level.*

The shaft bottom is on the side of a hill – 'steeper than the slated roof of a house' – which led down to the workings. He notes that 'several years ago' horses were forced to drag tubs up the slope but that now this task is performed by a jig chain run by a steam engine on the surface. As the jig chain lowered the skip down the shaft it also lowered empty tubs down the incline. At the roadway boys or ponies transported coal from the face to the foot of the incline where working in reverse, the jig chain raised full tubs in stages to the surface.[62]



Drawing 2:2 A Typical Colliery of 1842.
Source: Fretwell *Warwickshire Coalfield* Volume Four p 105.

In the early 1830's Griff Colliery sank two new drainage shafts and in 1836 and 1837 two new shafts were sank to the slate coal seam.[63] It was this colliery that Dr Mitchell chose to

[62] J. Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons, *Employment of Children Report* (London, 1842) p. 90.

[63] D. Fordham, *Coal and Water: an Industrial History of Arbury* (private publication, 2010) pp. 563-90. Copy at Nuneaton library.

descend in 1841 to report the typical workings of the coalfield.[64] An illustration of this can be seen in drawing 2:2 above. In 1810 the Hawkesbury Colliery consisted of eight pits stretching from Bulkington Road in the north down to just north of the Hawkesbury canal junction where the Coventry canal joined the Oxford canal. By 1833 it is George Wheildon, son of Thomas, a 1763 investor in Parrott`s colliery, who owns Hawkesbury Colliery and is complaining of an unfair assessment for poor rate at the Foleshill Union.[65] Thomas Smith, author of *The Miner's Guide* of 1836, was the agent for Hawkesbury.[66] He stated the shafts were eight foot diameter and brick lined. The longwall method was used with each seam taken separately. Lumps and cobbles of coal were taken with all the slack put into the gob[67] except for that which was required to run the engine. He noted that there was a problem with gob fires. The usual butty system was employed to run the mine but with full time sinkers. Hawkesbury was working an almost continuous twenty foot of coal. An abandonment drawing that was dated April 1848 and redrawn as map 2:2, revealed that the mine had two collieries either side of the Coventry Canal.[68] Hawkesbury Colliery shows four shafts, a whimsy and offices, and had its own canal basin. Neighbouring Home Colliery was the site of Wheildon's house, and showed three shafts, a whimsy, a foundry, a smithy shop, a reservoir and a number of miner's cottages.

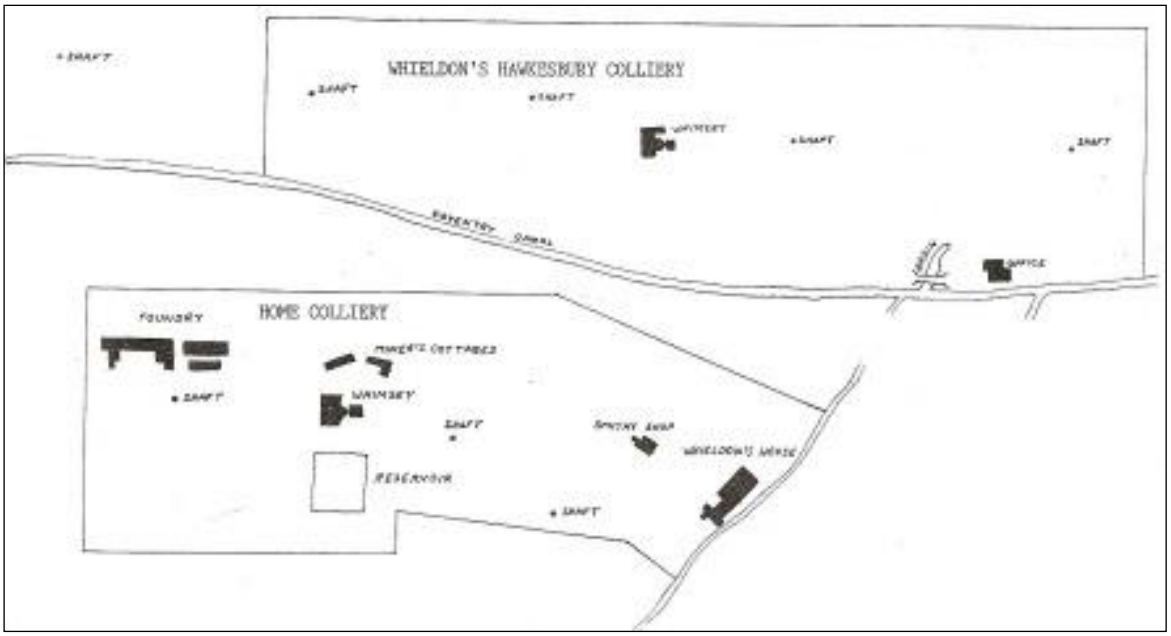
[64] J. Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons,. *Employment of Children Report* (London, 1842) pp. 89-90.

[65] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) pp. 111-15.

[66] T. Smith, The *Miners` Guide* (Birmingham, 1836).

[67] The gob or goaf was the area left when coal had been extracted.

[68] NCB plan EM 1080,. Mining Records Office, Mansfield.

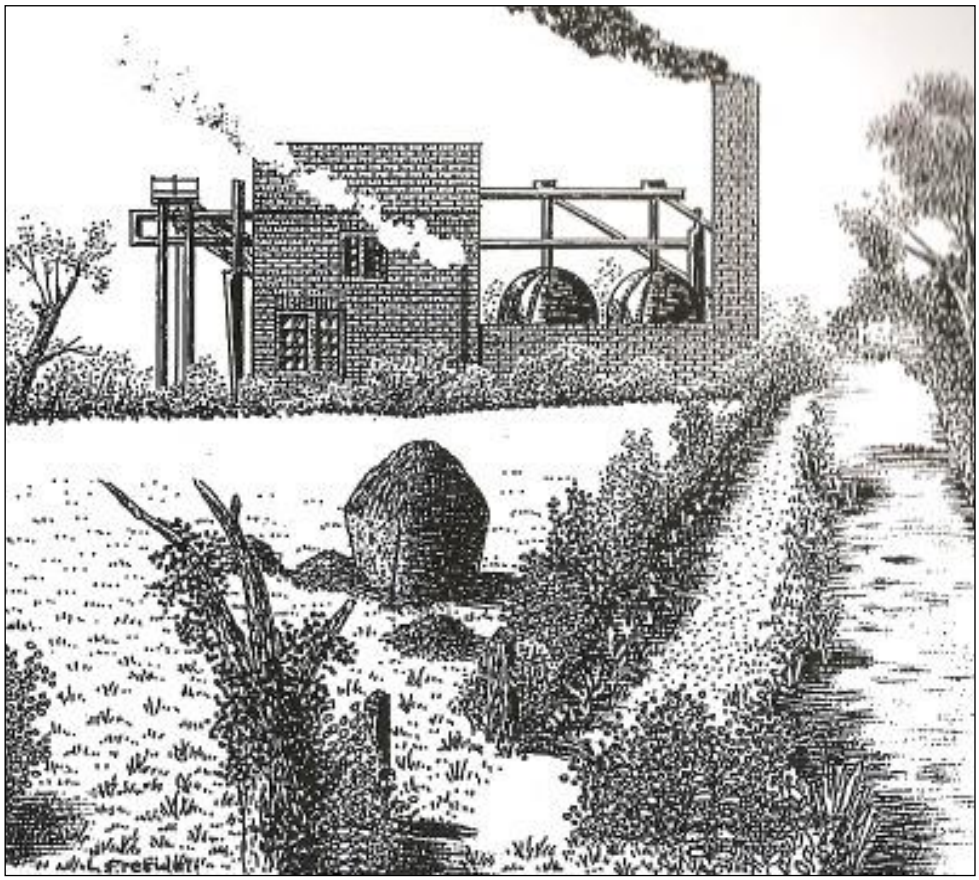


Map 2:2 Hawkesbury Colliery 1848
Source: Taken from NCB map EM 1080.

Wyken New Colliery was sunk in 1823 under the new ownership of the Whitten family. A map of 1829, produced as Drawing 2:3 below, shows the shafts; a drainage shaft with a pumping engine and two pickle pot boilers, a downcast for production winding and an upcast for ventilation, which was also equipped for emergency production and man riding.[69] It shows an underground railway and a sketch of a pumping engine in one corner. A new shaft is being sunk and a heading to link it with Basin pit. Number One is shown to a depth of 465 feet and Number Two to 510 feet. Coal was extracted by bord and stall, although it later converted to the longwall system.The former system developed in the North-East where bords or passageways were driven into the coal, pillars of coal were left to support the roof and small groups of men worked in areas known as stalls. The latter longwall system developed in Shropshire and was popular in the East Midlands. Hewers worked together at an advancing or retreating face, allowing the roof to collapse when coal was worked out.[70] There is a brickyard at the Oxford Canal curve. Hadfield notes that the quarter mile private Wyken canal 'was probably built in 1840 as a result of an agreement of 13 November 1829.'[71] From

[69] Map dated 1829, CRO Ass 207 box 5.
[70] R. Church, *The History of the British Coal Industry: Volume 3 1830 to 1914* (Oxford, 1986) pp. 328-39.
[71] C. Hadfield, *The Canals of the East Midlands* (Newton Abbot, 1966) p. 160.

the Colliers' Coal Accounts that run from 1845 to 1852 it is apparent that the colliery employed around 120 men.[72]



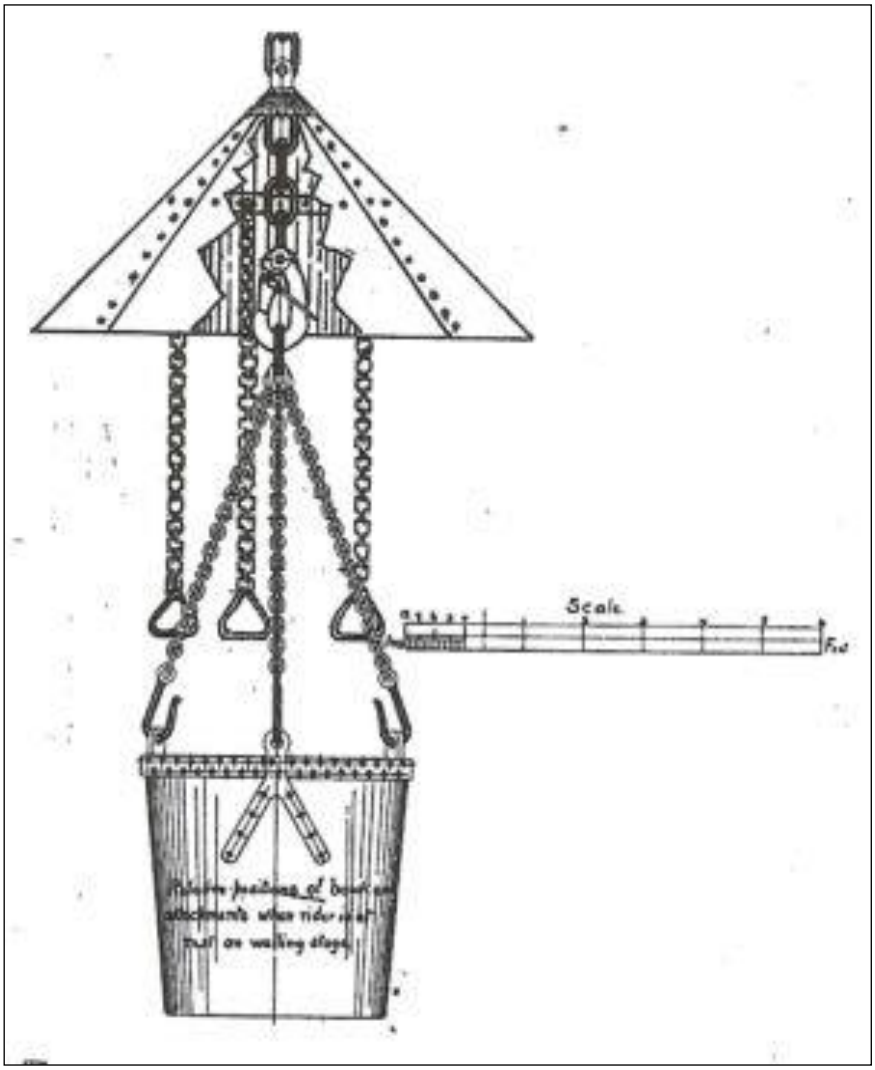
Drawing 2:3 Wyken Colliery 1829: architectural details from plan CRO Ass 207.
Source: Fretwell *Warwickshire Coalfield* Volume Four p 98.

Baddesley Colliery in the central area of the coalfield came under the direct ownership of the Dugdale family in 1810. They sank at least four pits but all underground workings were connected and the skip[73] stopped at different levels to service the working of different seams. The first eye witness account is from Dr James Mitchell of the 1841 Childrens' Employment Commission. He describes three Baddesley pits, one employing forty to fifty men, another of nearly forty men and a third being sunk. Boys worked from 6 am to 7 pm with half an hour for lunch. They were employed guiding horses, sweeping roadways and putting slack into the gob. He also describes a unique safety device: 'There are great iron umbrellas to which are

[72] Colliers' Coal Accounts, CRO 285/37/1. This listed numbers employed at the colliery in January and June and were thus entitled to a coal allowance as part of their wages.

[73] A skip was an open contained used to transport men and equipment in the shaft.

attached chains with hoops, in all these pits over the heads of people as they descend.'[74] (See Drawing 2:4 below) Fretwell claims that this is the only record of such a safety device being used anywhere.[75] They are certainly not mentioned elsewhere in Warwickshire.



Drawing 2:4 Baddesley Colliery Safety Device.
Source: Fretwell *Warwickshire Coalfield* Volume Two p 59.

In 1810 Wyken Colliery had a law suit brought against them by the neighbouring Hawkesbury colliery, who claimed they were extracting coal beyond their boundary. A hand drawn map produced for the court case provides an insight into mining at that time.[76] Below

[74] J. Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons,. *Employment of Children Report* (London, 1842) p. 95.

[75] L. Fretwell, *Warwickshire Coalfield* Volume Two (Warwick, c2005) p. 59.

[76] Map dated 1810, CRO Map 1251.

the Inge and Stanton pits at Wyken were a string of single shaft collieries possibly named after the butties that ran them: Pickard's Colliery; Harrisons Colliery; Caggs Colliery; Biggs Colliery and Neal's Colliery. Pickard`s colliery was an ironstone mine and had a foundry on site. It was owned by James Pickard, the descendant from an old Huguenot family, whose father James had invented a crank used to adopt a Newcomen engine to wind coal as well as pump water. James Watt had already solved rotary motion with his first winding engine erected at Parrott's Hawkesbury colliery in 1777. Biggs colliery was closed in 1813 when Biggs was killed in a mining accident, but it was later worked by Harris of Craven Colliery. Caggs moved to Wilnecote in Tamworth where he established the medium sized Kettlebrook colliery in the 1820's.[77] There must be many more of these unrecorded and unremembered butty pits of this time across the coalfield.

At Coventry new collieries developed near the old Wyken site. Victoria Colliery was situated inside the northern semi-circular loop of the Oxford canal before it joined the Coventry canal at Hawkesbury Junction. Grant stated that Victoria Colliery was established before 1833.[78] The name derives from a nearby farm and it may have been that there was a connection to the accession of Queen Victoria who came to the throne in 1837. There were three shafts; an upcast to a depth of 349 feet, a downcast production shaft also of 349 feet with a single deck cage capable of holding a standard eight hundredweight tub, and a deeper drainage shaft. Coal was twenty-three feet thick and Victoria extracted using the longwall method along a hundred yard face. The three faces that followed on from each other, extracted nineteen feet of coal.[79] Tom Mann, the first General Secretary of the Amalgamated Engineering Union, was born in a cottage near the pit where his father worked as a clerk. Between 1856 and 1860 at the age of ten to fourteen, he worked underground for a miner who was dinting[80] a ventilation road. Stripped to the waist, he crawled on hands and knees in the darkness along a passage three foot wide and three foot high, dragging a sledge loaded with dirt and coal by a leather thong fastened around his waist. He wrote in his *Memoirs*:

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[77] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) pp. 83-7.

[78] Grant cites A. Lawrence, *Bedworth* (Coventry, 1951) who noted Troughton colliery (Victoria?) assessed for rates in 1833, but this may refer to Troughton's other colliery, Grove Colliery, at Bedworth. E.Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) Appendix 21.

[79] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) pp. 88-91.

[80] Dinting is akin to using a plough to make a road.

‘Many a time did I actually lie down groaning as a consequence of the heavy strain on the line, especially when the road was wet and clayey.’[81] It was owned by Thomas Troughton of Coventry. In 1870 spontaneous combustion caused an underground fire and stanks, or sealing walls, were unable to contain it. When canaries could not survive being taken down the pit bottom and the colliery was closed.[82]

To the south east of Victoria lay Wyken Colliery and a little beyond that, Craven Colliery. Named after the Lord Lieutenant of Warwickshire, Lord Craven, the colliery was sunk in 1837 to a depth of 255 feet. The Mitchell Report of 1841 talks of two recent deaths from explosions in the Harris colliery at Wyken.[83] Hunt lists the owner as M. Harris in 1854 and W. S. and J. Harris from 1855. Little is known of M. Harris but his two sons were both born in the Black Country, W. S. in Sedgley in 1818 and J. Harris at Bilston, now part of Wolverhampton, in 1824.[84]

At Bedworth a second long life pit was Charity Colliery although it continued to follow the old method of sinking shallow pits along the outcrop. Sunk in 1776 by Schofield on land belonging to the Nicholas Chamberlaine Charity,[85] it is shown on the 1795 Yates map as five shafts around Rye Piece.[86] By the 1820’s it had passed into the ownership of Peter Williams who sank two shafts at the Galga and in 1839 Charity Number Three. The 1835 *Pigot’s Directory* [87] lists Peter Williams as owner of both Charity and Haunchwood Colliery in Nuneaton. The Galga closed in the late 1840’s but was replaced by new pits sunk at Coalpit Fields and Charity Number Four. All three were working in the 1850’s but *White’s Directory*

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[81] T. Mann, *Tom Mann’s Memoirs* (London, 1923) pp. 15-16.

[82] *Annual Mine Inspector Report:* Midland Division 1870. The auction of Victoria Colliery plant and equipment recorded *Nuneaton Chronicle*, 6 February 1870.

[83] J. Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons,. *Employment of Children Report* (London, 1842) p. 93.

[84] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) p. 87. Information is taken from the census.

[85] Nicholas Chamberlaine (1632-1715) was rector of Bedworth for 51 years. His will donated money to buy land and use the rents to establish a school and an almshouse for the poor. See www.bedworth-society.co.uk/nicholaschamberlaine

[86] William Yates, Map of Warwickshire 1795, WCRO CR 26/6/1.

[87] James Pigot began publishing Trade Directories in 1811. These were lists of shops and businesses for specific towns or counties. Kelly’s Directory is perhaps the best known. They developed into the modern Yellow Pages directories.

of Warwickshire 1850 has the owner as Mrs Caroline Williams, who is also described as a blue and red brick tile manufacturer, suggesting that her husband had died.

There was an increase in mining activity in Bedworth in the 1830's and the two established collieries of Hawkesbury and Charity were joined by two more. Grove Colliery is mentioned in the Griff account book of 1832 [88] and was owned by Thomas Ball Troughton who also owned Victoria Colliery in Coventry. When Mitchell visited in 1841 it was stated that the three shaft colliery once employed a hundred men but now employed twenty. Mitchell interviewed John Lawrence, a miner at Grove. He said the coal was five feet thick and brought down by gunpowder after holing a yard and a half. He describes the daily wage as '3/- and a quart of ale worth five pence, also a candle every night. The candles are sixteen to the pound and 12 cwt of coal a month.'[89] He described a boy of eight who worked as a trapper,[90] a boy of twelve who guided tubs up the incline, and that some boys at fourteen but most at sixteen take up the pick and become a hewer. He had worked eleven days in the last fortnight with 'only one day at play.' Miners enjoyed bare knuckle boxing and would risk a fine to attend. Lawrence noted that the butty would not be fined if there was a stack of coal for sale.[91] Most sales were local landsale, with the occasional boat on the canal. Grove must have closed by 1849 as it does not appear in *White's Directory* of 1850 and the abandonment plan of 1859 simply says 'long closed.' Grant lists Mount Pleasant Colliery as opening before 1838 and Hunt lists it up to 1855.[92] Fretwell states the owner, William Thomas, leased land from Christ Church College, Cambridge, and sank two shafts. The blacksmiths shop was situated near the upcast shaft. He also leased adjoining land for a stockyard and timber yard. A pub, The Bear and Ragged Staff, was situated in front of the pit.[93] A third colliery at Collycroft appears in the 1841 Report although it is not known when it originated. It was owned by William Wilson and situated opposite the Royal Oak pub. Two Collycroft miners

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[88] Cited in G. Neath, *An Historical Survey of the Warwickshire coalfield with particular reference to Griff, t*ranscript of talk given to the Warwickshire Young Miners; Association (9 December 1959) copy Nuneaton library. Neath was the manager at Griff in 1920. The Griff Colliery Account book 1831-72 can be found at WCRO CR 136/V/68.

[89] J. Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons,. *Employment of Children Report* (London, 1842) p. 107.

[90] A trapper controlled the ventilation doors.

[91] A. Lawrence, *Bedworth.* (Coventry, 1951) p. 36.

[92] R.Hunt published his annual *Mineral Statistics* from 1854. See Chapter Six, section Mine Records Office.

[93] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) p. 19.

from there gave evidence to Mitchell. They stated that there were some boys of seven or eight years old working on the bank to carry picks to the blacksmith shop for sharpening, but none less than ten years of age in the pit. The men work by the stint[94] and were paid so much per ton depending upon the quality of coal sent up the shaft. There was no problem of firedamp but a serious danger of choke damp. 'Sometimes a man needs three candles and if he cannot keep one of them alight, it is time to come away.'[95] Later in 1850 the Mine Inspector reported the death of a ten year old on his first shift in this mine due to poor ventilation.[96] At that time fifty worked there. Hunt has the colliery listed up to 1857.

Grant lists an Old Nuneaton Colliery pre 1850. Peter Williams who owned Charity Colliery in Bedworth, leased land there in the 1830's and a sales document of 1844 lists brick making and colliery buildings.[97] There was a foreman's cottage, four drying sheds, an engine house, seven ovens, a blacksmiths shop, a cow shed, two ninety feet deep shafts and fourteen acres of reserves. The owner was Thomas Astley, a local landowner, but there is no evidence of a successful sale.[98]

Although the Dugdales dominated the central coalfield they were not the only entrepreneurs. North of Nuneaton Oakover leased land in 1801 from the Dugdale family to mine at Mancetter. The following year he leased adjoining land from the Ludfords of Ansley Hall.[99] In its day this was one of the largest collieries in the county but it left few written records and no visible scar. It had no slag heap which suggests skip winding and the sorting of coal underground. Archaeological evidence reveals that it had over forty pits but five belonged to the earlier collieries of Fletcher and Barber. It worked the four coal seams of four foot, slate, seven foot and rider. A map of 1839 drawn by a Dugdale engineer shows the colliery as abandoned but Hunt has it listed until 1856. Thomas Barber was a Nuneaton coalmaster who in the late 18th century obtained several leases from small Baddesley

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[94] A stint was the amount of coal expected to be produced each shift.

[95] J. Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons,. *Employment of Children Report* (London, 1842) p. 92.

[96] Inspector Morton, *Annual Mine Inspector Report* 1850.

[97] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) p. 25.

[98] H. Howell, The *Geology of the Warwickshire Coalfield* (Memoirs of the Geological Survey) (London, 1858) pp. 17-18.

[99] Dugdale Muniments 1401A and 75A, (in private ownership of the Dugdale family of Merevale Hall) and Derby Record Office, Oakover Papers 231H and E669.

landowners. He went bankrupt in 1787 but managed to hold onto one lease to mine four foot coal on land near Baddesley Hall which stood on Hill Top. In 1821 Barker's second son, Hugh, sublet to Welshman George Hambury who was later to sink a colliery at Polesworth. The two small five feet diameter shafts were ten feet apart. When Mitchell visited in 1841 he described a small colliery in the woods employing twelve which had a horse powered gin winding engine. Unable to penetrate the children's accents, he calls it 'Ombry' colliery rather than Hambury.[100] The first *Post Office Directory* of 1845 lists the owner as R. Hambury, presumably a descendant of George Hambury. It closed shortly afterwards.[101]

The northern area of the coalfield began to develop in the early 19th century. From an 1818 *Pigot's Directory*[102] we know that two collieries operated in the Tamworth area. The two 126 foot shafts of Park Colliery were situated north-west of Wilnecote and north of Two Gates and worked the bench seam back up the incline. Later two more shafts, now 300 feet, were sunk to the east and the bench coal extracted up to the old abandoned pit bottom of the former colliery. No records exist for this colliery but it had closed by 1840. A third Park Colliery opened in the mid 1840's under the ownership of H. O. and W. C. Canning. Two 300 foot shafts were sunk to the seven feet coal seam but the mine closed in 1856.[103] Old Kettlebrook Colliery was also recorded in the 1818 trade directory and was still in operation when Mitchell made his 1841 report on child employment. He describes it as 'several pits in a field near Tamworth.'[104] The field at Hambury Farm was then owned by a Miss Satterthwaite and the pit was run by a butty Thomas Evans. The shafts were 360 feet deep to the seven foot seam with a fire pan sixty feet down for ventilation. A hundred miners were employed, twenty of them boys, to work a thirteen hour shift with an hour for lunch. At this time they were nearing the end of the life of the pit. They had extracted all the coal up the dip

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[100] J. Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons, *Employment of Children Report* (London, 1842) p. 95.

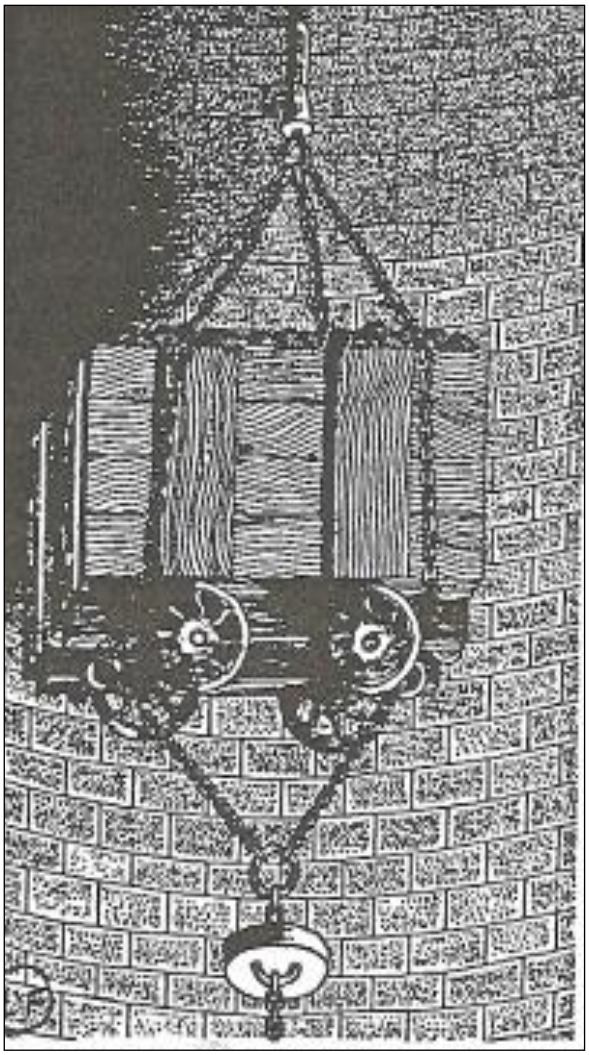
[101] L. Fretwell, *Warwickshire Coalfield.* Volume Two (Warwick, c2005) pp. 437 and 310.

[102] Directories originated in the growing specialisation of the Industrial Revolution. They tended to give descriptions of towns and villages, listed private residents, trades and professions, important individuals, geographical and historical information and advertisements. They often demanded a fee to be included in the directory. See University of Leicester Project, historicaldirectories.org

[103] L. Fretwell, *Warwickshire Coalfield* Volume Two pp. 45-51.

[104] J.Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons,. *Employment of Children Report* (London, 1842) p. 89.

and in an act of desperation, had driven down the dip until stopped by water. They were then extracting coal on each side of the heading back up the dip to the pit bottom. Shaft winding was by a jig chain using a skip. This is illustrated in Drawing 2:5 below. Skip winding was typical in the larger steam powered mines of Warwickshire, although horse whimsies were used in smaller coal and ironstone mines.



Drawing 2:5 Skip Winding using a Jig Chain.
Source: Fretwell *Warwickshire Coalfield* Volume Four p 108.

The early nineteenth century had witnessed considerable growth in the Warwickshire coalfield. In North Coventry the Wyken Colliery had been joined by Craven and Victoria collieries At Bedworth Hawkesbury and Charity collieries had been supplemented by Mount Pleasant and Collycroft and seen the rise and demise of Grove Colliery. The town was still

described by Mitchell as the centre of the coalfield in 1842.[105] At Nuneaton Griff still dominated and had outlived the mushrooming of Old Nuneaton Colliery. Just north of the town was Oakover Colliery now in decline and in the centre of the coalfield Baddesley Colliery was joined by the small Hambury Colliery in the woods. The neglected north too had two established collieries in Park and Kettlebrook. Yet when the Mine Inspector first reported in 1851 Warwickshire was the smallest of the nation's twelve coalfields producing 255,000 tons and employing 4,000 colliers. Although this compares with an estimated output of 145,000 tons in 1800, there was still much scope for expansion.[106]

1850 to 1890: Gradual Expansion

An explanation of the steady growth of the coalfield from 1850 to 1890 is made easier by the first publication of official statistics for the coal industry. Hunt was an official of the Geological Survey based at the Mine Records Office in London. He travelled the country collecting abandonment plans and from 1854 through to his retirement in 1881 published his annual *Mineral Statistics* which not only included aggregates of coal production for each mining district but a list of mines with their owners. Safety Mine Inspectors were established in 1850 and published Annual Reports from 1851 which included their investigations of all fatal accidents naming the mine and the owner of that mine. From 1855 the Inspectorate was increased to twelve each with their own district and from the 1870's they began to produce a *List of Mines* in their districts which included the names of owners and managers. From 1882 the *List of Mines* became a separate annual publication and from 1888 it became a non-parliamentary publication produced by the Home Office. From 1894 it also gave numbers employed both underground and on the surface.

Through the Mine Inspector Annual Reports we are able to chart the steady increase in output of the Warwickshire coalfield.[107] By 1860 production had doubled to 500,000 tons and had reached 800,000 tons by 1867. At that time the local collapse of the textile industry led production to fall by 25 per cent. It took five years to reach the 1867 level again but steady

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[105] J. Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons,. *Employment of Children Report* (London, 1842) p. 89.

[106] E. Grant',The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) p. 243.

[107] *Annual Mine Inspector Reports*: Midland Division 1851 to 1913.

progress saw the milestone of a million tons reached in 1878. The 1880's saw a slow rise to 1,250,000 tons in 1884, 1,500,000 tons in 1888 and by 1890 it was nearly 1,750,000 tons. This period was dominated by small to medium sized pits where the 'big four' were joined by a score or more collieries employing around 300 to 400 colliers.

Griff Colliery sank Number Four pit in 1851 and this raised production from 29,000 tons in 1845 to 52,000 tons by 1855.[108] It sank the 300 foot Number Five pit to the two yard seam in 1870 but as the family refused to allow mining under their Arbury Hall, this was restricted to a narrow pillar of coal. In *White's Directory* of 1874 Griff was said to employ 260 colliers.[109] Further parsimony meant the pits became increasingly dated and in 1882 the Newdigate family sold out to a new Griff Colliery Company.

Hunt lists George Wheildon as owner of Hawkesbury Colliery until his death in 1859, and then from 1860 to 1865, the executors of Wheildon. From 1866 to 1873 it is James Darlington and company.[110] From 1874 the mine inspector lists Hawkesbury with Speedwell[111] and New Winnings and from 1876, with Balance and Fly too.[112] For some reason five collieries are listed all owned by Hawkesbury Colliery Company. This diversity is not reflected in *White's Directory* of 1874. It stated that Hawkesbury had extensive coal and ironstone mines on 400 acres of land with two main shafts at a depth of 780 and 840 feet, and a workforce of almost 600.[113] Balance Colliery disappears from the *List of Mines* in 1885 and only Hawkesbury appears from 1886. Abandonment plans for Speedwell in 1885 linked with Black Bank and New, and for Fly and New Winning in 1888, would suggest that all five collieries mined the traditional Hawkesbury seams of two yard, rider, ell and slate, together

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[108] G. Neath, 'An Historical Survey of the Warwickshire coalfield with particular reference to Griff", transcript of talk given to the Warwickshire Young Miners Association (9 December 1959) copy Nuneaton library. Neath was quoting from the Griff Account Book. For the final years of the Griff Colliery see D. Fordham, *Coal and Water: an Industrial History of Arbury* (private publication, 2010) pp. 619-43. Copy Nuneaton Library.

[109] White's *Directory of Warwickshire* (1874) p. 1280.

[110] R. Hunt, *Mineral Statistics* 1854 to 1881. An 1871 dinner and sports for 400 Hawkesbury miners were attended by the owners, Mr Darlington and Mr E Wheildon, suggesting that the Wheildon family continued their connection to the colliery. *Nuneaton Chronicle*, 23 September 1871.

[111] Yet in 1872 there was an Inquest of a Hawkesbury miner who worked at Speedwell pit. *Nuneaton Chronicle*, 18 May 1872. In 1870 another Inquest of a Hawkesbury miner claimed he worked at Do Well pit? *Nuneaton Chronicle*, 27 August 1870.

[112] *Annual Mine Inspector Reports*: Midland Division 1851 to 1888.

[113] White's *Directory of Warwickshire* (1874) p. 611.

with white and black ironstone.[114] This does not explain why a death was recorded in Speedwell pit in January 1869, five years before it appeared in Hunt or the *List of Mines*. Other abandonment plans for Grants Farm in 1877 and Coalpit Fields in 1879 are for the poorly documented ironstone mines. In 1888, the year of its closure, the *List of Mines* has Joseph Cunliffe, manager since 1875, as owner and manager of Hawkesbury, then described as a 'white ironstone mine.' James Cunliffe was the undermanager. It then employed 300 men. When it comes to the shallower ironstone mines information is more difficult to gather and Fretwell and Grant often give different dates of working depending upon different snippets of information. Fretwell for example asserts that the old name for Spinney was Exhibition Pit which would suggest that it was working in 1851, and had closed by December 1874.[115] Grant as a contrast has Spinney working 1880 until 1902, which may indicate a reopening of the pit, yet the colliery had closed in 1888 suggesting this was run by neighbouring Exhall Colliery.[116] This confusion is not surprising as even the mine inspector does not give the pit name for the five deaths in Hawkesbury ironstone mines in 1862, 1863, 1869, 1871 and 1872, and indeed in 1873 comments on a death in 'a Warwickshire ironstone mine' without naming the company or the individual concerned. This is the only occasion when this occurs in the Warwickshire reports.[117]

In 1850 Wyken was a small colliery employing around 120 colliers.[118] It expanded in the 1850's sinking two new pits. Both New Number One and New Number Two were short life pits.[119] New Number One ran from 1856 until the end of 1864, although it was revived from September until December 1865 to produce 6 per cent of annual output. New Number Two ran even shorter, from 1859 until September 1863 when it had dropped to 16 per cent of output. The replacement was Walsgrave Main which emerged in May 1862, exceeded New Number One's production by March 1864 and continued to produce until February 1889. The

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[114] Abandonment plans 1009 Grant's Farm dated 1877; 2041 Coalpit Fields dated 1879; 1808 Black Bank, Speedwell and New dated 1885 and 2027 Fly and New Winning dated 1888. From 1872 owners had a statutory duty to forward abandonment plans to the Mine Inspectorate and these were noted in the Annual Report.

[115] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) pp. 106-7.

[116] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) Appendix Two: Table 4.

[117] *Annual Mine Inspector Reports*: Midland Division 1873.

[118] Colliers Coal Accounts 1845-52, CRO 285 37/1.

[119] Information tabulated from the Wyken Colliery financial ledgers, CRO 285/2/3; 285/4/1. 285/3/1, dated between1855 and 1868.

abandonment plan lists slate coal, ell, rider and two yard seams worked.[120] The Mine Inspector's report lists Alexandra pit as sinking in 1880, but it was less than one per cent of output in 1886, 8.5 per cent in 1887 and still only 26 per cent in 1888. This was however the principal source of coal until it declined in 1912[121] and is listed as being exhausted January 1914. Full production records exist from April 1860 until February 1878, and from April 1884 until November 1889.[122] The average annual production was around 65,000 tons. The peaks and troughs of the trade cycle correspond closely with those identified by Mitchell.[123] He identifies the national peaks as 1861, 1866-67, 1873 and 1883, and the troughs as 1862, 1869, 1879 and 1886. The gaps in the evidence makes it impossible to match production figures exactly, but Wyken does have peaks in 1867 and a little earlier in 1871, and troughs in 1863, 1869, 1875 and 1886. Production falls below 60,000 tons in 1862-63 and 1875-77 and exceeds 70,000 tons in 1867, 1870-72, 1885 and 1888. The lowest year is the 45,000 tons of 1875 following the high of 81,000 tons of 1871. Financial return does not always equate with production. Sales of over £40,000 are only reached in the boom year of 1873 and £30,000 in the two years that sandwich it. Twenty thousand pounds is exceeded 1864-71 and 1875-76, but is not reached in the 1880's despite the fact that production loosely equates with the 1860's. Throughout the period account sales averaged 64 per cent and cash sales 36 per cent.[124]

At Baddesley Colliery the sinking of the new Stratford pit in 1851 was the first on the concealed coalfield. This was a leap in the dark as the concealed coalfield was not proven until Howell's geological survey of 1859.[125] The two seven foot diameter shafts were eleven yards apart and sunk to a depth of 922 feet and 1,056 feet. Production began May 1851 and by May 1855 they had mined over one million tons. Grant stated that even if up to 50 per cent was left underground as unsalable slack, this was a considerable output.[126] Examining the

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[120] Abandonment plan 2336 dated 1889.

[121] In 1912 Wyken was flooded from old workings and the pumps were unable to deal with it. *Nuneaton Observer,* 6 September 1912.

[122] Four Financial Ledgers, Wyken Colliery Accounts, CRO 285/6/1, 6/2, 6/3 and 6/4,

[123] B. Mitchell, *The Economic Development of the British Coalfield 1800 to 1914* (Cambridge, 1984) p. 6.

[124] Tabulated from the Wyken Colliery Accounts, CRO 285/6.1/6.2/6.3/6.4.

[125] H. Howell, The *Geology of the Warwickshire Coalfield* (Memoirs of the Geological Survey) (London, 1858) pp. 25-6.

[126] E. Grant, 'Changing Perspectives of the Warwickshire Coalfield', in G. Slater and F. Jarvis (eds.), .*Field and Forest* (Norwich, 1982) p. 250.

output figures for Wyken Colliery 1860 to 1889 it can be seen that during that time it produced an average annual output of 65,000 tons and an additional 3,500 tons of slack, or only 5 per cent of the total.[127] Grant's estimate of 50 per cent slack may have been rather pessimistic. In 1866 New Pit closed, still retaining the name despite a sinking date of 1834, and was turned into a Speedwell drainage pit.[128]

The four large Warwickshire collieries were now supplemented by a number of new enterprises. At Coventry it was two established collieries that existed alongside Wyken. To the north of Wyken was the small Victoria Colliery that worked a rich seam twenty feet thick. It was forced to close in 1870 when it was unable to contain an underground fire. To the south of Wyken was Craven Colliery but although this existed throughout the period, very little is known about it.[129] In 1862 the Harris brothers gained a lease to sink another shaft and a mineral railway was built to the Oxford canal. [130] Abandonment plans show slate coal exhausted in 1902 and the inferior ell coal in 1907.[131]

At Bedworth the small Charity Colliery began an ambitious programme of expansion around 1870. The colliery had been taken over by Addenbrooke in 1862 and in 1870 its name was changed to the Bedworth Coal and Iron Company. The year of 1870 did see a massive injection of investment including two coalpit shafts at Charity Number Three and six ironstone shafts. To this must be added Woodlands Charity Number Five in 1874. The 1871 change of name indicates the new direction of the colliery and in 1873 the *Nuneaton Chronicle* reported a meeting of the South Midland Institute of Mining and Mechanical Engineers at Bedworth to see the new blast furnaces, said to be the first in Warwickshire.[132] They had obviously overlooked the furnace erected at Hawkesbury in 1839 and reported by

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[127] Tabulated from the Wyken Colliery financial ledgers,. CRO 285/6.6/1, 6/2, 6/3 and 6/4.

[128] The Speedwell drainage system was used throughout the coalfields and there were three in Warwickshire. It involved placing a series of pumps all down the shaft. Fretwell notes that at Baddesley the noisy engine known as Harriet Ella, made four strokes a minute and brought up 440 gallons from a depth of 249 yards. L. Fretwell, *Warwickshire Coalfield* Volume Two (Warwick, c2005)

[129] Howell was refused access to the colliery. H. Howell, The *Geology of the Warwickshire Coalfield* (Memoirs of the Geological Survey) (London, 1858) p. 22.

[130] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) p. 87.

[131] Abandonment Plans 4188 dated 1902; 5091 dated 1907.

[132] *Nuneaton Chronicle*, 23 August 1873.

Mitchell, or learnt the lesson of its failure.[133] The group was taken to see the two fifty foot blast furnaces built and fitted by Black Country engineers. It was estimated that they produced 200 tons of pig iron a week from coal and iron from Charity's 800 acre fields. They later went down the pit that employed 400 'men and boys.' Like its predecessor the experiment in iron making failed and lives on only in the name of Furnace Road. Perhaps the unprofitable outlay was just too much for the company and despite a change of ownership in 1873 due to the death of the owner, Charity Colliery closed in May 1879 with the loss of 500 jobs.[134]

Old Exhall Colliery in Bedworth was sunk in 1855 and appears in Hunt without the owner's name. From 1856 until 1863 Hunt lists the owner as Exhall Colliery Company and from 1870 as E Wilson.[135] The main ten foot diameter shaft was sunk to a depth of 855 feet. When Howell visited in 1858 he noted that one shaft of less than six months old, had to be abandoned because of flooding.[136] They must have tried to operate with one shaft as in September 1961 the manager of Exhall Colliery was prosecuted for having a single bratticed shaft which impaired ventilation.[137] This was certainly not the end of the colliery as the Inspector records deaths there in 1862 and 1863.[138] A new pit, Black Bank, was opened in 1870 although a sinker was killed in 1869. Black Bank's shafts were 800 yards north of the main shaft and were fifteen yards apart. Both shafts were sunk to 675 feet but the downcast production shaft had a nine foot diameter and the upcast ventilation shaft one of eight and a half feet. It worked the thick Bedworth coal of two yard, bare, rider, ell and slate which was twenty-eight feet thick with some small thin stone partings. *White's 1874 Directory* describes it as working 200 acres of thirty foot thick coal and employing 300.[139] The colliery had an

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[133] J. Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons,. *Employment of Children Report* (London, 1842) p. 89. It closed after 12 months. Warwickshire coal was said to be unsuitable for coking.

[134] L.Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) pp. 30-32.

[135] R. Hunt, *Mineral Statistics.* (1854 to 1881).

[136] H. Howell, *Geology of the Warwickshire Coalfield* (Memoirs of the Geological Survey) (London, 1858) p. 21.

[137] *Annual Mine Inspector Report:* Midland Division. 1862.

[138] *Annual Mine Inspector Report*: Midland Division. 1862 and 1863.

[139] *White's, Directory of Warwickshire.* (1874) p. 611.

output in 1892 of 450 tons for an eight and a half hour shift.[140] It employed 500 in the 1890's, rising to 700 by 1902 and reached a thousand in 1909.[141]

In Nuneaton Griff's monopoly was shattered by the introduction of five new collieries. Haunchwood Colliery was a major rival to Griff. Its single shaft origin in 1851 had an eleven foot diameter and was sunk to a depth of 447 feet. A claypit was sunk at the same time. Nowell and son sank a further two shafts in 1859. The colliery had its own brickyard that produced fire bricks, red bricks and tiles. The Mine Inspector reports the colliery producing slate and seven foot coal in the 1870's but abandonment plans of 1875 and 1882 would suggest it also produced ironstone with bench and two yard coal.[142] Nowell died in 1873 but the family connection continued with John Nowell listed by the Mine Inspector as manager 1876-78 to be succeeded by William Nowell 1879 and throughout the eighties and nineties.[143] Yet although a Nowell continued as manager there was a change of ownership in 1881 to Alfred Hickman of Wolverhampton. Sir Alfred financed a programme of expansion that was to culminate in 1891 with the sinking of the large Tunnel Colliery.[144]

In 1866 Jacob Stanley had formed a partnership with his brother-in-law Benjamin Broadbent of Leicester, and bought two Nuneaton brickyards. The opening of the Midland Railway in 1864 linked Birmingham and Leicester and gave the opportunity to sell bricks and tiles to expanding cities. When Reginald Stanley arrived, Broadbent Brickworks was suffering from a lack of investment and as a gesture of generosity, he bought the firm, renamed it Stanley Brothers and made the pair partners. Broadbent left in 1869 and Jacob in 1878 but the name Stanley Brothers was retained. It was only when he had acquired the firm that he discovered how uncompetitive it was. Many brickworks were linked to collieries, who used the unsalable coal slack to fire them. Stanley leased land from J. Tomlinson and sank the small Swan Lane Colliery which ran from 1872 until 1878. This small enterprise had limited mineral rights which did not extend much beyond its surface area and yet it was profitable.

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[140] *Colliery Guardian,* 1892 Exhall Colliery.

[141] *List of Mines* 1894, 1902 and 1909.

[142] Abandonment plans 277 dated 1875 and 1405 dated 1882.

[143] *Annual Mine Inspector Report*: Midland Division. 1859-1900. He was still manager into the 20th century. He died in 1906 at the age of 49 and his will revealed that he left a £9,000 gross. *Nuneaton Observer,* 23 February and 25 March 1906.

[144] 'Winning Black Diamonds at Stockingford', *Nuneaton Observer,* 19 May 1893. The article also gives a history of the colliery since 1851.

Ironically it illegally extracted coal in two places from Nuneaton Colliery, which Stanley was to acquire when Swan Lane was exhausted. A surviving Annual Return of 1877, shown as Illustration 2:1 below reveals it had three downshafts of 60 feet, 120 feet and 168 feet and an upshaft of 90 feet. It was ventilated by a fire bucket in the upshaft which produced an average of ninety cubic feet a minute. The Annual Return states that it worked the rider and two yard seams but the abandonment plan simply lists blue coal. It employed 154 men below ground and 34 above and no fatalities are recorded.[145]

SCHEDULE IV.

MINES REGULATION AND INSPECTION.

Annual Return from Owner or Agent.

Name of Colliery Swan Lane

Name of Pit All 4 shafts Name of Seam Rider and 2 Yard

Year ending the Dec 10th day of 1877.

Average number of Persons employed daily.		Mode of Ventilation.	Furnace or Fan, with Description.	Diameter and Depth of downcast and upcast shafts.				Number of Splits and Quantity.		Average Length of Air-ways.	Sectional Area of Air-ways.	Average Total Quantity of fresh Air in cubic feet per minute.
				Downcast.		Upcast.						
Above ground.	Under ground.			Diameter in feet.	Depth in feet.	Diameter in feet.	Depth in feet.	Splits.	Quantity in cubic feet per minute.			
34	150	/	Fire in bucket in 90' shaft	/	60' 120' 168'	/	90	6	18'	200'	/	90

Illustration 2:1 Annual Return for Swan Lane Colliery 1877.

Grant lists an Old Nuneaton Colliery pre 1850.[146] The New Nuneaton Colliery existed from 1863 until 1899. Hunt lists the owners as Chadwick and company 1863-7; a limited company 1868-73; John Rawlins 1874-6 and Stanley Brothers from 1877.[147] The annual Mine Inspector Reports list William Stanley as manager throughout the eighties and nineties and that the colliery worked the seven foot and slate seams.[148] Abandonment plans suggest a more varied exploitation listing the closure of a slate seam in 1882, a seven foot seam in

[145] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) pp. 54-9 Swan Lane.

[146] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) p. 219.

[147] R. Hunt, *Mineral Statistics* (1863 to 1881).

[148] *Annual Mine Inspector Report*: Midland Division. 1880-1900.

1890, both slate and bench in 1896 and rider, two yard, bench and blue coal in 1899.[149] It was not until 1899 that Stanley began a programme of expansion that would convert the colliery into a large enterprise.

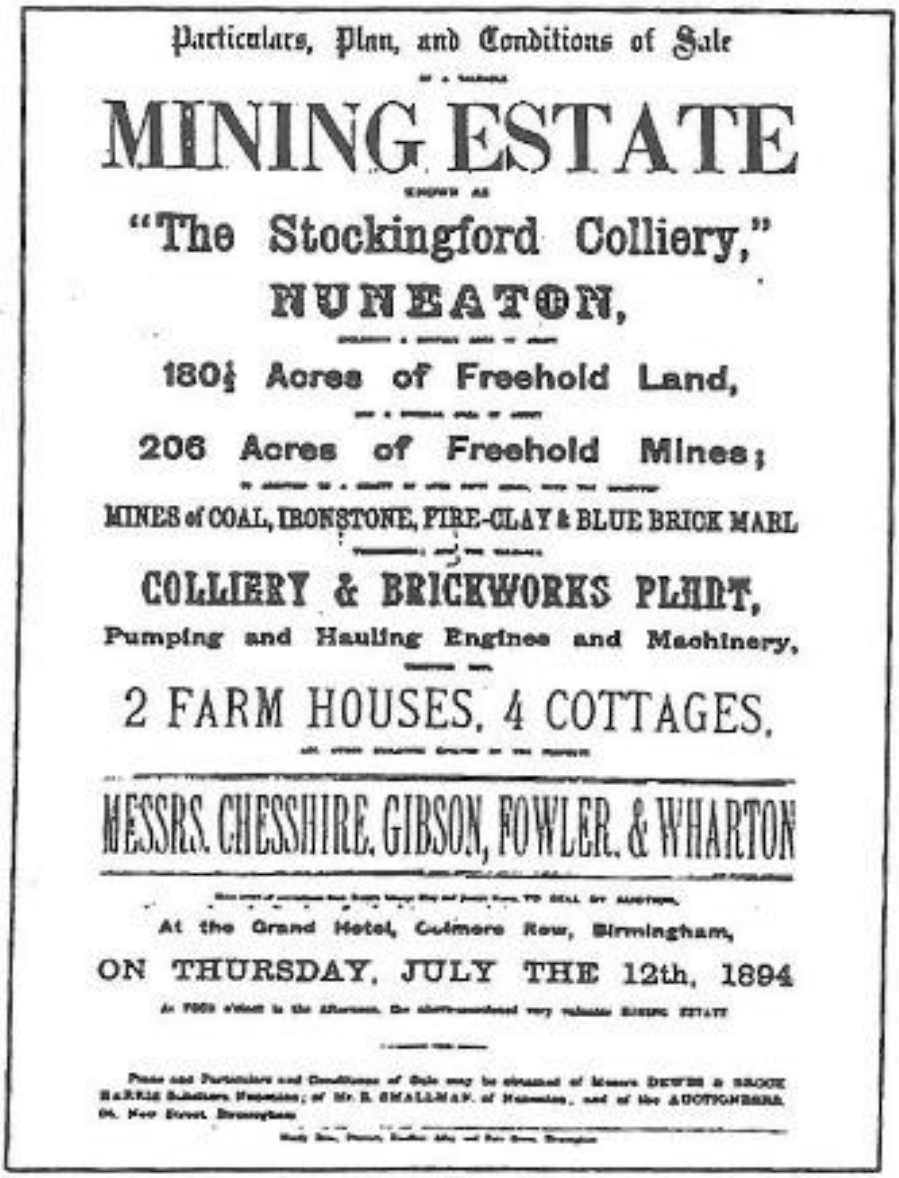
In addition to the three large Nuneaton collieries, the two medium sized collieries of Ansley Hall and Stockingford survived successfully. Ansley Hall Colliery Company began production in 1874. The two thirteen foot diameter shafts were 420 feet and 504 feet deep. They reached the rider seam at 204 feet and set the pit bottom at 348 feet, using the rest of the shaft as a water catchment sump. The Mine Inspector reports reveal that the colliery also mined the ell and seven feet seam and in the early 1880's was extracting ironstone which appeared in the top ten inches of the seam for about an acre. Iron pyrites or 'fools gold' was also found in modules in the coal seam and hand screened on the surface.[150] Ansley Hall was considered to be a short life pit. It was limited to working a four acre pillar of rider coal as other seams had been worked out by previous collieries. It was approaching the end of its life by 1883 and would have closed but for a technical advance. In Warwickshire collieries could only extract coal so far down the dip until they were stopped by an accumulation of water. Now a small steam pressure pump could be situated in the actual workings and a boiler on the surface could supply steam via pipes down the shaft and along the roadway to the pump. This allowed workings to be drained however low they went down the dip. In a reconstituted Ansley Hall Colliery Company Garside Phillips, who had become manager in 1879, became managing director but still very much a working manager.[151] In 1889 he embarked on a programme of investment. The roadway at the downcast, or production shaft, was known as the crut. At Ansley it was 325 yards before it hit the coal seam and then an incline roadway of twenty-two degrees for 480 yards. It could only use small tubs as these were all a pit pony could haul up the incline. Even so there was at least one reported occasion when a pony slipped halfway up the incline and was dragged down on its belly by the tubs and had to be destroyed. Now the investment programme included a new pit bottom, a new incline to reduce the gradient and the introduction of the larger standard eight cwt tubs drawn by an endless rope system. This ended the employment of horses underground. There was also new

[149] Abandonment plans 1411 in 1882; 2425 in 1890; 3442 and 3524 in 1896 and 3390 in 1899.

[150] *Annual Mine Inspector Report*: Midland Division 1874 to 1913.

[151] See H. Harrison, *Ansley Hall Colliery* (private publication Nuneaton 1993) copy Nuneaton Library.

headgear at the downcast shaft together with a new steam engine.[152] Even so it still only employed 400 in 1902 rising to 500 by 1913.[153]


Particulars, Plan, and Conditions of Sale

MINING ESTATE

"The Stockingford Colliery,"

NUNEATON,

180¾ Acres of Freehold Land,

206 Acres of Freehold Mines;

MINES of COAL, IRONSTONE, FIRE-CLAY & BLUE BRICK MARL

COLLIERY & BRICKWORKS PLANT,

Pumping and Hauling Engines and Machinery,

2 FARM HOUSES, 4 COTTAGES,

MESSRS. CHESSHIRE, GIBSON, FOWLER, & WHARTON

At the Grand Hotel, Colmore Row, Birmingham,

ON THURSDAY, JULY THE 12th, 1894

Illustration 2:2 Sale Notice for Stockingford Colliery 1894.
Source: Fretwell, *Warwickshire Coalfield* Volume Three p 5.

The second medium sized colliery was Stockingford. Sometimes referred to as Hartshill by the Mining inspector and known locally as Drybread due to its warm working conditions, it was owned by Smallman and Company. Hunt lists it from 1873 but Grant has it sinking in

[152] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) p. 157. The new oncost haulage is described in W. Phillips, 'Underground Haulage by Endless Rope at Ansley Hall Colliery', *Transactions of the Institute of Mining Engineers* 3 (1891-82) 847-54.

[153] *List of Mines* 1902 and 1913.

1871.[154] It was a drift mine with four drift tunnels. Little is known about the colliery. The Mining inspector has it working the seven foot seam and ironstone in the seventies and just rider coal in the late eighties.[155] An abandonment plan of 1894 lists the mining of bench, seven foot, five foot coal, fireclay, coal balls and goblin ironstone.[156] Smallman sold the colliery in 1894. The sales document shown in Illustration 2:2 above, lists 180 acres of freehold land, 206 acres of freehold mines, colliery and brickyard plant, two farm houses and four cottages.[157] The new managing director was William Hill from Birmingham and a major shareholder was the adjoining colliery of Ansley Hall. In return for his shareholdings Phillips released a block of virgin coal that Ansley Hall could not reach without going through 900 yards of old workings. It was this that gave the colliery a new lease of life.[158] The *List of Mines* reveals that it employed 400 in 1902 rising to 500 by 1912.[159]

In the central area of the coalfield Baddesley remained unchallenged but in the north there was a major development of new collieries in the Tamworth and Polesworth areas. All of these collieries up until 1890 were small and medium sized enterprises employing a few hundred men. In and around the Wilnecote area there was Tame Valley Colliery, Wilnecote Colliery, Kettlebrook Colliery, Glascote and Amington Collieries, Hockley Hall and Whately Collieries and Tamworth Colliery. Around the Polesworth area Pooley Hall Colliery and Birch Coppice Colliery developed and south-west of Tamworth, the smaller Dosthill Colliery.

The Wilnecote district of Tamworth was the main industrial area. The Old Wilnecote Colliery was owned by Wood and Greenwood. Probably sunk in the late 1840's, it had reached the end of its mineral rights and closed by the time of Howell's 1858 geological survey.[160] In that year Wood and Greenwood sank a new pit nearby at Tame Valley. Between 1858 and 1860 Hunt lists the owners as Greenwood and Sinclair and simply Greenwood and

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[154] R. Hunt, *Mineral Statistics* (1873); and E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) Appendix 21.

[155] *Annual Mine Inspector Report*: Midland Division. 1874 to 1913.

[156] Abandonment plans 3101 dated 1894.

[157] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) p. 5.

[158] L.Fretwell, *Warwickshire Coalfiel*d Volume Three pp. 2-7. Phillips became a shareholder in the new company.

[159] *List of Mines* 1902 and 1912.

[160] H. Howell, *The Geology of the Warwickshire Coalfield* (Memoirs of the Geological Survey) (London, 1858) p. 25.

company in 1861. Wood and Greenwood only appear in 1862-63.[161] In 1863 they were prosecuted by the mining inspector for failing to give notice of a fatal gas explosion and failing to give notice of the opening of a new colliery. They were fined 21/- for these offences and the manager 2/- for failing to provide adequate ventilation and dismissed.[162] Fretwell notes that the colliery was the first in Wilnecote to use cage winding which made it the most profitable in the village. He attributes the bankruptcy in the year of the prosecution to a slump in the brick trade.[163] Between 1864 and 1869 Hunt lists the owners as R. and J. Knock before it was taken over by George Skey.[164] Skey was still listed as owner in 1914. He immediately closed half the brickworks and began a programme of diversifying manufacturing to the production of floor quarries and architectural finials. Such diversity is apparent in a surviving advertisement for the firm shown as Illustration 2:3 below. The *Ceramic Art of Great Britain* published in 1878 described Skey's Wilnecote Works as ranking amongst the most important in the kingdom.[165] However he was reluctant to invest in new technology and the colliery became increasingly dated until an injection of government money in World War One.[166] The firm was taken over by Doulton in 1935. The *List of Mines* shows that it employed 300 in 1902 and still only 400 by 1911.[167]

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[161] R. Hunt, *Mineral Statistics* (1858 to 1863).
[162] *Annual Mine Inspector Report*: Midland Division 1863.
[163] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) p. 34.
[164] R. Hunt, *Mineral Statistics* (1864 to 1881).
[165] L, Jewitt, *Ceramic Art of Great Britain* (London, 1878) p. 425.
[166] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp. 35-7.
[167] *List of Mines* 1902 and 1911.

Illustration 2:3 An Advertisement for George Skey and Company.
Source: Kelly's Directory for Birmingham, 1891.

To the north-east of Skey's Wilnecote Works Colliery was Wilnecote Colliery owned by Perris and Harrison. The first two shafts were sunk in 1855 to the bench coal seam, where it also extracted ironstone and three types of clay. Two new shafts were sunk in 1859 and became known as New Wilnecote. One shaft had a large engine house which contained a massive and very noisy beam engine.[168] The abandonment plan of 1879 reveals that it produced seven foot coal and fireclay.[169]

The Kettlebrook Colliery described by Dr Mitchell in his 1842 report, had reopened in 1850 under the ownership of Mr Dumulo. Dumulo must have died in 1857 as Hunt lists the owners as the executors of Dumulo 1858 through to 1880. In contrast the *List of Mines* has the colliery suspended in 1879 and not listed in 1880.[170] It reopened in 1881 under the ownership of William Hambury, who had served as MP for Tamworth 1872-78, but closed for the final time in 1885. Of the four pits three were butty pits, so little is known of them. The

[168] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) p. 49.
[169] Abandonment plan 1102 dated 1879.
[170] *List of Mines* 1879 and 1880.

two shafts of Caggs' Pit were sunk in 1850 but no dates are available for the single shaft Baker's and Henry's Pits. Dumulo Pit was sunk in 1860 with its third shaft a large drainage pit that served all four pits. They were all connected on the surface by a small gauge mineral railway that ran from Caggs' Pit across country to the canal wharf at Glascote. The colliery had to pay wayleave rent for every ton of coal carried by the railway to the landowners, the Hambury family. We can only speculate why the family took over Kettlebrook Colliery, but it was no stranger to the industry. Grandfather Robert Hambury had owned Hambury Colliery in Polesworth and 'Ombry colliery' at Baddesley. Kettlebrook colliery was unique in the Wilnecote area as it did not have a brickyard, and relied on coal sale for a profit.[171] The abandonment plans show a Caggs smithy seam closed in 1877, a Kettlebrook seven foot coal seam in 1882 and a Kettlebrook bench coal seam in 1885.[172]

Mr Canning who owned the third Park Colliery also established a colliery at Glascote to the north-east of Wilnecote as well as acquiring a small brickworks. This colliery and its terra cotta works soon became the economic hub of the once quiet village. We know that the colliery was in production in 1846 as that year the Mine Inspector investigated the deaths of two miners, one a twelve year old boy, in a gas explosion. The following year saw another four killed in an explosion. Inspector Galloway concluded that the deaths were due to a neglect of ventilation and an obstinate use of naked flame.[173] It was not that the coal was more gaseous at Glascote, but unlike many collieries to the south it used the bord and stall method of extraction. With the longwall method the working face had an intake roadway and a return roadway that were separated only by the length of the longwall face. Thus the ventilation was as intense at the coalface as it was in the intake and return air roadways. With the bord and stall method the intake air roadway can be separated from the return roadway by as many as twenty or thirty stalls. No matter how many air regulating doors or curtains were used to direct the air current to where it was required, it was never as adequate as it should be. In 1855 Canning went into partnership with his son-in-law Gibbs and soon established a national reputation. As a trade name Gibbs and Canning are perhaps best remembered for the ceramic panels used in the Albert Hall and the National History Museum. Canning's capital, business sense and extreme caution were to restrain the engineering enthusiasm of Gibbs.

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[171] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) p. 57.
[172] Abandonment plans 623 dated 1877; 1416 dated 1882 and 1781 dated 1885
[173] R. Galloway, *Annuls of Coal Mining and the Coal Trade* Volume Two (London 1904) p. 106.

Glascote did have a mineral railway to the Glascote Canal Wharf and another railway to the LMWR sidings at Amington, and by 1849 the original skip winding was changed to double cage winding.[174] In a contradictory manner that was to persist, the mine inspector names Canning as owner when reporting the two deaths at Glascote Colliery in 1853 and 1854,[175] whereas Hunt lists the owners as Gibbs and Company. Both agree that in 1858 the colliery came under the ownership of Mr Firestone.[176]

In 1863 a sister colliery was sunk at Amington on land purchased from Tamworth Grammar School, and deliberately sited on the mineral railway that led to the LMWR railway sidings. It too used the bord and pillar method of extraction.[177] The name of the company continued to cause confusion. Hunt lists Firestone as owner of Glascote from 1858 through to 1873 when it becomes the Amington Colliery Company. Glascote is not even mentioned after 1877 although Hunt continues to report until 1881.[178] We know production continues as the Mine Inspector reports a death there in 1879.[179] To Hunt Amington does not appear until 1869 where Firestone is named as owner, changing to the Amington Colliery Company from 1874 through to the last report of 1881. The Mine Inspector lists Firestone as owner when reporting the Glascote deaths of 1859, 1864, 1867 and 1870 and the Amington death in 1870. Yet as a contrast to Hunt, at Glascote in 1865 and from 1872 through to 1907, and at Amington from 1871 to 1913, the owner is listed as Glascote Colliery Company.[180] Whatever the name of the company, the manager and agent of both from at least 1874 through to 1909 was Frederick Grayson, to be succeeded in 1910 by his son George. The Mine Inspector reports also reveal that in the 1870's and 1880's both collieries produced seven foot, rider and ironstone. Abandonment plans show that Glascote closed two fireclay seams in 1876 and 1877, and a rider and ironstone seam in 1879. Amington too abandoned a rider coal and ironstone seam in 1886.[181] Rider was reintroduced briefly from 1911 until 1915 but by 1920 both collieries worked the three seams of seven foot, double and bench coal, together with

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[174] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp. 62-66.
[175] *Annual Mine Inspector Report*: 1853 and 1854.
[176] R. Hunt, *Mineral Statistics* (1854 to 1858).
[177] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp. 70-4.
[178] R. Hunt, *Mineral Statistics* (1858-1881).
[179] *Annual Mine Inspector Report*: Midland Division 1879.
[180] *Annual Mine Inspector Report*: Midland Division 1859 to 1913.
[181] Abandonment plans 437 dated 1876; 722 dated 1877; 1046 dated 1879 and 2058 dated 1886.

iron pyrites. The *List of Mines* also reveals that the collieries were of a similar size. In 1902 Glascote employed 221 and still 201 in 1913. Amington was slightly larger employing 289 in 1902 and 339 in 1913.[182]

Half a mile or so south of Wilnecote a new company established a colliery at Hockley Hall in 1867. The *Colliery Guardian* [183] reported in 1892 that the 900 acres of land, later raised to 1,500 acres, was leased from the estates of Robert Peel of Drayton Manor. Number One pit, better known as Hole Pit, was only 39 feet to the top of the four foot seam, with Number Two pit 214 feet deep to the seven foot seam. The two shafts were connected by an underground roadway driven through the unworked measures. A steam engine was erected above Number Two to drive a large beam engine but after ten years cracks were discovered forty feet down caused by the vibrations. Two new shafts were sunk further down the outcrop, one 135 ft to the four foot superior house coal and the second of 360 feet to the seven foot steam coal that was sent mainly to London. A third shaft was sunk shortly afterwards to act as a drainage shaft. Once in production the two older shafts were closed down, but the lesson had been learned. The steam engine was placed thirty yards from the shaft to protect them from vibrations and this necessitated the installation of horizontal connecting rods and quadrants to transfer the motion from the steam engine to the shaft pumping rods. The *Colliery Guardian* states that the seven foot diameter shafts were lined with nine inch bricks 'but no tubbing in any part of the shafts because of the only slight problem of water.'[184] Cage winding was used in both shafts, both double decked with each deck carrying an eight hundredweight tub. A stationary engine was placed at the bottom of the seven foot coal shaft and could haul thirteen tubs by means of an endless rope up the 850 yard engine plane. The smoke and exhaust steam were released into the upshaft to create the ventilation for the underground workings. Hunt lists J. E. Swindles as owner during the period 1868-70 and then the Hockley Hall Colliery Company 1871-76. J. Spencer Balfour is listed as owner from 1877 and is still there in the 1892 *Colliery Guardian* article.[185]

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[182] *List of Mines* 1902 to 1920.

[183] The *Colliery Guardian* began publication in 1858 and was the main newspaper of the coal trade.

[184] *Colliery Guardian*, 1892 Hockley Hall and Whateley Colliery.

[185] Spencer Balfour was Liberal MP for Tamworth 1880-85 and Burnley 1889-93. He was involved in a financial scandal in 1892 and fled the country. Arrested in Argentina in 1895, he was sentenced to 14 years imprisonment but was released in 1906. He ended his life as a consultant mining engineer. ODNB: J Spencer Balfour (1843-1916).

Abandonment plans show a four foot seam closed in 1882, a seven foot seam in 1885 and bench coal in 1891. White ironstone continued to be produced until the colliery closed in 1904, although the *List of Mines* lists only two underground workers in 1902.[186] Little is known of the two shafts to the ironstone seam but there was a strong market for white ironstone in Birmingham. Fretwell notes that the sale of ironstone, which was extracted by bord and stall method rather than the longwall preferred in the coal pits, kept the colliery from experiencing hard times in the lean years.[187] Diversification was seen not only in the ironstone production of the 1880's, but also a carbonising plant that produced 700 tons of coke a week for Staffordshire ironworks and the London domestic market. In addition they produced sulphate of ammonia for artificial fertilisers, benzyls for the production of antiline colours, creosote for timber preservation and carbolic acid for a variety of industrial purposes. There was also a brickyard which produced 250,000 blue and brindled machine pressed bricks a week. The very hard and durable blue bricks were used for lining railway tunnels, house foundations, roof coping, town footpaths and dock walls, and were in heavy demand.

A sister colliery, Whateley, was opened half a mile south of Hockley Hall in 1873. The upcast was 300 feet to the four foot seam and Number One pit was 547 feet to the seven foot seam. The 1892 *Colliery Guardian* article revealed not surprisingly, that the workings were similar to Hockley Hall. A haulage engine at the bottom of the four foot seam shaft could pull thirteen loaded tubs up a 1,500 yard engine plane as well as providing ventilation. Air circulation at Whately was 32,000 cubic feet a minute compared to the 25,000 feet at Hockley Hall. The seven foot seam at Whately was the only workings which used safety lamps as fire damp was encountered when cutting through faults. Both collieries used the longwall system and gunpowder to bring down the coal. Faces were fifty yards long and ponies pulled the tubs along the face. At this time Whately was more productive as 500 tons were raised in a nine hour shift compared to the 400 tons raised at Hockley Hall. In 1898 new screens were built and proudly recorded in the *Colliery Engineering Journal.* Fretwell describes the changes:

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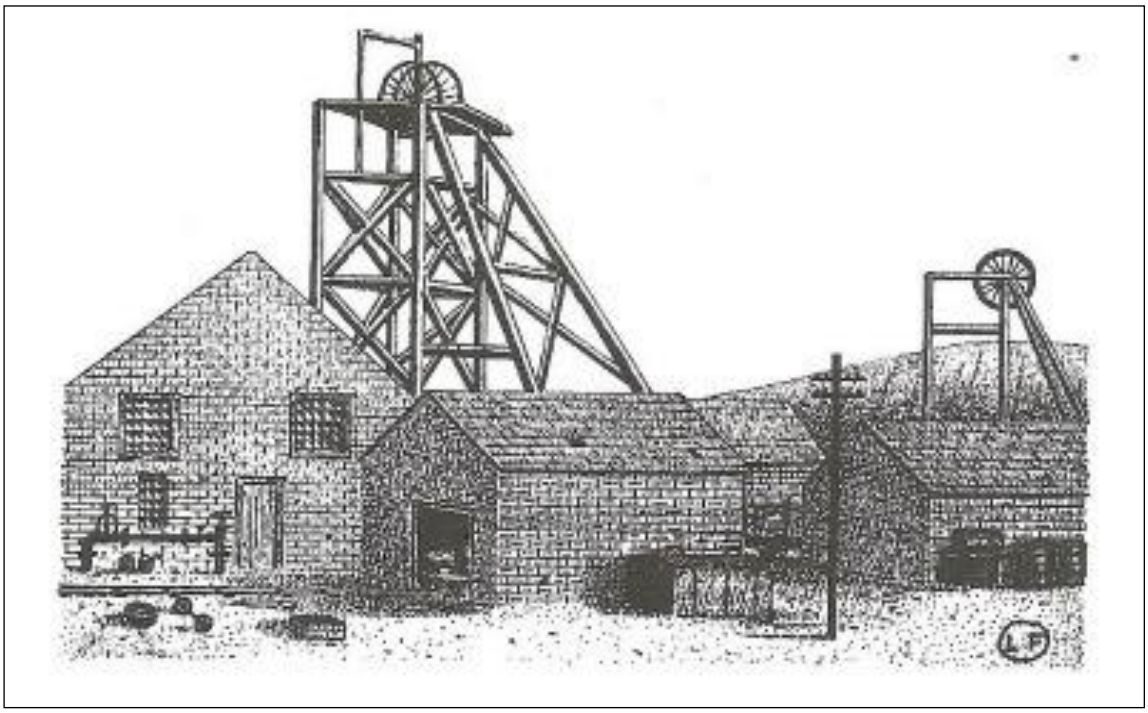
[186] Abandonment plans 1388 dated 1882; 4660 dated 1885; 2722 dated 1891 and 2552 dated 1904.

[187] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp. 29-33.

To these new screens new shaker pans replaced the old gravity sloping chute screens. On these old sloping chute screens the coal slid down them by gravity and for this reason they were known everywhere as 'black nail screens' because people working on them were never without lacerated fingers and black nails. The new shaker pan screens moved the coal along in eight inch movements that were less violent on fingers picking out the rock from the coal.[188]

Whateley was certified as abandoned with the exhaustion of the four foot seam in 1914 [189] but by then the colliery had been reborn by the large Kingsbury Colliery sunk in 1894.



Drawing 2:6 Alvecote Colliery.
Source: Fretwell *Warwickshire Coalfield* Volume One p 85.

The rising coal prices of the early seventies encouraged entrepreneurs to enter the industry but not all found lasting success, Alvecote or Tamworth Colliery was situated north-east of the town (Drawing 2:6 above). Hunt lists Alvecote from 1873 but the Mine Inspector only has it sinking in 1874 to the seven foot seam.[190] The owner was Charles Marshall who had leased 700 acres from the Earl of Essex at an annual rent of £300 plus royalties of £20 an

[188] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) p. 18-24.
[189] Abandonment plan 6179 dated 1914.
[190] R. Hunt, *Mineral Statistics* (1873); *Annual Mine Inspector Report*: Midland Division 1874.

acre. Marshall went bankrupt in 1881 and was succeeded by William Ritson who suffered the same fate. In November 1884 the *Colliery Guardian* reported the failure of the Tamworth Colliery Company in Birmingham bankruptcy court with liabilities of £7,958 to unsecured creditors. The failure was said to be caused by 'want of trade and capital for further development.'[191] The Mine Inspector's report has the colliery in liquidation in 1885[192] but 1886 saw the arrival of the third owner, Richard Chamberlain, who appointed Ridsdale as managing director. Chamberlain was based in London but each Christmas he was known to visit the villages of Shuttington and Alvecote for a children's party and the distribution of pensions to the miners. In 1907 the 510 feet shafts to the seven foot seam were deepened to 618 feet to reach the bench seam. The undermanager, James Reeves, who had held the post since it was created in 1887, was so impressed by the seam that he described it as 'like the Klondike.' The name stuck and the bench seam was known as the Klondike seam at this colliery.[193] The *List of Mines* reveals that this seam contributed to a steady growth in the early 20th century. Alvecote employed 269 in 1902, 328 in 1907, and 436 in 1913 and had doubled to 868 in 1920.[194]

Like Wilnecote, Polesworth a few miles south-east of Tamworth, was a rich area of mining activity. Hambury Colliery was sunk around 1830. Both its shafts, one 300 feet the other 450 feet, were sunk to the bench coal seam. It was possibly a butty pit as a map at Tamworth Castle refers to one shaft as Moor's Pit.[195] The owner was George Hambury, the youngest son of Capel Hambury who owned an iron foundry and coal mines in Pontypool, South Wales. George also owned a small colliery at Baddesley employing twelve that was visited by Dr Mitchell in 1841. The Polesworth mine is not mentioned in the report, but as the Baddesley colliery had a gin winding system, there is a strong possibility that this mine had similar technology. This colliery is unique as it somehow managed to extract coal down the dip of the coal seam without being stopped by water.[196] The abandonment plan has survived and reveals an enormous area of extraction which reflects the long working life. We do not know when George Hambury died but the first *Post Office directory* of 1845 attributes the

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[191] *Colliery Guardian*, 7 and 21 November 1884.
[192] *Annual Mine Inspector Report*: Midland Division 1885.
[193] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp. 85-94
[194] *List of Mines* 1902 to 1920.
[195] There is no record of anyone but Hambury owning this colliery.
[196] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) p. 124.

ownership then to Robert Hambury. Hunt only lists the colliery in 1854,[197] but it must have been in operation in 1855 as the Mine Inspector reports two deaths there. It had closed when Howell visited the area in 1858.[198]

In 1858 Shaw and his Polesworth partner Caldicott, sank Birch Coppice Galga Colliery. Like Hambury's colliery the two shafts were so far apart that they occupied two different surface sites. The original colliery would have had one shaft, but as the workings retreated from the shaft bottom, a second shaft was sunk to reduce underground haulage time. Fretwell claims that the term 'galga' is an old Warwickshire mining term and comes from the Saxon word gealga meaning gallows. The term headgear is probably a northern name that reached the Midlands in the 19th century when headgear took on their modern appearance.[199] The older term galga continued to be used to describe the older and crude square headgear. We do not know when this colliery closed but it must have had a life of around fifteen years.

Birch Coppice Birchmoor, or Cockspur as it was known locally because it had an unusual pit bottom crut[200] system, was jointly owned by Arthur Morris and Peter Shaw. Both its fourteen foot diameter shafts were 810 feet to the seven foot coal seam. An overland mineral railway powered by a stationary steam haulage engine, took the coal to the canal wharf at Polesworth. In *Growth of a Village* there is an account concerning a visit to the colliery in July 1872:

> *The party of five, of whom two were ladies, in charge of the manager George Morgan, went down the upcast shaft 220 yards to the seven foot seam where 500 tons of coal are raised daily, all the coal having to be bought along rails by pit ponies to the bottom of the shaft half a mile away.*
>
> *They visited a wall of coal about thirty yards long and five feet high. Several men were working at the coal face lighted by candles stuck in clay by which they made the candle fasten onto the surface of the coal near the holes they are boring. A*

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[197] R. Hunt, *Mineral Statistics* (1854).
[198] H. Howell, *Geology of the Warwickshire Coalfield* (Memoirs of the Geological Survey) (London, 1858) p. 13.
[199] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp. 150-1.
[200] Crut means crucifix and describes where the shaft crosses the roadway.

day's work for a man is to get out a mass of coal five yards in length by a yard and a half deep, the height of the seam being about five foot.

Small coal is left for the use of engines in the pit. There are no dangerous gases so open lights are used. No women are employed in the pit but small boys of about thirteen or fourteen years of age go errands and drive horses.[201]

It is ironic that the account mentions 'no dangerous gases.' The second death at the colliery recorded in 1873 was from an explosion of firedamp.[202] A sister colliery was sank at Hall End in 1875 and it was this that was to develop into a major Warwickshire colliery.

There is some confusion regarding the development of Pooley Hall Colliery. Grant has established that the enterprise was started around 1846-48 but Fretwell refers to this colliery as Polesworth North.[203] It had two six foot diameter shafts, one that went to the bench coal and a 300 feet shaft to the seven foot seam. Hunt lists the owner as Mr Thomas, from when he began recording in 1854 and claims that he was the same Mr Thomas that owned Mount Pleasant Colliery in Bedworth.[204] Grant differs claiming it was a Mr W. Thomas at Bedworth and a Mr D. Thomas at Pooley Hall.[205] The discrepancies continue as Hunt has the colliery working until 1863 but it was closed when Howell visited in 1858. Fretwell states that a second Pooley Hall Colliery Company was established by Daniel Thomas in 1865 when he sank a single 450 foot shaft. Hunt does not list a colliery 1864 to 1869, yet the Mine Inspector reports two deaths there in 1866 and 1869.[206] Daniel Thomas was succeeded by his son who went bankrupt. The mine then passed to the Polesworth Brick and Tile Company. Fretwell noted that:

The colliery only had a small corridor of mineral rights that permitted them to extract coal to the east of the shaft towards the Eastern Boundary Fault. They

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[201] 'Growth of a Village' (Polesworth) quoted in L.Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp. 135-9.

[202] *Annual Mine Inspector Report:* Midland Division 1873.

[203] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) Appendix 21; L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) p. 113.

[204] R. Hunt, *Mineral Statistics* (1854 to 1863).

[205] As Hunt met the man to gather his figures, I am inclined to believe his version. Grant has confused the man with Daniel Thomas, possibly the son, who took over the colliery later.

[206] R. Hunt, *Mineral Statistics* (1864 to 1869); *Annual Mine Inspector Report*: Midland Division 1866 and 1869.

were never allowed to extract coal under Pooley Hall itself. The result was they were mining into faulted ground because numerous small faults radiated out from the Eastern Boundary Fault like veins in a leaf.[207]

Given these geological problems and the fact that a single six foot diameter shaft accommodating less than thirty men underground and using skip winding could not raise enough coal to be competitive, it closed in 1890. The abandonment plan is dated 1892 and lists four foot and smithy coal.[208]

By 1890 Warwickshire coalfield employed 5,500 men in twenty collieries and produced one and three quarter million tons of coal. Most was produced in medium sized collieries employing around 400 to 500 colliers and taking advantage of the increased economies of scale. However a number of small collieries employing less than a hundred men continued to survive alongside them.

Small Collieries: Extinction and Survival

Small collieries defined as employing less than a hundred men, still existed throughout the late 19th century, some as scavenger collieries taking advantage of temporary coal shortages and others as specialist collieries using pillar and bord to extract clay for the brick and tile industry. Some were small ironstone mines. These collieries tended to continue the use of more primitive technology but were popular with colliers because of their lax discipline. There is not a single case of a small colliery prosecuting a miner for breaches of the special rules.[209] Inevitably there was an overlap in what constituted a small mine and the bottom end of the medium mine scale. Dosthill and Pooley Hall collieries are obvious examples of this.

Grant lists Mount Pleasant Colliery in Bedworth noted above as opening before 1838 and Hunt lists it up to 1855.[210] It is not known when Collycroft Colliery was sunk but it is

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[207] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp. 110-12.

[208] Abandonment plan 2700 dated 1892.

[209] Special rules were drawn up in each mining district to reflect local conditions and supplement the general rules laid down from the Act of 1855 and increased in subsequent Acts to reflect changing technology. Men could be prosecuted for breaching them and from 1894 individual collieries are listed allowing Warwickshire to be extracted from aggregates. No small colliery is listed in prosecutions

[210] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) Appendix 21; R. Hunt, *Mineral Statistics* (1854).

mentioned in the 1841 report. It was owned by William Wilson and situated opposite the Royal Oak pub. Hunt lists Collycroft Colliery up to 1857 with the owner as Wilson.[211] Collycroft re-emerges as a scavenger pit in the boom years of 1873 to 1875 and 1893 to 1901.[212] It then shared the same owner, Edward Wilson, and the same manager as Exhall Colliery. There is some confusion as to which seams was mined. The Inspector states the slate seam and ironstone in the 1870's but the abandonment plan lists two yard, rider and seven foot in 1876 and four foot in 1901.[213]

In the boom years of the 1890's there were two short lived scavenger collieries in Bedworth. Railway Colliery appears in the *List of Mines* in 1889 with the brick maker William Beasley Heap as the owner. There were seven shallow pits of 60 feet, 66 feet, 66 feet, 78 feet, 93 feet, 105 feet and 204 feet. Two of the shafts were said to be owned by the manager, William Dennis. The land was owned by the Nicholas Chamberlaine Trust and had been worked before. An 1849 Report stated that a cranked fan known as a Blow George stood where the colliery was situated. It was very old fashioned and used methods long discarded in the coal industry. It had a horse gin winding engine and a drainage system that was akin to a bucket taking water from a well. One road even went through an old gob and was thus impossible to maintain.[214] Railway Colliery closed in 1891 but in 1892 Mr Heap was fined £5 with 16/- costs for failing to provide an abandonment plan.[215] The manager, William Dennis, rectified this by producing a hand drawn plan listing slate and lady coal.[216] E Wooton's New Colliery was situated just north of Railway colliery and had two 180 feet shafts. Grant lists it in operation 1890 to 1894.[217] The abandonment plan shows that it worked a seven feet band of seven foot coal with a four inch band of dirt parting it, but closed because it was

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[211] R. Hunt, *Mineral Statistics* (1854 to 1857, and 1873 to 1875).

[212] *List of Mines* 1893 to 1901.

[213] Abandonment plans 484 dated 1876 and 484A dated 1901.

[214] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) p. 94. A gob is an area which has had the coal extracted and packed with waste and the floor and roof will come together in a relatively short time regardless of the amount of support provided.

[215] *Annual Mine Inspector Report*: Midland Division 1892. Heap was probably a brickmaker.

[216] Abandonment plan 2793 dated 3 November 1892.

[217] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham 1977) Appendix 21.

‘unprofitable.’ It would appear that the successful hat manufacturer with his large factory less than a mile from his colliery could not transfer his talents to the coal industry.[218]

In the Nuneaton area there were a number of brickworks and clay pits which may have had mining connections. In 1858 Hunt made the only geological survey of brick and clay in Warwickshire. [219] He estimated the output as seventy-five million bricks from one hundred and nine brick makers at an annual value of £94,375. There were thirty-one in the overlapping Bedworth-Coventry area, twenty in Tamworth, eighteen in Nuneaton and five in Atherstone. In 1876 James Knox became managing director of Haunchwood Brick and Cement Company. He was also to become a director of J W Tileries of Cannock, Barnstone Blue Lias Lime and Cement Company Nottingham and Arley Colliery Company. Grant states that the Haunchwood Brick and Tile Company existed from 1884 until 1894[220] but it existed beyond those dates and the *List of Mines* lists its two pits of Haunchwood and Griff up to 1907. Indeed Griff only signed the special rules in 1898 but was said to be ‘standing’ from 1905.[221] Three abandonment plans of 1893 and 1894 reveal that it worked the red clay, fireclay, ell, slate, double and seven foot seams. A few other clay pits are listed as exhausted. The Midland Tile clay pit lists pipe clay exhausted in 1895 and Nuneaton Red Clay, red clay in 1897.[222]

A 1902 visitor to the Stanley owned Midland Brick and Tile Works left a detailed description that helps to illustrate this sister industry. He describes a large village of sheds, kilns and offices with roads cut up by heavy traffic. There were three clay pits each mining two beds of blue clay sandwiched by a red clay bed:

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[218] Abandonment plan 3296 dated 27 March 1995. Bedworth has a Wooten Street near to where the factory once stood.

[219] R. Hunt, *Mineral Statistics* (1858).

[220] E. Grant, 'The Spatial Development of the Warwickshire Coalfield’, (Unpublished PhD thesis, University of Birmingham 1977) Appendix 21.

[221] *List of Mines* 1884 to 1907.

[222] Abandonment plans 2901 dated 1893; 3121 and 3121A dated 1894; 3346 dated 1895 and 3681 dated 1897.

The blue clay is dug from the sides of the pit but the comparatively thin (six foot) layer of red clay is now worked by means of headings – long galleries worked through the layer with side galleries branching out at right angles.[223]

Loaded trucks were taken to the mill where clay was ground between massive iron rollers before being taken to the shed where it was required. In one shed a group of boys were hand moulding plain quarry bricks and laying them in rows on the floor to dry. In another shed roofing tiles were machine moulded and pressed with skilled labour adding the ornamental finish. In yet another a steam powered machine made drainpipes, and in another workers made chimney pots, kneading the clay by hand before filling moulds and finishing with a knife on a revolving stand. Finials, described as 'the ornamental terminations used with crested ridge tiles' and terracotta toilet pedestals were also made in moulds. There were thirteen circular ovens and four kilns:

One of the kilns, which is called from its great size the Wilderness, was being drawn during our visit. It contained 9,000 malt kiln tiles and 30,000 bricks. When filled with bricks only, as many as 80,000 can be burnt in this kiln at one time. It takes a week to burn, another week to cool, while eight days is required to set the oven and draw out. The glazing of certain kinds of ware is produced by throwing salts into the fire holes.[224]

The Works employed 400 and provided a reading room that was supplied with daily and weekly newspapers, and used for the occasional evening entertainment and Sunday service.

The Stanley brick and tile works expanded, producing ridge tiles and finials, paving tiles, chimney pots, sanitation pipes, glazed sinks and white and coloured glazed bricks. An advertisement for the company is shown in Illustration 2:4 below. In 1895 it became a limited company with branch works at Burslem in Staffordshire and Willenhall in Coventry. By 1907

[223] 'Visit to the Works of Stanley Brothers Ltd,.' in Meeting of the Incorporated Association of Municipal and County Engineers (12 October 1902), reported in *Heartland Evening News* P. Lee, 'Birth of the modern brick makers and coalmasters', 19 and 26 August 1994.

[224] P. Lee, Birth of the modern brick makers and coalmasters', *Heartland Evening News*, 19 and 26 August 1994.

it had seven brickyards in Nuneaton, 200 acres of clay fields and consumed 60,000 tons of slack annually.[225] This illustrates more than anything else the need to own their coal mines.

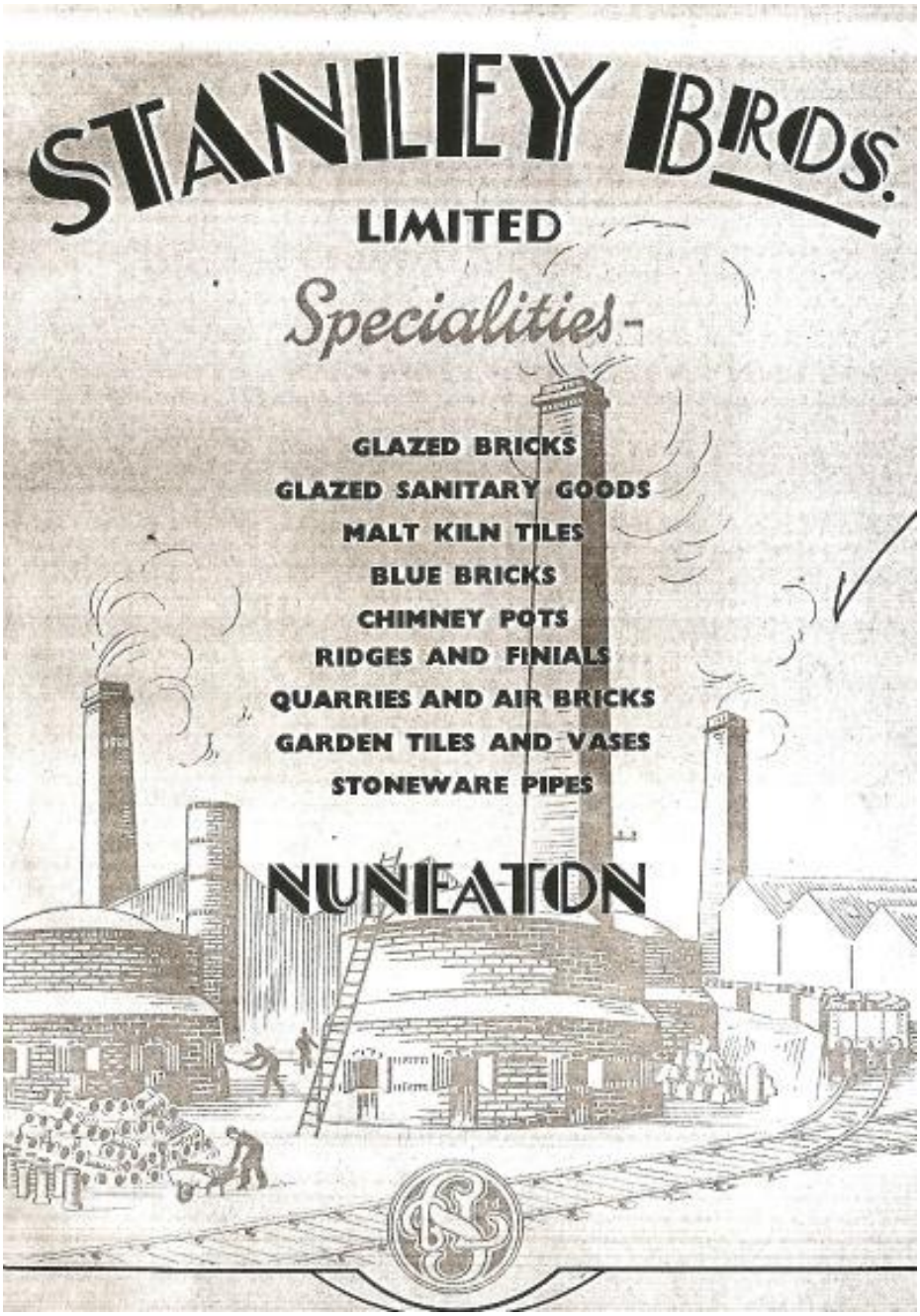

Illustration 2:4 An Advertisement for Stanley Brothers dated 1898.
Source: Stanley Brothers Collection, Nuneaton Library.

To the north of the county there were also a number of collieries connected to the brick and tile industry. To the north-east of Skey's Wilnecote Works was Wilnecote Colliery owned

[225] *Stanley Brothers: a short resume of the business of Stanley Brothers Limited, of Nuneaton* (1 March 1927) Copy Nuneaton Library.

by Perris and Harrison. The first two shafts were sunk in 1855 to the bench coal seam, where it also extracted ironstone and three types of clay. Two new shafts were sunk in 1859 and became known as New Wilnecote. The abandonment plan of 1879 reveals that it produced seven foot coal and fireclay.[226]

Skey, the owner of Tame Valley Colliery, was also the owner of Wilnecote Works Colliery centred on Peel. As far as Hunt was concerned he only refers to the colliery as Peel and George Skey as owning Tame Valley and Peel.[227] Peel was sunk in 1859 and produced coal and clay solely for use in the brick kilns. Both shafts had a seven foot diameter and used the old fashioned galga headgear, and winding by means of a skip. Fretwell notes that the colliery used the bord and stall method of extraction 'for very good reason.' The seven foot coal in that area lay in the following sections: coal two feet five inches; white clay one foot three inches; coal three feet; white clay three feet; alum shale one foot seven inches and fireclay three feet. All of these materials had to be extracted separately and brought up in separate tubs. First the two layers of white clay were extracted to be used in certain terra cotta manufacture. Next the middle layer of coal was brought up, the top layer being left to form a stable roof. When the face had been carefully cleaned of coal slack, the valuable alum shale was extracted to be used in sulphuric acid manufacture. Finally, the fireclay was extracted to make fire bricks. Fretwell notes that in such a pit experience was at a greater premium than youthful strength:

> *In the course of a single coal stall advance four different types of roof support, each a different length, had to be used. Stallwork here was truly a test of skill and for the average miner to have gone into one of these stalls from another colliery without training would have been far too dangerous. The older the miner the more experienced they tend to be, and it was not uncommon to find face workers at this pit who were in their late sixties.*[228]

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[226] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) p. 34.
[227] R. Hunt, *Mineral Statistics* (1859 to 1881).
[228] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) p. 51.

It is noteworthy that the only fatality at Peel was a fifteen year old boy who fell down the shaft in 1861.[229]

With the exception of Peel, all other pits were butty pits. Chapel Pit was sunk in 1870 and Corner Pit in 1871,[230] but there are no dates for the Wheatcroft and James' pits. The mine inspector's reports of the 1870's and 1880's list Peel, Corner and Chapel, along with a New Pit which produced coal and clay and a Works Pit that produced black ironstone. These may well be the Wheatcroft and James' pits noted by Fretwell.[231] The mine inspector reports Tame Valley producing seven foot and smithy coal, Peel bench coal, Chapel seven foot coal and Corner black ironstone. Abandonment plans give some clues to production. The year 1885 saw a spate of closures of the seven foot seam at Chapel, the black ironstone of Works and Corner and a smithy and white ironstone seam at Tame Valley. In 1887 a bench coal seam at three pits numbered one, two and three were abandoned and in 1903 a double coal seam at Tame Valley. When Peel was abandoned in 1910 it produced double, bench coal and fire clay, the same materials produced by its successor Beauchamp Pit opened in 1908.[232] The relative size of the two collieries is shown in the List of Mines. Tame Valley employed 284 in 1902, 327 in 1905 and 401 by 1911. Peel employed fifty-nine in 1902 and fifty-seven in 1910, the year of its closure. Its replacement, Beauchamp lists thirty-eight employees in its opening year of 1908 and had grown to seventy-eight by 1913.[233] The Mine Inspector's Reports together with the *List of Mines*, reveals a managerial dynasty. The 1870's and 1880's saw Tame Valley and Peel managed by Sinnean Fenn, to be succeeded in the 1890's by Abraham and then Charles Fenn who managed the colliery up to 1913. [234]

Although they surrendered the ownership of Glascote Colliery in 1858, Gibbs and Canning did own a number of clay pits. Hunt lists them as owners of the Wilnecote Works Claypit from 1874 and the Glascote Clay Works from 1878.[235] Abandonment plans show that

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[229] *Annual Mine Inspector Report*: Midland Division 1861.
[230] *Annual Mine Inspector Report*: Midland Division 1870 and 1871.
[231] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) p. 51.
[232] Abandonment plans 1714, 1715 and 1724 dated 1875; 2220 dated 1887; 4385 dated 1903 and 5443 dated 1910.
[233] *List of Mines* 1902 to 1913.
[234] *Annual Mine Inspector Report*: Midland Division 1870 to 1913.
[235] R. Hunt, *Mineral Statistics* (1874 to 1878).

Glascote Clay closed a white clay seam in 1882 and a fireclay seam in 1904.[236] The *List of Mines* only mentions the Glascote Clay Works. In 1902 they employed twenty-nine, but this had slipped to twenty by 1913.[237] Archaeological evidence showed some eleven shafts north of the terra cotta works and that two of these dated back to the Averill brickyard of the 1840's.[238] There are no dates for the nine shafts sunk by Gibbs and Canning. We do know that it used the bord and stall method of extraction and mined three different types of clay at three different levels. By 1900 they were all connected underground by a maze of different tunnels. There were no problems with ventilation, but it was a hot or drybread pit where men worked in their shorts.[239]

A Mr Shaw was the proprietor of a number of Polesworth collieries in the 1850's. Three were short lived single shaft unprofitable ventures. One of these had a variety of names. To the Mine Inspector it was Station, to Hunt it was Railway and to Howell and *White's Directory* of 1860, the local name, Waverton. Its single shaft extracted both four foot and slate coal, suggesting that it must have had two different landing stages. It was the first colliery to prove the existence of the fault and could not be profitable as it was situated only one hundred and fifty yards from it. [240] For a century this was known as the Great Polesworth Fault and was only later called the Eastern Boundary Fault when it was shown that it extended to Bedworth. Hunt lists the colliery from 1857 to 1860[241] and the Mine Inspector records a death there in 1857 from a fall of coal from slip joints.[242] When Howell visited in 1858 he insisted that it was about to close but it is recorded in *White's 1860 Directory*. Howell mentions another H. Shaw single shaft colliery nearby at Butts Lane which had a 300 foot shaft to the seven foot coal seam. There is no sinking date but it had closed several years before his 1858 visit. Howell noted another single shaft colliery which he calls Polesworth

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[236] Abandonment plans 2264 dated 1882; 2220 dated 1887 and 4635 dated 1904.

[237] *List of Mines* 1902 to 1913.

[238] J. Mitchell, Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons, *Employment of Children Report* (London, 1842) p. 95.

[239] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp. 67-9.

[240] L.Fretwell, *Warwickshire Coalfield* Volume One p. 120.

[241] R. Hunt, *Mineral Statistics* (1857 to 1860) p. 14.

[242] *Annual Mine Inspector Report*: Midland Division 1857.

East but which the Geological Survey refers to as California Colliery.[243] It was sunk by a partnership of H. Shaw and R. Hambury and is recorded in Hunt in 1855. The manager was Mr Skarrett who had been manager of Hambury's colliery. As Fretwell notes; 'his map making style is unmistakable.'[244] This colliery worked the seven foot seam but Howell states that the seam has become shattered by a large number of small faults that threw the seam down several yards so that it was like working a giant staircase. This made working unprofitable and dangerous and it was closed. Polesworth miners called these faults 'rockies' and as the Rocky Mountains are partly in California, this may have given it its name.

Thomas Morgan sank Dosthill Colliery south-west of Tamworth and west of Kingsbury, in an area that had seen considerable volcanic activity. The two nine foot diameter shafts were only forty-eight feet deep. They had a furnace at the bottom of the upshaft for ventilation but nothing is known of the winding and pumping machinery. Many of the deep seams of the mine were unworkable as they had been metamorphosed by volcanic heat.[245] Between the years 1874 to 1878 the Mine Inspector Reports list the owners as Morgan and Davies and Hunt inserts the name Peaman for 1875-76.[246] This shows that Morgan found it necessary to take on partners to stay in business. James Davies doubled as the mine manager. In 1879 Joseph Pearson took over as owner. In 1882 the two shallow shafts were abandoned and replaced by two of thirteen feet diameter 220 feet deep shafts to the east. The mineral rights obtained from the Peel estate of Drayton Manor were worked out in 1888 and the mine closed. The abandonment plans show an ironstone seam closed in 1885, the seven foot seam in June 1888 and the rider and a four foot seam in October 1888.[247]

By the turn of the century many of these small collieries had disappeared. The specialist Peel Colliery survived and a number of clay pits around Nuneaton and Tamworth but the ironstone mines had closed by 1890. The movement now was towards deep mines that could exploit the virgin seams a thousand feet or more below the surface. The technology was available although expensive, to sink through the water laden sandstone on the concealed

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[243] H. Howell, *Geology of the Warwickshire Coalfield* (Memoirs of the Geological Survey) (London, 1858) p. 14.
[244] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) p. 129.
[245] L. Fretwell, *Warwickshire Coalfield* Volume One p. 28.
[246] *Annual Report of Inspector of Mines*: Midland Division 1874 to 1878.
[247] Abandonment plans 1771 dated 1885 1914 dated 1888

coalfield and new powerful ventilation fans had been developed to air the mines. The deep mine domination of the coalfield was complete by 1913.

Eighteen-nineties's: Deep Mines

Warwickshire coal production increased rapidly after 1890 largely due to the introduction of deep mines that utilised the latest technological methods.[248] In 1890 production stood at 1,750,000 tons. It reached two million in 1895, three million in 1901, four million in 1907 and five million tons in 1913.[249] The rapid change to large collieries can be charted through the *List of Mines.*[250] In 1902 only 20.7 per cent of Warwickshire collieries employed a thousand men but by 1913 this figure had leapt to 59.1 per cent. However many of the new collieries experienced severe technical difficulties before production came on line requiring increasing injections of capital before success was realised.

Griff Colliery Company in Nuneaton established in 1882, inherited dated fixed plant which under the terms of the lease belonged to the Newdigate family who were difficult landlords. In 1891 they began sinking Griff Clara, named after a director's wife.[251] The two shafts were twenty-four yards apart. The downcast, Clara, had a fourteen foot diameter and the upshaft, Marion, had an eleven foot diameter. The *Colliery Guardian* of 1892 states that in addition to the two sinkings there were five other shafts from 390 feet to 480 feet.[252] Two were for drawing coal, two for pumping and one for ventilation. Water was a serious problem and dealing with it cost £13,000 or nearly 30 per cent of the capitalisation cost of Clara. At one stage they had to deal with 1,100 gallons a minute from one shaft and 600 gallons from another, and pumps ran non stop for seven weeks. When Clara came on line its impact was dramatic. Output in 1892 was 150,000 tons, rising to 400,000 tons in 1898 and reaching the half million mark in 1902. In 1906 Bainbridge informed a visiting group from the Midland Institute of Mining Engineers that when the company began it was producing 250 tons a day

[248] In 1900 the Chesterfield and Midland Counties Institute of Mining Engineers visited the new collieries of Haunchwood Tunnel and Ansley Hall and the subsequent newspaper report gives a very detailed list of the plant and machinery of both collieries. *Nuneaton Observer,* 13 April 1900.

[249] *Annual Report of Inspector of Mines:* Midland Division 1890 to 1913

[250] Figures tabulated from the *List of Mines* 1902 and 1913

[251] In 1899 the Warwickshire Mining Students Association visited the colliery and the newspaper report of the visit contains a detailed description of the colliery. *Nuneaton Observer,* 1 September 1899.

[252] 'Griff Colliery Company', *Colliery Guardian,* 1892.

but that now it was producing 2,000 tons a day.[253] After 1904 the colliery lost its title of the leading Warwickshire colliery as the *List of Mines* shows that Stanley's Haunchwood colliery had more employees 1905-1913.[254] Yet Wale makes the point;

> *Griff reached its greatest relative importance in terms of output as well as employment as early as the late eighteen-nineties, during the years when Clara pit was new. The company was on the other hand still more important in 1914 than it had been in 1890.*[255]

Haunchwood Colliery in Nuneaton had been owned by Sir Alfred Hickman since 1881. Named after a nearby railway tunnel, Tunnel was a mile and a half to the west of the existing pit with sinking beginning in July 1891.[256] The downcast shaft had a fifteen foot diameter and was sunk to 216 feet and lined with brick near to the bottom. The upcast shaft had a fourteen foot diameter sunk to 480 feet, with bricking for 390 feet then 84 feet of tubbing. The cage was designed to carry four tubs in each cage of two decks and the winding engine was served by three Lancashire boilers. The manager of neighbouring Griff Colliery sometimes mentions other collieries in his annual report. He notes Haunchwood's 'very vigorous management' and a run of unfortunate events. After a severe drop in output in 1901, it prospered until a severe fire at Tunnel in 1904.[257] It had recovered by 1906 and in 1909 'making more money than anywhere else in Warwickshire.'[258] In 1910 Melly said Haunchwood was able to do better than Griff because of its low working cost and especially high quality coal which commanded a higher selling price than Griff could obtain. At the end of 1911 a second serious fire at Tunnel closed it for a time.[259] The *List of Mines* reflects this by showing Tunnel employing 1,563 in 1911, falling to 883 in 1912 and recovering to 1,762 in 1913.[260] The *List*

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[253] *Nuneaton Observer*, 25 May 1906.

[254] *List of Mines* 1905 to 1913.

[255] J. Wale, 'The Griff Colliery Company, Warwickshire 1892 to 1914: a case study in business history', *Midland History* 14 (1989) 115.

[256] 'Haunchwood Colliery', *Colliery Guardian*, July 1892. It opened in January 1894. Some 60 sinkers had worked on it and there were only two slight accidents. *Nuneaton Observer,* 5 January 1894.

[257] *Nuneaton Observer*, 17 June 1904.

[258] Griff Colliery Minute Book, CRO 1169/22.

[259] Haunchwood Colliery suffered flooding from old workings in July 1911 and a spontaneous combustion fire at Tunnel in December which required men to fight it throughout the Christmas period. *Nuneaton Observer,* 7 July and 29 December 1911. It was estimated that the cost of the fire was £20,000. *Nuneaton Observer,* 5 January 1912.

[260] *List of Mines* 1911 to 1913.

of Mines also illustrates the relative importance of the two sister pits. Haunchwood averaged around five hundred men employed in the early years of the 20th century and closed in 1914, whereas Tunnel despite its difficulties always averaged over a thousand colliers on the books.[261]

The colourful Reginald Stanley[262] had owned Nuneaton Colliery since 1877. A new Nuneaton Colliery was sunk in 1899 and the *List of Mines* charts its growth to a large enterprise, reaching a thousand employees in 1907. In 1899 Stanley had also taken over Charity Colliery in Bedworth and until 1907 one manager, with two undermanages, ran them both.[263] Charity had been purchased to bridge the gap between the exhaustion of the old colliery and when production from the new colliery came on line but it was decided to sink shafts to new deep seams in 1902.[264] By 1913 Stanley Brothers was one of only three Warwickshire coal companies to employ two thousand men.[265] We know more about this colliery as the manager, Swallow, gave an address to Midland mining officials in 1904.[266] The first attempt to sink shafts was thwarted by a heavy water inflow of 12,000 gallons an hour which was considered too much to cope with. Nevertheless as the water was 'excellent quality' it was sold for £6,000 to Nuneaton Urban District Council to become the town's water supply. New shafts were sunk and a six foot rider seam was reached at a depth of 558 feet, a ten foot slate coal seam at 654 feet and a five foot seven foot seam at 738 feet, but given the frequent thinning and disappearance of coal and a difficult floor, this last seam was considered too expensive to work. Swallow then analysed the use of the heading machine in twenty-three days January-February 1903. In the question and answer session it emerged that costs were comparable for machine or hand headings but that the machine was better in opening out faces of work and rapidly gaining output, particularly in thick seams. Machines

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[261] In 1900 the Chesterfield and Midland Counties Institute of Mining Engineers visited Tunnel and Haunchwood Collieries and the newspaper report of the visit gives a very detailed list of plant and equipment then in use. *Nuneaton Observer,* 13 April 1900.

[262] Stanley had gained his fortune in the gold fields of Montana. He wrote his autobiography *Frontier Life* (Nuneaton undated) copy Reginald Stanley Collection: Nuneaton Library. His buffalo skin coat is in the National History Museum. See Chapter Five.

[263] *List of Mines* 1907.

[264] AGM of Stanley Brothers Limited, *Nuneaton Observer,* 7 March 1902.

[265] *List of Mines* 1913.

[266] F. Swallow, 'Coal mining in Warwickshire with special reference to the use of Stanley coal heading machines in the rapid development of Nuneaton Colliery', T*ransactions of the Federated Institute of Mining Engineers* 26 (1903-04) 95-119.

only worked a few minutes each hour because of the need to remove coal and because the headings were too small for pipes, ventilation was poor.[267]

The Newdigate family had divested themselves of their interest in Griff Colliery in 1882 but they could not resist the high profits that were being made in the 1890's. Sadly Newdigate Colliery was to epitomise all the reasons why they had abandoned the industry. The two sixteen foot diameter shafts named Frank and Lilah after members of the family, began sinking in May 1897.[268] Heavy surface water was encountered at 150 feet and 10,000 gallons an hour was dealt with by two eight inch pumps, and then held back by coffering. At 636 feet they experienced 50,000 gallons an hour going through the Halesowen sandstone and both eight inch and ten inch pumps had to be used. The shaft continued to a depth of 1,592 feet with a twenty-five foot seam reached at 1,470 feet. The cage was designed to carry tubs of the larger twelve hundredweight capacity and could raise a thousand tons a day. A branch railway, a mile in length, linked the colliery to the Coventry-Nuneaton Railway. Two men, a carter and a sinker, were killed before production began in 1901 and a further twenty-one were to die between 1901 and 1913. It was not a profitable pit. Technical problems made it liable to spontaneous combustion and in 1904 it was closed by a fire.[269] A new colliery company was formed and a new pit bottom established, 115 feet above the old. Stone drifts were driven down to the old roadway and the fire was sealed off. Another fire in 1914 led to the formation of yet another company but the colliery was not a success until the 1920's.[270] The *List of Mines* has Newdigate working two yard, rider and slate seams. It employed 932 in 1902 and an almost identical 937 in 1913.[271] After its inauspicious start Newdigate Colliery continued production until 1987.

At Exhall Colliery in Bedworth water was also a problem and the *Colliery Guardian* reported in 1887:

> *A work of extreme difficulty, namely the lifting of one million gallons of water from the shaft of Exhall Colliery, Warwickshire, and preventing by means of huge*

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[267] At the 1910 AGM Stanley Brothers buildings, brickyards and collieries was valued at £263,500. *Nuneaton Observer,* 18 March 1910.

[268] *Colliery Journal*, 28 December 1900 and CT Report 1904.

[269] *Nuneaton Observer,* 17 June 1904. Eleven horses died but no men were injured.

[270] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) Newdigate Colliery pp. 131-41.

[271] *List of Mines* 1902 and 1913.

iron castings its further inflow, has been crowned with success after an outlay of many thousands of pounds and efforts extended over several months. The mine contains large beds of the finest Warwickshire coal.[272]

The danger of flooding also affected neighbouring Hawkesbury Colliery and while the work was being carried out, both collieries suspended work losing three hundred jobs in each. This must have contributed to the terminal decline of Hawkesbury which never reopened but it allowed Exhall to grow. The colliery had an output in 1892 of 450 tons for an eight and a half hour shift. It employed five hundred in the 1890's rising to seven hundred by 1902 and reached a thousand in 1909.[273]

Two new collieries were developed in the south, both with Scottish owners, although neither reached large colliery status until the 1920's. To the east of Coventry was the green field site of Binley Colliery.[274] The owners were Merry and Cunningham, Glasgow coal and iron masters. William McKee was manager from its sinking in 1907 until he retired in 1935. He was a native of Glasgow and had been manager of a colliery near Paisley for ten years before moving to England. One of his first tasks was to cut railway siding to the main line to bring in heavy equipment for the sinking of the two 813 feet shafts. They also had to build Binley village to house the miners.[275] The *List of Mines* shows that they signed the special rules in 1908 and began producing the two yard seam in 1910. Numbers employed increased from thirty-eight in 1907 to one hundred in 1909, two hundred in 1911 and three hundred and sixty-five in 1913.[276] It did not develop into a major colliery until the 1920's and closed in 1963. Coventry Colliery was situated to the west of Bedworth in the village of Keresley. It was owned by the Warwickshire Coal Company whose offices were in Lanarkshire.[277] This was the successor to the Wyken Colliery Company and indeed Liddel, who was the manager of Wyken when it closed in 1910, became the manager of Coventry colliery when it began

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[272] *Colliery Guardian*, 25 November 1887.

[273] *List of Mines* 1892, 1902 and 1908.

[274] The local newspaper recorded its sinking in November with 'colliers cottages erected close to the pit.' *Nuneaton Observer*, 29 November 1907.

[275] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) Binley Colliery pp.142-6.

[276] *List of Mines* 1908 to 1913.

[277] The registration of the Warwickshire Coal Company was announced in 1911 with a capitalisation of £450,000 and 400 acres of freehold land. *Nuneaton Observer*, 24 February 1911.

exploratory diggings in 1911.[278] The *List of Mines* shows a slow increase in manpower from one hundred and thirteen in 1912 to two hundred and forty-two in 1913 but it did not begin production until 1918. By 1920 it employed four hundred and fifty and was working the slate seam.[279] The two twenty-one foot diameter shafts commenced in May 1912 and were finally completed in October 1917. An undated British Coal publication entitled *Coventry Colliery* published in the 1980's states; 'The shafts, which passed through water bearing strata, were brick lined to a depth of 146 metres (479 feet) after which they were concrete lined to a depth of 663 metres, (2,175 feet) making them the deepest workings in the area.'[280] The 1918 weekly production of 500 tons was to rise to 5,000 tons by 1930. In 1919 a railway branch line was built, and like Binley, the company built a mining village at Keresley Newlands where the terraced houses were afforded the luxury for the time of indoor toilets. Coventry Colliery closed in 1993.[281]

In the central area a number of collieries moved onto the concealed coalfield to exploit the virgin coal. The first was Hall End, part of Birch Coppice Colliery, sunk to 825 feet in 1875 to the seven foot coal seam. One shaft had a sixteen foot diameter but the other was a fifteen foot elliptical shape as it was intended as an upcast furnace ventilation shaft. It was owned by J. Morris, F. Morris, C. Morris and Mrs E. Ranson, the granddaughter of Peter Shaw, but retained the trade name of Morris and Shaw. In 1875 a small gauge mineral railway was built from the colliery via Birchmoor to the canal wharf at Polesworth and in 1878 a standard gauge railway was also built south to join the Baddesley Colliery branch line to Kingsbury where it joined the Midland Railway. A brickyard was also built at the colliery in 1879. An underground stationary steam engine drew tubs up an incline on a haulage rope, but after the 1882 Baddesley Colliery disaster that was caused by an underground engine all collieries that worked such an engine began to feel uneasy. It was not until 1909 that an endless rope haulage system driven by compressed air was installed. Air was pumped down the downcast shaft in steel pipes sealed together inside the shaft. Compressed air enabled them to modernise tasks such as drilling on the coalface, in headings and on rips. On the surface the compressed air allowed them to replace the old shaker screens with more efficient

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[278] Announced *Nuneaton Observer,* 21 April 1911.
[279] *List of Mines* 1912 to 1920.
[280] British Coal Corporation, *Coventry Colliery* (Leicester, undated c1980`s).
[281] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) Coventry Colliery p 146.

screen conveyers. These were not conveyer belts but a series of metal plates fixed onto a square linked chain. By 1902 Hall End was the largest mine in Warwickshire and was one of only two mines to employ over a thousand men.[282] It was to retain this premier position until 1913 when it was superseded by Kingsbury and the Nuneaton colliery of Tunnel. It was then one of eight mines to employ over a thousand men.[283] Production came to a standstill however in 1910 after lightning struck the wooden headgear and started a fire on the grease and oil that had dropped onto the woodwork.[284] Because of the Law of Egress of 1863, only thirty men were allowed to work in a mine that had only one operational shaft. This was the result of the Hartley Colliery disaster when the beam of a pumping engine fell into the shaft destroying the lining and over two hundred lives were lost as there was no other shaft by which they could escape. In 1910 the *List of Mines* shows Hall End employing 1,200 underground, with 386 supporting them on the surface.[285] To be allowed only thirty men underground was just enough to perform routine maintenance, pumping and repair work. Birchmoor had closed in 1899 but plans were made to reopen one of the shafts. They also began sinking a shaft at Wood End in 1911. Both Birchmoor and Wood End – called Hall End Number Three – opened in 1914. A small gauge mineral railway was laid from Wood End to Birch Coppice to enable all Wood End coal to be screened there. Haulage was achieved by means of an endless rope with the engine house in the sidings at Birch Coppice and a large fan was placed at Wood End making it the upcast shaft of the entire Birch Coppice mine complex.[286]

In 1894 the Hockley Hall and Whately Colliery sank a third colliery two miles south-west of Whately at Kingsbury with the intention of working the rider and bare coal seams. The shafts were deliberately located near the Kingsbury to Baddesley colliery mineral railway spur built in 1878. At that point the bare coal lay at 624 feet and the coal measures dip to the east at an inclination of one in fourteen. Both shafts were sixteen feet diameter and 165 feet apart. The sinking proved to be particularly difficult and merited an article in the

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[282] *List of Mines* 1902.
[283] *List of Mines* 1913.
[284] For a description of this see *Nuneaton Observer,* 10 June 1910. The month to repair the damage cost £2,000.
[285] *List of Mines* 1910.
[286] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp 174-96.

Federation of Mining Engineers journal of 1897.[287] A sinker was killed in 1895 suffocated by black damp gas, and necessitated the erection of two large fans to air the shafts before work could continue. Water was encountered at 135 feet and 195 feet and special sinking pumps had to be purchased to cope with the inflow of 60,000 gallons an hour. Unfortunately it was not until after the roadways and coalface had been established that it was discovered that the shafts had been situated in an unproductive area. The coal from the first two coalfaces ran out to be replaced by shale and bind. A 'washout' had occurred back in the carboniferous era when an ancient river had washed away the coal bearing deposits and replaced them with alluvial material. Whately Colliery had previously encounted the washout which they described as a 'dumb fault', meaning a fault that did not conform to any logical explanation. However the ninety-three yard washout at Whately had widened to three quarters of a mile at Kingsbury. A bore hole survey revealed that at Kingsbury the washout split into three channels forming two islands and it was on the eastern island that Kingsbury shafts had been sunk. As commercially extractable coal was over half a mile away, this added to costs.[288] Despite this inauspicious start Kingsbury soon developed into one of the premiere Warwickshire collieries. By 1905 the Mine Inspector reports attributes fatalities not to Hockley Hall Colliery but to the newly named Kingsbury Colliery Company.[289] In that year the *List of Mines* records Whately employing 321 with Kingsbury over three times that at 995. By 1913 Whately still employed only 374 but Kingsbury had doubled in size to 1,874 miners to become the largest colliery in Warwickshire.[290]

Pooley Hall Colliery had closed in 1890 but a new two shaft colliery was sunk in 1896 by a syndicate of owners. This well capitalised colliery became a large enterprise with its own brickworks that manufactured heavy bricks from carboniferous clod that would otherwise have been thrown on the slag heap.[291] A seven foot seam was abandoned in 1901 but bench coal was always produced, supplemented by rider through 1905-7 and double coal 1905-6 and 1911-13. Pooley Hall employed 387 in 1902 rising to 457 in 1911, 509 in 1912 and had

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[287] J. Kendrick, 'Sinking Operations at Kingsbury Colliery, Warwickshire', *Federation of Mining Engineers Journal* 13 (1896-97) 259-76.

[288] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp. 1-11.

[289] *Annual Report of Inspector of Mines:* Midland Division 1905.

[290] *List of Mines* 1905 to 1913.

[291] L. Fretwell, *Warwickshire Coalfield* Volume One (Warwick, c2005) pp. 96-119.

doubled to 1,374 in 1920. Indeed in 1913 it was the third largest colliery in the northern coalfield behind Kingsbury and Hall End.[292]

Sunk in 1902 to a depth of 957 feet, Arley Colliery signed the special rules in July 1903. Its owner was Charles Knox. The *List of Mines* shows that the colliery extracted the two yard, and sometimes the slate seam. It employed around five hundred and fifty until 1908, rose to eight hundred and eighty in 1909 and exceeded a thousand in 1910.[293] Situated deep in the heart of the concealed coalfield in an area noted for agricultural rather than mining employment, Arley needed to provide homes for its growing workforce. The school was expanded in 1908 from sixty to two hundred pupils with the cost of £750 met by local subscriptions.[294] Old Arley expanded in 1916 but the new village of New Arley was constructed in 1924. The colliery provided water, electricity and the ambulance for the four hundred and fifty houses which were served by a village green, pub, village hall and recreation ground. The incomers were from the Black Country, South Wales, Lancashire, Northumberland and Durham and even the Forest of Dean.[295]

By 1913 the *List of Mines* showed Warwickshire with eight collieries employing over a thousand colliers. [296] These were Kingsbury 1,870, Tunnel 1,760, Hall End 1,650, Nuneaton 1,300, Arley 1,280, Griff Clara 1,280, Exhall 1,140, Baddesley 1,050 and Newdigate just below with 940. If combined with their other collieries three companies employed over two thousand men. These were Haunchwood with 2,300, Kingsbury with 2,250 and Stanley Brothers employing 2,200. With nearly two thirds of miners employed in the new deep pits Warwickshire could be classified as a modern if relatively small, expanding coalfield. However a number of these new mines like Arley, Binley and Coventry would not achieve full production until the 1920's. This era of expansion was accompanied by an increase in the number of fatalities, even if that increase was a relative decline when compared to the numbers employed. The next chapter will investigate the causes of deaths in the mines and how these changed during the period of study.

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[292] *List of Mines* 1905 to 1913.

[293] *List of Mines* 1903 to 1913.

[294] Arley Colliery contributed £175 to this. *Nuneaton Observer,* 4 September 1908. When they then tried to sack the head teacher for poor discipline and lack of pupil progress she escaped dismissal citing the disruption of the building programme and shortage of teaching staff. *Nuneaton Observer,* 30 October 1908.

[295] 'Arley Remembered', *Nuneaton Tribune,* 6 February 1985

[296] *List of Mines* 1913

Chapter Three: Death on the Warwickshire coalfield

Who is to blame for a death in the workplace? Is it the victim due to their carelessness or failure to follow the correct procedure; is it the company for failing to put adequate safety regulations in place, or is it the State for failing to protect its working citizens? Or is it a mixture of the above? The coal industry of the 19th century had a reputation for danger and many talked fatalistically of the blood on the coal being a necessary cost of its extraction.[1] Mining fatalities tended to grab the headlines like airplane crashes of today, but just as such crashes do not typify airline safety, mining disasters do not condemn the coal industry. The Registrar General's Annual Report on Births, Deaths and Marriages, published from 1860, reveal that mining fatalities were always below that of general labourers, agricultural labourers and the building trade, and from the 1880's, below the national average.[2] Miners were a select body of men, paid a premium for their hard physical work and those who could not demonstrate the required level of fitness and strength were excluded from the elite position of hewer.[3] Nevertheless death was no stranger to the industry. As Benson notes: 'Between 1868 and 1919 a miner was killed every six hours, seriously injured every two hours and injured badly every two or three minutes.'[4]

This chapter begins with an examination of the impact on the industry of the establishment in 1850 of a Mine Inspectorate with the responsibility to record each fatal accident and present an annual report to parliament. The following five sections reflect the categories chosen by the Inspectors to record fatalities. Although falls of coal accounted for around forty per cent[5] of all deaths in the industry and were the

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[1] This is common in coroner's inquests concerning falls of coal. For example the inquest into the death of a Wyken Colliery deputy from slip joints the report stated no blame on the management, the deceased or those that worked around him but a 'sad consequence' of the nature of the work. *Nuneaton Observer,* 8 November 1878. In 1891 Inspector Stokes mirrored these sentiments saying 'they paid the penalty of a dangerous occupation.' *Annual Report of the Inspector of Mines:* Midland Division. 1891.

[2] R. Church, *The History of the British Coal Industry: Volume Three 1830 to 1914* (Oxford, 1986) p. 584.

[3] A hewer cut coal at the coal face.

[4] J. Benson, *British Coalminers in the 19th century* (Dublin, 1980) p. 47.

[5] Percentages are taken for the industry as a whole reported in the Annual Reports 1872 to 1913. The Act of that year required a precision that was lacking in earlier reports.

largest single cause, they lacked the drama of an explosion as they tended to affect a single collier on each incident. Shaft deaths, which were around ten per cent of the total, were of declining importance as the period progressed. Most falls down the shaft, roughly half the totals of shaft deaths occurred in the first twenty years of reporting and were largely eliminated by the introduction of lifting fences and the move from skip to cage winding.[6] Underground haulage deaths were almost twenty-five per cent of the Warwickshire total and some ten percent above the national average.[7] This can partly be explained by the additional danger of working on a steep incline but the mean age of death of only twenty years compared to the thirty-two years for falls of coal reflects the youth of many oncost workers. Warwickshire deaths from gas explosions and explosives were below the national average. Gas explosions accounted for seven per cent of Warwickshire deaths with a further two per cent from suffocation and two per cent from explosives. Deaths at the surface reveal that the county suffered roughly half the national figure of fourteen per cent, most of which were banksmen being crushed by wagons. Why this figure should be so much lower than elsewhere in the coal industry is more difficult to comprehend. Section seven examines the minor factors that contributed to fatalities. Despite Warwickshire's perennial problems with drainage, there was only a single case of death from flooding and a similar small number of machinery fatalities. The few sundry deaths and deaths from natural causes both increase from 1900 suggesting an increased awareness of these rather than a new phenomenon. Section eight explores the difficulties of obtaining figures for non-fatal accidents prior to the adoption of a standard system of reporting in the early 20th century. Section nine charts the emerging awareness of occupational disease that the medical profession in this period of coalfield expansion appeared powerless to address. In the final section the figures for Warwickshire are then compared with the national statistics for the industry as a whole. On lives lost for each ton of coal raised Warwickshire emerges as the most dangerous of the Midland

[6] A skip was an open container used to transport men and equipment in the shaft. A cage was a covered enclosure that performed these tasks.

[7] The increased mechanisation of underground haulage in the late century meant that in the first decade of the 20th century national haulage deaths were closer to 20 per cent, nearer the Warwickshire mean. See B. Duckham 'Reduction of Accidents' in introduction to 1969 edition R. Galloway, *A History of Coal Mining in Great Britain* (London, 1882).

District, but when it is compared with the national figures for lives lost per thousand employed, it is below the national average and therefore a relatively safe coalfield. The reasons for this will be explored below.

Reporting Fatalities in the Coal Industry

Table 3:1 Deaths on the Warwickshire Coalfield 1851 to 1913

Year	Total Numbers of Deaths	Mean Deaths per Year
1851-1860	64	6.4
1861-1870	68	6.8
1871-1880	60	6.0
1881-1890	76	7.6
1891-1900	73	7.3
1901-1910	134	13.4
1911-1913	54	18

Source: Annual Mine Inspector Reports 1851-1913

Before the mid 19th century there was no systematic collection of fatalities in the coal industry and John Sykes' locally compiled lists of deaths from disasters in the North-East were presented to an 1835 Select Committee as the only available statistics of fatalities.[8] The more usual single death was hardly deemed worthy of mention with the respected viewer John Buddle,[9] who ran Lord Londonderry's collieries in the North-East, able to record in the company book; 'no accident of consequence has occurred except a man being killed.'[10] The Chief Constable of Oldham reported to the Children's Employment Commissioner that so many were killed in the mines that it was customary to dismiss a reported fatality as 'only a collier,'[11] and in South Wales the coroner did not bother to hold an inquest on a miner until he had five of six cases to dispose of together.[12] Such a view could not survive

[8] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) pp. 40-6. The 1835 Select Committee was the first government investigation into mining accidents. See *Report of the Select Committee on Accidents in Mines* (1835) 603.

[9] ODNB: John Buddle (1773-1843).

[10] J. Buddle, place book, Londonderry papers, DCRO D/Lo/B 311 p. 14.

[11] Children's Employment Commission (1842) LX111 1334-5. See also M. Pollard, *The Hardest Work Under Heaven: the life and death of the British coal miner* (London, 1984) p. 105.

[12] B. Job, 'The British Mine Inspectorate 1851 to 1913: Its Development and Effectiveness with particular reference to colliery explosions', (Unpublished PhD thesis, University of Keele 1992) p. 299.

the publicity that surrounded the publication of the 1842 Report[13] and in 1850 it became a statutory duty to report all mining fatalities in the Annual Mine Inspector Reports. Table 3.1 shows there were 550 deaths of Warwickshire miners between 1851 and 1913, an average of 8.73 a year. Of these 537 were in coal mines, two in clay pits and eleven in attached ironstone mines. Table 3.2 reveals that these occurred in forty-two different collieries.[14] Caution needs to be employed in any attempt to compare collieries. Baddesley figures includes the single Warwickshire disaster of 1882, when nine men suffocated in an underground fire and twenty-three would-be-rescuers were killed in a gas explosion. The top nine on the list were in operation throughout the period, whereas others like Hob Lane and Station survived but a few years of exploitation. Hawkesbury had a number of separate collieries in the boom of the 1870's, yet all owned by the same company and working the same area. The neighbouring colliery of Griff, working a similar acreage, never gave its pits colliery status. Similarly Glascote and Amington were always classed as separate collieries yet possessed the same owner, whereas Haunchwood kept its large sister pit Tunnel, under one colliery umbrella.

[13] In the *Quarterly Review,* June 1842 R. Fergusson commended the Report for letting the public know the 'true condition of the mining population' and 'forcing by the weight of opinion some amelioration.' p 159. The *Morning Chronicle,* 10 May 1842 described it as 'a volume of travels in a remote and barbarous country.' Lord Ashley recorded in his diary the debt to this publicity and that the public were 'doing wonderfully.' G. Best, *Shaftsbury* (London, 1964) p. 86.

[14] Only 36 collieries are listed here. Some closed and reopened later but were classed by the Inspectorate as a new colliery.

Table 3:2 Deaths in Warwickshire Collieries 1851 to 1913

Deaths	Colliery	Deaths	Colliery	Deaths	Colliery
66	Baddesley	16	Alvecote	2	Binley
47	Griff	14	Amington	2	Collycroft
43	Birch Coppice	14	Stockingford	2	Polesworth: Hambury
38	Hawkesbury	13	Ansley Hall	1	Bedworth: Thomas
32	Charity	10	Wilnecote	1	Hob Lane
31	Haunchwood	9	Tame Valley	1	Hockley Hall
30	Wyken	8	Arley	1	Nuneaton Clay
27	Nuneaton	8	Pooley Hall	1	Nuneaton New
26	Exhall	7	Whateley	1	Kettlebrook: Hambury
21	Newdigate	6	Craven	1	Peel
21	Victoria	4	Polesworth: Shaw	1	Station: Shaw
19	Glascote	4	Kettlebrook: Dumulo	1	Ironstone Mine

Source: Annual Mine Inspector Reports: Midland Division 1851 to 1913.

In 1850 four Mine Inspectors were appointed for the whole of Britain, rising to six in 1852.[15] In 1855 this number rose again to twelve and Warwickshire was placed in the four county Midland Division.[16] These twelve mining divisions were to last until the reorganisation of 1910.[17] Each annual report listed deaths under the headings of gas explosions, shaft deaths, falls of roof and side, miscellaneous underground and surface deaths. From 1856 the Reports attempted to analyse each death and draw any conclusions in proffered advice. The Annual Report presented to parliament consisted of the twelve divisional reports with aggregated data to produce national statistics and an introduction that synthesized the Inspectors' concerns and recommendations. In the following analysis the fatality followed by a year refers to the Midland Mine Inspector report from that year.[18] Miners' trade unions constantly criticised the Inspectorate for failing to take a more proactive role in accident prevention by visiting

[15] The first Inspectors were J. Blackwell; M. Dunn; J. Dickinson and C. Morton. Blackwell resigned in 1851 to be replaced by H. Mackworth. In 1852 they were joined by two more; W. Lancaster and T. Wynne. For biographical details see B. Job, 'The British Mine Inspectorate 1851 to 1913: Its Development and Effectiveness with particular reference to colliery explosions', (Unpublished PhD thesis, University of Keele 1992) pp. 39-45.

[16] This was the four counties of Derbyshire, Leicestershire, Nottinghamshire and Warwickshire.

[17] The Divisions were Scotland (West and East); the North-East; Cumberland; Lancashire and Cheshire; North Wales; Yorkshire; Midlands; North Staffordshire; West Midlands; South Wales and the South-West. Map of areas B. Job, 'The British Mine Inspectorate 1851 to 1913: Its Development and Effectiveness with particular reference to colliery explosions', (Unpublished PhD thesis, University of Keele 1992) p. 49.

[18] The Inspector for Warwickshire was Charles Morton (1850-55); John Hedley (1855-64); Thomas Evans (1865-86); Arthur Stokes (1886-1909); William Walker (1909) and Hugh Johnson (1910-13).

and inspecting more collieries before accidents had occurred,[19] but even when they were given an assistant Inspector from 1872, they lacked the manpower for more than sample inspections of a small number of collieries.[20] In 1900 Inspector Stokes reported that he had travelled 15,950 miles by road and rail, had spent 288 days away from home and had attended 53 inquests. His two deputies reported similar schedules.[21] It is difficult to imagine how this workload could be increased without additional manpower.

Deaths from Falls of Coal

Table 3:3 Deaths from Falls of Coal in Warwickshire Collieries 1851 to 1913

Colliery	Numbers	Colliery	Numbers	Colliery	Numbers
Griff	27	Glascote	9	Whateley	4
Birch Coppice	21	Kingsbury	8	Wilnecote	4
Nuneaton	16	Stockingford	8	Arley	3
Haunchwood	15	Amington	7	Pooley Hall	3
Baddesley	14	Exhall	7	Collycroft	2
Charity	14	Victoria	6	Binley	1
Newdigate	14	Alvecote	5	Craven	1
Hawkesbury	11	Tame Valley	5	Station:Shaw	1
Wyken	11	Ansley Hall	4		

Source: Annual Mine Inspector Reports 1951 to 1913.

Between 1851 and 1913 221 Warwickshire miners were killed in roof or side falls, of coal. This equated to 40.18 per cent of the total number of deaths and was the greatest cause of mining fatalities. This is comparable with the national figure of 42.80 per cent.[22] Table 3.4 shows that deaths rose with production and that those deaths were concentrated between the ages of twenty-one and forty, with a mean age of thirty-two. The Mine Inspectors Reports began listing the occupations of those that died from the mid 1870's. This data shows that hewers, described as stallmen, getters, holers and headers, comprise 56 per cent of the total deaths with loaders accounting for another 12 per cent. Thus approximately two-thirds of deaths from falls of coal

[19] See for example R. Page Arnot, *The Miners: Years of Struggle: a History of the MFGB from 1910* (London, 1953) pp. 38-41 and 48.

[20] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) pp. 54-62.

[21] *Annual Report of the Inspector of Mines:* Midland Division. 1900 p. 39.

[22] Warwickshire figures calculated from Annual Reports of the Inspectors of Mines 1851 to 1913. National figures are taken from the same source 1873 to 1913.

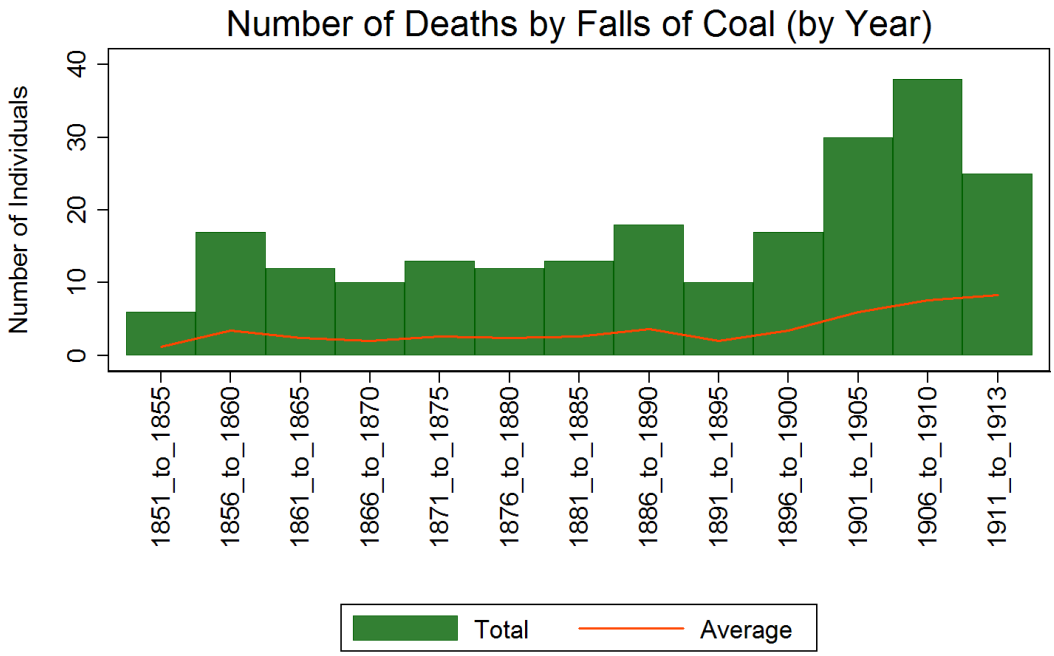
were suffered by face workers. Those involved in mine maintenance, described mainly as datallers and daymen, made up another 20 per cent of the total.[23] From two official reports of 1889 and 1905 Church calculated that face workers in the Midland Division comprised 62 to 68 percent of underground workers and mine maintenance workers 11 to 12 per cent of the total.[24] Proportionally speaking it was slightly more dangerous to work on mine maintenance than at the face. One explanation could be that the daymen were less experienced than the permanently employed and higher paid stallmen.

[23] *Annual Report of the Inspector of Mines:* Midland Division 1873 to 1913.

[24] R. Church, *The History of the British Coal Industry: Volume Three 1830 to 1914* (Oxford, 1986) pp. 212-14.

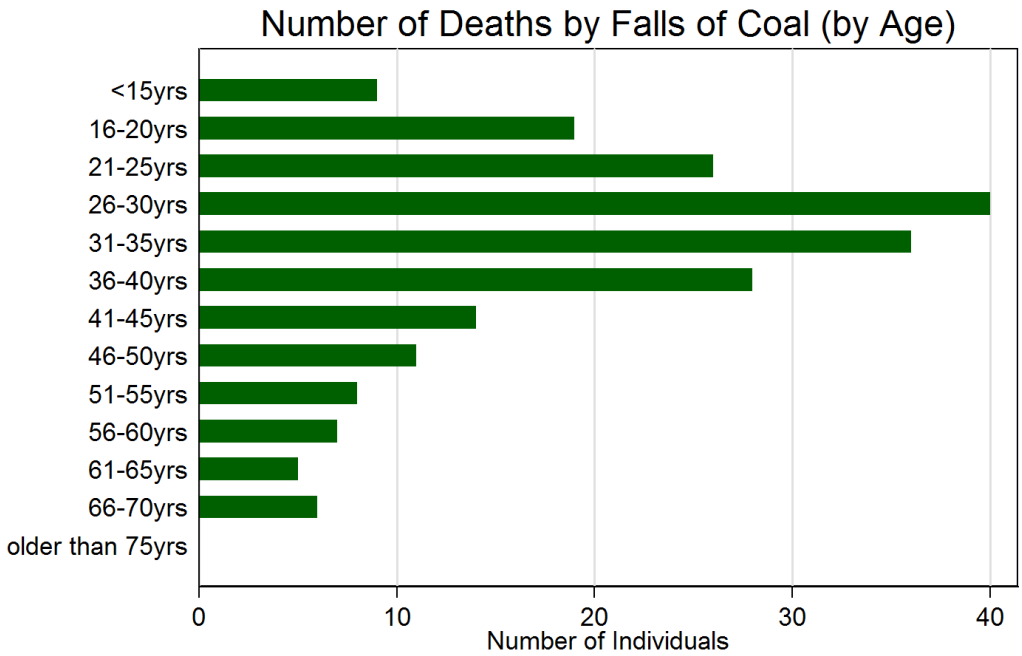
Table 3:4 Deaths from Falls of Coal

(a) Total Number of Deaths (red line indicates mean per year)



Source: Annual Mine Inspector Reports 1851-1913.

(b) Ages



Source: Annual Mine Inspector Reports 1851-1913.

To compare the dangers of differently sized coalfields, mining inspectors used the expedient of comparing the number of deaths with the tonnage of coal raised. By this measure Inspector Headley in 1857 found Warwickshire the worst of his four charges,

with twice the deaths of Derby and Nottingham, and three times the deaths of Leicestershire.[25] In 1857 nine were killed in Warwickshire raising 400,000 tons, one every 45,000 tons. In Derby and Nottingham forty-two were killed raising 3,600,000 tons, one every 85,000 tons and in Leicestershire four killed raising 700,000 tons, one every 175,000 tons. He identified the three main reasons for this as the dangerous character of the roof, the highly inclined seams that dipped from six inches to twenty-six inches a yard and averaged out at twelve inches, and that as the seam was intersected with numerous joints and with the slope, large masses of coal frequently rolled out suddenly at the face. Headley concluded his report by stating that: 'The danger from accidents by falls of coal and roof is consequently greater than elsewhere.'[26] These small faults with a throw[27] of a few inches, were known as slips, and encountered at every colliery on a daily basis. Fretwell, a Warwickshire deputy and mining archaeologist, noted:

> *Slip faults caused no economic problem for any colliery, but in the days before mechanical mining, they were extremely dangerous for the individual miner. This was because slip faults were the equivalent to a break in the strata. Therefore any pit prop set to support the roof, could not hold the roof on both sides of the slip fault. Due to the pressure of work and the time allowed to do it, some miners did not always set extra roof supports but simply set the amount prescribed by the Mines and Quarries Act.*[28]

Experienced hewers could spot slip faults as they sometimes, but not always, produced a stereotypical wet area while the roof a few yards to either side was dry. Deaths were common. In 1901 slips caused deaths at Tunnel, Wyken and Griff Clara. Bumps, the consequence of the unstable character of the roof, caused deaths at Charity in 1907, Stockingford in 1909, Griff No 4 in 1910 and Newdigate in 1914.[29]

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[25] *Annual: Report of the Inspector of Mines* Midland Division 1857.

[26] *Annual Report of the Inspector of Mines:* Midland Division 1857.

[27] A throw was a break in the strata resulting in a change in the direction of the coal measures.

[28] L. Fretwell, *The Warwickshire Coalfield* Volume One (Warwick, undated c2005) p. 111.

[29] *Annual Report of the Inspector of Mines:* Midland Division 1901, 1907, 1909, 1910 and 1914.

Sometimes an ominous sound in the roof was a prelude to a fall and in 1907 an Exhall miner unable to flee took refuge under an upturned tub and was rescued unhurt five hours later.[30] Inspector Stokes could lament in 1891 that; 'in a large number of falls no blame could be attached, and miners simply paid the penalty of a dangerous occupation.'[31]

Despite this acceptance of danger, inspectors continually made the call for an increased observance of safety measures. In 1856 Hedley talks of miners being 'so neglectful of lost lives,'[32] and in 1875 Evans asks why 'many experienced colliers are so incompetent.'[33] Such a view was voiced as early as the first Select Committee to investigate Accidents in Mines in 1835 which attributed some accidents to; 'a wanton neglect of ordinary caution and a recklessness of danger in defiance of common discretion.'[34] This entrenched practice of risk taking by experienced miners will be addressed in Chapter Four.[35] Stokes in 1892 stressed that 'Miners should be reminded that economy of either timber or labouring setting the same, ought never to be considered when circumstances arise which render danger to life or limb even remotely possible.'[36] In 1875 Evans listed the main causes of preventable deaths as holing without sufficient sprags (the short pit prop), working under a roof after being cautioned of its danger, passing in front of coal already holed and the sprags knocked out, and going into working places after the shot has been fired without properly examining the roof. All could be summarised as increased vigilance in a dangerous

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[30] *Nuneaton Observer,* 8 February 1907.

[31] *Annual Report of the Inspector of Mines:* Midland Division 1891.

[32] *Annual Report of the Inspector of Mines:* Midland Division 1856.

[33] *Annual Report of the Inspector of Mines:* Midland Division 1875. The risk taking of miners will be discussed in Chapter Four.

[34] *Report of the Select Committee on Accidents in Mines* (1835) 603 V1.

[35] For example in 1900 an experienced Griff Colliery stallman fatally ignored safety procedures to bring down coal. At the Inquest the coroner concluded that 'he endeavoured to be too clever by doing things quicker than anybody else.' *Nuneaton Observer,* 20 July 1900.

[36] *Annual Report of the Inspector of Mines:* Midland Division 1892.

environment.[37] Stokes codified four precautions to limit deaths by falls in a circular dated August 1899,[38] which was sent to all owners, agents and managers of mines:

1. A supply of suitable timber kept ready for use in each working plane.
2. Increased supervision by mine officials and stricter enforcement of rules.
3. A ringer and chain used to withdraw timber.
4. Systematic timbering and spragging of the working place.

Free timber had traditionally been the responsibility of the owner, and Stokes talks of 'little complaint in my district.' [39] It would appear that this was not a problem. Only in 1852 was a death, at Charity Colliery, attributed to 'lack of timber.'[40] Thirty men led by butties, worked the mine, and a visit of the bailiff or steward to inspect safety and conditions was only made once a month. Mine officials, the undermanager and the deputy, were responsible for the supervision of safety standards. This sub-contracting butty system prevailed throughout the early 19th century in Warwickshire[41] and it was a temptation of men paid by the stint to cut corners on safety. The Special Rules [42] of 1888 required a visit by an official every shift and the 1899 circular speaks of the beneficial results of inspecting every two and a half hours. The 1888 Special Rule 71 stated that timber should not be withdrawn without a ringer and chain.[43] This allowed the collier to stand some feet away under a securely supported roof and withdraw timber with safety. Despite such rules men would still stand under an unsupported roof and knock out timber with a hammer. At Hall End in 1890, Whateley in 1896, and Wyken in 1905,[44] this lax method of extracting timber

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[37] *Annual Report of the Inspector of Mines:* Midland Division 1875.

[38] *Annual Report of the Inspector of Mines:* Midland Division 1899.

[39] *Annual Report of the Inspector of Mine:* Midland Divisions. 1899.

[40] *Annual Report of the Inspector of Mines:* 1852.

[41] The butty system is discussed in Chapter Five.

[42] General Rules were established by the Act of 1855. These were rules of good practice that were made compulsory to all mines. There were no general rules for extracting coal because of wide variations in coal seams in different coalfields, so these were part of Special Rules drawn up in each District to take cognisance of local conditions.

[43] In 1909 as part of the Royal Commission a committee to inquire into falls of coal recommended that the removal of timber by a ringer and chain should be adopted by all 'as used in the Midland coalfield.' This suggests that it was not a universal practice. *Nuneaton Observer,* 22 October 1909.

[44] *Annual Report of the Inspector of Mines:* Midland Division 1890, 1896 and 1905.

was attributed as the cause of death. Even using a ringer and chain could not eliminate all danger. At Ansley Hall in 1909 a dayman used a Sylvester ringer and chain to withdraw sprags but the prop on which it was placed was pulled out and the resulting fall of coal killed him and injured another.[45] The systematic timbering and spragging of the working place was impossible to prescribe. In 1892 Stokes noted that miners should consider 'the nature of the roof, the system of working coal, the customs of the district and so varied instructions as should relate to the peculiarities of the particular mine.'[46] A minimum of six feet had been recommended by Headley as early as 1856,[47] but given the special peculiarities of the Warwickshire coal seams,[48] final judgement had to rest with the hewer. Yet even Johnson, the leader of the Warwickshire Miners' Association, questioned this in 1890 as being too prescriptive suggesting that they 'could often at safety be used at greater distances.'[49] The courts however would accept no excuses. In 1891 two experienced Griff stallmen had left an area without sprags claiming that as the colliery was standing for three days they would remove the fallen coal on their return. This was a violation of General Rule 72 which stated that no stall should be left in an unsafe condition and the men were fined £1:3:0.[50] At Hall End in 1887, Charity in 1895, Birch Coppice in 1896 and Tunnel in 1900, men died because of 'insufficient sprags.'[51]

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[45] *Annual Report of the Inspector of Mines:* Midland Division 1909.

[46] *Annual Report of the Inspector of Mines:* Midland Division 1892.

[47] *Annual Report of the Inspector of Mines:* Midland Division 1856.

[48] The Warwickshire seams were on a dip that averaged at 30 degrees.

[49] *Nuneaton Observer,* 25 April 1890.

[50] Nuneaton Petty Sessions, *Nuneaton Observer,* 27 March 1891.

[51] *Annual Report of the Inspector of Mines:* Midland Division 1887, 1895, 1896 and 1900.

Shaft Deaths

Table 3:5 Shaft Deaths in Warwickshire Collieries 1851 to 1913

Colliery	Deaths	Colliery	Deaths
Hawkesbury	11	Bedworth: Thomas	1
Glascote	6	Craven	1
Victoria	5	Hall End	1
Haunchwood	4	Kingsbury	1
Nuneaton	4	Newdigate	1
Baddesley	4	Peel	1
Griff	4	Polesworth: Hambury	1
Wilnecote	3	Polesworth: Shaw	1
Wyken	3	Pooley Hall	1
Exhall	2	Tame Valley	1
Alvecote	1	Whateley	1

Source: Annual Mine Inspector Reports 1851 to 1913.

Between 1851 and 1913 fifty-six miners were killed in shaft accidents, some 10.18 per cent of the total and comparable with the national figure of 9.09 per cent.[52] Table 3.6 shows that there was no correlation between age and shaft deaths, but there were no ages given in the ten shaft deaths reported between 1851 and 1855. The causes are categorised as a fall down the shaft, seventeen; a fall part way down or working in the shaft, ten; crushed or caught by the cage, nine; a fall from the cage, seven; something falling down the shaft, seven; and a cage fall, six. One man was killed in all cases with the single exception of November 1910 when a rope break and subsequent cage fall at Nuneaton Colliery led to the death of three miners.[53] The circumstances surrounding a fall from a cage were not always given, but at Wilnecote in 1871 a 30 year old miner 'had a fit' and at Glascote in 1879 a 20 year old fainted and fell when taking an injured boy up the shaft.[54]

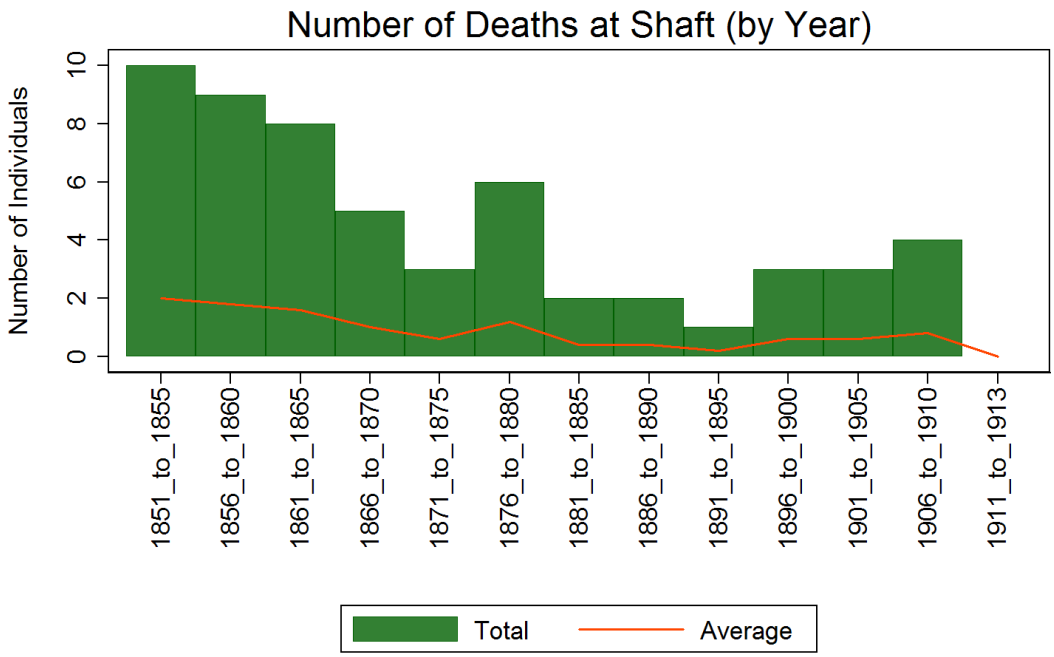
[52] Warwickshire figures are taken from *Annual Reports of the Inspectors of Mines* 1851 to 1913. National figures are taken from the same source 1873 to 1913.

[53] *Annual Report of the Inspector of Mines:* Midland Division 1910. Inquest, *Nuneaton Observer,* 11 November 1911.

[54] *Annual Report of the Inspector of Mines:* Midland Division 1871 and 1879.

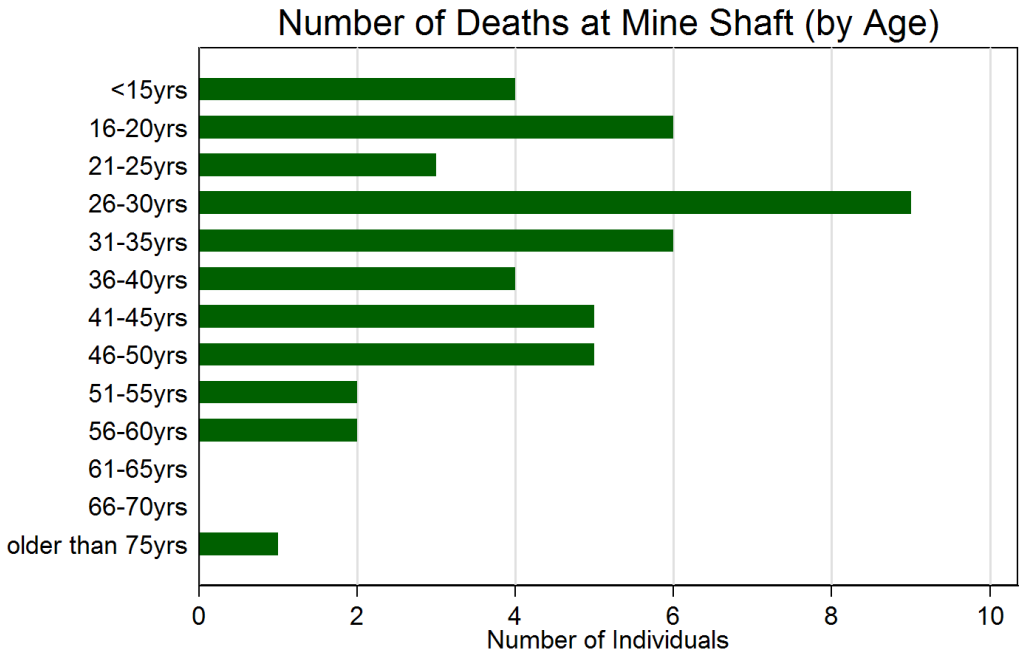
Table 3:6 Shaft Deaths

(a) Total



Source: Annual Mine Inspector Reports 1851-1913.

(b) Ages



Source: Annual Mine Inspector Reports 1851-1913.

No deaths were caused directly from overwinding[55] but at Baddesley in 1855 five miners were being drawn up the shaft when an engineman was distracted by a talkative man in the engine house. As the cage was drawn up to the pulley a boy took fright and jumped out of the cage, falling down the shaft.[56] Unfortunately the regulation banning others from the engine house when the winding engine was in operation was not yet in force.[57] Deaths from falling objects included two pumps, a broken block, a brick and lumps of coal. Indeed at Glascote in November 1864 and again in December, miners were killed by falling coal.[58] A sad death occurred at Wyken in February 1902 when a forty-six year old horse keeper was crushed by a descending cage while collecting water for his horse from a pipe at the bottom of the shaft.[59] The most inexplicable occurred at Hawkesbury in 1865 when a fourteen year old boy paid the price of trying to jump onto a moving cage.[60]

Table 3.6 reveals that 48 per cent of deaths had occurred in the first fifteen years of reporting. During this period the main problem was the failure to fence shafts and the lack of guides[61] inside. In 1856 Mr Hedley took up his appointment as Mining Inspector of the newly created four county Midland Division. He noted that sixteen miners had been killed in shaft accidents (three in Warwickshire), and that eight deaths had occurred in collieries where there were no guides and where fences were only put around the pit top when the colliery was not at work. He concluded the provision of fences would have saved three lives, one in Warwickshire.[62] In 1856 a Griff banksman had a fit, and with no fencing, fell down the shaft.[63] Fencing alone could not prevent death highlighted by the Haunchwood miner who in 1857 climbed

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[55] Overwinding is when the cage fails to stop at the landing and is drawn towards the pulley.

[56] *Annual Report of the Inspector of Mines:* Midland Division 1855.

[57] General Rules were only introduced in 1855. They rose from 7 in 1855 to 15 in 1860, 31 in 1872 and 39 in 1887. Exclusion of men from the engine house was a later consideration. See A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) pp. 40-5.

[58] *Annual Report of the Inspector of Mines:* Midland Division 1864.

[59] *Annual Report of the Inspector of Mines:* Midland Division 1902.

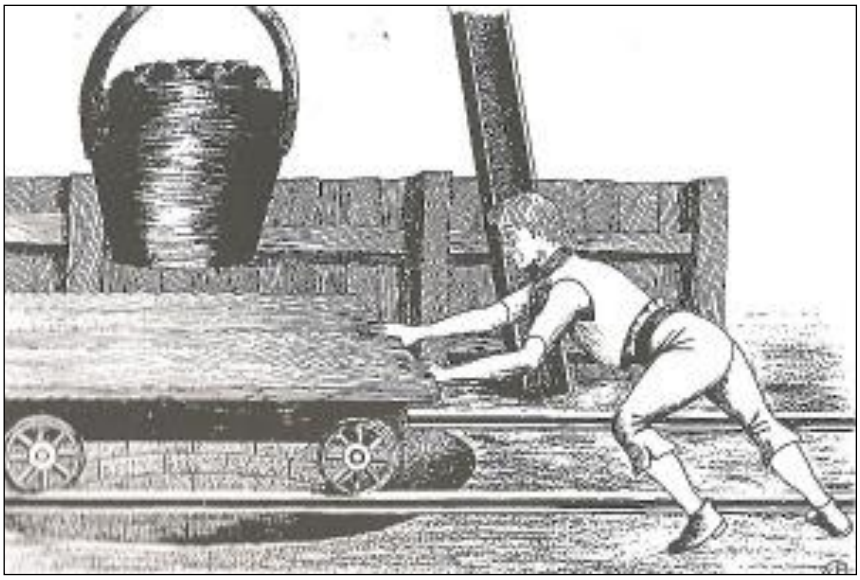
[60] *Annual Report of the Inspector of Mines:* Midland Division 1865.

[61] Guides held the cage steady when ascending or descending the shaft and were rails to assist the movement of tubs at the surface.

[62] *Annual Report of the Inspector of Mines:* Midland Division 1856.

[63] *Annual Report of the Inspector of Mines:* Midland Division 1856.

over the fence to place a bottle in the skip, slipped and fell.[64] The provision of guides may have prevented deaths in 1856 when a Victoria miner fell whilst pushing a full tub of coal and in the newly sunk Peel pit in 1861 where a labourer fell pushing an empty tram because the lifting fences were incomplete.[65] In response to such deaths colliery practice changed and in 1863 Inspector Hedley could report that the 'universal practise of applying lifting fences had proved beneficial in preventing such accidents.'[66] Consequently only three of the seventeen cases of falling down the shaft occurred after this date. This was aided by the move from skip winding to cage winding. Skip winding was when an open metal container known as a skip was used to lower and raise everything from men to ponies down the shaft and raise the coal that was produced. A boy would push a trolley over the shaft and step on to the platform to unfasten the hook. Drawing 3:1 below clearly illustrates the potential for a misfortune. The danger of falling was reduced with the introduction of covered cages which also gave some protection from falling objects.[67] Now the boy could simply pull off the tub on guide rails.



Drawing 3:1 A Drawbridge over a Skip.
Source: Fretwell *The Warwickshire Coalfield* Volume One p 129.

[64] *Annual Report of the Inspector of Mines:* Midland Division 1857.

[65] *Annual Report of the Inspector of Mines:* Midland Division 1856 and 1861.

[66] *Annual Report of the Inspector of Mines:* Midland Division. 1863.

[67] In 1860 the General Rules made it compulsory to have a cover for a skip or a cage.

The quality of wire ropes was questioned in 1858 by Inspector Hedley:

> *On examining several broken ropes, I have found them composed of a few good tough wires, the greater part being very inferior...There being so much uncertainty in wire ropes, many owners and managers contemplate abandoning their use altogether.*[68]

It was again highlighted in 1893 when Inspector Stokes reported that in the Midland division in the last three years there had been thirteen rope breaks, all when no men were in the cage and thus no loss of life. In investigating rope breaks he asserted that the life of the winding rope was the most important factor: 'More break from weakness due to internal corrosion than being worn out.'[69] Although he could not state a time for the life of a winding rope, he advised that most managers fix a maximum of two to two and a half years,[70] periodically recap the rope to alter the point of pick upon the pulley wheel and test the quality of the rope at the end next to the cage. This was good practice as 'The outside wear or breakage of wires can be seen if carefully examined but the internal deterioration a rope may be undergoing cannot be seen.'[71] In 1910 these words were to be tragically prophetic. Nuneaton colliery had a 250 yard up-cast of twelve feet six inches diameter and ran two double deck cages. Before the night shift they had tested the rope and guides running the cage up and down the shaft. They then lowered a tub of tools and two cages of men. The third cage of six men lowered to eighty yards when a rod of one of the guide ropes fractured and sloughed or 'hedgehogged,' stopping the descent.[72] The engineman, who did not know that anything was wrong, repeatedly signalled the onsetter,[73] who naturally did not return the signal as there was no cage. Pressured by a deputy, the young onsetter eventually returned the signal and the engineman lowered another six

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[68] *Annual Report of the Inspector of Mines:* Midland Division.1858.

[69] *Annual Report of the Inspector of Mines*: Midland Division 1893.

[70] In 1900 a rope break killed a Griff Colliery deputy. At the Inquest the coroner's jury decided that despite the engineer's willingness to repair and reuse the rope four years and eight months was too long for usage. *Nuneaton Observer*, 26 October 1900.

[71] *Annual Report of the Inspector of Mine:* Midland Divisions 1893.

[72] A strand of wire had escaped the guides and formed a ball of wire as the cage continued to descend.

[73] Onsetter supervised traffic into and leaving the pit bottom.

man cage. The eighty yards of slack was quickly taken up, lifting the cage off the hedgehog. This broke the D link and the cage fell back on the hedgehog and then to the bottom. Three men were killed and three injured. The four year old guide rope was examined daily by a man riding on the cage and examined by an enginewright and carefully callipered two weeks before the accident. Signs of wear were considered safe as it was assumed that any wear was even, but when the grease was removed, wear was on one side only.[74] At the inquest the coroner commissioned an expert to examine the broken rope and he stated that the life of a rope was between five and ten years with the manager of the colliery confirming that seven years use was the usual time before replacement.[75] It would appear that Inspector Stokes' recommendation of two to two and a half years of employment was an optimistic proposal.

Faulty signalling was a major cause of the Nuneaton tragedy. The onsetter was fully aware that he should not have answered the engineman's signals, but was swayed by intimidation or deference to authority. He was cited by the coroner's jury but left the district before he could be accused of manslaughter.[76] On four occasions the enginemen responsible for fatalities due to signalling mistakes were accused of manslaughter by the coroner, but acquitted later at Warwickshire assizes. These deaths occurred at Glascote in 1870, Whateley in 1878, Alvecote in 1891[77] and Kingsbury in 1905.[78] At Kingsbury the onsetter who worked on contract, had gone to the surface to collect money to pay the men, and left a substitute in charge. As a twenty-nine year old miner pushed a tub onto the cage, it started and he was crushed between the cage and a girder. His decapitated body, together with two full tubs, fell seventy yards into the sump.[79] The coroner's jury could not apportion blame due to a conflict of

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[74] *Annual Report of the Inspector of Mines:* Midland Division 1910.

[75] Inquest, *Nuneaton Observer,* 11 and 18 November 1910.

[76] An Inquest was held into every death in the mine and the Inspector had a statutory duty to attend. The findings of the jury were included in the Annual Report.

[77] Inquest *Nuneaton Observer,* 28 April 1891.

[78] *Annual Report of the Inspector of mines:* Midland Division 1870, 1878, 1891 and 1905.

[79] A sump was an area below the landing stage used to collect water.

evidence. The engineman insisted that he had received the signal, whilst the man at the bottom of the shaft testified that none was sent.[80]

Underground Haulage Deaths

Table 3:7 Haulage Deaths in Warwickshire Collieries 1851 to 1913

Colliery	Deaths	Colliery	Deaths
Wyken	13	Stockingford	5
Charity	12	Amington	5
Baddesley	11	Craven	4
Birch Coppice	11	Newdigate	4
Hawkesbury	9	Nuneaton	4
Griff	8	Kingsbury	3
Alvecote	7	Wilnecote	3
Victoria	7	Arley	2
Exhall	6	Glascote	2
Ansley Hall	5	Polesworth	1
Haunchwood	5	Tame Valley	1
Kettlebrook	5	Whateley	1

Source: Annual Mine Inspector Reports 1851 to 1913.

Between 1851 and 1913 one hundred and twenty-three men were killed due to the haulage of coal, some 24.17 per cent of the total. This figure was gleaned from the general category of miscellaneous underground and is considerably higher than the national average of 14.64 per cent. It is interesting to note the change of name of underground coal carriers. Twice in the early 1850's they are referred to as corves by Morton, but with the arrival of Hedley as inspector, the name changes to trams. From the mid 1860's Evans and then Stokes invariably call them tubs and that term shall be used here.[81] The greatest cause of fatalities was the sixty individuals who died from injuries having being run over on the incline or engine plane. To this may be added the seven who were just 'run over.' Thirty-two were crushed by tubs, nineteen from riding in tubs, eleven from the chain breaking on the incline and two killed by horses. In addition one died from being hit with the endless rope[82] and another from being hit by a door pushed open by a tub. We can see from Table 3.8 that as with deaths from

[80] *Annual Report of the Inspector of Mines:* Midland Division 1905.

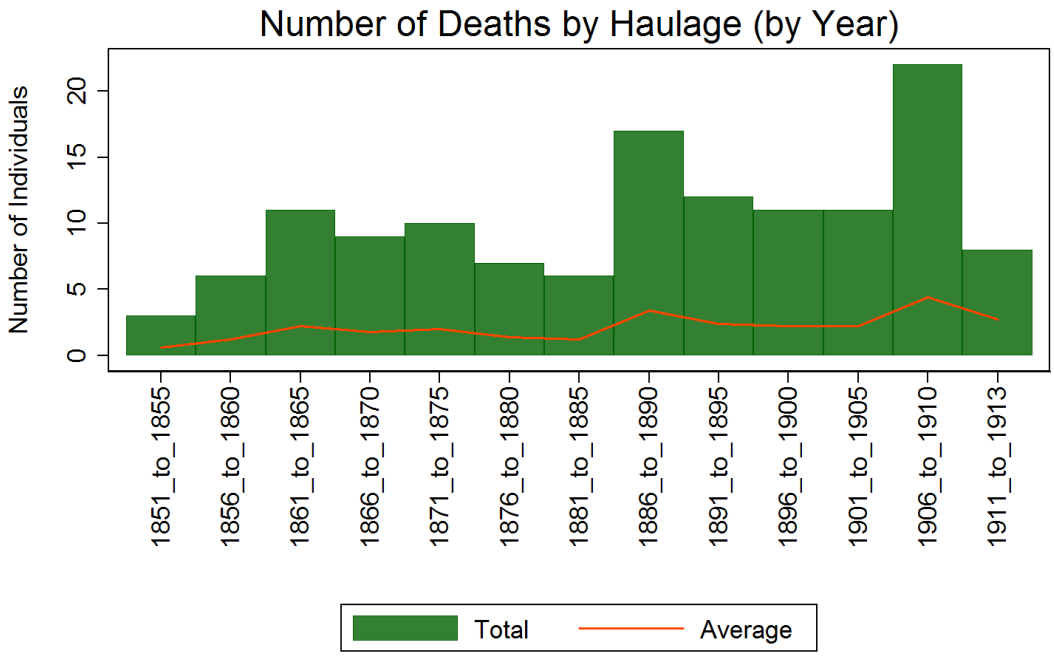
[81] Morton 1853 and 1854; Hedley 1859 and 1863, Evans from 1866.*Annual Report of the Inspector of Mines:*

[82] The endless rope was a system of moving tubs underground by utilising steam power from a stationary engine. The inquest revealed the man lost both legs cut off by the rope 'like a saw.' Inquest, *Nuneaton Observer,* 17 May 1905.

falls of coal, haulage deaths rose with production. This particular tragedy was more likely to affect the younger miner[83] with the mean age of death being only twenty years, and the modal age equally (fourteen deaths in both cases) just fourteen and sixteen years.

Table 3:8 Underground Haulage Deaths

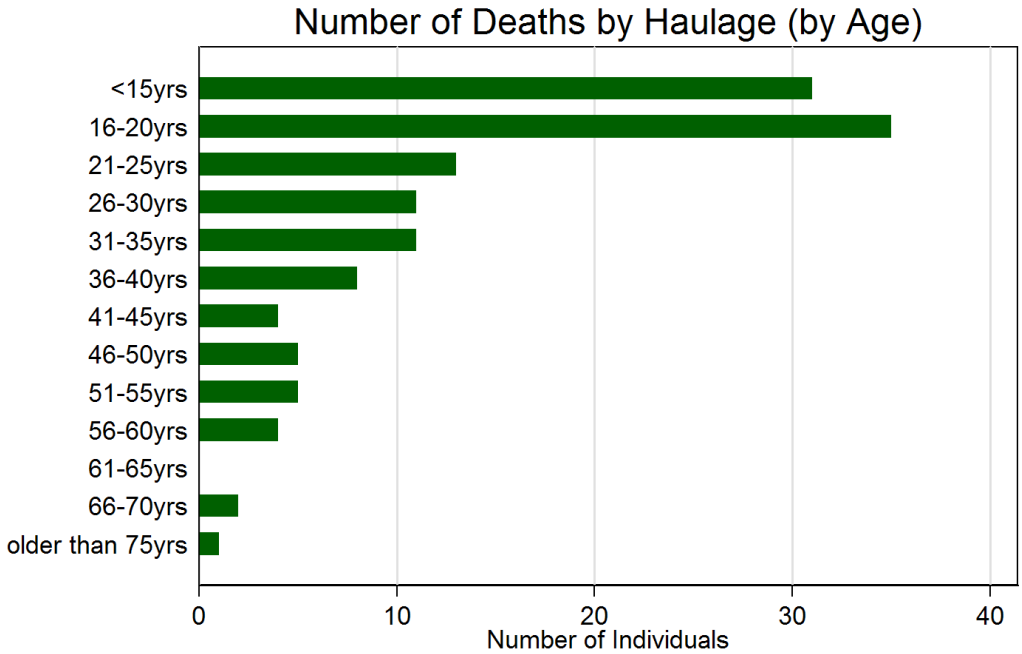
(a) Total



Source: Annual Mine Inspector Reports 1851-1913.

[83] The reasons for this will be addressed in Chapter Four.

(b) Ages



Source: Annual Mine Inspector Reports 1851-1913.

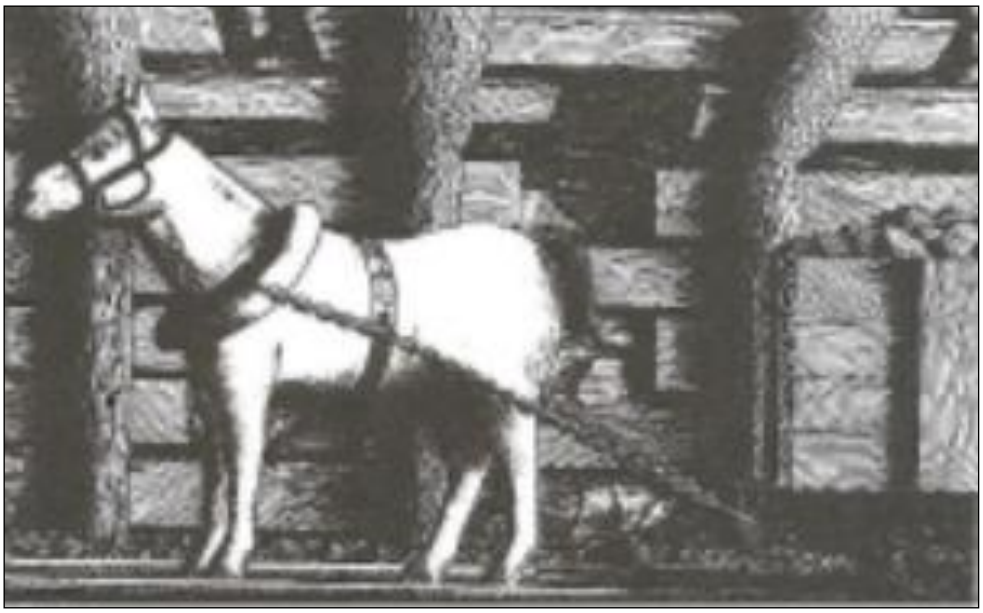
Youth paid the price for inexperience. Many deaths were of young horse drivers, not long in the mine and prone to disobedience. Despite the special rules, many boys would ride on tubs which could and did result in them being crushed when they fell off or entered a narrow space. Fourteen of the nineteen killed this way were between the ages of thirteen and nineteen. The two horse related deaths affected drivers. At Hawkesbury in 1885 a seventeen year old driver was kicked by his horse, and at Alvecote in 1895 a boy of only thirteen died when he was unable to control his runaway.[84] Poor work practice may also have contributed to a number of preventable deaths. In 1889 Inspector Stokes warned that horses should work in shafts to have some control over their chains, but at Wyken in 1890; Hall End in 1891 and Wyken again in 1892, sling gears led to the death of men and horses.[85] The Inquest on the sixteen year old Hall End driver of 1891 rued the necessity of 'guiding horses by striking them on their flanks as drivers have no other means of exercising control.'[86] Drawing 3:2 below illustrates this hazardous custom of transporting full coal tubs by

[84] *Annual Report of the Inspector of Mines:* Midland Division 1885 and 1895.

[85] *Annual Report of the Inspector of Mines:* Midland Division 1899, 1890, 1891 and 1892.

[86] *Nuneaton Observer,* 24 April 1891.

the simple expedient of attaching chains. Tiredness through excessive working may have also been a factor in the death of two boys, aged seventeen and eighteen and both at Hall End, who in 1896 and 1897 were working double shifts.[87] The company's search for profits and the lure of additional wages combined to sanction this dangerous practice. In 1907 a fourteen year old at Exhall Colliery claimed that he was sixteen in an attempt to work overtime and this deceit was a factor in his death.[88] Immaturity is the only explanation for the behaviour of a sixteen year old Alvecote miner in 1889, who believed he could stop full tubs with his knee in front and his foot against the stop block.[89]



Drawing 3:2 Horse in Sling Gears.
Source: Fretwell *The Warwickshire Coalfield* Volume One p 24.

Over half the deaths from haulage, some 53.38 per cent occurred on the incline plane. This was the steep slope of thirty degrees and several hundred yards, that miners and tubs had to ascend to the bottom of the shaft from the roadway. Manholes

[87] *Annual Report of the Inspector of Mines:* Midland Division 1896 and 1897.This could also apply to experienced men. In 1900 a 41 year old Griff dataller was killed working a double shift. *Nuneaton Observer,* 12 October 1900. In 1911 a Griff banksman died after working three consecutive shifts. He had worked the Tuesday day shift; grabbed two hours sleep, then worked the night shift and after a break of an hour began again on the Wednesday day shift. At the inquest his wife claimed that he did an extra shift every week and a witness claimed that 'he did not appear jaded or tired.' *Nuneaton Observer,* 31 March 1911.

[88] Boys had to be sixteen to work overtime. Inquest, *Nuneaton Observer,* 1 February 1907.

[89] *Annual Report of the Inspector of Mines:* Midland Division 1889.

were provided periodically where miners could take refuge from passing trains of tubs.[90] Of the seventy-one deaths only eleven specifically mention chains or couplings breaking when tubs are ascending or descending. The greatest number of deaths in one incident occurred at Wyken in 1889 when three were killed. After descending the shaft, miners had to go down a steep incline of eight hundred yards to reach the workings. Men had to walk, but officials were allowed to ride, and when riding, take men with them. An official let six men ride with him, but the wire rope broke and the tub went off the rails four hundred yards from the top of the incline. The hook had been made of inferior iron and the blacksmith testified that he had relied upon the maker's name rather than his professional judgement.[91] Runaway tubs were inevitably the greatest cause of death. At Charity in 1874 and Alvecote in 1894, the failure to place stop blocks led to the incline man to be charged with manslaughter,[92] but again these charges were dismissed at the Warwickshire assizes.[93] Surprisingly another cause of death of experienced miners was walking in front of tubs down inclines. Reports of this, where miners were killed after being overpowered by the increasing weight and velocity of the tubs, included Ansley Hall in 1875; Wilnecote in 1877; Glascote in 1891; Craven in 1893; Baddesley in 1904; Hall End in 1907 and Newdigate 1909.[94]

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[90] The General Rules of 1860 made it compulsory to provide manholes every twenty yards.

[91] *Annual Report of the Inspector of Mines:* Midland Division 1889. Inquest, *Nuneaton Chronicle,* 21 September 1889.

[92] At Stockingford Colliery in 1892 an incline man escaped the charge of manslaughter as the coroner believed he was 'not possessed of reasonable intellect' and instead blamed the management for employing him. *Nuneaton Observer,* 18 March 1892. It was traditional to employ boys of eighteen to work the jig engine on the incline plane.

[93] *Annual Report of the Inspector of Mines:* Midland Division 1874 and 1894.

[94] *Annual Report of the Inspector of Mine:* Midland Division 1875, 1877, 1891, 1893, 1904, 1907 and 1909.

Deaths from Gas Explosions and Explosives

Table 3:9 Warwickshire Deaths from Gas Explosions and Explosives 1851 to 1913

Years	Gas Explosions	Explosives
1851-1855	1	0
1856-1860	2	0
1861-1865	2	1
1866-1870	3	1
1871-1875	4	1
1976-1880	1	1
1881-1885	24	1
1886-1890	0	0
1891-1895	0	0
1896-1900	1	0
1901-1905	0	3
1906-1910	1	1
1911-1913	0	2

Source: Annual Mine Inspector Reports 1851 to 1913.

Dangerous gas was present at a number of different coal seams. Miners referred to the main gases as choke damp and fire damp. Choke damp is the accumulation of carbon monoxide which led to asphyxiation and suffocation. Fire damp is the presence of combustible gases like methane which led to explosions. Between 1851 and 1913 fifteen Warwickshire miners died from suffocation, some 2.72 per cent of the total. A further thirty-nine died in gas explosions, some 7.09 per cent, dropping to 2.9 per cent if the twenty-three deaths from the untypical Baddesley disaster of 1882 are omitted. Another eleven or two per cent were killed using explosives.[95] Even when considering the Baddesley disaster, deaths from gas explosions was considerably less than the national average of 14.02 per cent, and reflects Warwickshire's geological advantage of possessing relatively fewer gassy seams.

Ventilation of the mines is not just obtaining large quantities of air, but its distribution and direction of the air current into the working places. In the early 19th century mines were small and ventilation was primitive, with the principle imperfectly understood. Where there were two shafts, a furnace was placed at the bottom of the

[95] Figures tabulated from *Annual Report of the Inspector of Mine* 1851 to 1913.

upshaft[96] to pull the air through, and where there was one shaft, a firepan was hung on the side of a latticed or divided shaft. In some cases natural ventilation was used, and in Warwickshire, this led to fatalities. At Hawkesbury in 1850 a ten year old boy suffocated during his first night underground. Inspector Morton discovered that although fifty miners worked there, there was no furnace and the air was so bad, it was difficult to keep a candle burning. He concluded that the;

> *contraction of the air roads was not caused by an unexpected and temporary breaking down of the roof, but was the result of long continued dilapidation and want of regular repair.*[97]

The owner employed a more knowledgeable agent to improve the ventilation of the mine. In 1853 a few miles south of Hawkesbury at an ironstone mine of Victoria Colliery, a spontaneous combustion from a gob fire generated a mix of gases known locally as 'fire stink.' Its vapours were not explosive and candles would burn in it with a pale blue halo around the flame. Its smell of; 'unpurified coal dust produced a pain in the head, weakness in limb, dimness of sight, followed by prostration, insensibility and death.'[98] About a dozen people were rendered helpless and two died. Despite the known poor ventilation, the butty had ordered the men to stay in the pit and wait for the gases to disperse. Two furnaces were later erected. The dangers of single shaft mines caused concern, and in 1861 the manager of Exhall Colliery was prosecuted for having a single latticed shaft. The case went to arbitration and James Darlington, a Wigan mining engineer and later owner of neighbouring Hawkesbury Colliery, recommended replacing wood lattices at the bottom of the furnace shaft for fifteen yards with iron, stone or brick brattices, and keeping it clear of soot.[99] By 1864 Inspector Evans reported that no colliery in the Midland district was wholly dependent on a bratticed shaft for ventilation.[100] The next reported gas related deaths

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[96] In a typical colliery the downshaft was used for manriding and production, and the upshaft for ventilation.

[97] *Annual Report of the Inspector of Mines*. 1850.

[98] *Annual Report of the Inspector of Mines.* 1853.

[99] *Annual Report of the Inspector of Mines:* Midland Division 1861.

[100] *Annual Report of the Inspector of Mines:* Midland Division 1864.

were the nine who suffocated in the Baddesley disaster of 1882. This will be addressed below. In 1895 two sinkers at the new Kingsbury Colliery died when they were lowered into gas, and in 1913 a Pooley Hall miner died when he lost his way and entered old workings.[101]

Gas explosion fatalities were dominated by the Baddesley disaster of 1882. The thirty-two deaths suffered may appear relatively insignificant when compared to other coalfield tragedies that claimed the lives of hundreds.[102] It nevertheless had a profound impact on the Warwickshire coalfield and forced many to critically re-examine the technology they employed in their mines.

The new Stratford pit at Baddesley had been sunk in 1851 and drained by a Speedwell pit. The deep working suffered continuous seepage of water and this was collected in a sump at the bottom of the incline. Wooden buckets transferred this water up the incline where it could be emptied into the Speedwell water level and then pumped from the mine. The buckets leaked and spilled water onto the incline causing damage to the roadway and necessitating expensive repairs.[103] It was evident that an alternative method of removing surplus water had to be found. Gillett, the consultant mine engineer, suggested an upright boiler placed next to a pumping engine be positioned in the return airway. Manager Parker estimated that the pump would only be needed for seven hours a week, the time calculated to remove the weekly seepage of 4,200 gallons. In deference to safety Gillett insisted that the area above the boiler should be clad in brickwork to protect the roof from fire, that a culvert should run from the boiler up the airway and that hot ashes should be systematically removed from the pit. A local Atherstone bricklayer was chosen to lay the foundation. In his evidence to the Inquiry he stated that manager Parker said repeatedly that 'his hands were tied regarding this issue but he would have the arching done after the

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[101] *Annual Report of the Inspector of Mines:* Midland Division 1895 and 1913.

[102] For comparison the worst accident in England was in 1866 at the Oaks Colliery near Barnsley which claimed 399 lives. The worst in the UK was at Universal Colliery at Senghenydd in Glamorgan, Wales that claimed 438 lives in 1913. The worst recorded mine disaster was in 1942 in Honkeiko Colliery in Manchuria, China where 1,549 miners died.

[103] Gillett evidence to the Inquiry. Reported *Annual Report of the Inspector of Mines:* Midland Division. 1882 and *Nuneaton Observer,* 3 June 1882.

opportunity to reduce the water level.'[104] The boiler was installed on 14 April 1882 and predictably the unprotected roof caught fire. Miners would stop to observe this on their way to work [105] but when this was reported to Parker he did little more than provide a hose pipe. Gillett visited the mine with Parker and the agent Mr Podmore on 26 April when he discovered that the boiler had been in continuous use and that his orders for arching had not been carried out.[106] He did little more than offer his protestations and for this he was condemned in the official Inquiry, the two reports of Arnold Morley MP[107] to the House of Commons in 1882 and 1884[108] and during the court case brought against him by members of the Dugdale family at Birmingham Assizes in 1885.[109]

With tragic inevitability the events unfurled. The eight men and a thirteen year old boy of the night shift of Monday 1 May 1882 descended the incline at 8-30 pm. Around 9 pm Deputy Charles Day discovered deep smoke in the upshaft and sent news to manager Parker who called for assistance from the Nuneaton Mine Engineer, Reuben Smallman. Smallman led a rescue party down the pit at 10 pm using a cloth brattice to force the smoke back down the incline but this group was forced back around 5-30 am by gases creeping round the screen. A second rescue group descended around 6 am but were rocked by an explosion at 8-30 which sent a fireball up the incline. The survivors, all badly burnt, ascended the pit only to find that three of their number were missing, necessitating a third rescue. It was only when all would-be-rescuers were on the surface that they began to die from their horrific burns. On the

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[104] Congreave evidence to the Inquiry, in Arnold Morley MP *Report Number One* (House of Commons 11 December 1882).

[105] Thomas Shilton worked the early shift the day of the explosion. He passed the boiler, which was not working, on his way out and stopped to view the fire in the roof. 'It was a round piece of burning coal, not flaming but red hot.' He did not report it as 'it was known by everybody.' *Nuneaton Observer,* 8 August 1884.

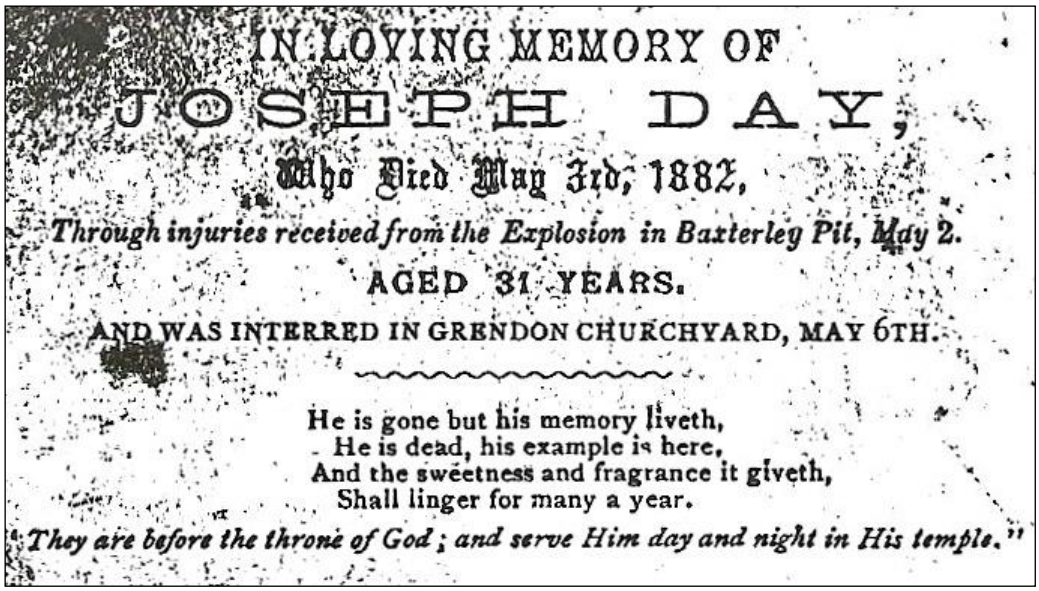
[106] At the second Inquest of 1884 an engineman said he overheard Gillett say 'If you don't mind we shall have the place on fire.' *Nuneaton Observer,* 25 July 1884.

[107] Arnold Morley MP, PC (1849-1916) was a barrister and the Liberal member for Nottingham from 1880.

[108] See A Morley, MP,QC *Report Number One* (House of Commons, 11 December 1882) and *Report Number Two* (House of Commons, 25 September 1884), *Nuneaton Chronicle,* 15 August 1884.

[109] C. Parton, *Parker's Fire Engine: the Baddesley Pit Explosion 1882* (Nuneaton, 2009) pp. 52-5. Gillett was fined £6,000, *Nuneaton Chronicle* 15 August 1885.

Wednesday morning a meeting of the Mine Inspector, his assistant and the management from Ansley Hall, Bedworth Charity, Hawkesbury, Amington and Pooley Hall collieries agreed that it would be useless to attempt further rescue and the decision was made to seal the pit.[110]


IN LOVING MEMORY OF
JOSEPH DAY,
Who Died May 3rd, 1882,
Through injuries received from the Explosion in Baxterley Pit, May 2.
AGED 31 YEARS.
AND WAS INTERRED IN GRENDON CHURCHYARD, MAY 6TH.

He is gone but his memory liveth,
He is dead, his example is here,
And the sweetness and fragrance it giveth,
Shall linger for many a year.

"They are before the throne of God; and serve Him day and night in His temple."

Illustration 3:1 A Baddesley Funeral Card traditionally sent to friends of the bereaved. Source: Fretwell *Warwickshire Coalfield* Volume Two p 92.

The Inquest was opened at Atherstone town hall on 4 May.[111] The bodies of the night shift were still in the mine and as the pit was sealed, there was no way to inspect the area. The cause however left little doubt, exemplified in the dying words of a rescuer reported by his father, 'All this is through Parker's fire pumping engine.'[112] Gillett complained of Parker's failure to follow his instructions and miners corroborated the fire in the roof. Assistant Inspector Stokes stated that he only heard about the underground boiler after the accident and had last inspected the mine several months ago. An accident in the feed pipe of the boiler on 30 April led to it being shut down, but the fire in the roof was left unattended and uninspected for two days. Inspector Evans criticised the decision to place the boiler underground and concluded that the 'using of a boiler down the incline was more particularly

[110] *Atherstone Herald,* 6 May 1882. *Nuneaton Observer,* 6 May 1882.

[111] *Annual Report of the Inspector of Mines:* Midland Division. 1882.

[112] Evidence of Eli Smith's father to the Inquest, reported *Nuneaton Observer,* 13 May 1882.

dangerous in this district where spontaneous combustion occurred so readily.'[113] In 1992 Job agreed that even today the decision to site the boiler underground 'would be seen as a remarkable decision because of the potential danger (*but*) the situation was aggravated by appallingly bad mining practice.'[114] They tentatively reopened the pit in November 1882 but although they recovered three bodies and removed the carcasses of eleven horses, the presence of choke damp and a raging fire down the incline hindered progress.[115]

With the recovery of seven of the nine bodies in 1884 a second Inquest was held. The Inquiry laid the blame squarely at the doors of the management, overturning the earlier verdict of 'accidental death.' The Coroner was particularly critical of management practice. Charles Day, the heroic deputy who had received the gold Albert Medal[116] for his contribution to the abortive rescue attempts, was illiterate and only gave verbal reports to manager Parker. From studying these records he concluded that several days' reports had been written together and that there was no mention of Day's professed concerns about the fire in the roof. The Coroner then quoted from the general rules supposedly in force in every colliery:

> *The underviewer, or his properly appointed deputy, shall every morning before the miners descend, examine with a safety lamp the working places, levels, roads, and works of the mine that are in actual use and shall leave a mark or signal at the entrance and face of each working place to show that it has been examined and record the results of such examination in the book provided for the purpose.*[117]

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[113] Inquest, *Nuneaton Observer,* 3 June 1882 and *Annual Report of Inspector of Mines* Midland Division 1882 p. 104.

[114] B. Job, 'The Mines Inspectors and the accidents at Glasshouse Common Ironstone Mine 1865 and Baddesley Colliery 1882', *Bulletin of the Peak District Mines Historical Society* 11.5 (Summer 1992) 235.

[115] *Nuneaton Observer,* 24 November and 1 December 1882.

[116] The Albert Medal, named after Prince Albert, was instituted in 1866 for life saving at sea and expanded to include life saving on land in 1877. It was replaced in 1949 by the George Cross.

[117] *Nuneaton Chronicle,* 15 August 1884. This refers to a General Rule of 1872.

It was unlikely that these procedures had been followed prior to the disaster. The Coroner's Jury reported:

> *We are of the opinion that John Parker, the manager, and Mr Gillett are culpably negligent for not taking every precaution for the safety of the mine and that it was an error in judgement in placing the engine and the boiler there at all. Neither did the underviewers or enginewrights do their duty in properly reporting the frightful conditions of the pit and we are of the opinion that the management of the pit was disgracefully carried out.*[118]

Arnold Morley MP informed the House of Commons in his Report that 'practically it does not differ much from a verdict of manslaughter.'[119]

Gillett was there to be assailed by universal condemnation and Parker, who had died in the attempted rescue, received the posthumous censure of the Coroner's Jury. The owner, William Stratford Dugdale, who had shared Parker's fate, emerged unscathed. Born in 1828 into a family of landowning coalowners, he graduated from Balliol College, Oxford in 1850 and was called to the bar at Lincoln's Inn in 1858.[120] At the time of his death he was chairman of the Atherstone Board of Guardians and the Bench of Magistrates at Atherstone Petty Sessions. As a practising lawyer William Dugdale left the running of his colliery to his manager, John Parker, but Parker was aware that Baddesley Colliery had been making a slight loss for a number of years. This may help to explain his comments cited above, to the bricklayer building the foundations of the boiler that his 'hands were tied' when it came to building a protective arch. It may also explain why the conduit was built of wood and not steel like that in the neighbouring Speedwell pit. How far the pressure upon him was explicit or just implied will never be known. The colliery had a reputation for parsimony and was described by Garside Phillips, manager of Ansley Hall, as 'an old

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[118] Inquest following the recovery of five of the nine bodies, reported by *Nuneaton Observer,* 8 August 1884. Repeated by A. Morley MP,QC *Report Number Two* (House of Commons 25 September 1884) and *Annual Report of the Inspector of Mines:* Midland Division 1884.

[119] Arnold Morley MP,QC *Report Number Two* (House of Commons, 25 September 1884) .

[120] Obituary, *Coventry Herald*, 12 May 1882, funeral, *Nuneaton Observer,* 19 May 1882.

fashioned devil's arse of a pit.'[121] Yet although Parker's actions may be explicable, they cannot be defended, even if he paid the ultimate price for managerial deficiencies. What is inexplicable is how deputies failed to monitor a smouldering fire from routine inspection in an area of known danger.

A technical point has never been adequately addressed. Fretwell notes that if intersecting doorways had remained closed, smoke should have been confined to the return air roadway only and men working down the incline should have been able to walk back without discomfort up the intake air roadway.[122] Even with the doors open air should have taken a short cut through the open doors and intersecting roadway to the return air roadway and all ventilation beyond that area ceased. What actually happened was the fire at the bottom of the incline in the return air roadway was acting like a furnace shaft and drawing the air around the workings preventing it making a short cut through the open doors and intersecting roadway. Fretwell concluded that; 'the fire itself established a new independent ventilation system.' [123] The heat from the fire expanded the air and with additional smoke and gases from the burning coal, it greatly increased the volume of air and gases coming up the return roadway. No one was blamed for opening the doors that condemned the men working underground, and if the doors were opened by an unknown explosion, no one should be. The only people who could have solved the mystery were those who ventured down when the pit reopened in April 1884. They left very graphic descriptions of the discovered bodies covered in mould but no mention of the condition of the restricting air doors.[124]

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[121] From the Mitchenson Papers, quoted by Fretwell, *Warwickshire Coalfield* Volume Two (Warwick, 2005) p. 253. Mitchenson was a later manager of Baddesley Colliery.

[122] L.Fretwell, *Warwickshire Coalfield* Volume Two (Warwickshire, 2005) pp. 343-5.

[123] L.Fretwell, *Warwickshire Coalfield* Volume Two p 345.

[124] John Ross was identified by his wife and buried April 1883. His body was then positively identified from the footwear on another body recovered August 1884. This illustrated the difficulties of identification. *Nuneaton Observer,* 20 April 1883 and 22 August 1884.

The closure of the colliery had an immediate impact on the two hundred and ninety-eight men that worked there.[125] An appeal was launched and, assisted by newspaper reports, public donations reached £5,000 by the end of the month.[126] It was decided that each widow would receive 5/- a week with an additional 2/6 per child up to a maximum of 15/- a week. In 1883 the Relief Fund Committee reported that then had paid out over a thousand pounds to Baddesley miners, widows and orphans and £65 for bibles to every surviving rescuer or to their family. They still retained £5,625 in the fund.[127] A workers' representative on the committee complained that although doctors were paid £143 from the fund, no money was paid to the impoverished father of the boy who had been killed.[128] The trustees jealously guarded the funds and when the last claimant died there was still some £3,900 left.[129] Harry Horton, an ex-Baddesley miner, was sceptical about the fund:

> *There was a disaster fund but not much of it got through to those that needed it. When the last dependant died Old Dugdale wanted to hand the money over to the British Legion for a club with a plaque on it saying who had died but the NUM (National Union of Mineworkers) objected and somewhere or other the money just disappeared.*[130]

Fretwell may solve this mystery. He states that when the trust was forcibly dissolved in 1978 the money was forwarded to the Baddesley branch of the NUM. Not knowing what to do with the nearly four thousand pounds the six members of the committee together with two lodge members who happened to be passing, shared out the money between them. He laments: 'They appeared to be completely oblivious of the law of misappropriation of charity funds. One cannot help thinking that the village heritage

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[125] *Atherstone Observer,* 6 May 1882.

[126] *Nuneaton Chronicle*, 26 May 1882.

[127] *Nuneaton Observer,* 22 June 1883.

[128] *Nuneaton Observer,* 29 June 1883. The father had broken his arm and with his son dead the family had no income.

[129] *Coventry Evening Telegraph*, 3 January 1978.

[130] Quoted in J. Lovell, 'Analysis of a Mining Disaster: Baddesley 1882', (Unpublished BA dissertation, University of Birmingham 1997) p. 39.

would have been better served had this money been spent on a memorial to those killed in the disaster.'[131]

The virtual disappearance of gas fatalities after this date should not lead to the assumption that gas explosions had been eliminated. In 1913 Inspector Johnston lists twenty-seven Warwickshire non-fatal gas explosions since 1884. Baddesley was thankfully not revisited, but there were three further explosions at Alvecote, Exhall and Kingsbury; two at Glascote, Peel and Wyken; and one at Ansley Hall, Amington, Arley, Griff Clara, Hockley Hall, Newdigate, Nuneaton, Pooley Hall, Tame Valley, Tamworth, Tunnel and Whateley.[132] Most Warwickshire collieries were open light pits that used candles for illumination. The use of safety lamps was proscribed in any seam where gas was present and around 20 per cent of the prosecutions of Warwickshire miners were for violations of the usage of safety lamps.[133] Haunchwood Colliery was a safety lamp pit and in an interview with the *Nuneaton Observer* in 1893 the manager revealed that they had not fired a shot in three years.[134] The fear of explosions therefore had a profound impact on mining practice.

Ventilation improved markedly in the last years of the century as fans became widely adopted. Although experiments with mechanical ventilation are recorded in South Wales in 1849, the rapid adoption of fans dated from the invention of the Guibal in 1862, quickly followed by the Schiele and the Waddle.[135] The only survey of fans occurred in 1900 but was on a district not coalfield basis. The Midland Division had 137 fans with diameters ranging from two feet six inches to forty-six feet. The larger Guibal and Waddle fans dominated, with forty-nine and forty-five respectively, or over 68 per cent. There were twenty Capell; nine Schiele; five

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[131] L. Fretwell, *Warwickshire Coalfield* Volume Two (Warwick, c2005) p. 398. A centenary exhibition was held at Baddesley Colliery in 1982 to commemorate the disaster and this attracted 4,000 visitors. At that time Baddesley Colliery was awarded the South Midland Area National Gold Award for Safety. *Nuneaton Evening Tribune,* 5 May 1982 and *Tamworth Herald,* 7 May 1982.

[132] *Annual Report of the Inspector of Mines:* Midlands and the South District 1913.

[133] See the section on prosecutions in Chapter Six.

[134] 'Winning Black Diamonds in Stockingford', *Nuneaton Observer,* 19 May 1893.

[135] See R. Galloway, *A History of Coalmining in Great Britain* (London, 1882) pp. 247-56. Galloway does not record the Blow George mechanical device used at Charity Galga Colliery in 1849 in Bedworth.

Chandler; two Johnson and a single Rammel and a Pelzar model.[136] A ventilation survey of 1905 gave figures for each of the Midland coalfields. Natural and furnace ventilation had disappeared from Warwickshire and 97.39 per cent were provided by fans, with the remaining 2.61 per cent from steam. In 1909 the incoming president of the local branch of the National Association of Colliery Managers attributed the recent national disappearance of fire damp explosions not to the adoption of modern safety lamps or permitted explosives but to ventilation fans that gave a more equal distribution of the air current.[137] The table of 1905 measured cubic feet of air per minute passing into the mine, but when this was translated to cubic feet per person underground, Warwickshire was seen as the lowest. Warwickshire had but 69 cubic feet per person, compared to 107 in Leicestershire, 145 in Nottinghamshire and 149 in Derbyshire.[138] The reason for this reduced ventilation may reflect practice based on the county adage that 'ventilation breeds gob fires.' Indeed there may be some value to these words. Figures are only available for the expanded thirty-one coalfields in the Midlands and South District from 1910. Warwickshire had six spontaneous combustion fires in 1910; two in 1911; nine in 1912 and five in 1913. This was certainly higher than the neighbouring counties of the Midland coalfields, but is dwarfed by comparison with South Staffordshire, which had fifty-six fires in 1912 and one hundred and one in 1913.[139] Underground fires could be frightening and costly. In 1902 in an unnamed Warwickshire pit, miners were repairing a roadway that passed through an old gob fire. Men filled hot material into tubs and were supposed to water it and remove it from the mine. Due to carelessness some tubs were left in a siding and these started a roadway fire that required the area to be damned up. Four

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[136] *Annual Report of the Inspector of Mines:* Midland Division 1900.

[137] Mr Hall's presidential address to the South Staffordshire, Warwickshire and Worcestershire branch of the National Association of Colliery Managers, *Nuneaton Observer,* 18 June 1909.

[138] *Annual Report of the Inspector of Mines:* Midland Division 1905.

[139] *Annual Report of the Inspector of Mines:* Midlands and the South District 1910 to 1913. Gob fires caused by spontaneous combustion were practically unknown in the coalfields of the North-East and South Wales but relatively common in the thick coal seams of Warwickshire and South Staffordshire. Professor Redmayne dismissed the earlier view that they were caused by the presence of iron pyrites and instead advanced the theory that the 'porosity of the coal was largely responsible' as it allowed for the rapid absorbsion of oxygen. See 'Discussion Hidden Coalfields and Thick Coal', *Transactions of the Federated Institute of Mining Engineers* 34 (1907-08) 861. In 2013 a spontaneous combustion fire led to the closure of Daw Mill, the last Warwickshire colliery. *Guardian* 7 March 2013.

horses were lost and three men temporarily rendered unconscious.[140] Surface fires could be just as dangerous. At Haunchwood in 1910 sparks from the boiler chimney set fire to the wood casing at the top of the upcast shaft resulting in the destruction of the headgear. The headgear of the downcast shaft a short distance from it, only survived by what was described as 'heroic efforts.' If they had not succeeded, the men trapped underground would have died from carbon monoxide poisoning.[141]

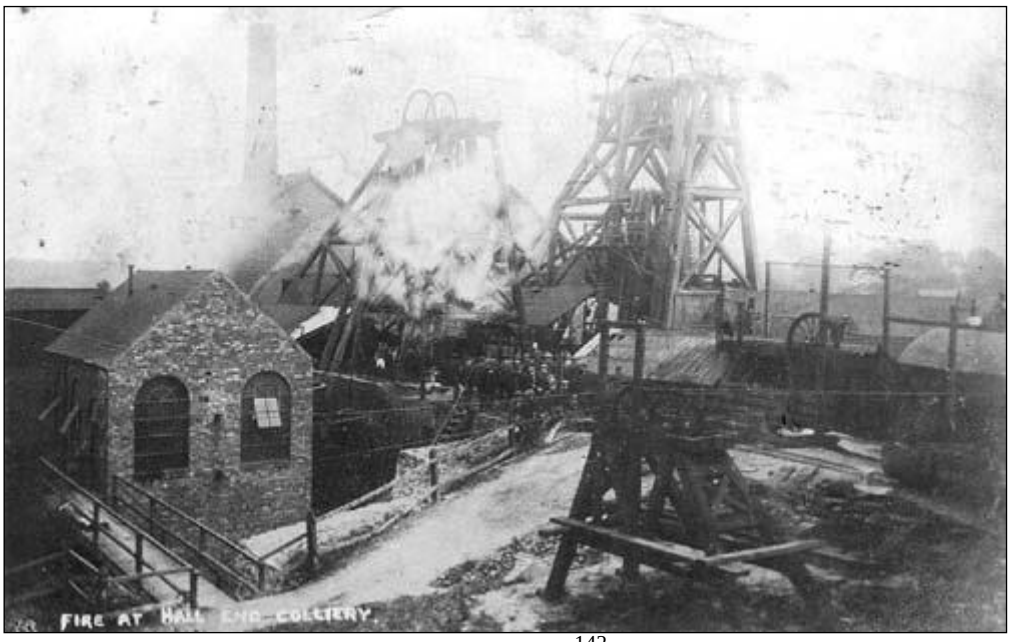

Illustration 3:2 A Fire at Hall End Colliery 1910.[142]
Source: Nuneaton Library.

Table 3.9 also lists the small number of fatalities from explosives. Two occurred at Nuneaton, and one each at Amington, Ansley Hall, Arley, Binley, Hall End, Hawkesbury, Nuneaton New, Tunnel and Wilnecote. All refer to gunpowder, with the exceptions of Hawkesbury 1880 which mentions dynamite, and Arley 1907 which talks of Mondel powder.[143] Details are given for only seven: two cases of dropping

[140] *Annual Report of the Inspector of Mines:* Midland Division 1902. Similarly a gob fire at Tunnel in 1904 led to the death of 11 horses although no men were injured. *Nuneaton Observer,* 17 June 1904.

[141] *Annual Report of the Inspector of Mines:* Midland Division 1910. An engine room fire at Griff Number 4 in 1907 caused by an electrical fault destroyed the building causing £1,000 worth of damage and the men had to be raised from another pit. *Nuneaton Observer,* 2 August 1907.

[142] For a description of the fire see *Nuneaton Observer,* 10 June 1910. Said to be caused by sun on the oil sodden timber, the £2,000 worth of damage would take a month to repair.

[143] *Annual Report of the Inspector of Mines:* Midland Division 1880 and 1907. In 1901 there was a death of a quarryman from a gelignite explosion attributed to the fact that the explosive was frozen and

candles onto powder, two cases of premature explosions; two cases of not retiring to safety before the shot was fired, and one case of a storeman being badly burned when opening a fifty pounds gunpowder box. From the early 19th century shot firing had been carried out by workmen using gunpowder, but it was not until 1872 that the use of explosives and shot firing came under legislation. They certainly made up for lost time, as by 1900 Inspector Stokes could claim that this area had '…probably received more attention than any other department of mining.'[144] The penalties for any infringement could be considerable. In 1891 the *Nuneaton Observer* recorded the prosecution of the manager of Hockley Hall Colliery at Nuneaton Petty Sessions for a violation of the Explosives Act. Any building had to be licensed to store more than thirty pound of gunpowder but Superintendent Hannah discovered 489 pounds in stores where oil was also kept. Ignorance of the law was no defence and the colliery was fined £51 and the powder was confiscated.[145] In 1884 Inspector Evans had listed five of the most preventable causes of blasting accidents. These were the careless use of candles; dropping sparks into loose powder; drilling out a misfired shot; not allowing sufficient time to retire to a place of safety, and returning too soon to a supposed misfired shot.[146] In his 1898 report Inspector Stokes gives a lengthy discussion of blasting regulations and describes good practice. He recommended that all explosives be kept in a magazine at the colliery;[147] he outlined the correct way to charge a shot; gave the virtues of clay dust as a stemming material; stated a minimum cable length for shot firing of twenty-five yards; made the usual call without any practical advice that shot firers should take adequate cover when setting off explosions; gave the correct way to remove a misfired shot and made the apparently

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should have been according to the instructions printed on the label 'softened in winter.' *Nuneaton Observer,* 4 December 1901.

[144] *Annual Report of the Inspector of Mine:* Midland Divisions 1900.

[145] *Nuneaton Observer,* 27 February 1891.

[146] *Annual Report of the Inspector of Mines:* Midland Division 1884.

[147] It was customary for miners to purchase the gunpowder they required and keep it at home. They were certainly not allowed to keep it in the mine as two Griff miners discovered in 1891. They left cartridges of powder in a locked box which was a violation of General Rule 18. *Nuneaton Observer,* 30 January 1891.Three more Griff miners were fined in 1901 for a similar offence. *Nuneaton Observer,* 22 November 1901.

necessary statement that if a colliery was unhappy with the number of misfired shots it should change its supplier.[148]

There were also improvements to fuses and detonators. In Warwickshire where gunpowder prevailed, 'jermans' were popular. Made with newspaper saturated with saltpetre and filled with gunpowder, the end was turned up to supposedly allow the shot firer sufficient time to get clear before burning within reach of the gunpowder. Inspectors recommended the safer double tape gunpowder fuse [149] but the squib remained popular as the tape fuse created a great deal of smoke which impaired ventilation. Speaking at a 1904 Inquest related to the death of a Tunnel Colliery stallman from a premature squib explosion, the coroner dismissed this defence of retaining the squib by musing that in twenty-five years of experience he had never attended an inquest where the tape fuse was the cause of the accident.[150] There was a growing demand for a safe flameless economical explosive. The main danger in blasting was the production of a flame of high temperature which could ignite gases in the vicinity of the shot, or by raising dust, create a flammable situation.[151] Indeed in 1894 a Royal Commission on Explosions from Coal Dust in Mines published a report limiting gunpowder in gassy or dusty mines, and recommending instead the use of patent high explosives. They recommended that dust should still be reduced by spray jets at intervals along the haulage roadway supplied by water under pressure, to replace the erratic tub system where water was splashed between rails.[152] Yet the use of water was unsatisfactory as it inevitably caused damage to roadways. In 1908 Mr Garforth, a former president of the employers' Mining Association of Great Britain, began conducting experiments into the use of stone dust to smother coal dust explosions at a reputed cost of £10,000.[153] Today this is standard practice in every

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[148] *Annual Report of the Inspector of Mines:* Midland Division 1898.

[149] *Annual Report of the Inspector of Mines:* Midland Division 1893.

[150] *Nuneaton Observer,* 8 July 1904.

[151] Coal dust as a cause of explosions was highly controversial and was pioneered in the 1880's by Inspector William Galloway. He was hounded out of the Inspectorate and became Cardiff University's first Professor of Mining in1890.

[152] *Annual Report of the Inspector of Mines:* Midland Division 1894. Spraying water was unpopular as it caused damage. Today inert stone dust is deposited to neutralise the danger from coal dust.

[153] *Nuneaton Observer,* 25 September 1908, Report 1 October 1909.

colliery but its adoption took time. The danger from coal dust was emphasised by Professor Cadman[154] of Birmingham University in 1909 when he stated that 'coal dust was as dangerous as gunpowder.'[155] Experiments at the university had shown that 'it could be easily ignited by an ordinary candle or the bursting of an electrical fuse.'[156] In the same month Inspector Johnson of South Staffordshire cautioned a meeting of Midland mine engineers that they should weigh carefully the use of any electrical apparatus in any fiery or dusty mine.[157]

In mines using safety lamps, many moved to firing by electricity. Two methods were used, namely low and high tension. Low tension was fired by a current of electricity passing through fine platinum wire bringing it to red heat, which fired the priming, which fires the fulminate of mercury at the bottom of the detonator. With high tension an electric current passes between the ends of two firing wires which are so close together that it causes a spark. Stokes made his preference known as early as 1893:

> *The simplicity and certainty of firing by a low tension system of electrical blasting commends itself to all who have adopted its use. The electrical fuse can safely be tested by a galvanometer before being taken into the mine and little fear need be entertained that the operation will be troubled with misshots. The weight of the firing apparatus need not prevent its general use.* [158]

It would appear that Warwickshire ignored this glowing endorsement. In 1890 the coalfield had fired 924 shots per day, over two thirds by the old fashioned jermans, with the remainder fired by gunpowder fuse: 628 to 296. [159] In a second survey of

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[154] Cadman replaced Redmayne when the latter was appointed HM Chief Inspector of Mines.

[155] Professor Cadman to the Warwickshire Mining Students ,Association *Nuneaton Observer,* 1 October 1909.

[156] Professor Cadman at the prize giving of the Warwickshire School of Mining, *Nuneaton Observer,* 1 October 1909

[157] In his presidential address at the 42nd annual meeting of the South Staffordshire Institute of Mining Engineers, *Nuneaton Observer,* 15 October 1909.

[158] *Annual Report of the Inspector of Mines:* Midland Division 1893.

[159] *Annual Report of the Inspector of Mines:* Midland Division 1890.

1900 the number of shots for the year was given. Electrically fired shots were only 53,661, or 13 per cent of the 405,458 fired. Of these electrically fired shots, 71.6 per cent used the high tension and only 28.3 per cent the recommended low tension.[160] Yet by 1912 there had been a fundamental change in shot firing in the Warwickshire coalfield. In his evidence to the Squib Committee Garside Phillips stated:

> *At about one half of the collieries high explosives and electric firing are used and at the remainder compressed powder (gunpowder) fired in some cases by means of squibs, others by means of double tape fuse.*
>
> *The bulk of the collieries are open light (candle) pits and up to quite recently squib firing was the rule at most of these pits , some of whom have ceased this system since the issue of the New Explosives Order only.*[161]

This is a clear illustration of government legislation driving forward safety. At Phillip's Ansley Hall Colliery squibs were still used but not the handmade jermans of yesteryear. Following an accident to a stallman twenty-five years previously Phillips had contacted Brock's, the firework makers, and they now professionally produced three kinds of squib made to his specifications. The colliery fired about a hundred a day and a misfire was unheard of.[162]

There were two forms of firing batteries. The primary was always live and fired when the wires made contact with the terminal. The magneto battery, known locally as 'beethovens,'[163] was dead and a handle had to be turned to generate electricity. The inspector made his views known in the 1907 report on the death of an Arley deputy. He had nearly completed the coupling of a second shot of twelve ounce mondel

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[160] *Annual Report of the Inspector of Mines:* Midland Division 1900.

[161] Garside Phillips: Evidence to the Squibs Committee: to inquire into the squibs for the purpose of firing shots in naked light mines. (11 December 1912.) 280. This refers to Explosives in Coal Mines Order of 20th August 1908. See *Nuneaton Observer,* 11 September 1908.

[162] Garside Phillips: Evidence to the Squibs Committee: to inquire into the squibs for the purpose of firing shots in naked light mines. (11 December 1912). 284.

[163] Apparently the succession of shots made a noise comparable with the opening of Beethoven's Fifth symphony.

powder in a stone heading when it exploded. A boy had been left in charge of the battery and, tampering with the wires, had pushed one into the firing plughole. Stokes says:

> *I have frequently condemned the use of primary batteries for shot firing. They are always alive like a loaded gun ready to be fired either wilfully or accidentally, whereas the magneto battery is always dead and requires charging before it can fire a shot.*[164]

There is no evidence that the primary battery was phased out in our period of study.

Table 3:10 Tons of Coal Produced Per Shot

Year	Warwickshire	Leicestershire	Nottinghamshire	Derbyshire
1898	6.8	6.2	23.5	19.6
1900	7.4	6.8	23.2	16.3
1905	6.8	7.0	20.1	16.9

Source: Annual Mine Inspector Reports 1898, 1900 and 1905.

An increase in the number of available explosives meant the collieries had to make an informed choice of which to use. When Inspector Stokes made his 1899 recommendations, he recognised the importance of local knowledge. For ripping roads or blasting open roadways, any will do:

> *When however we come to the coal face the matter of selection is a work of skill and experience, for coals are so varied in their physical properties, that an explosive which does well in one seam of coal may be very unsuitable for another.*[165]

The 1896 Blasting Regulations Act listed ten permitted patented explosives, rising to seventeen in 1898 and fifty-eight by 1906.[166] These made small headway in the county. Table 3:10 shows the coal produced per shot in the Midland Division. In 1890 Warwickshire had used 924 shots a day, all gunpowder. By the 1900 survey

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[164] *Annual Report of the Inspector of Mines:* Midland Division 1907. At the Inquest the boy steadfastly maintained that he had not touched the wires but the Inspector demonstrated that the explosion could not have occurred any other way. *Nuneaton Chronicle,* 5 April 1907.

[165] *Annual Report of the Inspector of Mines:* Midland Division 1899.

[166] *Annual Report of the Inspector of Mines:* Midland Division 1896, 1898 and 1906.

gunpowder still dominated with 80.7 per cent of shots fired and bulldog gunpowder, a close substitute soon to be banned and replaced by bobbinite, 5.8 per cent more. Anvis was 6.6 per cent of shots, bellite 6.3 per cent, gelignite 0.1 per cent, carbonite a mere 0.04 per cent and 'various' 0.46 per cent.[167] The continued use of gunpowder may have something to do with the fact that patent explosives made a greater headway in the other two counties, but it may more simply be explained by inertia in work practice or the nature of the coal beds. Both Derbyshire and Nottinghamshire tended to work the deeper seams. However, in his evidence to a 1912 Squib Committee Garside Phillips attributed this unequivocally to 'the nature of the coal and that as a rule it is fast to the roof.'[168]

Illustration 3:3 An Advertisement for the permitted explosive, Bobbinite.
Source: *Nuneaton Observer* 21 January 1910.

[167] *Annual Report of the Inspector of Mines:* Midland Division 1890 and 1900.

[168] Garside Phillips: Evidence to the Squibs Committee: to inquire into the squibs for the purpose of firing shots in naked light mines. (11 December 1912). 280.

Surface Deaths

Table 3:11 Occupations of Surface Fatalities described in the Mine Inspectorate Reports 1851 to 1913.

Occupation	Numbers	Occupation	Numbers	Occupation	Numbers
Banksman	11	Carpenter	1	Shunter	5
Screenman	7	Bricklayer	1	Locomotive driver	1
Labourer	6	Cutter	1	Carter	1
Engineman	3	Dataller (daymen)	1	Truckman	1
Blacksmith	2	Stoker	1	Waggoner	1

Source: Mine Inspector Reports 1851 to 1913

Some underground workers did not regard surface workers as proper miners, since they did not descend the pit. Surface workers included young boys being acclimatised to the colliery before becoming oncost workers and old miners who because of age or infirmity could no longer cope with the work underground. There were also skilled tradesmen like smiths, carpenters and engine wrights, but as more machinery was placed underground fitters and electricians were required there to install and service them. The first annual return of 1873 placed surface workers as 22 per cent of the national coal industry workforce and Church notes that it was to remain at that level through to 1913. Two official sets of statistics for 1889 and 1905 reported that surface workers were 18 per cent and 17 per cent respectively for Warwickshire, rising to 20 per cent on both occasions for the Midland area. Church explains this by the increasing mechanization of surface transport as locomotive engines replaced carters, and that the screening and washing of coal had also been partly automated.[169] Garside Phillips disputed this low figure claiming in his inaugural meeting as president of the Warwickshire Mining Students Society in 1899 that Warwickshire needed a surface workforce of around 25 per cent because it subdivided coal more to gain a better price.[170]

Between 1851 and 1913 forty-three Warwickshire miners died in surface accidents, some 7.82 per cent of the total deaths with a mean age of thirty-nine. That means that over 92 per cent of deaths occurred underground. This was roughly half

[169] R. Church, *The History of the British Coal Industry: Volume Three 1830 to 1914* (Oxford, 1986) pp. 209-12.

[170] *Nuneaton Observer,* 19 May 1899.

the national average of 13.98 per cent.[171] Both figures however reveal that surface work was less dangerous than working underground. Of these Warwickshire deaths thirty-two or 74.7 per cent were crushed by wagons. Four were killed by machinery. Two enginemen died, one falling into the gears of his winding engine, the second falling into revolving drums of a tail rope haulage system driven by two steam engines. The other two died because they were trying to cut corners and perform tasks without turning off machinery. An Exhall stoker was hit by the crank of his winding engine, oiling it while the engine was in motion, and an Arley banksman had his arm torn off picking stone from a moving belt.[172] Three died from falls; one from a pit frame, a builder from a scaffold and one from falling timber in a storeroom. Two died in the boiler explosion noted above, a carter was kicked by a rearing horse and one man was electrocuted. Table 3:11 reveals the rich diversity of occupations of those that worked on the surface although the subtle distinction between the shunter and the locomotive driver may be difficult to comprehend.[173]

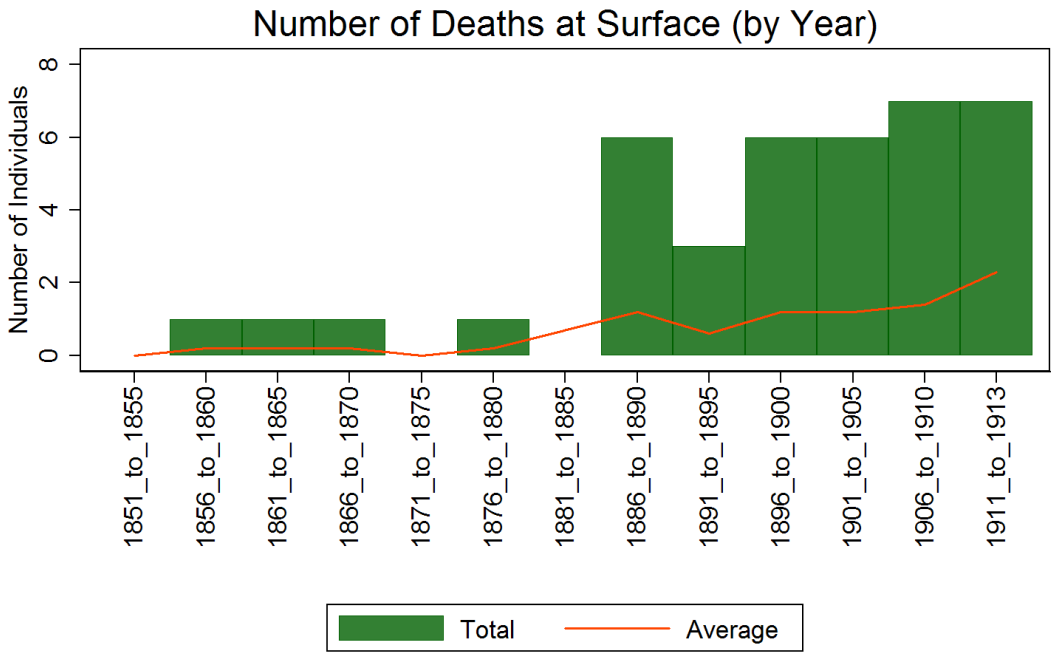
[171] From *Annual Reports of Mine Inspectors* 1872 to 1913. Why Warwickshire should be significantly lower than the national figure will be discussed below.

[172] *Annual Report of the Inspector of Mines:* Midland Division 1887 and Midlands and the South 1912.

[173] In mining the shunter was the man employed to move wagons around the site ready for distribution. He worked with and was not necessarily the locomotive driver.

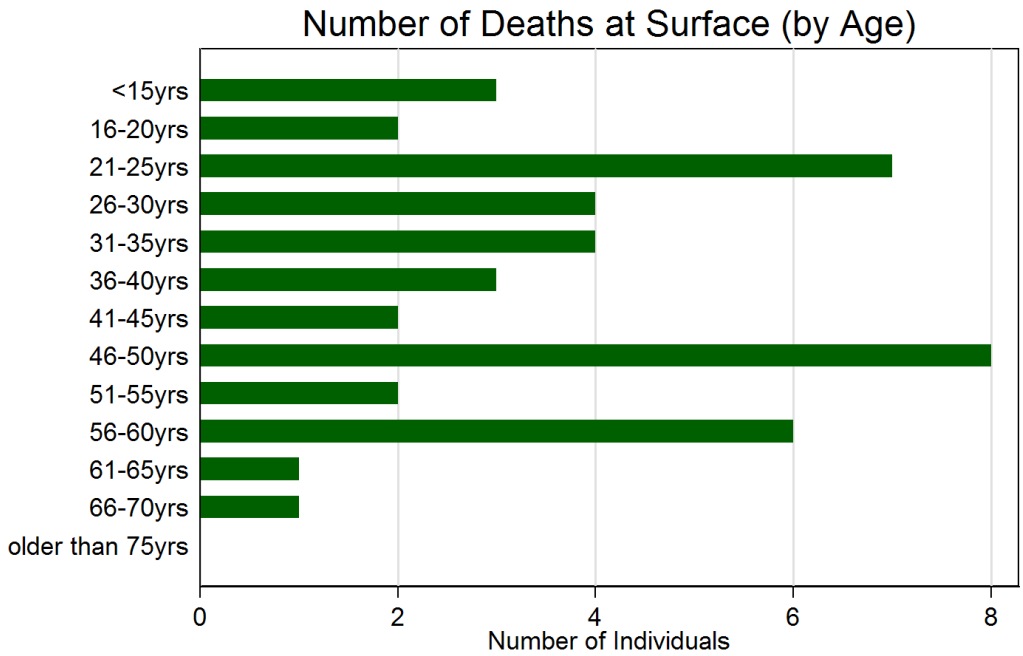
Table 3:12 Surface Deaths

(a) Total



Source: Annual Mine Inspector Reports 1851-1913.

(b) Ages



Source: Annual Mine Inspector Reports 1851-1913.

Surface deaths began to mount from the 1890's largely due to the increased mechanization of surface transport. Inspector Stokes warned as early as 1886 that too many were being crushed by wagons.[174] As this accounted for three quarters of all surface deaths he was right to highlight this problem. He recommended that coupling and uncoupling should be performed with a coupling pole which would negate the need to go between the buffers or under the wagons. Similarly men pushing wagons with their shoulder at the buffer of the wagons were unaware of slow moving wagons approaching from behind. Here it was recommended that they should use a pinch bar at the wheel, or stand outside the rail and push at the side of the wagon.[175] Additional danger was presented by small gaps between the screens and the wagons. To give but two examples, in 1889 an Amington screen man was crushed between wagons and screen when other wagons ran forward, and in 1913 an Ansley Hall shunter had his head crushed when he was dragged through an eight inch gap.[176] As always there is the inexplicable. In 1898 a fifty-six year old Griff banksman went to lower three tubs of a train of sixteen down an incline roadway on the pit bank. After taking the locker off the first, the whole train moved and he stepped in front in a foolhardy attempt to stop it.[177] A contributory factor to the number of surface deaths may have been the lack of local medical facilities. In 1891 a Stockingford shunter driver was crushed by wagons and sent by train to Birmingham General Hospital. In its report of the Inquest held at Birmingham the *Nuneaton Observer* commented that 'this demonstrated the necessity for a cottage hospital in Nuneaton.'[178]

It is difficult to explain the reduced surface death rate in Warwickshire in comparison with other coalfields. In 1890 the *Nuneaton Observer* reported an inquest on a fifteen year old boy crushed by wagons. He had moved one wagon down an

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[174] *Annual Report of the Inspector of Mines:* Midland Division 1886.

[175] *Annual Report of the Inspector of Mines:* Midland Division 1886.

[176] *Annual Report of the Inspector of Mines:* Midland Division 1889 and 1913. Inquest, *Nuneaton Observer,* 26 September 1913.

[177] *Annual Report of the Inspector of Mines:* Midland Division 1898. Inquest, *Nuneaton Observer,* 17 January 1898.

[178] *Nuneaton Observer,* 27 February 1891. A cottage hospital was established in Nuneaton in 1893. Yet in 1902 a Baddesley stallman was badly burnt by a premature explosion and had to be sent to Birmingham General Hospital. *Nuneaton Observer,* 11 April 1902.

incline and the rest of the train had followed. On examination of the witnesses the coroner's jury discovered that brakes were only on one side of the wagons and that it was not a breach of colliery rules to leave wagons on the lines or in sidings without applying the brakes. In an attempt to curtail this dangerous practice the jury recommended that all wagons should have a brake on both sides and those brakes should be fastened when wagons are left on the lines on in sidings. It was also noted that it was against the law to employ a fifteen year old on this task and the Griff Colliery management was censured and fined.[179] But the Mine Inspector failed to comment on the jury's findings. Twice in the 1880's inquests on surface workers that had merited reporting in the *Nuneaton Observer* failed to be included in the Annual Report.[180] This may reflect under-reporting but this begs the question how far this was simply a Warwickshire phenomenon.

Table 3:13 charts the growing significance of surface deaths as a proportion of total fatalities. They begin to mount from the 1880's and in the years before the First World War reach their highest level of 17 per cent, then above the national average of 14 per cent. This increase reflects the move to larger collieries and the widespread adoption of steam locomotives to transport surface wagons. This had occurred much sooner in the larger coalfields of the North-East and South Wales and as Warwickshire was relatively late in implementing these changes they may have unwittingly saved the lives of many banksmen. In 1902 only 20.7 per cent of Warwickshire collieries employed a thousand men but by 1913 this had leapt to 59 per cent.[181] By that time Warwickshire surface deaths were more in line with those nationally.

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[179] *Nuneaton Observer*, 23 May 1890.

[180] *Nuneaton Observer,* 16 January 1880 an Ansley Hall shunter driver was caught by wagons and died the next day from a ruptured liver and gall bladder. 1 September 1882 a Stockingford blacksmith was caught by the wheel of a machine and died next day from a ruptured liver. Neither death features in the *Annual Report of the Inspector of Mine.* Of the six deaths that I have unearthed not reported by the Inspector four were surface workers.

[181] *List of Mines* 1902 and 1913.

Table 3:13 Surface Deaths as a percentage of Warwickshire fatalities

Years	Numbers	Percentage
1851-1860	2	1.5
1861-1870	5	4.5
1871-1880	1	2
1881-1890	8	8
1891-1900	8	11
1901-1910	12	8
1911-1913	17	17

Source: Annual Mine Inspector Reports 1851 to 1913

Other Causes of Mine Fatalities

Other causes of fatalities included flooding, machinery accidents, electrocution and disease. Water was a constant danger in Warwickshire[182] but only one death resulting from flooding was ever recorded. This occurred at Polesworth colliery in 1855. It was a recently sunk pit and five men were digging a drift during the night near the bottom of the pit. They had ignored water seeping from the roof and sides when a sudden burst rushed in. One man drowned, but the rest managed to float until they were rescued. There were no maps of the old workings, and it was recommended by Inspector Morton that when approaching known or suspected old workings, miners should use safety lamps and horizontal boring rods to guard against sudden irruption of gas or water.[183] In 1905 a Newdigate Colliery hewer was making a bore hole when water suddenly broke through and in the ensuing panic he rushed into a tub that paralysed him. At the inquest it was revealed that the water was not a danger and that he would have survived had he simply stood still. This was classified as a tub accident but water was the contributory factor.[184]

Steam powered boilers were used to pump water from the mines and power the winding engine. Working with machinery has inherent dangers. The only boiler fatalities occurred at Polesworth in 1856, when two were killed, one a thirteen year old boy. It was an old hay stack boiler with four stays from top to bottom. Two of the

[182] For example in 1912 Stockingford suffered from a flooding of the mine from water from old workings. In the report it was stated that this had occurred in 1896 and 1906 too. *Nuneaton Observer,* 19 April 1912.

[183] *Annual Report of the Inspector of Mines*: 1855.

[184] Inquest, *Nuneaton Observer,* 3 February 1905.

stays had failed at the bottom cotter holes so that only two worked, yet the engineman had failed to report the defect. The pressure of eight pounds per square inch was too great, and the bottom blew out.[185] Three further boiler accidents are reported. At Exhall in 1886 two workers were hurt when a boiler that had run short of water exploded, and at Haunchwood in 1892 a stoker was burnt when gas fired as he stirred a slack covered fire.[186] The Exhall men were particularly fortuitous as the explosion destroyed the boiler house, the blacksmith's and carpenter's shops, and blew the front off the manager's house causing damage of up to £10,000. Yet the only reported fatality from this explosion was a rabbit in a nearby field felled by falling bricks.[187] In 1900 a boiler explosion at Charity Colliery slightly injured three and resulted in the pit being closed two days for repairs. A subsequent Board of Trade Inquiry revealed that the thirty year old boiler although cleaned every two months had overheated because water had been used from the pit rather than the usual reservoir in a dry period and the usual half inch of sludge had increased threefold.[188] Underground machinery also brought danger. At Glascote in 1853 and Hawkesbury in 1854 men were crushed by a steam engine.[189] At Victoria in 1865 and Hawkesbury in 1870 enginemen died falling into machinery. Also in 1870 a fourteen year old boy working at Hawkesbury Speedwell died falling into machinery at the pit bottom.[190]

Between 1900 and 1913 seven died from electrocution, four at Exhall, and six of these occurred underground. The first Midland district fatality was a Wyken deputy in 1900. When he leant over a small 2½ horse power motor that drove a ventilation fan, his bare arm came into contact with the terminals and he gave a cry. The assistant electrician who was with him, turned off the current and ran three hundred yards for help, but no attempt was made to revive him. Stokes' practical advice was;

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[185] *Annual Report of the Inspector of Mines:* Midland Division 1856.

[186] *Annual Report of the Inspector of Mines:* Midland Division 1886 and 1892.

[187] *Nuneaton Observer,* 19 February 1886.

[188] *Nuneaton Observer,* 8 February 1901.

[189] *Annual Report of the Inspector of Mines:* 1853 and 1854.

[190] *Annual Report of the Inspector of Mines:* Midland Division 1865 and 1870.

> *…turn off the switch but at the moment of contact broken, a man might receive 1,000 volts owing to indirect current in the master and therefore fatal. It is better to pull him away by his clothes, remove tight clothing from neck and chest, and apply artificial respiration for at least an hour or until a medical man arrives.*[191]

In the same year a pony was electrocuted and an electrical fire was caused by a faulty switch. The first survey to show the spread of electricity took place in 1905, but it covered the whole Midland Division and did not differentiate Warwickshire. It listed 183 continuous current generators running from 50 to 600 volts, and 26 alternative current generators from 100 to 1100 volts. There were 116 motors on the surface, ninety-five driving various machines, fourteen pumping and seven hauling. Underground there were 269 motors, one hundred and fifteen hauling, ninety-nine pumping, fifty-three coal cutting, one air compressing and one drilling.[192] The first to list Warwickshire separately was the expanded Midland and South Division in 1912. Of Warwickshire's twenty-nine mines, eighteen were electrified, some 62.07 per cent. Only Derbyshire, whose eleven mines were all electrified, has a higher percentage. The third and fourth placed Kent and North Staffordshire coalfields are 42 per cent and 41 per cent respectively. When one looks at the average horse power per mine that used electricity, Warwickshire with 334 is fourth, behind the 426 of North Staffordshire, the 486 of Gloucestershire and the 1,349 of Kent [193] Attempts to address safety issues related to electricity were not always welcomed. In a 1908 inquest on a Stanley Colliery miner electrocuted from a cable that had been damaged by a fall of coal, the inquest jury recommended thicker insulating cables. This prompted an editorial in the *Nuneaton Observer*:

> *It is easy for those gentlemen bound by no financial consideration to find remedies for every industrial accident under the sun but they must not be*

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[191] *Annual Report of the Inspector of Mines:* Midland Division *1900*.

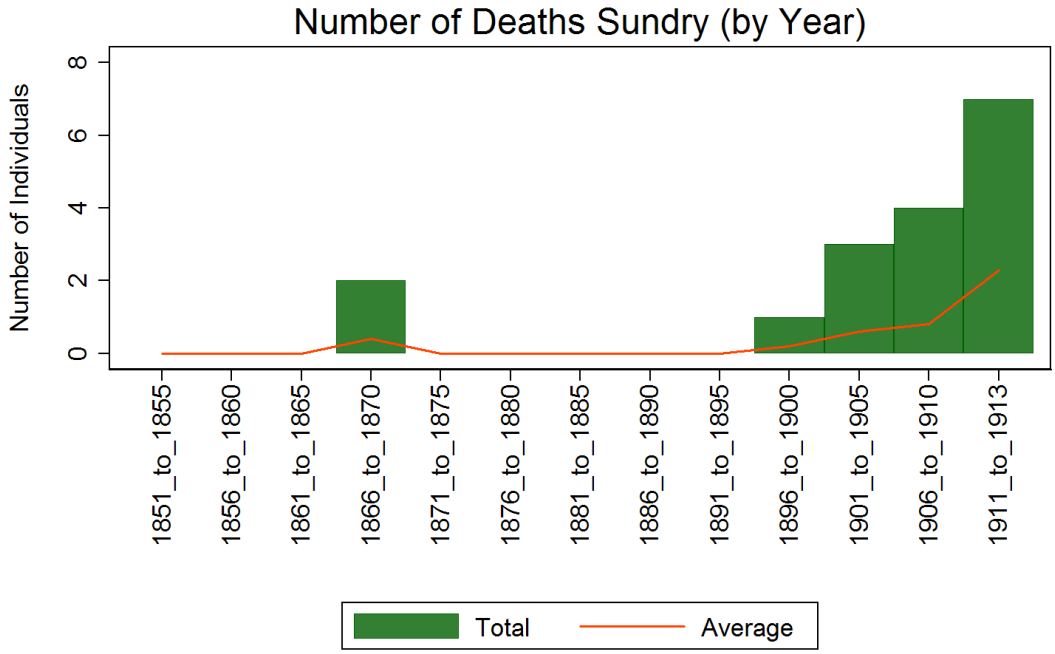
[192] *Annual Report of the Inspector of Mines:* Midland Division 1905.

[193] *Annual Report of the Inspector of Mines:* Midlands and the South 1912.

allowed to push their ideas at the expense of those that provide the means of labour.[194]

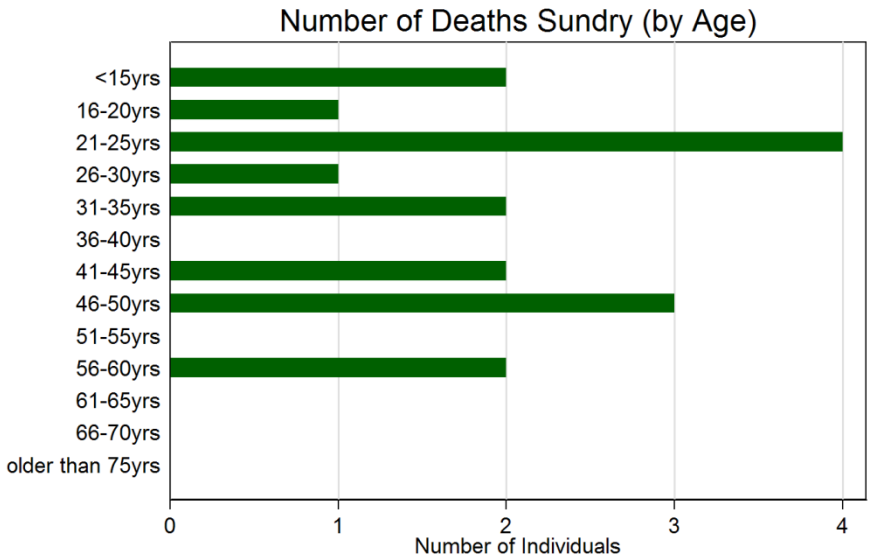
Table 3:14 Sundry Deaths 1851 to 1913

(a) Total



Source: Annual Mine Inspector Reports 1851-1913.

(b) Age



Source: Annual Mine Inspector Reports 1851-1913.

[194] *Nuneaton Observer,* 9 October 1908.

Before the rise of antibiotics [195] a simple scratch could result in septicaemia and death resulting from the infection. In 1907 Inspector Stokes voiced his opposition to attributing the result of 'trivial accidents' to the list of mine fatalities[196] but the growth in medical knowledge was against him. After the 1897 Workers' Compensation Act there was also an incentive to claim an accident in the hope of payment. For example in an inquest of 1902 on a seventeen-year-old boy who had obviously died of consumption, the mother attempted to claim that death was the result of an unreported injury in the mine some six months before.[197] There are seventeen deaths that were deemed to stem from accidents at work. Table 3.14 shows that fifteen of these were reported after 1900, which would suggest that cases before this period went unrecorded.[198] Three deaths were from septicaemia (blood poisoning) the result of a pinched thumb, a scratch on the arm and a fall on the knee. There were two cases of tetanus (lockjaw) resulting from pinched fingers and a hit head on a steel girder, and two of peritonitis (appendix) from lifting a derailed tub and a fall. There was one case of meningitis (inflamed brain) from a hit head, and one case when an injured chest led to a combined attack of sepsis, meningitis and pleurisy. There was cancer resulting from cracked ribs; pneumonia from a 'slight injury;' haemorrhage from a ruptured blood vessel; ruptured kidneys following a fall; a pulled stomach from lifting a derailed tub; a sprained wrist from lifting a load; scalds and shock from a fall into a steam and oil reservoir and the strange 1869 case of the fifteen year old Pooley Hall pony driver who died after being 'accidentally kicked by another lad.' The number of days before death varied from one to seventy-eight, with a mean of twenty-five and a medium of twenty.

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[195] Before the 20th century the treatment of infections was limited to various plant moulds. Antibiotic affects were first observed by Pasteur in 1877 and penicillin discovered by Fleming in 1927 and produced commercially in the 1930's.

[196] *Annual Report of the Inspector of Mines:* Midland Division 1907 p.10.

[197] *Nuneaton Observer,* 31 January 1902. The coroner stated that Mine Inspectors complained of the increase in such cases that took up their valuable time.

[198] Some continued to slip through. In November 1911 a Griff Colliery filler was injured in a roof fall and spent two years in and out of hospital before dying of septicaemia in November 1913. He had received compensation since the accident but there was no Mine Inspector at the Inquest and it was not recorded as a coalfield fatality. Inquest *Nuneaton Observer,* 14 November 1913.

In addition to these deaths a further fifteen fatalities were said to be due to natural causes. Five were from heart attacks, with another from pericarditus (inflamed heart). There were two cases of septic infection (blood poisoning) and one of rheumatic fever (joints); meningitis (brain); pleurisy (lungs infection); synope (fainting) and in 1903 the suicide of a thirty-two year old Kingsbury engineman who hanged himself.[199] Little evidence is given by the Inspector why an 1890 Tame Valley holer died following a fall, or a 1904 Exhall loader who died after an argument with a colleague over a tub. In the latter case the man had claimed injury, but the coroner's court found no evidence of this and returned a decision of natural causes.[200]

A final mention must be made of four deaths not at the colliery but involving colliery transport. All involved individuals being run over, two at Baddesley and two at Griff. These include a Griff boatman in 1896; a Baddesley header on his way to work in 1902, and two employees of the London North West Railway, who were killed at Baddesley in 1902 and Griff in 1905.[201] In the Griff case of 1905, piles of slack had been deposited next to the line and because there was no space for the shunter to pass the inquest jury found the colliery at fault.[202] In 1913 at Baddesley another railway worker was killed by the colliery engine which was shunting full trucks from the pit yard to the line yet this was not classified as a colliery accident.[203]

Non-Fatal Accidents

In his autobiography, the Northumberland miner's leader Thomas Burt MP wrote of the mining community where he lived and worked in the 1850's remembering that 'he had never seen so many crutches, empty jacket sleeves and wooden legs.'[204] Such observation could have been obtained from any mining community in our period of study but statistical confirmation was only forthcoming in the 20th century. In the

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[199] *Annual Report of the Inspector of Mines:* Midland Division 1903. *Nuneaton Observer,* 12 June 1903.

[200] *Annual Report of the Inspector of Mines:* Midland Division 1890 and 1904.

[201] *Annual Report of the Inspector of Mines:* Midland Division 1896, 1902 and 1905.

[202] *Nuneaton Observer,* 10 February 1905.

[203] The man had his leg severed and died at Birmingham General Hospital. The Birmingham Inquest is recorded in the *Nuneaton Observer,* 27 June 1913.

[204] T. Burt; *From Pitman to Privy Councillor: an autobiography* (London, 1924) cited in R. Church, *History of the British Coal Industry: Volume Three* (Oxford, 1986) p. 195.

inter-war years, Supple discovered that although miners were 5 per cent of the working population they accounted for around 25 per cent of work related injuries in the UK.[205] McIvor found that in the 1950's, miners were 60 per cent of all Workers' Compensation claimants and that by the 1970's they were 85 per cent of all UK recipients under the National Insurance Industrial Injuries Act.[206]

In the case of fatalities in the mining industry we have the accuracy of the annual Mine Inspector Reports, backed by statutory power to impose penalties for those who did not comply. However non-fatal accidents were recorded infrequently and depended upon the whim of the manager. Prior to 1895 there was no standard accident form and some managers used a printed form of their own devising or simply a sheet of waste paper. The introduction of a special accident form in 1895 throughout the Midland Division led to an increase in the number of reports: fifty in July, one hundred and twenty-nine in August and three hundred and twenty in November. Inspector Stokes concluded:

> *It shows that not more than one in seven of accidents which necessitates a man being away from work seven days, were being reported under the old conditions of the interpretation of the word 'serious,' and indicates the necessity for a workable clearly defined standard in which all owners and management must conform.*[207]

His call went unanswered. In 1905 he reported on an inquest held during the year in connection with a large unnamed mine in the Midland district, which showed accidents causing one month's absence between 1 July 1898 and 20 September 1905 in detail. Of eighty-eight accidents from falls of coal, twenty-three were reported; four shaft accidents, one reported; one hundred and five miscellaneous underground (mainly haulage,) nine reported; and twenty-six surface accidents, three reported. Thus of two hundred and twenty-three accidents in the colliery, only thirty-six or 16 per cent were reported to the inspector. This is comparable with his earlier report

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[205] B. Supple, *History of the British Coal Industry: Volume Four: 1913 to 1946* (Oxford, 1987) p. 427.

[206] A. McIvor and R. Johnston, *A History of Dust Disease in British coalmining* (Aldershot, 2007) pp. 52-3.

[207] *.Annual Report of the Inspector of Mines:* Midland Division 1895.

which gave a 'one in seven' conclusion of 1895, and it is no wonder that he regarded the published statistical information relating to non-fatal accidents as; 'interesting information without statistical value.'[208]

Table 3:15 Non-Fatal Accident figures recorded in the Annual Report

Year	Number of Accidents	Year	Number of Accidents
1875	36	1887	49
1882	35	1888	53
1883	43	1889	55
1884	36	1890	56
1885	41	1891	69
1886	51	1893	43

Source: Annual Mine Inspector Reports 1851 to 1913.

The Annual Reports sometimes published the figures for Warwickshire and these are recorded in Table 3:15. However given the conclusion of Stokes noted above, perhaps these should be multiplied by seven to give a more realistic figure. In real terms this means that accident rose from around 250 a year in the early 1880's to near 400 by 1900. Only in 1885 does the Inspector give a district breakdown of the period of disability and the degree of injury. This is shown in Table 3:16 below. Some interesting detail can be gleaned from this even if it is 'without statistical value.' The report of 92 per cent of injuries sustained underground does fit with the Warwickshire average.[209] An incredible 44.8 per cent of those injured required at least three months absence from work. Some 61 per cent of injuries were lacerations and contusions, yet 22 per cent of injuries were 'unknown.'[210]

[208] *Annual Report of the Inspector of Mines:* Midland Division 1905.

[209] As noted above, 7.82 per cent of fatalities occurred on the surface thus 92.18 per cent of deaths occurred underground.

[210] *Annual Report of the Inspector of Mines:* Midland Division 1885.

Table 3:16 Non-Fatal Accident in the Midland Coalfield in 1885

(a) Period of disability

Period of Disability (Days, including Sunday)	Below	Surface
7 days or less	98	7
7-14 days	254	19
14-30 days	308	24
30-90 days	204	41
91-182 days	86	3
Over 182 days	92	6
Uncertain but over 91	496	30
Permanently disabled	2	0
Total	1,540	130

(b) Degree of Disability

Degree of Disability	Below	Surface
Lost part of right hand	7	1
Lost part of left hand	10	2
Lost part of leg or foot	1	0
Fracture of limbs or bones of trunk	101	11
Fracture hand or foot	13	3
Loss of sight, one or both eyes	3	0
Injuries to head or face	101	9
Burns or scalds	5	3
Lacerations, contusions	954	71
unknown	345	29
Total	1,540	129

Source: 1885 Mine Inspector Report: Midland Division.

The ambiguous concept of 'serious personal injury' finally took shape in the 1906 Notice of Accidents Act. The notification of any accident that necessitated seven days absence for the first time brought mines in line with factories and workshops and allowed comparison.[211] It is only in 1910 when Warwickshire became part of the expanded Midland and Southern region that non-fatal accidents are given in detail. These are shown in Table 3:17. Between 1910 and 1913 Warwickshire had an annual average of 101 accidents injuring 108 people.[212] This figure is only a doubling of reported accidents and not the predicted seven fold advance asserted by Inspector Stokes. As these figures should be following national guidelines, it may well be that Stokes' assumption was pessimistic. Yet in 1910 W. Harvey, the MP for North

[211] This Act also led to an increase in the number of accidents reported from 6,333 in 1906 to 8,613 in 1908. *Parliamentary Debates* (28 April 1909) Volume 4 cc 412-413.

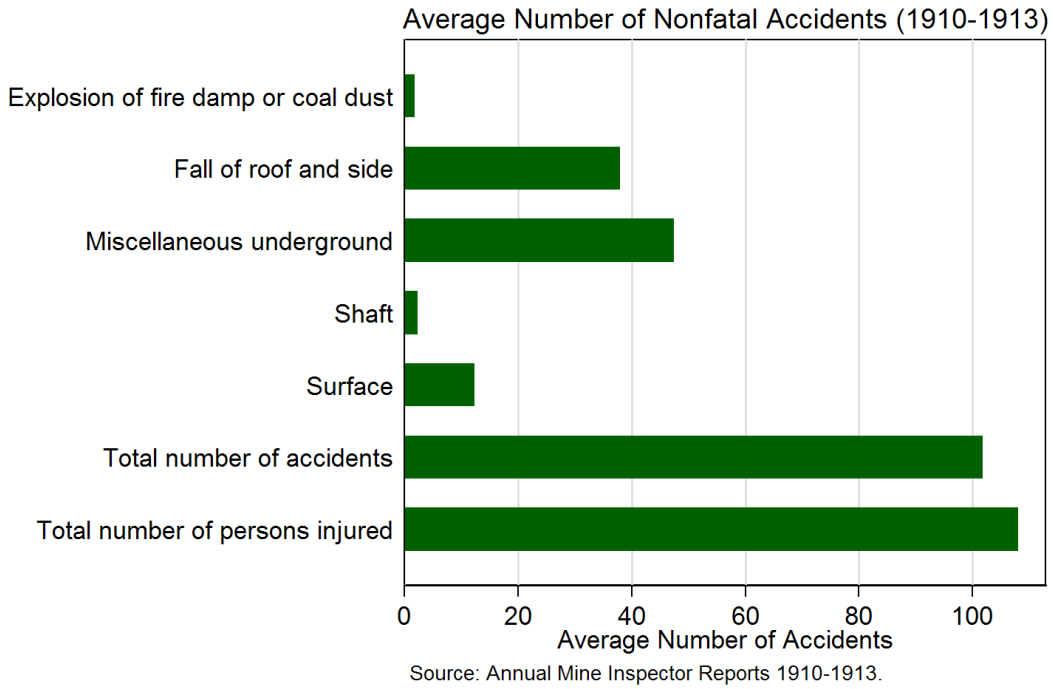
[212] *Annual Report of the Inspector of Mines:* Midland Division 1910 to 1913.

Derbyshire, had raised in the House of Commons that there was a discrepancy between the number of reported accidents and those receiving relief:

> *If you take the whole of the permanent relief funds in this country which pay relief on the certificate of a doctor that an accident has taken place and a man is unable to follow his work, it works out that one of every six who goes down in the mines meets with an accident every year.*[213]

In 1910 Warwickshire reported 115 injured in accidents. If Harvey's calculations are correct, it should have been around 2,600.[214]

Table 3:17 Warwickshire Non-Fatal Accidents 1910 to 1913



Occupational Illness

The Mine Inspectorate campaigned to reduce the number of accidents in collieries to improve safety, but was slow to apply a similar urgency to the effects of occupational diseases which patently affected the health of so many that went down the pits. Occupational disability was the result of chronic exposure rather than an

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[213] W. Harvey MP *Parliamentary Debates*, Volume 17 1cc 496 (16 June 1910).

[214] See J. Benson, 'Non-fatal coal mining accidents', *Bulletin of the Society for the Study of Labour History* 32 (1976).

acute single misfortune. The incapacitating effects of miner`s asthma and black spit were both reported by the Children's Employment Commissioners of 1842 in some detail [215] and as early as 1852 Inspector Mackworth called unsuccessfully for a medical inspector to work alongside the safety inspectors.[216]

Two debilitating diseases were recognised before 1913. Nystagmus was the result of working in poor light and tended to decline when electricity began to replace safety lamps. Its symptoms were uncontrollable oscillations of the eyeballs, dizziness and headaches and usually forced sufferers to quit the pit.[217] Nystagmus usually took some years to develop and generally affected older miners. The second was the result of working in damp conditions and having to kneel or lie to work narrow seams. This caused rheumatism, arthritis and most common, the 'beat' or joint injuries resulting in inflammation of the knee, elbow or wrist.[218] The term was coined from the intense throbbing of the injury. Working from new cases arising under the Workers` Compensation Act,[219] McIvor states that the national annual averages between 1908 and 1912 were 944 cases of nystagmus and 1,974 cases of the beat.[220] Nystagmus reached a peak of recorded cases in the 1920's and then declined due to the introduction of superior electric lighting. Cases of 'the beat' did not peak until the early 1950's and then declined with the adoption of medical centres, a specially designed knee pad and most importantly, the use of machinery to cut coal replacing human endeavour.[221]

Black spit, the consequence of inhaling coal dust, was known from the 1830's but medical opinion was divided. Some believed that dust helped clear the lungs and

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[215] *Employment of Children Report* London, (1842) 360 p. 104.

[216] PP *First Report on Coal Mines* (1852-53) 1553-57 pp. 127-128

[217] See A Discussion of Miner`s Nystagmus *British Medical Journal*, 15 October 1892 seven articles debating the cause of the disease and its treatment pp 834-40,

[218] D. Williams, 'Beat Disease' in J. Rogen (ed.), *Medicine in the Mining Industry* (London, 1972) pp. 199-208. The beat refers to the throbbing of the injury.

[219] This Act of 1897 replaced the 1880 Employers Liability Act which allowed injured workers to sue employers but put the burden of proof upon the employee. After 1897 workers had only to show that they had been injured at work.

[220] A. McIvor and R. Johnston, *A History of Dust Disease in British coalmining* (Aldershot, 2007) p. 52.

[221] A. McIvor and R. Johnston, *A History of Dust Disease in British coalmining* pp. 52-3.

some went as far as prescribing the inhalation of coal dust as a cure for the nation's killer, tuberculosis or TB.[222] A Doctor Haldane professed this as late as 1927.[223] McIvor asserts that 'the notion that miners succumbed to a particular type of lung disease was rejected by most doctors in the 19th and early 20th century.'[224] Indeed in a *Lancet* article of 1911 Professor Louis of Newcastle-upon-Tyne postulated that the 'possible cause' of lung disease was miners walking home in damp and dirty clothing and used this as an argument for the introduction of both changing rooms and compulsory pit head baths.[225] Other work related illnesses were later acknowledged such as silicosis, a respiratory disease caused by the inhalation of stone dust, accepted in 1918; pneumoconiosis, the inhalation of coal dust, recognised in 1942; emphysema and bronchitis in 1994 and osteoarthritis or 'miners knee' in 2009.

Most miners would have observed their father's and grandfather's developing respiratory problems as they aged and accepted that their turn would inevitably come. Perhaps they could then move to a lighter job away from the face or on the surface or, in some cases, assistance from the Permanent Relief Funds when work was no longer possible. Even by 1913 the relatively slow scientific research into occupational illness meant that miners could not expect support from the medical profession.

Warwickshire Fatalities and the British Coal Industry

We now need to compare Warwickshire with the UK mining industry as a whole. Between 1873 and 1913 some 49,740 miners died in accidents in the mines. Warwickshire's 305 deaths in this period is less than one percent of the total, which alone gives some indication of the county's relative importance.[226] There were 21,299 deaths from a fall of roof or side, some 42.80 per cent of the total. This is very close to the Warwickshire figure of 40.18 per cent. Nationally the annual deaths were always over 400 and reached 500 in 1873, 1883-84, 1891, 1900, 1903-07 and 1912,

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[222] A. McIvor and R. Johnston, *A History of Dust Disease in British coalmining* (Aldershot, 2007) pp. 53-69.

[223] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 110.

[224] A. McIvor and R. Johnston, *A History of Dust Disease in British coalmining* p.67.

[225] *Nuneaton Observer,* 21 April 1911.

[226] Tabulated from the *Annual Report of the Inspector of Mines* 1873 to 1913.

and reached 600 in 1908-11 and 1913. There were 7,284 deaths from haulage, some 14.64 per cent of the total, and considerably less than the Warwickshire figure of 24.17 per cent. Haulage deaths only fell below a hundred in 1878 and were above 200 in 1902, 1904 and 1906 through to 1913. In this respect they mirror the rising Warwickshire haulage deaths as production increased. There were 6,978 deaths from explosions, some 14.02 per cent of the total and double the Warwickshire figure of 7.09 per cent. There is little pattern in the figures for fatalities from explosions. It falls to a low of 14 deaths in 1903 and a high of 586 in 1878, and is 501 in 1910 and 499 in 1880. There were 4,521 shaft deaths, some 9.09 per cent and close to the Warwickshire figure of 10.18 per cent. As with Warwickshire, this is a declining problem. It only exceeds 200 in 1873 and 1875 and is below a hundred 1885-90, 1894, 1896-1901, 1903-06, 1908-10 and 1912. There were 5,171 surface deaths or 13.98 per cent of the total, almost double that of Warwickshire's 7.82 per cent. Numbers only fell below a hundred on six occasions between 1878 and 1887 and reached a high of 159 in 1903 and again in 1910. It would appear that as with haulage fatalities, deaths on the surface increased with production. Warwickshire therefore mirrored the national average death rates in the shaft and falls of coal, was relatively less dangerous in gas explosions and deaths on the surface, but perhaps reflecting the need to work on an incline, was more dangerous working underground haulage.

The Warwickshire coalfield did expand significantly during the 19th century. Grant in his thesis The Spatial Development of the Warwickshire Coalfield attempted to chart this increase and compare it to the situation nationally.[227] In 1854 Warwickshire produced just 255,000 tons of coal, a mere 0.4 per cent of the UK output of 65 million tons. By 1913 Warwickshire produced five million tons, 1.8 per cent of a UK output of 287 million tons. Grant identifies three phases of development. As the smallest UK coalfield in 1854 it had a greater scope for development and given impetus by the development of railways, the period 1854 to 1867 saw a 10 per cent growth rate compared to the UK average of 3.8 per cent. The sudden decline of 1868 was due largely to the local collapse of the weaving trade reflected in the 27 per cent

[227] E. Grant, 'The Spatial Development of the Warwickshire Coalfield', (Unpublished PhD thesis, University of Birmingham, 1977) pp. 297-331.

decline in coal production compared to a 10 per cent fall in coal carried by rail. The second phase 1868 to 1892 saw a modest growth of 5 per cent, still double the UK average of 2.3 per cent. This is surprising as it includes the rapid expansion of the early 1870's when coal prices rocketed due to a national shortage of coal. The number of collieries increased as local entrepreneurs opened scavenger pits like Collycroft, Hawkesbury and Swan Lane as the scarcity now made them profitable. Many closed when the price bubble burst. Grant omits the great strike year of 1893 and in the third phase 1894 to 1913 Warwickshire had a growth rate of 5.2 per cent compared to the UK average of only 2.2 per cent. This is the period traditionally seen as the golden era of the Warwickshire coalfield. Table 3:18 reveals the rapid increase in employment from this time and this was reflected in output. Coal production had reached a million tons in 1878, two million in 1895, three million in 1901, and four million in 1907 and was over five million tons in 1913. There were only six true deep mines in 1890 but this had risen to twelve by 1913 with another two sinking. From 1894 the annual *List of Mines* gives employment figures for individual collieries and this can be used as a surrogate for the dearth of local production statistics. In 1902 only 20.7 per cent of Warwickshire collieries employed a thousand men but by 1913 this had leapt to 59 per cent. From employing barely 6,000 men in 1890 it employed 19,000 by 1913. The era of modern deep mining had arrived.

Table 3:18 Employment on the Warwickshire Coalfield

Year	Number Employed	Year	Number Employed
1854	4,000	1905	12,000
1889	5,000	1906	13,000
1891	6,000	1907	14,000
1894	7,000	1909	15,000
1897	8,000	1911	16,000
1900	9,000	1912	17,000
1901	10,000	1913	19,000
1902	11,000		

Source: Annual Mine Inspector Reports 1851 to 1913

A simple perusal of the graphs produced above would appear to suggest that deaths increased as the coalfield expanded, particularly after the rapid expansion from the 1890's, but did the attempts to reduce fatalities succeed? There are two ways to measure this. Inspector Headley as noted above, measured the dangers of the four coalfields of the Midland Division by the tonnage of coal raised per life lost. A second way is to measure the death rate as a percentage per thousand employed. Both

methods should reveal the relative success of safety measures throughout the development of the Warwickshire coalfield during this period.

Table 3:19 Tonnage of Coal Raised Per Life Lost on the Warwickshire Coalfield and Midland Division

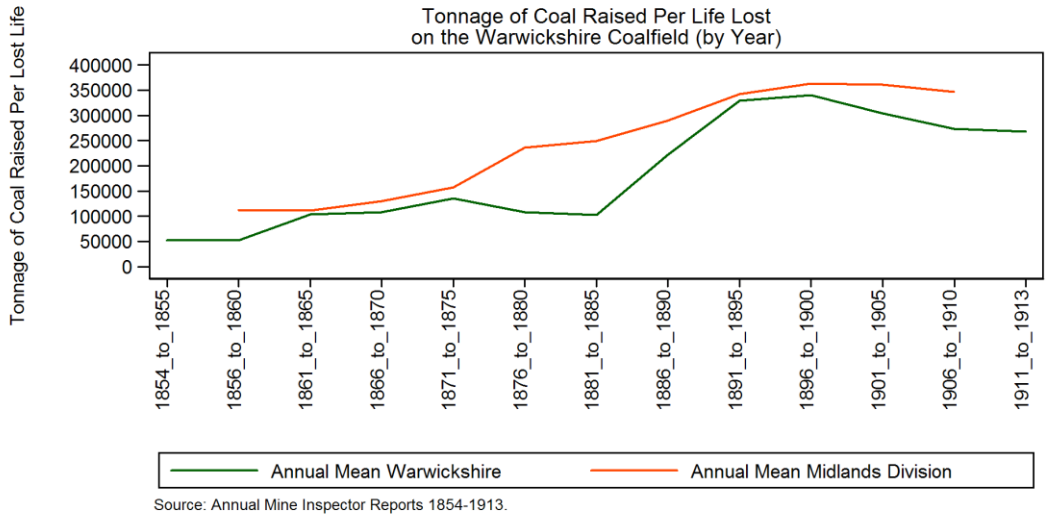
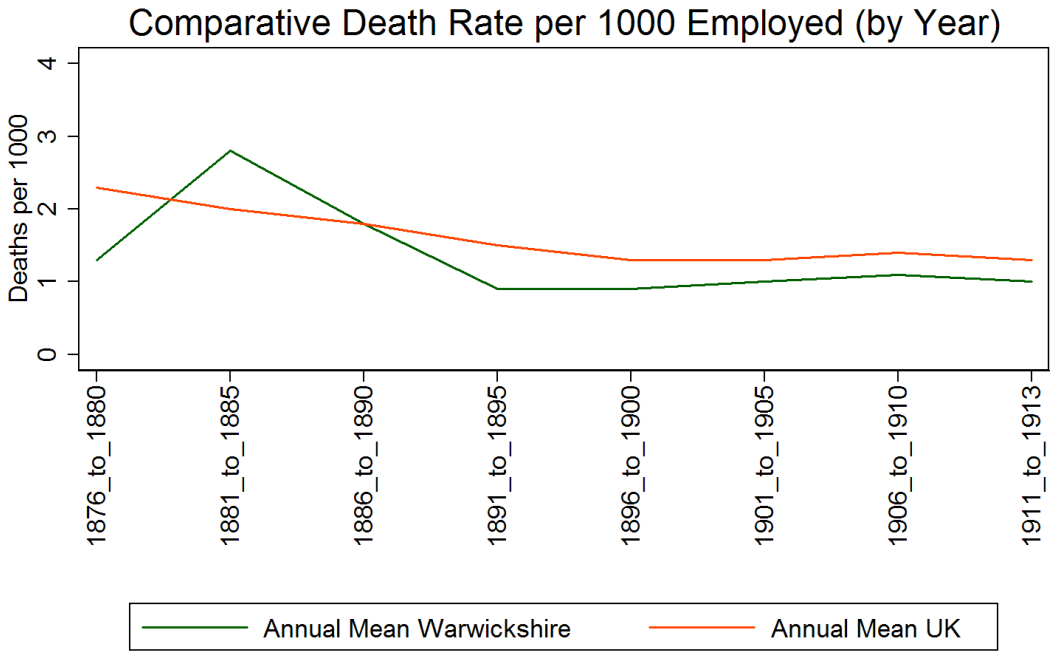


Table 3.19 compares the tonnage of coal raised for each life lost on the Warwickshire coalfield with the four county Midland Division as a whole. On every occasion Warwickshire raised less coal that the Midland Division, reflecting the perceived increased danger in mining there. It was less than half the Midland Division in 1856 to 1860 and again 1876 to 1885. It then almost gained parity before a decline in the first decade of the 20th century. There were twelve years when Warwickshire raised less than 100,000 tons for the life of a miner, eleven between the years 1854 to 1870, and the last, the lowest of 30,000 tons, in the Baddesley disaster year of 1882. In only fifteen years were more than 300,000 tons raised, the first time in 1879 but all the rest after 1891. In only four years were 400,000 tons exceeded. These were the 650,000 tons per life in 1894, 541,000 tons of 1895, the 495,000 tons of 1899 and the 425,000 tons in 1897. All occurred in the 1890's, the safest decade for the Warwickshire miner. Indeed the record year of 1894 records only three deaths, equalling the figure set in 1866 and 1879. These figures therefore show a rapid improvement in the early 1860's, largely due to the decline in shaft deaths. Deaths remained relatively static until another rapid improvement in the late 1880's. The 1882 disaster prevented this happening earlier. The twenty-eight deaths of 1876 to 1880 doubled to fifty-eight in the period 1881 to 1885 but the increase in production

kept tonnage per death comparable. The last improvement of the 1890's then saw a decline from 1900 due mainly to a doubling of deaths from coal falls to around six a year, the doubling of underground haulage deaths after 1905 and the improved reporting of sundry deaths.

Table 3:20 Comparative Death Rates per Thousand Employed 1873 to 1913



Source: Annual Mine Inspector Reports 1851-1913.

Table 3.20 compares the death rate per thousand employed on the Warwickshire and UK coalfields. With the exception of the 1880's Warwickshire is always below the national level. It mirrors the national increase in death rates in the first decade of the twentieth century although beginning slightly earlier, and the decline after 1910. If we examine the figures in more detail the national figure is over two deaths per thousand employed eight times in the 1870's and 1880's, the last time in 1885. It then stays at one per thousand, but never below one, through to 1913. It falls to a low of 1.2 on eight occasions 1897 to 1900, 1902 to 1904, and 1906, and reached 1.1 in 1911 and 1912. It does not fall below one per thousand men employed until 1920. As a contrast Warwickshire reached two deaths per thousand employed four times in the 1880's, the last time in 1889 and rocketed to 8.75 in the Baddesley disaster year of 1882. From 1890 it is one per thousand on eleven occasions and below one thirteen times. It falls below one in 1891, 1894 to 1899, 1901, 1903, 1905 and 1906, and 1911 to 1912, and reached its lowest of 0.428 in 1894. The 1890's emerges as

Warwickshire's safest period as it is below one per thousand in seven of the ten years compared with only four times in the first decade of the twentieth century. It may have been the most dangerous of the four county Midland Division but it was relatively safer than other British coalfields.

Table 3:21 An International Comparison of Death Rates per thousand employed (1905 to 1911)

Country	Death Rate	Country	Death Rate
Canada	4.11	Britain	1.35
USA	3.62	Austria	1.25
Japan	3.32	Australia	1.14
Germany	2.18	India	1.13
France	1.94	Belgium	1.00

Source: Adapted from F. Gibson, *The Coal Mining Industry of the UK, the various coalfields thereof and the principal foreign countries of the world* (Cardiff, 1922) p. 229.

Table 3:21 gives an international comparison of the death rates per thousand employed in different countries in the early 20th century. Our two main competitors, the USA and Germany, are both significantly higher than Britain and in the original table of thirteen countries that Gibson studied only four have superior death rates. This may indicate that Britain had made greater advances in mine safety than many other countries but a note of caution must be added. France includes the 1906 Courrieres disaster[228] which claimed 1,230 lives and if that was excluded France's figure would fall to 1.07. Other countries like Japan were in the infancy of data collection and there may be under reporting of fatalities.[229]

Both the tonnage of coal raised per death and the number killed per thousand employed reveal that Warwickshire experienced a decline in the death rate in the 1890's but, reflecting the national trend, that this was followed by a slight increase in the first decade of the 20th century, before it eventually returned to a downward trend after 1910. The relative dangers encountered working in the Warwickshire coal industry changed in the period of reporting. Deaths from falls of coal reached a low of 30 per cent in the 1880's but the move to larger deeper pits meant that it leapt to 45

[228] *Nuneaton Observer,* 16 March 1906.

[229] For a fuller description of the development of coal industries in different countries see E. Habibi, 'A Safety Analysis of Industrial Accidents', (Unpublished PhD thesis, University of Bradford 1991).

per cent 1901 to 1910 and was 46 per cent 1911 to 1913.[230] Surface deaths also increased in this later period, only reaching double figures in the 1890's before touching 17 per cent in the period 1911 to 1913. Underground haulage deaths remained remarkably consistent, measured at 29 per cent in the 1860's and was still 26 per cent in the period 1901 to 1910 before dipping to 17 per cent 1911 to 1913. As a contrast shaft deaths peaked at 29 per cent in the 1850's second in importance to falls of coal, but then steadily declined falling to single figures in the 1880's and had fallen to a low of two per cent 1911 to 1913.

Yet although the dangers may have changed the movement from the 1880's was in a downward direction. Barry Job has concluded that: 'By 1872 the miner was half as likely to be killed at work as he was in 1851, by 1888 the risk was a third and by 1898 a quarter.'[231] The aim of this study is to identify the contribution to this decline from the miners themselves, the coalowners and the State. The next chapter will investigate the input of miners to this downward trend.

[230] All figures tabulated from *Annual Report of the Inspector of Mines* 1851 to 1913.

[231] B. Job, 'The British Mine Inspectorate 1851 to 1913: Its Development and Effectiveness with particular reference to colliery explosions', (Unpublished PhD thesis, University of Keele 1992) p. 275.

Chapter Four: The Miners

What influence has an individual over the safety of their working environment? McIvor has noted that the more control a worker has over that environment the safer that workplace will be.[1] Yet in the 19th century miners possessed little power to influence safety, constrained as they were by the way they were employed and the lack of a premium placed upon intelligence. Attempts to establish influence by joining together into trade unions was strongly resisted and even when they were established safety was a secondary consideration to pay and working conditions.

The miner was initially engaged by a butty, a fellow miner and not the owner of the mine, and continued employment depended upon adherence to their orders.[2] This subcontracting system had evolved to allow the owner to overcome the problem of underground supervision. The owner tended to supply the fixed capital of sinking the shaft and providing winding, ventilation and drainage, although Church discovered that West Midland butties sometimes did this.[3] The butties or chartermaster employed the men and did the coal cutting, haulage and winding, providing the tools, tubs, pit props and horses.[4] The system dominated in the Midlands but had died out in the North-East where trained viewers ran the pits. Such viewers regarded the butty system as wasteful and inefficient;[5] an opinion echoed by the newly appointed Mine Inspectors of 1850.[6] A butty`s primary aim was to maximise the difference between what he was paid by the owner for coal and what was paid out for men and tools to gain that coal, with safety consideration neglected. Miners hated this exploitative system but it declined particularly after the 1872 Act that required certified managers to run the collieries. However it re-emerged as the 'little butty' system based around stallmen who employed small numbers of men when hewing coal. It existed in the

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[1] The authors assert that unionised workplaces are safer than non-unionised places. A McIvor and R Johnston, *A History of Dust Disease in British Coalmining* (Aldershot, 2007) p. 20.

[2] The butty system is explored in Chapter Five.

[3] R Church, *The History of the British Coal Industry: Volume Three 1830 to 1914* (Oxford, 1986) p. 413.

[4] M. Flynn, *The History of the British Coal Industry: Volume Two 1700 to 1830* (Oxford, 1984) pp. 55-7.

[5] See M. Dunn, *Miners Journal*, 10 March 1849.

[6] *Annual Report of Inspector of Mine:* 1851. Inspector Morton gives a vociferous attack against using butties to run mines.

Midlands in the years before the First World War[7] and Goffee found it flourishing in the Kent coalfield in the 1930's.[8]

When safety regulations began to trickle down from above, dissemination was hindered because literacy and indeed intelligence, were not considered as prerequisites for the industry. The Midland Inspector for mines noted in 1857 that if boys were to stay at school until the age of fifteen 'few if any would be disposed to go into the mines to work.'[9] Similarly in 1882 an inquest into the Baddesley disaster discovered that the hero deputy, Charles Day, was illiterate and had given only unverifiable verbal reports to the manager.[10] Both problems were to decline with the introduction of compulsory schooling in 1880 and written exams for new mining officials in 1872. The youth of many underground haulage workers was a significant factor in fatalities where young boys, some barely into their teens, were unable or unwilling to comprehend the importance of safety advice and died as the result of youthful bravado.[11] In the late years of the century an individual could turn to the assistance of the newly established trade union,[12] but again they were restricted by the priorities of a union concerned with pay and hours of work, and the relative strength of membership in the individual colliery. Despite such limitations this chapter will attempt to discover the influence of the miner to improve safety in mines.

Section one defines who the miners were. Because of the heterogeneity of description offered by the Inspectors in their Annual Reports this study has simplified grouping into the three main tasks performed by colliers; namely the extraction of coal at the face, the oncost haulage of coal to the shaft and the preparation and distribution of coal to customers at the surface. Section two examines the dangers

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[7] See A. Griffin, *Mining in the East Midlands 1550 to 1947* (London, 1971) pp. 29-32; J. Wale, 'The Griff Colliery Company, Warwickshire 1882 to 1914: a case study in business history', *Midlands History* 14 (1989) 108-110.

[8] R. Goffe, 'The Butty System and the Kent Coalfield', *Bulletin of the Society for the Study of Labour History* 74 (Spring 1977) 41-55.

[9] As in other chapters the Inspector`s name followed by a date refers to the year of the report.

[10] *Annual Mine Inspector Report:* Midland Division 1857 and 1883.

[11] Youth employment is discussed in Chapter Three.

[12] The history of trade unions is discussed in Chapter One. In Warwickshire a union was established in 1872 but was fighting a rearguard action from 1874 in a period of falling prices and collapsed in 1880. It was only when a second union was established in 1885 that Warwickshire miners could claim some union protection.

encountered at the face and what miners could do to reduce them. What emerges is the significance for workers' safety of prevailing assumptions amongst miners over what constituted proper masculine behaviour. Section three analyses the dangers of oncost work where the geological necessity of working on a steep incline made Warwickshire significantly more dangerous than other coalfields. The inadequate training offered to the large number of young people employed on these tasks contributed to the high incidence of accidents. Section four enquires into the dangers facing surface workers where Warwickshire emerges as considerably safer than elsewhere. However, with three quarters of the deaths resulting from the movement of coal wagons, the target for concern was more easily identified. Section five draws on the work of Benson and others that destroyed the myth of the feckless miner that failed to provide for his family in times of adversity. It charts through field clubs, trade union insurance schemes, permanent relief societies, insurance companies and government legislation the attempts of miners to mitigate the chance of misfortune. Section six explores the role of the miners' trade union in campaigning for improvements in safety with particular reference to the Warwickshire Miners' Association. Section seven concludes with a summary of the findings. The subtle collusion of management with miners' attempts to cut corners on safety is identified and the trade union campaign evaluated, together with avenues of missed opportunities. Nevertheless the miners' concern with safety cannot be denied even if the impact of the union as a pressure group is unquantifiable.

The Miners

Who exactly were the miners? In a strict sense the term collier refers to those who worked at the coal face and miner to those who worked underground but there were many shades of usage.[13] For the mine inspectors it was all who worked for the colliery both underground and on the surface. With the exception of the first six years of reports, Mine Inspectors gave a description of the occupation of fatalities and this reveals a rich diversity of employment as shown in Table 4:1. To make sense of such heterogeneity the divisions used in the Wyken Colliery Colliers Coal Accounts 1846

[13] See F. Zweig, *Men in the Pits* (London, 1949) p. 23.

to 1852 [14] which used getters, turnmen and banksmen, or their modern equivalents of face worker, underground haulage and surface workers are adopted. These are the three main tasks of the colliery, namely cutting the coal, its oncost underground haulage to the shaft, and its preparation for despatch to customers on the surface.

Table 4:1 Job Descriptions in the Annual Reports for Warwickshire Miners

Generic (Total 159)		
No Description 51 Collier 60	Miner 34 Ironstone Miner 11	Clay Miner 3
Face (Total 139)		
Stallman 71 Getter 10	Holer 16 Header 7	Loader 32 Filler 3
Surface (Total 25)		
Banksman 15	Browman 2	Screenman 8
Management (Total 21)		
Owner 1 Agent 1	Solicitor 1 Manager 1	Underviewer 2 Deputy 15
Maintenance (Total 40)		
Sinker 9 Shaftsman 1 Onsetter 3	Pit Bottom Attendant 1 Door Boy 3 Rope Boy 4	Road Man 15 Repairer 4
Oncost (Total 79)		
Horse Keeper 4 Pony Driver 31 Trammer 16 Train Boy 1	Haulage 1 Hanger On 2 Coupler 2 Clipper 2	Corporal 2 Hitcher 1 Putter 1 Incline Man 16
Tradesmen (Total 11)		
Storeman 1 Bricklayer 2 Carpenter 3	Mason 1 Blacksmith 2 Electrician 1	Contractor 1
Transport (Total 10)		
Carter 2 Truckman 1	Waggonman 1 Shunter 4	Locomotive Driver 2
Machinery (Total 20)		
Engineman 8 Engine Wright 3	Engine Fitter 2 Stoker 3	Electric Motor Man 2 Electric Motor Driver 2
General Underground (Total 46)		
Dataller 26 Daymen 15	Labourer 3 Spare Boy 1	Charge Hand 1

Source: Annual Mine Inspector Reports 1851 to 1913.

In the early years of the 19th century the public outside the mining districts knew little about miners or their methods of working. As Kirby notes contemporary

[14] Wyken Colliery Coal Accounts Book, WCRO/285/37/1.

‘authoritative accounts’ could be wildly misleading.[15] William Pyne in his 1806 encyclopaedia provided a description:

> *There are many families who live underground and only visit the regions of day occasionally. They have regular markets below to which dealers descend to supply them with the articles of subsidence and clothing which they want.*[16]

William Cobbett[17] visited the North-East coalfield in 1832 and reported that; ’thousands of men and thousands of horses continually living underground, children born there and who sometimes never see the surface at all, though they live to a considerable age.’[18] John Wilson, a pitman MP and leader of the Durham miners, noted in his autobiography that; ‘there was a generally held opinion that the coals were dug out of the earth by a class of people who were little removed from barbarism and whose home was down in the eternal darkness.’[19] Such myths were still apparent in the mid 19th century.

Yet miners, in particular the hewers, were considered by others, and indeed considered themselves, the elite of the working class.[20] The hard physical nature and accompanying dangers of their trade meant that they received higher wages and thus a higher standard of living than those in other occupations. In the 1842 Employment of Children Report the Bedworth surgeon described miners as ‘fighting cocks’ and built like ‘dragoons.’ He said, ‘As a proof that the employment of the collier is very healthy, I may state that when ribbon weavers from distress have gone down to work

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[15] P. Kirby, ‘Child labour, public decency and the iconography of the Children`s Employment Commission of 1842’, *Manchester Papers in Economic and Social History* 62 (July 2007) 3.

[16] W. Pyne, *Microcosm or a picturesque delineation of the arts, agriculture and manufactures of Great Britain* (London, (1806) p. 164. See ODNB William Pyne (1769-1843) He was known primarily as a painter.

[17] ODNB William Cobbett (1763-1835).

[18] Quoted in T. Hair, *Views of the Collieries in Northumberland and Durham* (1844).

[19] J. Wilson, *Memoirs of a Labour Leader: the autobiography of John Wilson JP MP* (London, 1910) p. 95.

[20] M. Sheppard, ‘The Origin and Incidence of the term Labour Aristocracy’, *Bulletin of the Society for Labour History* 37 (1978) 51-67.

in the collieries, they have improved in their appearance and become strong and fit.'[21] A similar favourable comparison was given to the miners of Yorkshire, yet Lancashire miners were depicted as 'thin and gaunt… with a stooping shambling gait.'[22] In 1948 Zweig conducted a four month survey of mining communities and described the typical miner as short, stocky and muscular with a tendency to bow shaped legs from walking in a confined space and characteristic blue scars on hands and face.[23] Such a condition did not always elicit sympathy and during the strike of 1893 which saw Warwickshire miners attending soup kitchens and children begging in the streets,[24] one anonymous letter to the *Nuneaton Chronicle* commented that; 'when men have been accustomed to dining on port wine and turkey, and to ride in first class carriages as were our miners, it must be very grievous to come down to the fare of the common man.'[25]

Historians of mining communities have tended to follow two very different approaches and methodologies. The Demographic School pioneered by the Cambridge Group [26] in the 1970's and apparent in the work of Anderson, Friedlander and Haines,[27] stressed the analysis of quantifiable demographic data, particularly the census but supplemented with parish records, trade directories and the publications of official government agencies. The Sentiments School demonstrated in the work of

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[21] Mitchell, 'Report on the Employment of Children and Young Persons in the Mines of the Warwickshire and Leicestershire Coalfields', pp. 89-110, part of *Children`s Employment Commission*. (London, 1842) pp. 107-108 Witness 68.

[22] *Employment of Children in Mines.* Lancashire 700 (London, 1842) p. 165.

[23] F. Zweig, *Men in the pits* (London, 1949) pp. 4-5. The blue scars were from coal dust infecting wounds.

[24] In the second month of the strike local newspapers gave details of relief schemes. See *Nuneaton Observer,* 15 and 22 September 1893.

[25] *Nuneaton Chronicle*, 29 September 1893.

[26] Cambridge Group for the History of Population and Social Structure.

[27] M. Anderson, *Family Structure in 19th century Lancashire* (Cambridge, 1971); D. Friedlander, 'Demographic Patterns and Socio-economic Characteristics of the Coal mining Population in England and Wales in the 19th century', *Economic Development and Cultural Change* 22.1 (1973) 39-51; M. Haines, 'Fertility, Nuptiality and Occupation: a Study of mid 19th century Coal mining. Populations', *Journal of Interdisciplinary History* 8.2 (1977) 245-80; and *Fertility and Occupations: Population Patterns in Industrialisation* (New York, 1979).

Shorter, Vincent and John,[28] put aside the reliance on statistical data in favour of literature, oral testimony and autobiographical evidence.

Given such differing approaches it is not surprising that two competing stereotypes have emerged. The Demographic School has fostered what may be termed the orthodox view. The settlement that emerges in this scholarship is a remote village or town dependent upon the monoculture of the pit,[29] one characterised by rows of insanitary, overcrowded tied terraces alongside public houses, chapels a shop and a school. To Simon writing in 1887 they were nothing more than 'foul, priviless, ill watered, unscavenged overcrowded lairs.'[30] Ridgeway depicts the mythical miner forced to exist in such squalor as;

> *a drunken, thriftless, reckless worker, married at an early age to a woman lacking even the basic rudimentary knowledge of domestic economy or child care, both victims of their status and environment and passive recipients of the advice and bounty of a well meaning middle class.*[31]

Non-working subservient wives attempted to raise their large families despite the high infant mortality rate,[32] socialised their sons for the pit and their daughters for a domestic role, and earned a little extra by renting rooms to in-coming economic migrants in search of a collier's pay. Certain problems are apparent in accepting this view. The picture of the settlement came largely from outsider observation and that of

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[28] E. Shorter, *The Making of the Modern Family* (New York, 1975); D. Vincent, 'Love, Death and the 19th century working class', *Social History* 5.2 (1980); and *Bread, Knowledge and Freedom.*(London, 1981); A. John, 'Scratching the Surface', *Oral History* 10.2 (Autumn 1982) and *Unequal Opportunities: Women's Employment in Britain 1800 to 1918* (Oxford, 1986).

[29] This reflected the theory that miner were more militant because they were an 'isolated mass.' See C. Kerr and A. Siegel, 'The Inter-industry Propensity to Strike: an international comparison', in A. Kornhauser, R. Dubin and A. Ross (eds.), *Industrial Conflict* (New York, 1954). See Chapter One, Community Studies.

[30] J. Simon, *Public Health Reports* (London, 1887) p. 194. A privy was a toilet; scavenging was removing rubbish.

[31] J. Ridgway, 'Marriage, Family and Work: Coalmining family history in Lower Gornal in the late 19th century', (Unpublished MA dissertation, Wolverhampton Polytechnic 1989) p. 5.

[32] When occupational infant mortality rates were first calculated in 1911 the rate for coal miners' children was amongst the highest at 160. This was higher than textile workers and general labourers and 23 per cent above the national rate. Annual Report of the Registrar General for England and Wales 1911 Parliamentary Papers (1912-13) X111 Table 288 p. 88. Ian Buchannon attributed this to endemic child diarrhoea caused by poor sanitation. I. Buchannon, 'Infant Mortality in British Coalmining Communities 1880 to 1911', (Unpublished PhD thesis, University of London 1983) pp. 288-306.

the household is drawn from an over dependence on two primary sources, namely the Registrar General's Report of 1884-85 and the Survey of Fertility and Occupation of 1911. Furthermore, pioneering researchers have tended to take their examples from the relatively homogeneous colliery communities of the North-East and South Wales and their findings may not be applicable to other coalfields. There is also a tendency to see the collier as part of a distinct cultural group and this may ignore what Stearns terms the 'shared relationships, attitudes and common outlook of the working class as a whole.'[33] Despite the thoroughness of this time-consuming work one must also bear in mind Higgs' warning of 'building elaborate quantitative mansions on shifting archival sands.'[34]

The alternative stereotype created by the Sentiments School is almost diametrically opposed to the orthodox view. What emerges from this different perspective is a caring family trying to overcome their oppressive environment, with a strong belief in a good home, well turned out and disciplined children, and the importance of neighbours, kin and social aspirations. However, even convinced proponents of this view recognise that surviving evidence is both patchy and subjective. Vincent studied 104 working class biographies, but only six of these were by or about women.[35] Women are therefore seen through the eyes of sons or husbands, and although a matriarchal dominance of the home emerges to counterbalance the economic predominance of the male, there is little about child rearing or female intellect or aspiration. These subjective statements reveal much about attitudes and feelings but they tend to stress the writer's childhood, are silent on details of personal life and sanitise memory for perceived suitability for publication or self-esteem. Subjectivity is their strength and their weakness but they must be read as separate works and generalisations avoided from such phenomenological evidence.

The stereotypical miner from the North-East and South Wales mostly lived in isolated mining villages but this was generally not the case in Warwickshire. Only

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[33] P. Stearns, 'Working Class Women in Britain' in M. Vicinus (ed.), *Suffer and be Still: Women in the Victorian Age* (Indiana, 1972) p. 107.

[34] E. Higgs, *Making Sense of the Census* (London, 1989) p. 76.

[35] D. Vincent, 'Love, Death and the 19th century working class', *Social History* 5.2 (1980); and *Bread, Knowledge and Freedom* (London, 1981).

Bermuda village built by the Griff Colliery Company in 1893 existed during our period of study. New Arley built for Arley Colliery, Piccadilly built for Kingsbury Colliery, Galley Common for Haunchwood Colliery, Binley village for Binley Colliery and Keresley village built for Coventry Colliery were all developed after World War One with the exploitation of the concealed coalfield in the rural west and south. The only alternative industrial occupation was silk ribbon weaving and this went into terminal decline following the slump of 1868.[36] Church and Outram note that Emerson Bainbridge of Bolsover Colliery 'was a leading mine engineer whose anti-union stance earned him a national reputation.'[37] His model village at Creswell in Derbyshire contained 280 houses with gardens, a playground and bandstand, with rents taken from wages and unacceptable behaviour liable to lead to eviction. A joint committee of officials and workmen ran sports, drama, the band, social evenings and organised seaside outings with the mine manager running the Boy's Brigade and his wife the Girl's Bugle Brigade. To Church and Outram this 'amounted to a strategy for discipline.'[38] Bainbridge was a director of Griff Colliery that built Bermuda Village also in the 1890's. The seventy houses built by colliery craftsmen using colliery produced bricks cost £87 each, and the rows of eight to ten houses were two up two down in the centre with larger three up and three down accommodation at each end reserved for colliery officials. Miners depended upon these officials for their earnings and had to modify their behaviour and that of their children if they were not to suffer economically when they returned to the pit. Manager Melly noted in the company minute book: 'I think on the whole it is a comfortable colliery village and most of the rough ones who got in at first when we wanted tenants have been turned out.'[39] The village had a Mission Room used by mothers, the Sunday school and visiting Wesleyan lay preachers, a Reading Room, skittle ground, allotments, a sport and

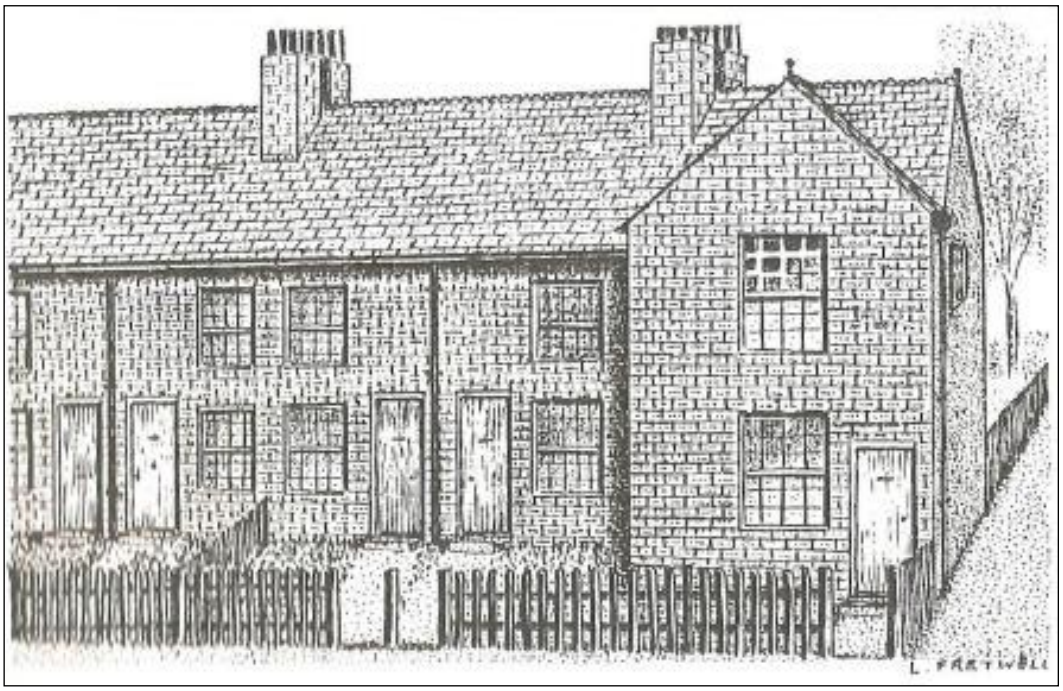
[36] T. Davis, *Starving in Bedworth: will not pay the loan* (Coventry, 1990). This studies the decline in the textile industry.

[37] R. Church and Q. Outram, *Strikes and Solidarity: Coalfield Conflict in Britain 1889 to 1966* (Cambridge, 1998) p. 134.

[38] R. Church and Q. Outram, *Strikes and Solidarity* p. 134.

[39] Griff Colliery Minute Book, WCRO CR 1189/22-75.

gardening club.[40] Miners could enjoy these superior facilities but the guiding paternalistic hand of the management was a constant presence.



Drawing 4:1 Bermuda Village by Laurence Fretwell, a resident there.

Studies of mining communities in the 1970's by Friedlander and Haines both identified the characteristics of earlier marriage and larger families, with Friedlander hypothesising that this was a conscious decision as a form of life assurance suited to the special occupational characteristics.[41] Such settlements offered limited occupational opportunities, little female employment and the certainty that wages would fall with physical ability. Church suggests that both authors exaggerated the differences especially in urban and mixed coalfields and that by the 1870's colliery districts were not so marked by a male and youthful population. Purely occupational factors assumed increasing significance especially in urban areas where increasing employment opportunities resulted in smaller families.[42] Census returns reveal that

[40] R Church, *The History of the British Coal Industry: Volume Three 1830 to 1914* (Oxford, 1986) p. 288. Paternalism is discussed in Chapter five.

[41] D. Friedlander, 'Demographic Patterns and Socio-economic Characteristics of the Coal mining Population in England and Wales in the 19th century', *Economic Development and Cultural Change* 22.2 (1973) 39-51; M. Haines, 'Fertility, Nuptiality and Occupation: a Study of mid 19th century Coal mining Populations', *Journal of Interdisciplinary History* 8.2 (1977) 245-80.

[42] R Church, *The History of the British Coal Industry: Volume Three 1830 to 1914* (Oxford, 1986) pp. 618-20.

Warwickshire miners lived alongside those of other occupations and those miners were always a part of and not apart from a larger working community.[43] Bedworth was the centre of the Warwickshire coalfield and in the 1881 census, where mining families outnumbered textile workers' families by a ratio of three to one, textile families had a marginally larger family size than mining families, yet both were below the national average.[44] Such local evidence contradicts the idea that miners were distinct from the rest of the working class, although this was postulated in the two main demographic sources available to historians of this period. The 1884-85 Registrar General's Report claimed that miners had the lowest age of marriage of nine occupational groups [45] and the 1911 Census of Fertility and Occupation attributed the large families of miners to their genetic inferiority:

> *The most fertile sections of the population are entirely made up of coalminers and labourers, except for one skilled trade – ship platers and riveters. This like many other of the most fertile occupations involves heavy manual labour. Broadly speaking, there seems to be an inverse relationship between brainwork and fertility but this is no doubt open to more than one interpretation.*[46]

Although the citation above allows for possible alternative explanations for family size, it equates unskilled coalmining as a form of underground labouring.

The following analysis will rely heavily upon the Annual Reports of the Mine Inspectorate 1851 to 1913. Local newspapers tend to give barely a line or two to a death in the pits and when they do expand their coverage they report the Inquest, also contained in the Inspector's Report, verbatim.[47] Nevertheless newspapers are useful in

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[43] T. Anney, 'Housing and Household in Bedworth', (Unpublished MA dissertation, Wolverhampton Polytechnic 1991).

[44] The female employment rate was 23 per cent with 73 per cent of those working in the textile industry. Miners had a mean family size of 2.77, textile workers 2.81 and the national figure was 3.6.T. Anney, 'Housing and Household in Bedworth', (Unpublished MA dissertation, Wolverhampton Polytechnic 1991) pp. 74-81.

[45] Quoted in R. Church, *The History of the British Coal Industry: Volume Three 1830 to 1914* (Oxford, 1986) p. 615.

[46] *Census of Fertility and Occupation (1911) Part Two* p CXV111.

[47] For example in 1878 there were five deaths in Warwickshire. The *Nuneaton Chronicle* reported the inquests of three. By the turn of the century Inquests were reported in more detail.

exposing the fallibility of such reports as in the 1880's alone the *Nuneaton Observer* reported the inquests of at least three men killed in the mines who were not included by the Inspector as Warwickshire fatalities.[48] Inspectors had a statutory duty to attend Inquests but this did not always occur. In August 1869 the Warwickshire coroner adjourned an Inquest on a Charity miner killed by fire damp with the comment that although he would usually be prepared to conduct an inquest on a miner without the presence of the Inspector this was an exception. The following year he held an Inquest on a Hawkesbury miner killed by a fall of coal without the attendance of the Inspector and this was not recorded in the Annual Report.[49] Although Inspectors were technically able men who were aware that their reports would be presented to parliament as factual statement, they would endorse the employers' perspective that most accidents were largely caused by the carelessness or laziness of workers.[50] No one voiced the contrary trade union view that accidents were caused by pressure to maximise production for capitalist employers.[51] When Inspectors therefore discuss the concept of blame for an accident, the reality may not be as simplistic as their statements imply.

Dangers at the Face

Miners at the face suffered the main dangers of roof fall and the problem of bringing down the coal with gunpowder. Gospel has noted that:

> *Machinery for pumping, ventilation and the transport of coal both underground and over ground had been invented and widely utilised in the*

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[48] Inquests reported *Nuneaton Observer,* 16 January 1880 an Ansley Hall shunter driver was caught by 'hooks on wagons.' He was taken home but died the following morning from a ruptured liver and gall bladder; 19 March 1880 a Hawkesbury miner fainted on the incline and was dead by the time the doctor attended. He died from 'over exertion.' 1 September 1882 a Stockingford blacksmith was caught in the wheels of machinery. He was sent home and died next day from a 'ruptured liver. None of these deaths appear in the Inspector of Mines Report. Also see 12 May 1893 a platelayer at Haunchwood Colliery crushed by a wagon. 11 September 1896 an Ansley Hall engineman was putting on a belt when he slipped and had his leg torn off. These Inquests are similarly not in the Annual Reports. *Nuneaton Chronicle,* 27 August 1870 Inquest of a Hawkesbury miner killed by a fall of coal not in the Annual Report.

[49] *Nuneaton Chronicle,* 21 August 1869 and 27 August 1870.

[50] See employers defence in the courts in P. Bartrip and S. Burman, T*he Wounded Soldiers of Industry*. (Oxford, 1983) p. 137. For contrasting opinion see R. Beddington, 'The Growth and Awareness of Health and Safety at Work 1780 to 1900, '(Unpublished PhD thesis, University of Aston, 1983) p. 9.

[51] C. Gersuny, *Work Hazards' and Industrial Conflict* (Hannover, 1981) pp. 25-7.

> *19th century, whereas the technology of coal getting at the face hardly changed .. arguably until the widespread adoption of machine mining during the inter-war period.*[52]

Throughout the period of study coal was mined with pick and crowbar and more died at the face than anywhere else in the colliery. Mine Inspectors reported over 220 deaths in Warwickshire between 1850 and 1913 from 'fall of coal,' but provide analysis for only a third. The difficult Warwickshire geology accounted for eighteen deaths from slips and five from roof 'bumps.' A further six deaths were the result of props giving way, once from being pushed out by a roof fall and another from sprags becoming soft from water peculation. Props were knocked out accidentally on eight occasions, half by tubs coming off the rails, and another three deaths were the result of miners bringing coal down with crowbars and dislodging the props. The most dangerous task, accounting for twenty-three deaths, was the setting and removal of sprags. These were the small pit props used when undercutting coal. Only in seven cases was the fault of the miner highlighted, three times for not using a ringer and chain and twice for returning to coal that had failed to fall once the sprags were removed. Miners were also cited in fourteen cases for failing to set sufficient sprags but inexperience was mentioned only once, when in 1913 the inquest on a twenty-two year old Griff getter of two years, concluded that he was not knowledgeable enough to remove steel girders behind a retreating longwall face under a bad roof.[53] There were remarkably few deaths from the use of gunpowder. For example in the single year of 1890 Warwickshire used 924 shots a day and worked for 250 days in the year, thus making around 250,000 shots.[54] Yet throughout the period there were only eleven deaths from explosives. Details are given for only seven: two cases of dropping candles onto powder, two cases of premature explosions; two cases of not retiring to safety before the shot was fired, and one case of a store man being badly burned when opening a 50 lb gunpowder box.

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[52] H. Gospel, *Markets, Firms and Management of Labour in Modern Britain* (Cambridge, 1992).

[53] *Annual Mine Inspector Report:* Midland Division 1913. At the Inquest the coroner was particularly critical of the stallman, the man's uncle, who had failed to supervise the task, but the jury declined to apportion blame. *Nuneaton Observer,* 12 September 1913.

[54] *Annual Mine Inspector Report*: Midland Division 1890.

What could a hewer have done to reduce accidents? Mine Inspectors were not averse to apportioning blame to the carelessness of the miner, and it is perhaps telling that in so many deaths they simply record a fall of coal. The 1888 update to general rules covering all mines, and special rules to take account of local differences, led the Midland Division to produce one set for the three counties of Derbyshire, Leicestershire and Nottinghamshire, and another for Warwickshire,[55] taking cognisance of that county's peculiarities.[56] Inspector Stokes could lament in 1891 that 'in a large number of falls no blame could be attached, and miners simply paid the penalty of a dangerous occupation.'[57] When blame was identified owners were quick to prosecute men for breaches of the rules.[58] Mine Inspectors began reporting these from 1892 and from 1895 listed the name of the company allowing Warwickshire to be disseminated from the whole. Between 1895 and 1913 there were 208 such prosecutions, an average of sixteen a year. Timbering offence accounted for 20 per cent, disobeying orders 13 per cent and explosives offences another 12 per cent. However distressing to the individual miner, it reinforced the message to adhere to safety regulations. Yet in two cases where men died due to 'insufficient sprags' the area had been inspected and passed by a deputy. An experienced eye was required to spot potential slips in the strata and to make the adjustment to timbering, and this could not be proscribed by a text book or regulation. Perhaps the fact that Inspectors attributed blame in so few cases is an indication that most deaths were unavoidable. Yet it is hard to condone the actions of the two experienced Hall End Stallman who in 1890 tried to remove props without a ringer and chain and in 1900 chose to work under overhanging coal without setting sprags.[59] It was not ignorance that cost them their lives but a misplaced overconfidence in their own ability to survive the gamble. It is true that a man paid by the amount he produced rather than the hours that he

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[55] *Annual Mine Inspector Report*: Midland Division 1888.

[56] The coal beds were in a trough or basin with the axis running north to south. This meant that Warwickshire coal was mined on an incline of some thirty degrees.

[57] *Annual Mine Inspector Report*: Midland Division 1891.

[58] General rules applicable to all coalfields and Special rules applicable to a particular District were set up in the Act of 1855 and increased in subsequent Coal Mining Acts. Failure to follow these rules could lead to prosecution and local newspapers recorded some. *Nuneaton Chronicle*, 29 November, 6 December and 13 December 1878 three Charity mines were fined at Coventry Petty Assizes for breaches of the rules.

[59] *Annual Mine Inspector Report:* Midland Division 1890 and 1900.

worked may cut corners and that this had to be discouraged, but it is debatable that legal penalty was an effective tool.

Miners could agitate through their trade unions to reduce hours and increase pay and thus reduce this temptation, but it was difficult to regulate against a masculine environment where pride in individual prowess was measured against the performance of others. In his 2007 study of *Dust Disease in British Coalmining* McIvor declared that the workplace culture could act 'as a drag anchor' against attempts to improve safety.[60] In a 2003 study Weyman, Clark and Cox attempted to develop a model to explain coal miners' risk taking. They concluded that the three main factors were time constraints, the management attitude to mine safety and the self-confidence of the miner to deal with risk.[61] Although this study sprang from miners' attitude in the 21st century, it is easy to see how it would apply to workers of an earlier era. Then they were motivated by piece rates rather than bonuses, but their management were also measured by performance criteria and men worked in teams where their ability to face and overcome known danger would receive more than just monetary reward. The death of a twenty-seven year old, experienced Tunnel Colliery stallman in 1900 exemplified the problem. He ignored safety in an attempt to bring down coal speedily and the coroner concluded that 'It was a piece of bravado; he was trying to be too clever by doing things quicker than anybody else.'[62] A hewer could best serve his interests by learning from the experience of those who worked around him, and understanding why regulations, drawn up with the input of fellow miners, had been introduced, but the ethos of the mine would militate against this.

Dangers of Haulage

The main dangers facing the underground haulage worker were the difficulty of working on an incline and the youth of many of the pony drivers. The geology of the Warwickshire coalfield defined how coal was to be mined. In the mid 19th century a jig engine powered by steam lowered the cage down the shaft and at the same time

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[60] A. McIvor and R. Johnston, *Miner's Lung: a History of Dust Disease in British Coalmining* (Aldershot, 2007) pp. 13-14.

[61] A. Weyman, D. Clark and T. Cox, 'Developing a Factor Model of Coalminers' attributions to risk taking at work', *Work and Stress* 17.4 (October-December 2003) 306-20.

[62] Coroner's report, *Nuneaton Observer,* 20 July 1900.

lowered empty tubs down the steeply sloping incline plane, which was often longer than the shaft. As the cage was raised, it pulled full tubs up the incline. An endless rope system later replaced this.[63] Men were not allowed to ride the tubs unless invited to accompany a colliery official like a deputy. Miners walked the incline and had manholes provided periodically where they could take safety from any passing train of tubs. Boys and later pony drivers, transported coal tubs along roadways from the face to the foot of the incline plane. Horses were taken underground at the age of four and worked there their whole lives which could be up to the age of twenty.[64] Some 24 per cent of Warwickshire deaths occurred transporting coal underground compared to only 14 per cent nationally, and most were on the incline plane. Runaway tubs killed sixty-two on the incline, eleven from breaking chains or ropes, and a further thirty were crushed in the roadways. In addition five were killed walking in front of tubs, nineteen from riding in tubs and nine working with horses.[65]

Bedington has studied the growth and awareness of health and safety at work in the nineteenth century.[66] She claims all studies tend to reveal that some employment sectors are more prone to accidents than others and although a variety of variables are considered, the most telling factor was age. Findings indicated that during workers' teens and early twenties the number of accidents was high. This reduced in their late twenties and there were more slight reductions until the forties when accidents began to increase until the end of working life. Different researchers attempted to isolate the rate of production, the degree of intelligence or the incidence of fatigue, but all were drawn back to the impact of age and in particular inexperience, attributing to the young a greater tendency for inattention, indiscipline and a disregard for danger. Even if some employers allowed boys to spend their first year on the surface[67] they would

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[63] Described in *Employment of Children Report*: Warwickshire coalfield pp 89-90.

[64] F. Zweig, *Men in the pits* (London, 1949) p. 36.

[65] Tabulated from the *Annual Mine Inspector Report:* 1851 to 1913.

[66] R. Bedington, 'The Growth and Awareness of Health and Safety at work 1780 to 1900', (Unpublished PhD thesis, University of Aston 1983) pp. 8-10.

[67] *Annual Mine Inspector Report:* Midland Division 1907 p. 7.

then descend to the dangerous world of oncost haulage. In 1903 7.2 per cent nationally and 7.8 per cent in the Midland District were under the age of sixteen.[68]

What could an underground haulage worker have done to reduce accidents? A duty of care was necessary when working in a confined space with heavily laden tubs being moved, often on a slope. The chance of a runaway tub due to mechanical or human error was a constant possibility and a failure to react instantly to danger could be fatal. It does appear churlish for the Mine Inspector to criticise the 1900 Wyken miner killed by ascending tubs on an incline 'only three yards from a manhole'[69] or the sixty-six year old Exhall repairer who in 1911 chose to 'rest in an inappropriate place'[70] when a runaway tub appeared around a corner. That moment of hesitation or failure to see the imminent danger of a situation is easy to spot in many reports.[71] One has less sympathy perhaps with those who tried to defy the laws of physics. Five died walking in front of tubs down the incline, only to be overcome by the weight, and although one was a thirteen year old boy, the rest were experienced men in their twenties. The danger of riding in tubs in low ceilinged roadways had been outlawed by the Special Rules[72] yet nineteen were to die in this manner, fourteen of them teenagers. This predominance of youth rises even higher if one omits the three oldest fatalities who were riding legally with a colliery official on the incline when the wire rope broke. Youth can only be the explanation for the sixteen year old Alvecote miner who in 1889 thought he could stop a full train of tubs with his knee in front and his foot against the stop block.[73] Of the nine horses related deaths five were from the use of sling gears or chains, which unlike shafts, gave the pony and driver little control.

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[68] D. Kitteringham, 'Health and Safety in the Collieries of the East Midlands 1950 to 1911', (Unpublished PhD thesis, University of Nottingham 2005) p. 41. In 1913 the lecturer at the Warwickshire School of Mining reported that of the 18,000 employed on the coalfield 'nearly a thousand' were under the age of sixteen but only eighty had signed on for the preliminary exam courses. *Nuneaton Observer,* 3 October 1913.

[69] *Annual Mine Inspector Report*: Midland Division 1900.

[70] *Annual Mine Inspector Report:* Midlands and the South District 1911. As a contrast the Inquest placed no blame on the miner and concentrated upon why the coupling had come loose on the incline. *Nuneaton Observer,* 31 August 1911.

[71] For example in 1905 an Exhall Colliery dataller was killed by a runaway tub and a deputy informed the inquest that there was a refuge nearby and the deceased 'had ample time to use it.' *Nuneaton Observer,* 5 May 1905.

[72] These were local rules drawn up to supplement the General Rules laid down by Acts of Parliament of 1855, 1860, 1872 and 1887.

[73] *Annual Mine Inspector Report*: Midlands Division 1889.

Yet here again six of the deaths were teenagers. This predominance of youth in underground haulage is reflected in their mean death rate of only twenty years old compared to the mean of thirty-two for falls of coal.

Mining families were keen to have their children contribute to family income as soon as possible and owners were happy to oblige them. It was government legislation which raised the required age for those employed underground, often to the chagrin of parents and owners alike.[74] Miners did little to reduce youth employment apart from advising sons to seek alternative employment when economic conditions allowed.[75] Sons followed fathers into the pits and familial advice must have been a major resource of safety.[76]

Dangers at the Surface

The main dangers facing surface workers were from working with machinery and the transport of coal around the site in preparation for despatch to customers. In 1840 coal was sorted underground with the waste being deposited in the gob or goaf, the area left by extracted coal. The arrival of cage winding allowed coal to be sorted in the superior light at the surface and the waste deposited in the characteristic slag heaps that surrounded a colliery. This allowed for a greater differentiation of coal targeted at specific markets. The diversity of Charity Colliery coal can be seen in an advertisement in the *Nuneaton Chronicle* in 1877.[77] It lists best rider coal for households; hard coal and ell for steam; cobbles for cottages; scrubbed cobbles and kibbles for bakers; nuts for smiths and best, second and third slack for boilers and the brick trade. Surface deaths in Warwickshire were 7.8 per cent of the total or half the national average of 14 per cent. Screening coal was not dangerous although in the days of shaker pans the injury known as ‘black finger’ was inevitable. Deaths tended

[74] 1842 Act women excluded from underground work and boys from age 10. 1872 Act age raised to 12. 1900 Act age raised to 13.

[75] There were no resolutions against youth employment from the Annual Conferences of the MFGB but the 1907 International Miners Conference held in Salzburg began to pass resolutions against those under the age of 16 working underground. The British delegates abstained. See MSS429MFGB 4/6 Annual Volume of Proceedings MFGB 1907. Modern Records Centre, Warwick University.

[76] In the 1881 census for Bedworth, the centre of the Warwickshire coalfield, there were 142 working sons of coalminers. 118 or 85 per cent followed their fathers into the pits. T.Anney, 'Housing and Household in Bedworth’, (Unpublished MA dissertation, Wolverhampton Polytechnic 1991) p. 79.

[77] *Nuneaton Chronicle*, 9 May 1877.

to occur to those who worked the machinery. An Exhall stoker was hit by the crank of his winding engine oiling it while the engine was in motion, an Ansley Hall engineman had his leg torn off when he slipped while fitting a belt and an Arley banksman had his arm torn off picking stone from a moving belt.[78] Of the forty-three surface deaths thirty-two or 74.7 per cent were run over or crushed by wagons. Here was the main danger where locomotives shunted loaded trucks around the site, and not just to colliery employees. In 1896 a Griff boatman was crushed by wagons at the canal wharf nearly a mile from the pit head.[79]

The mine Inspector's report lists four teenagers' deaths, two aged fourteen and two fifteen years old described as a labourer, a screen boy and two banksmen.[80] It also contained three over the age of sixty described as a cutter and two blacksmiths, one of whom was aged seventy.[81] What is surprising is that the mean age of death was thirty-nine and the medium forty-one, indicating that half the deaths were over the age of forty.[82] This compares with the mean age of twenty for oncost work and thirty-two for falls of coal.

What could a surface worker have done to reduce accidents? Banksmen were aware that while working on trucks they had to watch their back yet at Haunchwood in 1896, Charity in 1899 and Kingsbury in 1903 men were crushed by wagons approaching them from behind.[83] On two occasions the locomotive drivers or shunter were cited. In the 1911 death of a Wyken screenhand the shunter was fined £1 for failing to give enough notice of his approach[84] and at Haunchwood in 1912 the coroner's jury on the death of a banksman run down crossing the rails, officially censured a shunter, who only narrowly escaped prosecution.[85] As always we have the

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[78] *Annual Mine Inspector Report:* Midland Division 1887 and 1912. Inquest of Ansley Hall engineman *Nuneaton Observer,* 11 September 1896, not listed in the Annual Report.

[79] *Annual Mine Inspector Report*: Midland Division 1896.

[80] *Annual Mine Inspector Report:* Midland Division 1883, 1890. 1889 and 1901.

[81] *Annual Mine Inspector Report:* Midland Division 1883, 1887 and 1899.

[82] *Annual Mine Inspector Report*: 1851 to 1913.

[83] *Annual Mine Inspector Report:* Midland Division 1896, 1899 and 1903.

[84] *Annual Mine Inspector Report:* Midlands and the South District 1911.

[85] *Annual Mine Inspector Report:* Midlands and the South District 1912. The shunter was "fly shunting", that is riding with the locomotive driver. He was only allowed to do this if he was not coupling and uncoupling wagons.

inexplicable. In 1898 an experienced Griff banksman thought he could stop an empty train of sixteen tubs moving down an incline by placing his body in front of it;[86] in 1901 a fourteen year old labourer decided to take a short cut across the rails ignoring approaching trucks[87] and in 1904 another Griff banksman decided to pass through a narrow opening where loaded trucks were being lowered.[88] Many of the deaths involving machinery could have been avoided by the simple expedient of stopping machines to perform necessary maintenance. The high incidence of banksmen crushed by wagons approaching them from behind could have been reduced by simply applying the brakes to those that were not required. As not all wagons had brakes on both sides, and shunter drivers could quite legally leave trains of wagons on the lines without setting the brakes on those wagons, it could be argued that it was the responsibility of the management to address this rather than it being left to the initiative of the individual miner.[89] Like their underground colleagues, surface workers needed to be aware of the potential dangers that surrounded them, but as Warwickshire surface deaths were half the national average it could be argued that they displayed more of that care than colliers elsewhere.[90]

Accident Insurance

Even if a collier followed every imaginable safety proscription there was no guarantee that they would escape injury in the mine. Indeed employers were to argue in the courts that the premium on wages recognised the risk of working underground and that by accepting a position, employees accepted the risks they were taking.[91] Their physique honed from the hard physical nature of their employment meant that miners were often easily recognisable in the general population and led some, like the 1841 Bedworth surgeon cited above, to consider mining a healthy occupation. McIvor

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[86] *Annual Mine Inspector Report*: Midland Division 1898.

[87] *Annual Mine Inspector Report*: Midland Division 1901.

[88] *Annual Mine Inspector Report*: Midland Division 1904.

[89] *Nuneaton Observer,* 23 May 1890. A coroner's jury on the death of a Griff teenager recommended that all wagons should have brakes on both sides and that all brakes should be fastened when wagons are left on the lines or in the sidings.

[90] In Chapter Three the hypothesis was advanced that this may be the result of Warwickshire moving to larger deeper pits and adopting potentially dangerous steam locomotives as surface transport later than other coalfields.

[91] P. Bartrip and S. Burman, *The Wounded Soldiers of Industry* (Oxford, 1983) p. 123.

questions this: 'Working in the pits helped create the masculine body whilst holding the potential to emasculate with physical (and hence earning) capacity, undermined by traumatic injury and long term chronic illness and incapacity.'[92] It is not known how many miners were disabled before 1913. Benson estimates a hundred non-fatal accidents requiring thirty days off work to each fatality.[93] Louis, working on figures from the mining Permanent Relief Funds, confirms this hundred to one conclusion and adds that disability numbers were twenty times the official figures given in annual Mine Inspector Reports.[94] Church estimates that one in every fifty accidents resulted in permanent disability.[95] Despite a prevailing contemporary view to the contrary,[96] there is widespread evidence that colliers took these risks very seriously indeed.

From the early 19th century there were sick and accident clubs known as field clubs, for medical attention and domestic support during enforced absence from work. Both miners and owners subscribed, but workers only benefited as long as they were employees of the colliery. The situation in Warwickshire was described in the 1842 *Employment of Children Report.* Mitchell records the evidence of the manager of Griff Colliery, Nuneaton and miners from Grove Colliery, Bedworth, who both stated that fines for unauthorised absence were paid into the field club. Griff colliery retained a doctor who was paid ten guineas a year when there were a hundred miners employed, a sum that was raised to fifteen guineas as the numbers had increased to a hundred and fifty.[97] Field clubs flourished. Benson has calculated that in the Midland Division half the miners belonged to pit clubs in 1860 falling to 40 per cent by 1880.

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[92] A. McIvor and R. Johnston, *Miner's Lung: a History of Dust Disease in British Coalmining* (Aldershot, 2007) p. 41.

[93] J. Benson, *British Coalminers in the 19th Century: a Social History* (Dublin, 1980) pp. 39-41.

[94] Louis, 'Mining' In T. Oliver (ed.), *Dangerous Trades* (1902) (London, 2004) pp. 530-2.

[95] From these calculations an estimated 83,350 miners were permanently disabled between 1850 and 1900. R. Church, *The History of the British Coal Industry: Volume Three 1830-1914* (Oxford, 1986) pp. 303-6.

[96] See for example *Miners Journal,* 24 October 1857 and *Colliery Guardian,* 20 January 1866, both argue miners were more reluctant to insure their families against risk compared to other industrial groups. Even miners voiced it. See *Royal Commission to Inquire into Friendly and Benefit Building Societies* XX11 (1873) Third Report Q 28020. Full discussion is in J. Benson, 'The Thrift of English Coalminers 1860 to 1897', *Economic History Review* 31.3 (1978) 410-11.

[97] J. Mitchell, 'Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons', *Employment of Children Report.* (London, 1842) p. 107.

Nationally the figure falls from 60 per cent in 1860 down to 38 per cent in 1880 [98] as pit clubs were replaced by Permanent Relief Societies. Many owners saw it as beneficial to run field clubs as it helped discourage labour mobility and many made it a condition of employment that employees should subscribe to schemes that offered medical and financial benefits.[99] Because the owners exercised a position of control, and were reluctant to provide accounts of how subscriptions were spent, there was a suspicion that funds were used illegally. There were always grumbling complaints exemplified in the 1870 claim that West Midland butties had appropriated pit club funds which they 'spent in riotous living.'[100] However, Benson asserts that the main failing of owner-dominated pit clubs were not managerial but structural:

> *However altruistic the reason for establishing a club and however scrupulously administered, the actuarial foundations on which such schemes were organised made it difficult if not impossible to provide subscribers with an adequate source of relief.*[101]

An individual colliery fund could not hope to cope with a major disaster and if a colliery suffered bankruptcy the fund was lost too.

Despite the stream of miners' complaints Benson argues that the benefits of pit clubs should not be overlooked. Owners often made a financial contribution as well as donating the fines imposed on workmen. If a miner was killed most clubs paid a death grant of two or three pounds and some provided coffins. In Warwickshire for example, the Griff Account Book lists for 1833 '£1.5/- for coffins for a man and boy.'[102] In the case of non-fatal accidents most provided some form of medical assistance and a weekly payment of between 5/- and 8/-, usually for a year. This was

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[98] J. Benson, 'The Compensation of English Coalminers and their dependants for Industrial Accidents 1860 to 1897', (Unpublished PhD thesis, University of Leeds 1974) pp. 274-80.

[99] J. Benson, 'Coalowners, Coalminers and Compulsion: Pit Clubs in England 1860 to 1880', *Business History* 44.1 (2002) 47-60.

[100] J. Benson, 'Coalowners, Coalminers and Compulsion: Pit Clubs in England', 50, and *Colliery Guardian,* 14 January 1870.

[101] J. Benson, 'Coalowners, Coalminers and Compulsion: Pit Clubs in England', 50.

[102] Griff Account Book, WCRO CR 136/V/68.

considerably higher than the possible parish relief of around 3/- which tended to be offered as outdoor relief.[103]

The new trade unions established in the 1860's and early 1870's established some kind of accident insurance for their members. This was partly a reaction against the unpopular inflexible pit clubs with their compulsory deductions and also the sometimes brutal administration of the Poor Law Guardians.[104] Some even saw the schemes as a way to encourage and sustain support.[105] At the first demonstration of the Derbyshire and Nottinghamshire Miners Association in 1873 a banner depicted a widow saying to the Board of Guardians that as her husband belonged to the Association, she would not have to 'obey the dictator' and 'sell off her furniture.'[106] Benson discovered that of the seventy-seven English trade unions of which evidence survives, 60 per cent organised accident insurance in the second half of the 19th century.[107] Of these 49 per cent organised fatal accident funeral payments, 42 per cent non-fatal accident insurance of weekly payment for temporary and sometimes permanent disablement, and 22 per cent provided provision for widows and orphans. The Warwickshire and Leicestershire Miners' Association was one that paid widows 6/- a week for life and children 1/6 a week until they reached the age of twelve.[108] A further 16 per cent offered a comprehensive package which covered the three fields of fatal accidents, non-fatal accidents and widow and orphan provision.

Sadly many were just paper promises. Bold plans made in the heady boom years of the early 1870's quickly turned to ashes as employers tried to claw back wages in response to the economic downturn and trade unions dissipated their funds in futile strikes against this. Membership haemorrhaged and the unions collapsed or raided their accident funds to find strike pay.[109] Such policies were never based on sound

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[103] J. Benson, 'Coalowners, Coalminers and Compulsion: Pit Clubs in England', 53-4.

[104] See R. Challinor, *The Lancashire and Cheshire Miners* (Newcastle Upon Tyne, 1972) pp. 158-63. He argues that the Poor Law was the major source of compensation for mining injuries.

[105] J. Benson, 'English 'Coalminers` Trade Union Accident Funds 1860 to 1900', *Economic History Review* 28 (1975) 405-6.

[106] J. Williams, *The Derbyshire Miners: a study in industrial and social history* (London, 1962) p. 145.

[107] J. Benson, 'English Coalminers` Trade Union Accident Funds', 406-407.

[108] J. Benson, 'English Coalminers` Trade Union Accident Funds', 407.

[109] J. Benson, 'English Coalminers` Trade Union Accident Funds', 410-11.

actuarial advice. As early as 1865 the South Yorkshire Miner's Council had advised their members against raising benefits 'as no lodge can with safety pay more than six shillings for sick and eight shillings for accidents per week with a contribution of sixpence a fortnight.'[110] In 1877 this same union was warning its members that they must remember their primary goal and 'not dwindle into nothing more than a benevolent institution.'[111] By 1880 Benson calculates that the proportion of coal miners insuring with trade union funeral funds was just under 10 per cent, the proportion insuring with the Prudential Insurance Company was nearly 15 per cent while the proportion insuring with the Permanent Relief Funds had then reached 32 per cent.[112]

Voluntary accident insurance offered by commercial companies became increasingly popular. This was made more accessible by the weekly collection of premiums.[113] One company, the Prudential Assurance Company, soon came to dominate. In 1887 *The Miner* detected 'a feeling among the industrial classes that it is a good thing to insure their lives with the Prudential,'[114] and that by the turn of the century insurance with 'the Pru' 'had become virtually a universal habit.'[115] Benson discovered from extensive research into the records of the Prudential that in 1885 25 per cent of colliers were insured doubling to 50 per cent by 1900.[116]

The origin of the Permanent Relief Funds was in the failure of other sources of relief available to the victims of accidents in mines. Benson noted:

> *The catalyst for the foundation of the permanent relief fund movement was the series of major disasters that struck the industry from the early 1860`s onwards. The Northumberland and Durham Miners' Permanent Relief*

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[110] South Yorkshire Miners` Association minutes (18 September 1865), quoted in J. Benson, 'English Coalminers` Trade Union Accident Funds', 408.

[111] J. Benson, 'English Coalminers` Trade Union Accident Funds', 410 and *Barnsley Chronicle*, 14 July 1877.

[112] J. Benson, 'The Thrift of English Coalminers 1860 to 1895', *Economic History Review* 31.3 (1978) 417.

[113] B. Supple, *The Royal Exchange Assurance: a History of Insurance 1720 to 1970* (Cambridge, 1970) p. 113.

[114] *The Miner*, March 1887.

[115] B. Supple, *The Royal Exchange Assurance: a History of Insurance 1720 to 1970* p. 219.

[116] J. Benson, The Thrift of English Coalminers', 415.

Fund (1862), the North Staffordshire Coal and Ironworkers' Permanent Relief Fund (1869), the Lancashire and Cheshire Miners' Permanent Relief Fund (1872) and the West Riding of Yorkshire Miners' Permanent Relief Fund (1877) all came into being in this way.[117]

The anomaly was that although victims of disasters were generally provided for by public subscription, those who lost their lives in the more usual single death accidents received no such support. As the first of the big four societies Northumberland and Durham set the standard of management structure that others were to adopt. For the payment of two to four pence a week and sometimes a joining fee, ordinary members were entitled to 4/- to 10/- a week if injured at work and if killed their family received a funeral grant, a widow's benefit of 5/- a week and orphans' benefit of 2/- a week.[118] Honorary members, who were not entitled to benefits, could join by paying a fee or in the case of colliery owners, a percentage of workers payments. The movement made rapid strides. By 1890 Benson discovered that there were almost as many permanent relief fund members as there were trade union members.[119]

The Permanent Relief Societies soon developed a reputation for administrative efficiency. Benson states:

Unlike the majority of their competitors the societies concentrated on one cause of coalfield distress, (industrial accidents) they kept their management costs low, they applied their rules strictly and impartially, they avoided bankruptcy and they honoured the commitments they entered into.[120]

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[117] J. Benson, 'Coalminers, Coalowners and Collaboration: the Miners` Permanent Relief Fund in England 1860 to 1895', *Labour History Review* 68.2 (2003) 183.

[118] G. Campbell, *Miners Insurance Funds: their Origin and Extent* (London, 1880) pp. 12-13.

[119] J. Benson PhD table X1V, quoted in J. Benson', Coalminers, Coalowners and Collaboration: the Miners` Permanent Relief Fund in England', p. 184.

[120] J. Benson, 'Coalminers, Coalowners and Collaboration: the Miners` Permanent Relief Fund in England', 184-5.

Yet they did not escape criticism in the early years.[121] Some miners believed that the Permanent Relief Societies should also embrace sickness pay and pensions but this was resisted. There were difficulties in applying the rules to common law wives and illegitimate children and complaints that they were too quick to remove disabled miners from their books. However the 'permanent' in their title assured miners that unlike field clubs and trade union schemes, relief would not tend to cease when it was most required.[122] For Benson the major reason for the movement's success was the support it received from both sides of the industry. 'Employer-employee collaboration was at the core not just of the movement's rhetoric but also of its establishment, its management, its expansion, its permanence and its day to day activities.'[123]

Trade unions were initially suspicious of the collaborationist nature of the movement and criticised the 'undemocratic' nature of a management structure that gave considerable power to honorary members. They opposed the creation of permanent relief societies when trade unions ran their own accident insurance schemes but when the economic difficulties of the late seventies forced unions to abandon their schemes, they became avid supporters. Employers too were wary of the collaborationist approach with some finding it difficult to understand the difference between a permanent relief fund and a trade union. Gradually suspicion turned to support. Benson comments; 'Employers began to recognise that a reputation for generosity might enhance rather than undermine their broader economic, social and cultural power.'[124] From providing venues where the permanent relief society could meet miners, some employers went on to provided financial support in the form of a percentage of employee contributions and by stopping subscriptions at source, they reduced administration costs. Miners often resented the compulsory nature of such deductions and some even went on strike against it. Nevertheless this was surely preferable to the alternative when lapsed payments could mean a family was denied

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[121] J. Benson, 'Coalminers, Coalowners and Collaboration: the Miners` Permanent Relief Fund in England', 185-6.

[122] G. Campbell, *Miners Insurance Funds: their Origin and Extent* (London, 1880) p. 7.

[123] J. Benson, 'Coalminers, Coalowners and Collaboration: the Miners` Permanent Relief Fund in England', 186.

[124] J. Benson, Coalminers, Coalowners and Collaboration: the Miners` Permanent Relief Fund in England', 188.

assistance when it was most in need. Some owners recognised the advantage of having colliery managers on fund management boards as they could preserve funds by transferring injured miners to lighter jobs. Benson concedes however that most owners made no contribution to the permanent relief societies. Some were wary of the societies 'political motives,' others mirrored the early trade union fears of too high administrative costs, and still more were reluctant to contribute to a fund where they could not control the management. Yet Benson concluded that;

> *employers, like their employees, came to regard the societies not as an extension of the trade union movement, but as independent bodies characterised by – and benefiting from – the employer-employee collaboration which they espoused and epitomised.*[125]

It was not until the 1880's that two fatal accident relief societies were formed in the Midlands area.[126] The first, the Midland Counties Miners' Permanent Relief Fund formed in 1879, had 1,157 members and a balance of £301 at the 1880 AGM. It had ten branches and reported two fatal accidents leaving two widows and two children, four members permanently injured and 245 minor accidents requiring one to twenty-six weeks absence. A second larger society, the Midland District Miners' Fatal Accident Relief Society, was founded June 1883. The balance sheet in December recorded 9,300 members, and sixteen fatal accidents leaving eight widows and twenty-three children who received between 7/6 and £1 a week. This society had received £1,952 from the Hartley Colliery Relief Fund and had a balance of £2,478. Hartley Colliery near Newcastle-upon-Tyne had been the scene of a horrific accident in 1862 when the engine beam snapped and fell down the single shaft, destroying it and blocking all means of escape. Five were killed in a cage then ascending the shaft and 215 suffocated underground. Public sympathy was overwhelming and £70,000 was raised, much more than could possibly be needed by the bereaved families and the surplus was invested and used for other mining widows and orphans. By 1892 Inspector Stokes reported that the Midland Counties Miners' Permanent Relief Fund

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[125] J. Benson, Coalminers, 'Coalowners and Collaboration: the Miners` Permanent Relief Fund in England', 191.

[126] *The Provident,* 31 March 1882 and *Colliery Guardian,* 21 March 1884.

had 5,384 members and the Midland District Miners' Fatal Accident Relief Society had 21,505 members, each paying a penny a week. Together they supported 127 widows and 294 children.[127] Warwickshire however was slow to participate. In a letter to the *Nuneaton Observer* dated May 1887 the Warwickshire miner's leader promoted the Midland District Miners Fatal Accident Relief Society, stating that only Hawkesbury Colliery had joined.[128] Following meetings led by the Secretary of the Relief Society, Bedworth Charity Colliery joined the society in June and Pooley Hall Colliery in October.[129] The following June Johnson was still bemoaning that these were the only three colliery participants.[130] A decade later the WMA took the step of establishing its own Warwickshire Permanent Relief Fund administered by the union. For access to accident, sickness, widows and orphans pay and hospital tickets to the Coventry, Nuneaton and Tamworth hospitals and the Birmingham and Leicester eye infirmary full members paid ten pence a week, half members seven pence a week and five pence for those under the age of sixteen.[131]

The 1897 Workers' Compensation Act [132] entitled miners or their families to redress if they were killed or injured by accident, but no uniform system was adopted in the Midland District. Inspector Stokes noted in 1900 that: 'In some parts a number of mines have joined, in some individual owners took the risk and in others owners insured against fatalities and bore the risk for non-fatalities.'[133] Stokes had calculated that it would cost a farthing on the price of a ton of coal to cover both fatal and non-fatal accidents but as 70 per cent of accidents did not require two weeks absence, they were not covered by the act. This figure is open to question. As noted in Chapter Three, there was no accepted definition of what constituted a non-fatal accident until the 1906 Notification of Accidents Act defined it as requiring seven days absence

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[127] *Annual Mine Inspector Report:* Midland Division 1892. By 1905 the MDMFARS had 32,000 members and were supporting 128 widows and 286 children. *Nuneaton Observer,* 4 August 1906. It had grown to 44,000 by 1911. *Nuneaton Observer,* 3 November 1911.

[128] *Nuneaton Observer,* 27 May 1877.

[129] *Nuneaton Observer,* 17 June and 7 October 1877.

[130] *Nuneaton Observer*, 15 June 1878.

[131] Letter from Johnson to local newspapers on the establishment of the Fund . *Nuneaton Observer,* 10 June 1898.

[132] P. Bartrip and S. Burman, *The Wounded Soldiers of Industry* (Oxford, 1983) p. 205.

[133] *Annual Mine Inspector Report*: Midland Division 1900.

from work. Yet in 1910 the MP for North Derbyshire had raised in the House of Commons that there was a discrepancy between the number of reported accidents and those receiving relief:

> *If you take the whole of the permanent relief funds in this country which pay relief on the certificate of a doctor that an accident has taken place and a man is unable to follow his work, it works out that one of every six who goes down in the mines meets with an accident every year.*[134]

In 1910 Warwickshire reported 115 injured in accidents. If Harvey's calculations are correct, it should have been around 2,600.

It could be argued with some justification, that field clubs and friendly societies were concerned with the results and not the cause of accidents. However, a contrary view would be that the growing support for the relief societies from the 1880's reveals that an increasing number of miners were not prepared to let their families suffer the lottery of misfortune, and that their premiums are the tangible proof that they understood the link between the cause and consequence of accidents.

Trade Unions

Perhaps the only influence an individual miner could have to reduce accidents was through the collective power of their trade union. The first call for government intervention was a joint demand from Staffordshire owners and miners in 1834 to ban safety lamps that failed to reach a prescribed standard.[135] A Select Committee was established and safety lamps were tested by London University but no action was recommended as it was felt that safety should remain the responsibility of the owner/manager.[136] In 1842 the MAGB was established in Wakefield. By 1844 it had 70,000 members, an estimated third of the national workforce. Some 65 per cent were in the dominant North-East with the rest from Yorkshire and Lancashire, with

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[134] W. Harvey MP, *Parliamentary Debates* 17, cc 1496 (16 June 1910).

[135] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) p. 72.

[136] PP *Report of the Select Committee* 'To inquire into the nature, causes and extent of those lamentable catastrophes' which have occurred in the mines of Great Britain with a view of ascertaining and suggesting the means of preventing the occurrence of similar fatal accidents', 603 (1835) p. 1X.

representatives from Staffordshire, Wales, Scotland and Leicestershire.[137] This embryonic trade union campaigned for a Mine Inspectorate with the necessary technical knowledge to approve the safety of underground workings and the power to enforce their findings. In 1844 a meeting of 20,000 Durham miners petitioned parliament for inspectors who would check ventilation, ropes and machinery [138] and in his 1849 evidence to the Select Committee, the Jarrow miners' representative proposed Inspectors who could impose on the spot fines.[139] The Miners' Association's tendency to link safety with pay and conditions hindered its success and it collapsed at the end of the decade.[140]

Trade Unions re-emerged in the 1860's and supplemented their traditional call for more power for Mine Inspectors [141] with a legal campaign to penalise those employers with poor safety records with sizeable claims for compensation. Here they came up against an intransigent legal system and Bartrip notes; 'High Court precedents blocked or threw doubt on one possible legal ground after another.'[142] Employers claimed that those in dangerous jobs received a premium in wages that constituted acceptance of the risk. The myth of 'common employment' meant that workers were responsible for their own actions and could not sue a fellow worker, then defined as a manager.[143] It was also commonly believed that most accidents were caused by worker neglect and that contributory negligence nullified claims. Finally it was thought that excessive compensation following, for example, a mine explosion, could cripple a company and be detrimental to British industry. Add to this an

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[137] R. Challinor and B. Ripley, *Miners Association: a trade union in the age of the Chartists* (Whitley Bay, 1900) p. 8.

[138] R. Fynes, *History of Northumberland and Durham Miners* (1879) (Sunderland, 1923).

[139] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 40.

[140] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) p. 72.

[141] As noted above the first national body for miners, the Miners Association of Great Britain established 1842, campaigned for more power to Inspectors. This continued with the new Miners' National Union established in 1863.

[142] Bartrip and Burman, *The Wounded Soldiers of Industry* (Oxford, 1983) p. 124.

[143] A. Wilson and H. Levy, *Workmen's Compensation* (Oxford, 1939) pp. 25-30; and J. Benson, 'Trade Unionism and the Use of the Law: English Coalminers' Unions and Legal Redress for Industrial Accidents', *Historical Studies in Industrial Relations* 3 (March, 1997) 34.

unsympathetic legal system that fought to protect the sanctity of contract law, and it is not surprising that most compensation claims failed.[144]

The Trade Union Congress was formed in 1868 and by 1874 had an affiliated membership of one million. In that year two miners' leaders were elected as Liberal Members of Parliament; Alexander MacDonald, the Scottish miners' leader, was elected for Stafford and Thomas Burt, the North-East miners' leader, for Morpeth in Northumberland.[145] MacDonald had established the Miners' National Association in 1863, described by Church as a pressure group supporting legislative reform.[146] He was an eloquent speaker and that rarest of creatures, a former working coal miner with a university education.[147] The TUC campaigned for reform of the law and argued that it negated an employer's incentive to monitor safety:

> *It even makes it his interest not to examine too minutely into the way in which his work is carried on lest he should be held to have personally interfered and to have become personally liable.*[148]

After years of debate involving government inquiry, union lobbying, employer hostility, failed parliamentary bills and targeting of candidates in elections, the Employer's Liability Act was passed in 1880. It did not turn out to be the panacea that unions had hoped for. Around 25 per cent of employers simply 'contracted out' ameliorating the loss of worker rights by increasing contributions to accident relief funds. Bartrip noted a positive correlation between high accident rates and high levels of contracting out.[149] In South Wales which had the worst accident record and Lancashire and Cheshire which was significantly above the national average, almost

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[144] Bartrip and Burman, *The Wounded Soldiers of Industry* (Oxford, 1983) pp. 124-133.

[145] ODNB: Alexander MacDonald (1821-1881), Thomas Burt (1837-1922).

[146] R. Church, *The History of the British Coal Industry: Volume 3 1830 to 1914* (Oxford, 1986) p. 677. They lobbied the government for changes in the law relating to trade union activities resulting in the 1871 Criminal Law Amendment Act and the Mines Regulation Act 1872. MacDonald served on the Royal Commission on trade unions and issued a minority report in 1875 calling for a wider reform of the labour laws than the main report had proposed.

[147] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) p. 115.

[148] Bishopgate Institute: Howel Collection,: TUC Papers 1878-79 TUC circular 'Compensation Bill', (31 January 1879).

[149] Bartrip and Burman, *The Wounded Soldiers of Industry* (Oxford, 1983) pp. 172-3.

all employers contracted out. To the trade union's chagrin, in other areas employers simply turned to insurance to ensure heavy damages did not fall upon a single enterprise. The newly created Employers Liability Assurance Corporation made no merit rating to reward employers with good safety records, nullifying the TUC aim to penalise the bad.[150] After a decade of its existence George Campbell of the Central Association of the Miners Permanent Relief Societies gave evidence to a Select Committee on the working of the Act.[151] Statistics showed no difference in accidents in those that did or did not contract out. Those employers that contracted out did not save money as they paid more than they would have under compensation. He also found little evidence that workers were forced into contracting out as, like employers, they believed that litigation soured relations and that high legal cost ate into any compensation awarded. Evidence from the long-running German scheme revealed that in only 20 per cent of accidents could employer negligence be established suggesting that most accidents would not be covered by employer liability. Not surprisingly Bartrip found that most workers opted for the small but assured payments in event of accident rather than the larger more uncertain figure obtainable under the Act.[152]

Throughout the 1890's trade unions continued to campaign against contracting out and an insurance scheme that they perceived allowed employers to neglect safety.[153] Their primary concern was not compensation but penalising employers with poor safety records by hitting them where it hurt most, in their bank balance. The move to establish adequate compensation for all was left to others, and the prevailing opinion came to rest on a system of insurance. The 1897 Workers' Compensation Act was the first to apply the principle of no fault compensation. It designated parameters by stating who was eligible, initially excluding seamen and agricultural labourers, and how much compensation was to be paid based on previous earnings. Payments were

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[150] Bartrip and Burman, *The Wounded Soldiers of Industry* p. 213.

[151] Bartrip and Burman, *The Wounded Soldiers of Industry* p. 193.

[152] Bartrip and Burman, *The Wounded Soldiers of Industry* p. 173.

[153] The Miners Federation of Great Britain passed a yearly resolution at their Annual Conference condemning contracting out and urging parliament to outlaw the practice. Annual Volume of Proceedings: Annual Conference, MFGB. MSS429MFGB 4/1 to 4/8 Modern Records Centre: University of Warwick.

negotiated between the two parties or settled by arbitration, with the courts deciding disputes over matters of law. It was not a system of State insurance but according to Bartrip; 'an imposed public solution on private interest.'[154] The wording of the Act led to many court cases and the influx of insurance companies that challenged the supremacy of ELAC, led to rate cutting that meant many survived on the edge of solvency and would put pressure on claimants to accept small lump sum payments. Yet despite its shortcomings, MPs now sought to extend and amend the Act rather than seek its repeal, and trade unions became more focussed upon improving compensation. At the 1900 Annual Conference of the MFGB the secretary of the WMA gave the county figures for the previous year. There had been seven killed with the families of the six men receiving on average £188 and the boy's family £75.[155] There were 606 reported accidents which led to three court cases, one of which was won, one lost and one the subject of an appeal. All the rest were settled out of court. The five permanently injured men received between 13/- and 15/- a week with other accident victims between 8/- to 20/- a week.[156] In 1913 at an Arley Lodge miners' meeting it was reported that during the last fourteen years half a million pounds was paid to Warwickshire miners in compensation.[157]

One aim of the first Warwickshire trade union established in 1872 was 'keeping its own sick, maintaining its own injured and burying its own dead.'[158] The union had been established in a period of rapidly increasing coal prices where owners were content to share some of their bounty as increased wages. The economic downturn of 1874 saw owners keen to claw back those wage increases and expensive and ineffectual strikes in 1874, 1875 and 1876 depleted union funds and led to the

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[154] Bartrip and Burman, *The Wounded Soldiers of Industry* p. 215.

[155] It is not clear where these figures came from. The *Annual Report of the Inspector of Mines* Midland Division 1899 lists six deaths, the youngest aged 24. In 1900 there were eleven deaths in the *Annual Report* up to October when these figures were given, the youngest aged 21. Who is the boy that was killed?

[156] Annual Volume of Proceedings: Annual Conference MFGB (October 1900) p. 45. MRC MSS429MFGB 4/3.

[157] *Nuneaton Observer,* 21 February 1913.

[158] This paragraph is based on A. Cholmondersley, 'The Growth of Miners` Trade Unionism on the Warwickshire Coalfield 1870-1919', (Unpublished MA dissertation, Wolverhampton Polytechnic 1983). *Nuneaton Chronicle,* 7 September 1872 reported their programme and an increase in contributions from 5 pence to 9 pence a week.

suspension of payments to widows and the sick in 1877. Subsequently members deserted the union and it collapsed with debts of £400 in 1880.[159]

In 1885 a second union was established with William Johnson appointed a full time agent in 1888.[160] Johnson was characterised by his close – some said too close – relationship with employers and his willingness to negotiate rather than resort to industrial strife. As early as 1890 the leader of the Warwickshire Employers Association was commending his 'wise and moderate counsels offered to the men.'[161] The policy was successful and in 1890 the *Nuneaton Chronicle* could report that the:

> *Warwickshire miner can claim the distinction of having achieved the eight hour day without agitation or parliamentary interference. The times worked at the seventeen mines in the county averages 7 hours 40 minutes, and as a further 20 minutes is occupied in reaching the coalface, the full eight hour day is secured.*[162]

Johnson denied this but admitted the eight hour day was close. In 1891 the *Tamworth Herald* could quote the secretary of the Bedworth Lodge of the union that it was 'heaven on earth for all Warwickshire miners.'[163] This 'heaven' did not survive the economic depression of 1893 when employers demanded a national reduction of 25 per cent in wages. The industrial dispute that resulted exhausted union funds, but unlike its predecessor the men did not abandon the union and it survived intact.[164] Johnson's moderation was apparent even during the strike when he was called to

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[159] *Nuneaton Chronicle,* 30 March 1880 letter from "Justice" called for miners to give Secretary College support over debts; 27 April letter from College asking for support; 9 July letter from College en route to Australia. He had sold his furniture to help pay the debts.

[160] See L. Fretwell, The *Warwickshire Coalfield* Volume Three: (Warwick, 2005) Appendix Two: The Origins of the Miner's Union pp. 152-9. Also *Nuneaton Chronicle,* 18 September; 9 October and 23 October. 1885. Dictionary of Labour Biography 2 William Johnson.

[161] *Nuneaton Observer*, 7 February 1890.

[162] *Nuneaton Chronicle,* 19 January 1891.

[163] *Tamworth Herald,* 10 June 1891.

[164] In January 1892 Johnson informed the annual dinner of the Collycroft lodge that the WMA had £2,500 in funds. *Nuneaton Observer,* 27 January 1892. In June 1894 he informed a meeting of miners at Alderman's Green that the WMA had a debt of around £200 following the strike. *Nuneaton Observer,* 15 June 1894. By 1896 the bank balance had recovered to £5,652. *Nuneaton Observer,* 17 January 1896 and by 1898 had reached £13,000. *Nuneaton Observer,* 10 June 1898. In 1901 Johnson informed the annual dinner of the Birch Coppice lodge that there was £23,000 in the Union Fund and a further £5,500 in the Permanent Relief Fund. *Nuneaton Observer,* 29 November 1901.

defuse a potential violent situation outside the working Nuneaton Colliery.[165] When men called for winding men to come out and stop all pit maintenance Johnson refused stating they had a good relationship in Warwickshire between the masters and the men and he would not 'hit below the belt.'[166] The union shared the general economic recovery from 1895 and in 1900 the WMA could claim that it achieved old age pensions for all over seventy ten years before the Liberals introduced it nationally in 1908. Although negotiations began in 1898[167] the first pensions were not paid out until 1902.[168] In that year pensions were also negotiated for the sick and injured. In 1899 the union opened a purpose built Central Office in Bulkington Lane, Bedworth. At a cost of £2,000 the building in an acre of land had an office for the General Secretary, a general office, a strong room and a thirty-five foot square assembly room. There was living accommodation for Johnson and out offices, toilets and a shed in the yard at the rear. The land at the rear was said to be large enough for 10-20,000 people and at the opening ceremony thirteen lodges brought their banners and bands to hear speeches from national miners' leaders.[169] In 1900 Johnson had stood as the Liberal candidate against the Conservative MP for Nuneaton, Sir Francis Newdigate. He lost but was successful in the 1906 rerun of the contest. A mine union official had replaced a mine owner in parliament.[170]

William Johnson was a controversial figure. He had never worked as a miner[171] and this led to difficulties when negotiating with employers. There was no parity in wages across the Warwickshire coalfield and miners in the north were receiving concessions that their fellow miners in Bedworth and Nuneaton could only dream of.

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[165]At Nuneaton Colliery the owner Reginald Stanley continued to pay the old rate and even a premium of nine pence a day while the strike lasted. A crowd of striking miners wanted the pit stopped so the working miners could 'feel the pinch' as they did. *Nuneaton Observer,* 1 September 1893.

[166] *Nuneaton Observer*, 4 August 1893.

[167] Letter from Johnson to the *Nuneaton Observer,* 10 June 1898.

[168] The first payment was a great meeting of thousands of miners in Bedworth. The Countess of Warwick paid a new Edward V11 sovereign as the first month's payments to 32 miners over the age of 60. *Nuneaton Observer,* 25 July 1902.

[169] A description of the building and the opening ceremony is reported in the *Nuneaton Observer,* 18 and 25 August 1899.

[170] *Nuneaton Observer*, 19 January 1906.

[171] This was also true of John College, leader of the first Warwickshire trade union.

Fretwell attributes this to the fact that owners in the south tended to work more closely together and it was therefore more difficult to gain concessions from an individual company.[172] At Birch Coppice and Baddesley collieries in the north miners had a Clause Ten added to their contracts allowing face workers who were taken off face work to do other jobs, to continue to receive face work rates rather than the lower daymans' wages. While negotiating contracts at Birch Coppice Johnson unwittingly lost the miners this valuable Clause for an extra six pence a day and as a result the face workers lost around 3/9 a week.[173] This hardly endeared him to miners in the north and when it was discovered that the union had never employed a chartered accountant to audit their accounts, untrue rumours circulated in the Tamworth area that Johnson was a shareholder at Birch Coppice Colliery[174] and more seriously, that he had embezzled union funds. The WMA was forced to sue for slander in 1908 but although they were awarded £1,000 in damages, the judge criticised the union for its lack of financial management.[175] This is unfair as Johnson claimed that 'there was scarcely a union in the country that had its books audited by a chartered accountant' and when the idea had been mooted the men had rejected it in the vote.[176] He had acted as auditor for the MFGB commenting in his report to the Congress of 1900 how well the books were kept.[177] The minute book of the WMA reveals that the union had

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[172] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) p. 154.

[173] L.Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) p. 154. Baddesley Colliery continued to pay the Clause. A note of caution must be added. Fretwell tends to be critical of the fact that Johnson was never a working miner but as Secretary of the WMA he attended every inquest of miners killed in the pits and his pertinent questioning of witnesses reported in the press reveals a sound knowledge of colliery working.

[174] There was a W. Johnson shareholder but he was not the WMA Secretary.

[175] *Nuneaton Chronicle*, 28 February 1908. The man who accused him of corruption was allowed to employ a chartered accountant to audit the book and he passed them as faultless. For a full review of the trial see *Nuneaton Observer*, 21 and 28 February 1908.

[176] *Nuneaton Observer*, 28 September 1906. The fact that the union did not have an independent auditor was first raised by Sir Francis Newdigate after he lost to Johnson in the 1906 election and was used as a rallying call by disaffected members. It was widely believed that the Conservatives financed the legal costs of the slander trial defendant. Johnson never received a farthing of the £1,000 awarded against Pat McNicholas. In 1912 Thomas Oran, another miner with Conservative Party connections, brought an action against Johnson for recovery of the £750 court costs of the libel trial paid by the WMA. He won the case at the Appeal Court in November 1913 making Johnson personally liable but three weeks later the WMA made Johnson an award of £1,000 for service to the union. *Nuneaton Observer*, 7 and 28 November 1913.

[177] Annual Conference MFGB 1900 p. 53. In 1900 the MFGB changed their conference date from January to October. This is in the January Report of the conference held at Cardiff and not the October conference held at Saltburn. MRC MSS429MFGB 4/3.

a treasurer and auditor annually elected by the men and that a sub-committee regularly examined the books of the various lodges and brought to book any that were unsatisfactory.[178] Nevertheless rumbling discontent continued and this came to the surface after the four week national stoppage of March 1912 when the WMA was unable to provide full strike pay for the last week of the strike. Johnson had suffered a heart attack in late March and was absent for six months recovering.[179] He was unable to defend himself against the growing number of reform movement meetings of June and July where there was vociferous criticism of the 'Bedworth officials' and demands for closer scrutiny of union funds. By September the union had conceded that both the association books and that of the lodges would be audited by chartered accountants.[180]

Johnson was also criticised for nepotism in employing his son as his secretary.[181] Fretwell believed that he was dyslexic and needed this assistance although difficulties with reading were not admitted at the time. As evidence for this he remarks that on a number of occasions Johnson 'misread' notes sent to him while negotiating with employers.[182] It is difficult to fully accept this interpretation. His 'misreading' of notes could be attributed to the fact that Johnson felt that he was more aware of what was possible in negotiations than the men he represented. He was a prolific writer of letters to the newspapers and in 1889 published a series of ten lengthy articles on 'Machinery verses Humans' in the *Nuneaton Chronicle.*[183] He also attended the

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[178] WMA Executive Minute Book, especially Volume 1 and 2. See 7 June 1905 Tunnel Lodge ordered to "put their book on a more satisfactory basis;". 24 August 1906 two cases of misappropriation of funds in the hands of the solicitors; 17 October 1906 one lodge July statement of accounts irregular and they were ordered to appear before the Executive Committee. WCRO CR281.

[179] *Nuneaton Observer*, 29 March 1912.

[180] Mentioned in the report of the Arley lodge meeting, *Nuneaton Observer,* 6 September 1912.

[181] His son William Johnson junior was appointed in May 1898 partly to help run the new Warwickshire Permanent Relief Fund established by the WMA. *Nuneaton Observer,* 18 August 1899. He first accompanied his father in 1910 to the International Miners' Conference in August and the Annual Conference of the MFGB in October. Annual Volume of Proceedings. MRC MSS429MFGB 4/7.

[182] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) p. 156. Fretwell claims that Johnson never replied to letters and there are occasions when he "misread" notes sent to him during pit negotiations. There is Johnson letters in the Warwickshire Miners' Association archives typed in italic text. See. WMA Records 1900 to 1995, WCRO CR3323.

[183] *Nuneaton Chronicle*, 28 September to 16 November 1889. The gist of these was that miners had nothing to fear from the introduction of mechanisation.

Annual Conference of the MFGB and numerous Conciliation Board meetings with employers but there is no evidence that his son accompanied him.[184] By 1911 Johnson was in his sixties and 'not as young as he used to be.' He was MP for Nuneaton, a county councillor for Bedworth and served on the executive of the MFGB. The WMA had grown from four thousand to seventeen thousand members and administered its own permanent relief society. It would appear reasonable that the union should then employ both the treasurer and an assistant general secretary as officials[185] and that Johnson should require an assistant 'paid for from my own private income' for support in these duties.[186]

At the national level although Derbyshire, Leicestershire and Nottinghamshire had their Associations, Warwickshire was part of the Midland Federation which included Staffordshire and Shropshire. In the decade before he became an MP Johnson worked for the MFGB as an administrator. Between 1896 and 1905 Johnson served on the Credentials Committees of the Annual Conference, Special Conferences and the International Miners Conference on twenty-two occasions.[187] The Credentials Committee was responsible for listing the areas represented, the delegate's names and their number for each area, the numbers in the trade union and the number employed. In addition he served on Business Committees that decided what was to be discussed on three occasions and was a teller of votes twice.[188] He was also part of delegations to petition Government ministers or negotiate with employers at the Conciliation Board [189] and although he rarely made an oral contribution, he was not just there to

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[184] An article on Johnson in the *Reynolds Weekly News,* July 1904 claimed he had won first prize in examinations on social, historical and economic topics organised by the Working Men's' Club and Institute eight years in a row, had six teaching certificates gained at a Coventry evening college and could 'read, write and speak several European languages.' If he had dyslexia it certainly did not hold him back. Reprinted *Nuneaton Observer,* 22 July 1904.

[185] Both men accompanied Johnson in negotiations with employers and his son took on the role of attending Inquests as the WMA representative, overseeing the work of the Permanent Relief Society and the claims for compensation.

[186] Johnson, to a meeting of Chapel End miners. *Nuneaton Observer*, 22 September 1911.

[187] As an MP between 1907 and 1913 he served on another 11 Credentials Committees. MSS429MFGB 4/6 to 4/10 Annual Proceedings of the MFGB 1907 to 1913 MRC; Warwick University.

[188] Annual Proceedings of the MFGB 1896 to 1905. MRC MSS429MFGB 42, 4/3, 4/4 and 4/5. Note records start from 1895.

[189] When he was a member of the National Executive of the MFGB he was an automatic selection but as the Scottish and the South Wales areas had their own Conciliation Boards, where those delegates

make up the numbers. When he spoke it was to clarify technical detail as in a 1904 Board of Conciliation meeting when fearing a reintroduction of the sliding scale, he succeeded in having the wording changed to say that price was not the sole factor in determining wages.[190] His pernickety nature could go too far as in the Annual Conference of 1905 where he felt it necessary to point out to Conference a two pence error in the auditor's report.[191] When he did make a conference speech it usually revealed his moderate stance. In 1897 he spoke against a proposal for the miners to adopt an overtly socialist position;[192] in 1898 he railed against employers contracting out of the Workers' Compensation Act;[193] at the 1901 International Conference he gave half-hearted support to the resolution to nationalise mines which was traditionally passed unanimously, by describing it as 'impossible;'[194] in 1904 he seconded a proposal to end the Scottish wage dispute by using the intervention of the English and the Welsh Conciliation Boards as a moderating counter to the 'brute force' shown by the Scottish employers, to gain public support;[195] at the 1904 Annual Conference he suggested an end to the impasse of the Eight Hour Day by gaining it 'fifteen minutes at a time'[196] and in 1905 he spoke against the Coal Tax which had led to cheap South Wales coal flooding the Midland District and depressing wages.[197]

In his speeches cited above Johnson was not an inspirational orator but there was one exception. He spoke passionately for the need for old age pensions, particularly after the introduction of the Workers' Compensation Act of 1897 which led some employers to dispense with the service of older miners thought more prone to

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served, he appeared to be a first choice in co-opted members. See for example 1911 MRC MSS429MFGB 4/8.

[190] Board of Conciliation (27 January 1904) p. 25.See also Board of Conciliation (9 March 1904) p. 21 and 31; Board of Conciliation (28 July 1904) p. 14; Special Conference: South Wales Wage Agreement (June 1903) p. 17. MRC MSS429MFGB 4/4.

[191] MFGB Annual Conference (Blackpool 1905) p. 98. MRC MSS429MFGB 4/5.

[192] MFGB Annual Conference (Leicester 1897) pp. 61-2. MRC MSS429MFGB 4/2.

[193] MFGB Annual Conference (Bristol 1898) p. 23. MRC MSS429MFGB 4/2.

[194] International Miners' Conference (London 1901) p. 41. MRC MSS429MFGB 4/3.

[195] MFGB Special Adjourned Conference (September, 1904) p. 48. MRC MSS429MFGB 4/4.

[196] MFGB Annual Conference (Bristol 1904) p. 16. MRC MSS429MFGB 4/4.

[197] MFGB Annual Conference (Blackpool 1905) p. 104 MRC MSS429MFGB 4/5.

accidents.[198] In 1901 he informed the Annual Conference of a Warwickshire Pension Scheme which in three years had amassed a fund of £5,000 and planned the following year to pay out old age pensions and sick pay of 5/- a week to those that produced a doctor's certificate. His proposal that the Federation should consider such a scheme for all miners was withdrawn after fears that this would undermine the national campaign for a pension, and that a similar scheme introduced in Northumberland and Durham had failed.[199] At the 1903 Annual Conference, Johnson seconded the resolution for an old age pension for all by giving details of the Warwickshire Scheme which had begun payments in July 1902.[200] Between sixty and seventy men over the age of sixty were receiving 5/- a week and 'were at liberty to do any light job that did not compete with a local worker.'[201] The Executive Minutes of the WMA reveals that the scheme required refinement. A note in a meeting of September 1905 commented that some men had incorrectly received a pension without paying into the fund and that 'too many look upon the union as a relief society which it is not.'[202] It was resolved that men could not receive a pension when in receipt of compensation,[203] two old age pensions were suspended until it could be discovered exactly what extra work they were performing [204] and those six months in arrears with their payments became ineligible to receive a pension.[205] In 1905 the Sick Branch of the Permanent Relief Society was restricted to those below the age of forty[206] and a 1912 claimant was refused when it was discovered that he had attended a doctor at one o'clock on a Sunday morning in a drunken state.[207] Yet the union was prepared to grant £2 for a

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[198] International Miners' Conference (Vienna 1898) p. 16 and International Miners' Conference (Brussels 1899) p. 36. Employers used the same tactic of sacking older men when the Minimum Wage was introduced in 1911. MRC MSS429MFGB 4/5. A local newspaper headline 'Too Old at Fifty' confirmed that older miners were not being re-employed. *Nuneaton Observer,* 12 April 1912.

[199] MFGB Annual Conference (Birmingham 1901) pp. 33-37. MRC MSS429MFGB 4/3.

[200] The *Birmingham Daily News* and the *Nuneaton Chronicle* both gave details of the scheme. Those under 40 paid two pence a week, between 41 and 50, three pence a week and over fifty, four pence a week. Even when they reached the age of 60 or 65 for non union members they had to produce a letter from a doctor to say that they were not able to continue work *Nuneaton Chronicle,* 25 July 1902.

[201] MFGB Annual Conference (Glasgow 1903) p. 95. MRC MSS429MFGB 4/4.

[202] WMA Executive Minute Book: Volume 1 (12 September 1905), WCRO CRO281.

[203] WMA Executive Minute Book: Volume 1 (24 August 1906), WCRO CRO281.

[204] WMA Executive Minute Book: Volume 1 (22 September 1906), WCRO CRO281.

[205] WMA Executive Minute Book: Volume 1 (4 September 1904), WCRO CRO281.

[206] WMA Executive Minute Book: Volume 1 (3 January 1905), WCRO CRO281.

[207] WMA Executive Minute Book: Volume 2 (12 April 1912), WCRO CRO281.

widow that remarried in 1905 and to provide orphan money for two children in 1907.[208] It also made a grant of £100 to the Coventry Hospital Building Extension Fund, £5 to the Nuneaton Ambulance Society and spent £20 on an invalid carriage that could be used anywhere in the district.[209] It may not have been a relief society but the WMA took tangible steps to provide a welfare cushion for its members.[210]

In 1906 Johnson stood as the Liberal candidate for the Nuneaton constituency and the Liberal supporting *Nuneaton Observer* gave him a lengthy column to answer his critics. The previous year had been a poor one for miners as they suffered a 10 per cent reduction in wages in January[211] and some twelve hundred Warwickshire men had lost their employment. There had obviously been some grumbling complaints of the failure of the union to resist these reductions and Johnson talked of the need for unity and to bring any grievances to their lodges and not foster division. He attributed half the job losses to bad trade but the rest to blunders of management described as 'capitalist incompetence and inefficiency.' With the exception of a few older men most had now found work. In an attempt to justify his leadership of the WMA he gave a detailed breakdown of expenditure for 1904. The union had spent £3,000 on out of work pay; £2,000 on sickness and accidents; £1,000 on ninety old age pensioners; £800 to the Miners' Federation and to help other trade unions; £700 for medical attention; £2-300 for widows and orphans; £200 for death allowances and £200 on legal fees to fight for compensation.[212] The high 'out of work' payments suggests that this was not a typical year but it nevertheless gives an insight into the working of the Warwickshire union.

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[208] WMA Executive Minute Book: Volume 1 (1 November 1905); and Volume 2 (14 January 1907), WCRO CRO281.

[209] WMA Executive Minute Book: Volume 1 (3 January 1905); Volume 2 (17 April 1909); and Volume 1 (14 January 1907), WCRO CRO281.

[210] In 1902 it was reported that Johnson had provided 114 tons of coal to Bedworth pensioners paying for carriage from his own pocket. He was the County Councillor for the town. *Nuneaton Observer,* 4 January 1902. This must have been an annual event as in 1910 it was reported that 110 tons had been distributed to 230 old folk. *Nuneaton Observer,* 23 December 1910.

[211] This prompted an unofficial strike by 100 Birch Coppice pit lads that cost the colliery £1,000. The boys were fined 10/- and 2/- costs at Atherstone petty sessions for failure to give notice. *Nuneaton Observer,* 22 January 1904.

[212] *Nuneaton Observer*, 20 January 1904.

Two national disputes, the 1908 call for the Eight Hour Day and the 1912 campaign for a Minimum Wage, both reveal the favourable condition of the Warwickshire miner. In 1909 a Bedworth miner complained to the *Tamworth Herald*; 'We did not want the eight hour day. I now have to work longer hours for less money.'[213] The Annual Conference of the MFGB had since 1889 passed the yearly resolution for a call for an Eight Hour Day from bank to bank. They also published the list of MPs who voted on the annual measure presented to parliament.[214] In 1900 Sir Alfred Hickman, MP for Wolverhampton and owner of the Haunchwood Colliery in Nuneaton, spoke against the bill in a period of coal shortages. He stated that in Warwickshire hewers worked six and a half hours at the face and loaders seven and a half hours, with the former receiving 5/2 to 10/- shillings a day and the latter 4/10, and both half a ton of coal every twenty-four days.[215] Voting cut across party lines with Sir Alfred voting against the Bill, his fellow Conservative MP and owner of Newdigate Colliery in Bedworth, Francis Newdigate, voting in favour of it, and the Liberal MP Emerson Bainbridge, owner of Griff Colliery Nuneaton, joining Sir Alfred in the lobby.[216] The bill was lost but no one questioned Hickman's assertion that Warwickshire miners were both well paid and worked under superior conditions.

The Eight Hours Day became law on July 1 1909 with all Warwickshire pits at a standstill. The two issues in dispute was the time allowed for snap[217] and the shaft journey to and from work. The employers demanded fifteen minutes snap time while the WMA called for twenty minutes. In his usual conciliatory way Johnson recommended that where collieries agreed to the twenty minutes men should return to work and that if employers agreed to the men descending in the master's time then they would ascend in theirs. But he had misjudged the mood of the men and in lodge after lodge they voted to remain on strike until a twenty minute snap time was agreed across the county. Stanley Brothers had typically agreed to the twenty minutes break

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[213] *Tamworth Herald,* 7 October 1909.

[214] MFGB Annual Volume of Proceedings (1895 to 1908) MRC MSS429MFGB 4/2, 4/3, 4/4, 4/5,4/6 .

[215] *Parliamentary Debates:* Sir Alfred Hickman House of Commons (28 February 1900). cc 1331. Yet only two days later Johnson was informing the Birch Coppice Lodge of his success in gaining 'Johnson's penny' to raise the pay of pickmen to 5/- a day. *Nuneaton Observer,* 2 March 1900.

[216] MFGB Annual Volume of Proceedings (1900) MRC MSS429MFGB 4/3, and *Parliamentary Debates* (28 February 1900) cc 1331.

[217] Snap was the miner's term for meal breaks.

but when one hundred and thirty at Nuneaton and forty at Bedworth decided to return to work, they were confronted by crowds of thousands who were not prepared to limit their disquiet to verbal abuse. Many of the Nuneaton working miners were beaten and at Bedworth they were chased across fields and thrown into the canal. At Ansley Hall miners had voted to work the fifteen minutes snap and when a hostile crowd massed a pitiful group of wives and children armed with broom handles and pick staves gathered at the pit head to 'protect' their men. There was no violence but the Ansley men agreed to join the county stoppage. Sir Alfred Hickman, leader of the Warwickshire Coalowners' Association, complained that their competitors in Cannock, Staffordshire and Derbyshire had approved the fifteen minutes snap time and that Warwickshire was alone in its opposition. Nevertheless after two weeks the owners conceded the 'temporary' grant of twenty minutes snap and referred the dispute to the Board of Trade for arbitration. The men then returned to work with the exception of Griff, Charity, Newdigate and Exhall collieries. Here the dispute was more over the new system of working which affected double shift work but as the men had only worked seven hours they had been accustomed to a thirty minutes snap break. After another vote all but Exhall returned to work. In August Winston Churchill, President of the Board of Trade, awarded the Warwickshire men their twenty minutes snap.[218]

Similarly in 1911 the *Daily News*' Industrial Correspondent reported that in Warwickshire;

> *an atmosphere of prosperity and contentment which is in striking contrast to the poverty and unrest prevailing in the mining districts of Staffordshire and Worcestershire. The secret of course lies in the more favourable geographical position of the coalfield and its markets are not restricted. The principle of the national minimum wage for which miners elsewhere agitate, has already been conceded here .. The owners in Warwickshire have granted the very thing for which the National Federation is*

[218] *Nuneaton Observer,* 2 July, 9 July, 16 July and 6 August 1909. The dispute flared up again in 1911 when Baddesley Colliery banksmen, not in the WMA in 1909, claimed that they did not receive a 20 minutes snap and was the 'lowest paid in Warwickshire.' *Nuneaton Observer,* 20 January and 10 February 1911.

contending. I believe they are the only coalowners in the country to do so.[219]

He was mistaken as Taylor has discovered that areas of Staffordshire had been granted similar conditions of work after a stoppage.[220] In 1911 there were a series of Special Conferences leading up to the national strike for a minimum wage. At a January Special Conference on Abnormal Working Places Johnson informed the meeting that Warwickshire had already solved it, not by 'advocating a national strike but meeting the colliery proprietors in their own offices and getting the terms.'[221] He admitted that they had spent £12,000 fighting two collieries that had opposed the deal in 1910[222] but that now they had a written agreement for 7/- a day.[223] In Warwickshire hewers earned on average between 10 to 14/- a day although some could earn as much as a pound a day and that as 'we have to be reasonable' the scheme operated over a period of a fortnightly earnings. He gave details of how the scheme worked in a June Special Conference. It was the checkweighman who decided if money had to be made up and informed the manager. If there were any problems Johnson contacted the Employers' Association 'and they compel them.'[224] When at a November Special Conference a South Wales delegate complained that nothing had been achieved 'except in

[219] *Tamworth Herald,* 15 September 1911 and *Nuneaton Observer,* 15 September 1911. The strike was solid in Warwickshire. Even Kingsbury Colliery which was a non-union pit joined in *Nuneaton Observer,* 8 April 1912.

[220] E. Taylor, *The Working Class Movement in the Black Country 1863-1914* (Keele, 1974).

[221] MFGB Special Conference: Abnormal Working Places (24-26 January 1911) p. 53. MRC MSS429MFGB 4/8.

[222] These were Baddesley and Ansley Hall collieries. The dispute is described in the *Nuneaton Observer,* 15 April, 29 April, 20 May and 8 July 1910. In 1911 the treasurer of the WMA said that they had spent £25,000 in two years. *Nuneaton Observer*, 15 September 1911, a figure confirmed by Johnson later in the year. *Nuneaton Observer,* 1 December 1911. It would appear that the £12,000 refers to the 11 weeks Ansley Hall strike and the 15 weeks Baddesley strike only.

[223] This 7/- referred to hewers. Oncost workers received 6/3. MFGB Special Conference (13-14 June 1911) p. 100. MRC MSS429MFGB 4/8. In an article of December 1911 Johnson gives a clear explanation of how these figures were arrived at. *Nuneaton Observer,* 1 December 1911.

[224] MFGB Special Conference: South Wales Dispute; New Mines Bill and Abnormal Places (13-14 June 1911) p. 99. MRC MSS429MFGB 4/8.

Warwickshire where it is said something great has been accomplished through the generosity of the employers,' Johnson quipped 'and the leadership.'[225]

Yet although Johnson continued to receive vociferous criticism of his leadership from a section of the miners culminating in a breakaway North Warwickshire Miners' Association being formed in 1909,[226] his skills earned him the respect of both the mine owners and the general public. The *Nuneaton Chronicle* reported his 1894 comment: 'The employers always treat me like a gentleman. No miner's agent in the country is better treated than I am by the employers.'[227] Indeed in 1913 his moderating influence was recognised with the award of an OBE. In 1910 the MFGB had appeared to adopt an overtly socialist stance.[228] Johnson simply ignored this. He had been pressured to join the Labour Party group in the House of Commons in 1910[229] but together with his fellow Liberal colleague for Nottingham was expelled in 1914 for failure to follow party policy.[230] This was not surprising as back in 1897 he had made one of his rare speeches to the Annual Conference of the MFGB against a Scottish proposal for the Federation to adopt a more Socialist agenda[231] and in 1911 he was one of four MPs cited by the Labour Party for not following the constitution in

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[225] MFGB Special Conference Minimum Wage (14-15 November 1911) p. 58 MRC MSS429MFGB 4/8. Such a view was not shared by all Warwickshire miners and when it was explained to the men Arley lodge voted against it. *Nuneaton Observer*, 1 December 1911.

[226] The divisions in the union took shape in 1906 over the failure of the WMA to professionally audit their funds. In 1907 there was an inter-union dispute between the WMA and the Association of Enginemen and Stokers, the former claiming that their members had been poached and the latter claiming a lack of support for an enginemans' strike. *Nuneaton Chronicle*, 6 September 1907. As Johnson was then a Liberal MP the Conservative supporting *Chronicle* gave considerable space to Johnson's critics and it was this that was to develop into the North Warwickshire Miners' Union. See *Nuneaton Chronicle*, 1, 8, 15 March 1907. The Tamworth and District Association was formed September 1909 with 120 of the 1,400 miners in the area. *Nuneaton Observer,* 3 September 1909. By 1912 they had grown to 2,000 members *Nuneaton Observer,* 28 June 1912.

[227] *Nuneaton Chronicle*, 1 May 1894.

[228] In 1910 Robert Smillie, the Scottish miner's leader and avowed socialist, became president of the MFGB.

[229] At their Annual Conference of 1907 the MFGB voted to affiliate to the Labour Party by 248 votes to 172. It is notable that all four of the Midland District coalfields voted against this. Annual Conference (1907) Report p. 97. MRC MSS429MFGB 4/6.

[230] R. Gregory, *The Miner and British Politics 1906 to 1914* (Oxford, 1968) p. 37. Reported in the local press, *Nuneaton Observer,* 10 March 1914.

[231] Annual Conference Report of the MFGB (1897) pp. 61-62 MRC MSS429MFGB 4/2.

the election of 1910.[232] Yet Fretwell comments that his later inaction received local acclaim:

> *The Warwickshire coal owners suddenly began to thank God that here in Warwickshire the miner's union was run by Johnson. The result was that suddenly Johnson began to receive praise from the oddest quarters, not only from the Coal Owners Association but from church leaders, the Chamber of Commerce and even Rotary Clubs and the Masons. All began to pour praise upon him. It was as if suddenly Johnson was the hero of the day. In fact the only people that were not praising Johnson were the miners.*[233]

Johnson retired in February 1918 and died in July 1919 age seventy.[234] His departure led to a reunification of the two Warwickshire unions and the abandonment of the close links to the Liberal Party.

Despite the fact that for much of their existence they had to battle the threat and then the reality of a breakaway union at Tamworth in the north who resented the supposed domination of the union by Bedworth at the centre,[235] the WMA was a successful trade union that worked amicably with owners. Without the need for prolonged industrial conflict they achieved pay and working condition that the National Federation would have to fight for. Yet trade unions were reluctant to take action over dangerous or unhealthy conditions. Youth employment for example was known to be a significant factor in underground accidents. At the 21st International Miners' Conference held in Brussels in 1910 the German delegation led their yearly Employment of Children resolution demanding that no boy should be employed at a colliery until the age of fourteen and not allowed underground until they reached

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[232] MFGB Executive Committee Meeting (25 January1911) pp. 20-21.At the same meeting the delegates from the North-East revealed that the men had voted by a small majority not to set rival Labour candidates against the two miner MPs who had remained Liberals. Johnson must have known that it was only a matter of time before he was seriously challenged. MRC MSS429MFGB 4/9.

[233] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) p. 157.

[234] *Nuneaton Chronicle* Retirement announced 22 February 1918; obituary 25 July 1919 and memorial service 1 August 1919.

[235] The WMA had built a house for Johnson at Bedworth which doubled as the union office. The original choice for a site had been Nuneaton but the land was considered to be too expensive.

sixteen. The Germans called upon Great Britain to 'take a decisive stand and help forward the international movement' but yet again without a Conference mandate the British and French meekly abstained in the vote.[236] When the matter was raised in the Annual Conference of 1911 held at Southport the delegates voted against it retaining the age of fourteen for underground employment.[237] McIvor complains that safety issues were marginalised 'for the sake of increased wages and they (*trade unions*) failed as a countervailing force.'[238] Miners did have the right under the Act of 1888 to pay for their own inspection of a mine but there is no evidence that Warwickshire miners took up this prerogative. This is regardless of the fact that it was made clear at the annual MFGB Conference that if the men elected their representative they could apply to the Federation to receive the payment.[239]

Miners, Unions and Mine Safety

There may appear an assumption in what is written above that at least as the late 19th century progressed miners were protected by a body of safety legislation and in some fatalities it was their neglect of these rules that made them culpable in their own deaths. This supposition rests on the belief that the mine officials enforced these standards and that it was greedy miners, driven by pecuniary advantage, who ignored them. Mine Inspectors who witnessed opposition from men who thought that new safety measures would limit their earning capacity, would certainly endorse this. Parliamentary representatives of the coalowners who spoke against the increasing exclusion of young children from mines cloaked their opposition in a supposed defence of coal mining families to sustain a living wage through the supplement of child earnings.[240] Yet while it is possibly true that most workers seek to maximise

[236] International Conference Report (August 1910) p. 34. MRC, MSS429MFGB 4/7.

[237] MFGB Annual Conference Report (October 1911) p. 173. MRC, MSS429MFGB 4/8.

[238] A. McIvor and R. Johnston, *Miner's Lung: a History of Dust Disease* (Aldershot, 2007) p. 24.

[239] MFGB Special Conference Report (13-14 June 1911) p. 58. Reply of President Robert Smillie. MRC, MSS429MFGB 4/8.

[240] This is perhaps a little harsh. The exclusion of women and young children from the pits did impact family earnings and living standards. Yet when coalowners were still campaigners for 'poor miners' against the 1872 proposed to raise the age of boys employed underground from 10 to 12 years, a member of the TUC Parliamentary Committee questioned their motives and supposed support from the coal miners. Letter of George Howell *Times*, 15 April 1872. This was not controversial in Warwickshire. As early as 1861 the Inspector reported that very few collieries employed boys less than 12 years of age *Annual Report of the Inspector of Mines:* Midland Division 1861.

income[241] and that a hewer needed to complete his stint to ensure regular employment, it would be naïve to believe that standards of safety were always rigorously enforced. In discussing management structure Church and Outram state that the overman's duty was to visit daily all parts of the mine whereas a deputy was in charge of a particular district. 'In theory the overman's responsibility was to encourage effective production while the deputy`s responsibility was for safe working. In practice there was an overlap.'[242] No over officious deputy could afford to overlook the costs of production. McIvor and Johnston interviewed a sizeable number of miners, some of whom had experience that predated the Second World War. One claimed that the minimum distance recommended between props soon became the maximum and that a miner would be reprimanded for exceeding this on grounds of supposed safety. Another when chided by a Mine Inspector that he was not following prescribed rules, stated that it was pointless telling him, and he should direct his comments to the overman and deputy observing some paces away. McIvor concluded that miners rationalised risks, noting 'how they balanced health and safety against the pressure of productivity as well as pressure from their peers.'[243] The male-dominated ethos of the pit may have helped to cultivate a cavalier approach to safety in the mines, with men also willing to take chances to increase production. In this, they may also have had the tacit support of officials.

Similarly the stereotype of the feckless miner, who did little to protect his family and in times of trouble threw himself upon the poor law Board of Guardians or charitable contributions, has also been questioned. The *Miners` Journal* commented in 1857:

> *It is the first duty of every man to make provision for his family and upon no one of the labouring classes is this more incumbent than upon miners, for their lives, to use a technical phrase, are doubly hazardous; yet*

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[241] Speaking in the House of Commons (28 February 1900) Sir Alfred Hickman claimed that at his Haunchwood Colliery in Nuneaton a 40 per cent increase in wages had led to a 6 per cent increase in earnings as miners worked 18 per cent less. *Parliamentary Debates* cc 1331.

[242] R. Church and Q. Outram, *Strikes and Solidarity: Coalfield Conflict in Britain 1889 to 1966* (Cambridge, 1998) p. 26 and p. 32.

[243] A. McIvor and R. Johnston, *Miner's Lung: a History of Dust Disease* (Aldershot, 2007) pp. 48-9.

> *according to the official returns they would appear to be far behind the rest of the population in providing for themselves and families against accidents.*[244]

Benson has argued that this view prevailed among contemporary commentators and 'it was widely believed even among the mining community itself that few men even took the trouble to insure themselves voluntarily.'[245] Yet all evidence contradicts this. Benson has shown that as the late 19th century progressed more and more miners were insuring themselves with trade unions, with commercial insurance companies particularly the Prudential, and with permanent relief societies. He charts the steady growth of membership of these three agencies from 40 per cent in 1875, to 60 per cent in 1880, 85 per cent in 1885 and that by 1890 the policies held exceeded by 30 per cent the total number employed in the English mining industry. At the end of the century 30 per cent of colliers paid three pence a week to trade union burial funds, 50 per cent subscribed between a penny and three pence a week to the Prudential and a further 50 per cent paid around four pence to the permanent relief societies. In addition 15 per cent paid between a penny and three pence to collecting clubs while another 15 per cent paid four to six pence a week to affiliated bodies. All miners paid a penny a week to what Benson terms a 'local unregistered society,' some paid to district medical aid societies, and some to regional and national schemes like the Miners' Provident Association or the National Association for the Relief of Miners. An unknown but substantial number subscribed to trade union non-fatal accident or widow and orphan funds and many more to the Prudential Assurance Company's commercial rivals. Benson concluded that the average miner paid the not insubstantial sum of between six to eight pence a week towards accident insurance, equivalent perhaps to 20 per cent of the cost of their housing. [246] Not all were voluntary. A South Wales miner noted in his autobiography his 'signing on' at a colliery north of Neath before the First World War: 'He wanted me to sign an agreement to have a lot of my

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[244] *Mining Journal,* 24 October 1957. See also *Colliery Guardian,* 20 January 1866.

[245] J. Benson. 'The Thrift of English Coalminers', *Economic History Review* 31.3 (1978) 410. See X to *Miner and Workmen's Advocate,* 5 November 1962, *Staffordshire Sentinel,* 12 April 1890, Royal Commission 'To Inquire into Friendly and Benefit Building Societies', PP (1873) XX11 third report Q 28020.

[246] J. Benson, 'The Thrift of English Coalminers', *Economic History Review* 31.3 (1978) 416-18.

pay deducted. State insurance, hospital, doctor, district nurse, library, artificial limb fund, blind institute, band and a few more all came in for their coppers.'[247]

The role of Trade Unions in mine safety is problematic. Their campaign for Mine Inspectors with considerable power of enforcement continued from the 1840's with limited success. It was impossible for a small inspectorate with a legal responsibility to focus upon fatalities, to make any meaningful inspection of each working district in every mine in their area of responsibility. Many inspectors simply did not want this task fearing owners would use it as an excuse to abrogate their responsibility for safety. Given the lack of political will, it was unlikely that parliament would sanction an expensive army of officials to undertake this role. The local man charged with enforcing safety regulations was the deputy but this official was regarded as an instrument of management control rather than an advocate of worker safety. A more fruitful line of approach may have been to pursue the appointment and duties of a deputy to ensure worker input into safety policy. With the formation of the TUC miners became fixated on achieving safety by penalising poor employer records with heavy compensation payments in the courts. Yet again this policy was ineffective as unsympathetic law courts tended to side with the employer maintaining the fiction of equality between the two parties in a contract even when it was apparent that the worker was in a disadvantaged position. Litigation inevitably soured relations between employer and employee and was unproductive as a tool to encourage safety.[248] Apart from maintaining an awareness of safety issues, trade union strategy for reform would appear to be inappropriate. An exception to this was the campaign for an Eight Hour Day that the MFGB consistently pursued from their creation in 1888. In 1890 William Johnson met the two Warwickshire MPs to solicit their support in the upcoming parliamentary debate. He claimed that most accidents occurred at the close of the day's work and attributed this to 'physical and mental exhaustion.' Both Conservative MPs readily agreed to this in the case of face workers but could not be persuaded that it applied to all workers in the colliery.[249] From the 1890's the Mine

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[247] B. Coombes, *These Poor Hands: the autobiography of a miner working in South Wales* (London, 1939) p. 29.

[248] P. Bartrip and.S. Burman, *The Wounded Soldiers of Industry* (Oxford, 1983) pp. 213-14.

[249] *Nuneaton Observer*, 25 April 1890.

Inspectorate included the time of the accident in their Annual Report but as they did not relate this to the number of hours the victim had worked Johnson's claim cannot be corroborated.[250] It nevertheless appears a truism that tired men are more prone to accidents than those fresh to work. At the local level the WMA was demonstrably successful in negotiating superior pay and conditions for its members but it never attempted to form a joint consultative committee or understanding with coalowners to attempt a similar approach to safety.

Miners were certainly aware of the dangers of their trade. Their increasing contributions to various accident schemes as the century progressed are a testament to this. Their trade union campaigns in parliament and in the courts reported in the press, successfully kept the dangers in the public eye and a succession of Select Committees and Royal Commissions ensured that these were documented. Their sheer numbers and spatial concentration ensured that their views received political consideration and the great strikes of 1893 and 1912 prompted the unprecedented government intervention in industrial disputes. But that was as far as any government would go. Their demands that the State should assume responsibility for the safety of each seam in a colliery was unrealistic and even when nationalisation in 1947 made the State their employer, it did not result in an end to industrial conflict. Yet as a pressure group trade unions had contributed to the improvements in mine safety even if that influence is unquantifiable.

[250] *Annual Report of Inspector of Mines* 1890 to 1913.

Chapter Five: The Owners

What responsibility has an employer for the safety of their workforce? Today this question appears superfluous. Many industrial societies have a body of health and safety legislation, enforced by the state through an inspectorate, regulatory control and the criminal law. In the late 19th century such legislation was in its infancy as it is in emerging industrial societies of today and miners were forced to rely on the paternalism of an individual owner who viewed safety with one eye on the financial cost. William Dugdale, the Warwickshire landowning barrister and owner of Baddesley Colliery, was prepared to risk and indeed sacrifice his life in the futile rescue attempt to which he could offer no practical support, to save nine trapped miners in his employ. Yet the inquest revealed that it was largely his penny pinching business acumen that had caused the tragedy.[1] It is not surprising that colliery owners have generally not received a favourable characterisation in the historiography of the British coal industry.

Section one will define who the mine owners were. There is parsimony of source material for this but the negative stereotype of the grasping capitalist prevailed throughout the 19th century and into the next. Section two examines the butty system of mine management which dominated in the Midlands coalfields. This was developed by owners in an attempt to overcome underground supervision but was disliked by miners who believed that butties cheated them out of their earnings and by the Mine Inspectorate who thought the system negated attempts to improve safety. As part of this study was to assess if the mode of ownership had any significant influence on the reduction of mining fatalities, the next three sections will scrutinise the Warwickshire collieries owned by landowners, those owned by mining companies and those run by mine engineers. Nationally both landowners and colliery companies employed professionals to run their mines but as mine engineers were those professionals, the collieries they controlled may have displayed an increased awareness of safety. Section six analyses mean annual death rates from the groups selected and the types of fatalities that occurred there. This examination reveals that it

[1] The Baddesley disaster of 1882 is discussed in Chapter Three.

was the size of the enterprise rather than the mode of ownership that was the most significant factor.

The Owners

Who exactly were the coalowners? Unlike the miners, coalowners have been largely ignored by historians.[2] Any mining venture required accumulated capital to sink the shaft, build the roadways and buy the necessary pumping and ventilation engines. Church and Outram[3] noted that nationally coalowners were largely descended from coal owning families, those whose families had been involved in colliery management consultancy or in some cases, ironmasters. In his 1986 study Church concluded that 39 per cent of the fathers of coalowners were themselves coalowners, 13 per cent were viewers/colliery managers, 13 per cent iron masters and 10 per cent engineers [4] When he examined the founders of colliery companies the most frequent description in articles of association was coalowner or colliery proprietor but there were marked regional differences. In the North-East 44 per cent used this description, falling to 26 per cent in the East Midlands and only 9 per cent in the fragmented ownership of the West Midlands. Similarly iron masters established a quarter of all companies in Scotland but were only 9 per cent in the East Midlands.[5] As the 19th century progressed improvements in technology demanded an increase in capital to run the deeper more efficient mines yet this was not accompanied by a radical change of corporate structure and organisation. According to Church, the '19th century pattern of family enterprise, partnership and private companies characterised the industry until 1947. Large scale public companies with shares were exceptional before 1914 and the industry still relied on internally generated finance and the owner-manager.[6] Yet even in the last decade of the 19th century it was possible for an

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[2] Only Quentin Outram has made coalowners his area of particular expertise. See for example his study of coalowners in the dispute of 1926. Q. Outram, 'Class Warriors' in *Industrial Politics and the 1926 Mining Lockout: The Struggle For Dignity* (eds.) J. McIlroy, A. Campbell and K. Gildart (Cardiff, 2004).

[3] R. Church and Q. Outram, *Strikes and Solidarity: Coalfield conflict in Britain 1889 to 1966* (Cambridge, 1998) pp. 59-60.

[4] R. Church, *The History of the British Coal Industry Volume 3 1830 to 1914* (Oxford, 1986) p. 455.

[5] R. Church, *The History of the British Coal Industry* p. 451.

[6] R. Church and Q. Outram, *Strikes and Solidarity* p. 20.

amateur to open a coal mine. In Warwickshire Fretwell comments that at Bedworth Railway Colliery the manager was Mr Dennis who was not a qualified mine manager but possibly a butty. This was perfectly legal as the colliery must have employed less than thirty miners underground.[7] As they mined an area previously worked by Charity Galga Colliery some fifty years before, it is perhaps fitting that the technology adopted was akin to a bygone age with what passed as a pumping system comparable to a bucket in a well.

The motives of coalowners have been viewed with suspicion by both historians and contemporaries and can perhaps best be illustrated by the extraordinary events that culminated in an explosion of coal prices in 1873.[8] In February the new president of the North-East Institute of Mining and Mechanical engineers stated in his inaugural address that 'the consumption of coal increases at a rate which could not possibly last.'[9] He complained of the shortage of labour and of the need to economise and increase mechanical power. *The Times* of 10 February gave a list of the wages of various colliery occupations and concluded that the 15 per cent wage increase agreed by the owners could not account for the increase in the price of coal. They pointed to the increased demand from the Durham iron trades. The countrywide outcry against the coal shortage took different forms. In Nottingham a crowd of 10,000 led by a brass band, carried an empty grate and banners reading 'Starvation! Beware of coalowners at the next election.'[10] At Cambridge the mayor proposed a public subscription to provide coal for the poor at 1/- a cwt.[11] At a manufacturers' meeting in Manchester they proposed the formation of a Mutual Coal Supply Association with capital of a million pound to purchase or lease collieries to provide coal for the textile workers of Lancashire and Yorkshire.[12] A London based Coal Reform League saw the solution in central government intervention. They would petition for government run

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[7] L. Fretwell, *Warwickshire Coalfield* Volume Four (Warwick, c2005) p. 44.

[8] We have the production and sales ledgers for Wyken Colliery in Coventry. In 1871 the mean selling price of a ton of coal was 6/9, rising to 9/2 in 1872, and 14/8 in 1873. It did not reach 6/- in the 1880's. Financial ledgers, CRO 285/4/3; 4/4; 4/5; 4/6 and 4/7.

[9] Sir William Armstrong quoted in *Nuneaton Chronicle,* 8 February 1873.

[10] *Nuneaton Chronicle*, 1 March 1973.

[11] *Nuneaton Chronicle,* 6 April 1973.

[12] *Nuneaton Chronicle,* 10 May 1973.

markets at selected railway termini; a duty on coal exports; regulation of railway freight rates and even more idealistically, for the government to 'reconcile the struggle between capital and labour to ensure a natural working of the laws of demand and supply.'[13] The government response was to set up a House of Commons Select Committee on Coal in April and when it reported in July it exonerated masters and men and laid the blame for the shortage at the door of the insatiable demand of an increasing iron trade. It concluded;

> *...we believe that no combination of workers or owner could permanently affect the market price of coal, that the intervention of parliament with the coal trade would produce no useful or beneficial result; and that it would be unwise to place an export duty on coal.*[14]

In the spirit of the age it rejected intervention but its conclusions were not shared by all. In October Professor Levi [15] of King's College London gave a public lecture. He pointed out that wages had increased by 62 per cent but pit head prices had risen 500 per cent, and it was 'the owners who were making hay while the sun shone.'[16] The suspicion of coal owner duplicity survived. Official reports could lay the cause of the price rises in coal at the door of the iron industry but to the common man it was the coalowners who were prospering at their expense.

This negative view of coalowners persisted throughout the 19th and early 20th century. As early as 1842 *The Times* suggested that coalowners 'should be taught that money making is not the whole duty of man' and that profits should not be derived from 'a barbarous and indecent system that disclaims any other law than that of productiveness.'[17] Thompson described the popular perception of employers in South Wales as one of grasping, callous individuals, motivated solely by self-interest and financial gain:

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[13] *Nuneaton Chronicle,* 17 May 1873.

[14] *Nuneaton Chronicle,* 26 July 1873. Report of the Select Committee on the Present Dearness and Scarcity of Coal. PP (1871) X.

[15] ODNB: L Levi (1821-88) Professor of Principles and Practice of Commerce and Commercial Law.

[16] *Nuneaton Chronicle,* 10 January 1874.

[17] *Times,* 11 July 1842.

> *Coalowners in particular have been demonized as heartless, self-serving tyrants determined to extract the highest possible profit from their collieries no matter what the consequences for their workers and with no regard for the communities in which their enterprises were situated.*[18]

Although he accepts that many deserve the contempt that has been heaped upon them, he suggests that the caricature 'conceals as much as it reveals.' Some owners displayed a paternalistic approach to their work force and a philanthropic attitude to the community where they gained their wealth. In his 1992 comparative study of the coalfields of South Wales and Nottingham Gilbert concludes that it was the Nottinghamshire owners' tradition of paternalism and less combative approach to industrial relations that contributed to the county reputation of industrial moderation.[19] Thompson concurs with this conclusion stating that a;

> *space was left by employers (in South Wales) through their relative failure to make adequate social provision or to make much of a contribution to the public sphere, and this space was filled by the labour movement.'*[20]

Yet Nottingham paternalism could come with a heavy price tag. Waller charted the establishment of new green field site collieries around Mansfield after the First World War. The provision of housing at 'the pit gates' was considered as an essential part of capitalisation costs and could account for between a third and a half of total expenditure.[21] Such heavy investment was jealously guarded and dismissal would lead to almost immediate eviction. Not all incoming migrants could accept this controlling influence where active trade union participation or any sexual impropriety would lead to the forfeiture of employment, and the village company policeman had

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[18] S. Thompson, 'From Paternalism to Industrial Welfare: The Evolution of Industrial Welfare Capitalism in the South Wales Coalfield', (Presented to the Economic History Society Annual Conference, University of Nottingham, 28-30 March 2008) p. 1.

[19] D. Gilbert, *Class, Community and Collective Action: social change in two British coalfields 1850 to 1926* (Oxford, 1992).

[20] S. Thompson, 'From Paternalism to Industrial Welfare: The Evolution of Industrial Welfare Capitalism in the South Wales Coalfield', (Presented to the Economic History Society Annual Conference, University of Nottingham, 28-30 March 2008) p.14.

[21] R. Waller, *The Dukeries Transformed: the Social and Political Development of a 20th Century Coalfield* (Oxford, 1983) p. 76.

the right to inspect houses for cleanliness, ensure gardens were cultivated, prevent anyone walking on their front lawns and the ownership of pets. Any misdemeanour from an unkempt garden to an unruly child could lead to a miner being summoned to the manager's office and a warning issued.[22] This pervading influence of the colliery manager is corroborated by Sir Richard Redmayne who was a colliery manager in the North-East in the 1890's. He had to 'look after' three schools, inspect 947 cottages and keep them in good repair, supervise the colliery farm covering more than a thousand acres and chair the meetings of two parish councils.[23]

Warwickshire shared many of the characteristics of Nottinghamshire. As the study of Warwickshire coalowners below will reveal many provided health care for their employees and they were instrumental in establishing the first hospital in the coalfield. Some donated land for parks and funded libraries, reading rooms, schools and workers' institutes. Others provided facilities for various cultural activities for sporting, horticultural and musical pursuits and built churches and community centres. A few were MPs with many more serving their local communities as councillors and magistrates. Their motives may not have always been altruistic with Warwickshire owners Skey and Stanley following a religious agenda and Melly seeing the provision of amenities as a means of social control.[24] Yet Warwickshire owners never received the approbation of the national stereotype. Particularly in the expanding coalfield from the 1890's, many possessed the money to display their philanthropic attributes and Warwickshire miners received the monetary rewards and working conditions that other coalfields would have to fight for.

The Butty System

Coalowners worked in an industry where changes to geological structure or seasonal variation in demand could have a serious impact on profits. They could not personally supervise their workforce and needed a system of indirect control to ensure that mines were worked to the best economic advantage. As early as 1800 it was

[22] R Waller, *The Dukeries Transformed* pp. 98-100.

[23] R. Redmayne, *Men, Mines and Memories* (London, 1942) p. 8.

[24] See sections below on the Warwickshire coalowners, Skey, Stanley and Melly.

established practice in the north of England for the owner to employ a mining engineer, known as a viewer in the North-East, to provide expert mining knowledge and give commercial and financial advice. Large Warwickshire landowning coal entrepreneurs like the Dugdale and Newdigate families had employed such northern experts when they moved into direct production,[25] but in the south the butty system prevailed.[26] Mitchell describes this in his 1841 Report on Child Employment. Many owners;

> *work their coal mines on their own account, employing an agent who has general supervision over the whole concern, the working of the mine, the payments to be made and the sale of the coals. Under him is a ground bailiff who goes down frequently into the mines and see that the butties work in the mine fairly so as to get out all the coals that can with safety be removed. Pits are worked by butties who receive a charter per ton on coal brought to the foot of the shaft, weighed after being brought up. Butties employ and pay the men and boys.*[27]

In this full butty system the owner was generally responsible for providing the fixed capital of sinking the shaft and providing winding, drainage and ventilation and cutting and maintaining roads. The butty or charter master[28] was responsible for getting the coal, employing the men, coal cutting, haulage, erecting pit props and filling gobs, and providing tools, tubs and horses. The butty had an incentive to push production at the expense of safety and tragedy sometimes resulted. In 1853 at Victoria Colliery in Coventry there was a build up of gases known locally as 'fire stink' and when the butty refused to allow the men to vacate the mine, a dozen were

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[25] See Chapter Two; Sir Richard and Sir Roger Newdigate.

[26] See A. Griffin, 'Policies of Coal Mining Firms in the 19th and early 20th century', *Colliery Guardian,* 1 226 January 1978 pp. 52-3; W. Garside and H. Gospel, 'Employers and Managers: their organisational structure and changing industrial strategies', *i*n C. Wrigley (ed.), *A History of British Industrial Relations 1875 to 1914* (Amherst, 1982) p. 102; A. Griffin, *The Nottinghamshire Miners* (Nottingham, 1955) pp. 137-8.

[27] J. Mitchell, *Report on the Employment of Children and Young Persons in the Warwickshire and Leicestershire Coalfields and the State, Condition and Treatment of such children and Young Persons.* (London, 1941) p. 83.

[28] The butty signed a charter with the coal owner. Because this could be revoked at short notice there was little incentive for heavy investment from the butty.

rendered unconscious and two died. Inspector Morton attributed this as he had the death of a ten year old boy at Hawkesbury Colliery in 1850, to a long neglect of adequate ventilation.[29] If they were injured there was little point in a miner seeking redress against the mine owner as he was not their employer[30], and the butty was but a fellow working man.[31] Miners hated this system and this was manifested in a number of strikes against it. An example of this was the 1896 strike at Griff Colliery. At Griff Number Four, the four faces were run by four butties who were paid by the amount of coal produced. They employed and paid the getters and fillers. Following the strike it was the company that employed the men and it was then that shared the contract.[32]

This system declined, partly because of miner hostility but also because of the increasing financial calls on butties by improved technology needed in deeper pits.[33] From the 1870`s the little butty system became more prevalent.[34] Although all workers were now on the owner's books, many were employed by subcontractors known as stallmen. Once employed a man could not be sacked without the consent of the manager.[35] Stallmen, sometimes working in pairs, rarely employed more than five

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[29] *Annual Mine Inspector Report:* 1850 and 1853.

[30] Only in 1867 in the case of Regina V Cope was it ruled that in a butty operated pit it was the coalowner and not the contractor that was liable for injury. B. Job, 'The British Mine Inspectorate 1851 to 1913: Its Development and Effectiveness with particular reference to colliery explosions', (Unpublished PhD thesis, University of Keele 1992) p. 106.

[31] The system was universally condemned by Mine Inspectors who tended to be recruited from the North-East where the viewer held sway. It was also condemned in the House of Commons *Select Committee on Accidents in Mines* (1854) p. 8.

[32]. L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) p. 110. In 1909 Tunnel Colliery introduced the new tonnage system to replace stallmen. *Nuneaton Observer,* 22 October 1909. It is interesting to note that when the first WMA was established in 1872 they anticipated resistance not from colliery proprietors but butties who 'treated miners like animals.' *Nuneaton Chronicle,* 4 May 1872.

[33] In 1878 Hawkesbury Colliery Company re-introduced the butty system. The newspaper noted that the system; had been abandoned in many Warwickshire collieries 'several years ago.' *Nuneaton Observer,* 13 September 1878.

[34] The Big Butty system was where the butty ran the underground working of the mine. The Little Butty system was where stallmen at the face were paid a contract for the coal their team produced.

[35] In 1886 a miner sued Bedworth Coal and Iron Company at Coventry Police Courts for his wages. He had been sent to work for a stallman who said he was unable to pay him at the end of the week and he should go to the colliery office. It was resolved that he was employed by the colliery, not the stallman. *Nuneaton Observer,* 24 September 1886. Yet in 1902 at a Nuneaton court the manager of Stanley Brothers claimed he had no say to who a stallman employed and there were 'many cases where the stallman had prosecuted men for not attending work.' The stallman confirmed however that he could not dismiss a man. *Nuneaton Observer,* 21 March 1902.

or six men. There was less hatred for this system as men could aspire to become stallmen and because of the large number, it was easy to leave an unpopular man. The only Warwickshire colliery to leave detailed records from annual reports and minutes of board meetings is the Griff Colliery Company established in 1882.[36] The management was under the control of Edward Melly, a mine engineer who acted as a link with his fellow directors on the board and the day to day running of the pits. He was assisted by a manager and two assistant managers. Each working plane underground was in charge of a stallman, a sub-contractor paid per ton of coal cut. In 1897 stallmen were about 20 per cent of the underground workforce at Griff. At neighbouring Ansley Hall Colliery an old miner claimed each stall had four stallmen, three holers, two packers and two fillers. If the stall did not pay the stallman lent the money from the colliery to pay the men and paid it back from future profits.[37] Owners were slow to realise that it was not in their interest to leave their pits in the control of a butty with infrequent supervision from a non-specialist ground bailiff. The establishment of legally enforced General and Special Rules in 1855 gave them an improved incentive to appoint a permanent manager but it was the lure of potential profits that drove the changes. Midland Inspector Evans informed the Royal Commission in 1879 that 'the new large mines could not have been run by the mine management previously in place.'[38] Owners had far too much capital invested in the new deeper miner to allow them to be run by an uneducated butty.

Between 1850 and 1913 Hunt[39] and the Mine Inspectors list some thirty-nine colliery enterprises in Warwickshire. A study of ownership data shows how some local proprietors at Dosthill and Charity increased capital access by changing to a partnership or private limited company. It also charts the influx of outside capital like Sir Alfred Hickman from Wolverhampton at Nuneaton Colliery; the Griff Colliery Company from the East Midlands and Glasgow coal and iron masters at Binley

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[36] J. Wale, 'The Griff Colliery Company, Warwickshire: a case study in business history', *Midland History* 14 (1989) 95-119.

[37] H. Harrison, *Ansley Hall Colliery* (Nuneaton, 1993) p. 27; citing the evidence of James Hall taken in 1988.

[38] PP Royal Commission Preliminary Report (1881) p. 53.

[39] R. Hunt, *Mineral Statistics*. (Geological Survey) London published annually 1854 to 1881.

Colliery. To study ownership effectively it is necessary to divide them into identifiable groups and concentrate on exemplars from each.[40] The first may be termed the landowners and was dominated by the enterprises of the Newdigate family of Griff Colliery in Nuneaton in the south and the Dugdale family of Baddesley Colliery near Atherstone in the central coalfield. The second group were the companies run by a board of directors and to gain a geographical perspective we shall examine Whitten of Wyken Colliery in Coventry; Hickman of Haunchwood Colliery, and Stanley of Nuneaton Colliery, both in Nuneaton, and Morris and Shaw of Birch Coppice Colliery and Skey of Tame Valley Colliery, both near Tamworth in the north. The third group are from a mine engineering background, mostly one man or small partnerships enterprise, and include Addenbrrooke of Charity Colliery in Bedworth; Melly of Griff Colliery, Smallman of Stockingford Colliery and Garside Phillips of Ansley Hall Colliery, all in Nuneaton. Unlike the first two groups mine engineers would have a more direct management style that had only to answer to their financial backers, but as they tended to work the smaller and medium sized mines, any perceived differences in fatality rates could be problematic. Evidence is scarce and what follows is based upon newspaper obituaries and isolated sources in constructing a reading of the culture of Warwickshire coalowners.[41]

The Landowners

The main Warwickshire landowning coalowners were the Newdigates of Arbury Hall in Nuneaton and the Dugdales of Merevale Hall in Atherstone. The Newdigates arrived at Arbury in 1586 and had a long tradition of exploiting the coal reserves on their Arbury estate. In 1835 the estate passed to Charles Newdigate (1816 to 1887) who also owned an extensive estate of Harefield Park at Uxbridge in Middlesex.[42] Educated at Eton, King's College London and Christ's College Cambridge, he was a career politician and from 1843 to 1885 he was Conservative MP for North

[40] For an analysis of the development of each of the colliery companies mentioned below see Chapter Two.

[41] The Warwickshire Miners' Association records held at the Warwickshire County Records Office contain few references to owners. The 69 boxes of records CR3323 covering the period 1900 to 1995 have yet to be sorted. Most are outside the period currently studied.

[42] ODNB: Charles Newdigate-Newdegate (1816-1887). The family tended to spell their name as Newdegate in the early years, adopting Newdigate later.

Warwickshire. In those forty-two years he spoke regularly in the House of Commons but his main interests appeared to be in defence of Protestantism and Protectionism. He spoke only briefly on coal mines, twice in 1860 against a proposed clause to limit coal owner magistrates to adjudicate disputes in the mines, and in favour of banning payment of wages in public houses, and in 1868 in a debate on appointing worker inspectors to assist the Mine Inspectorate, he rejected the need for legislation and endorsed any decision the Home Secretary decided to make.[43] His nephew, Francis Newdigate (1862 to 1936) who inherited Arbury in 1893, followed him as a Conservative MP first at Nuneaton 1892 to 1906 and then Tamworth 1909 to 1917.[44] He too was a professional politician later serving as Governor of Tasmania and then Western Australia. This was also a family tradition as Charles had been governor of Bermuda in the 1840's.[45] Charles Newdigate appeared to have little active interest in his collieries at Griff. The agricultural depression from the mid 1870's led to a fall in estate income [46] and in 1882 he chose to leave the industry and lease his mines to the newly formed Griff Colliery Company. Francis Newdigate returned the family to direct production in 1899, giving his name to the colliery and his forename to the downshaft, which resulted in the men referring to the colliery as 'Frankies.' Yet like his uncle he left the running of the colliery to his professional management team. Just as Charles Newdigate was reluctant to invest in his coal mines the new Newdigate Colliery suffered from under capitalisation and was on its third colliery company by 1914. Melly recorded in the Griff Minute Book his belief that that the inauspicious start to Newdigate Colliery was due to an unwillingness to invest coupled with poor management.[47] Similarly because of their profession, the Newdigates spent a great deal of time away at London or visiting their other estate.

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[43] *Parliamentary Debates* (22 June 1860), cc 851 and 854 and (May 29 1868) cc 1084.

[44] Unlike many coalowners Francis Newdigate supported the Eight Hour Bill. See *Parliamentary Debates;* Eight Hours Bill (28 February 1900) cc 1343. List of Ayes and Nays in the vote.

[45] Hence the name for Bermuda Village adopted by the Griff Colliery Company.

[46] By 1879 one in twelve farms was for sale in Warwickshire. *Victoria County History* Warwickshire Volume Two (London, 1908) p. 281.

[47] Quoted J. Wale, 'The Griff Colliery Company, Warwickshire: a case study in business history', *Midland History* 14 (1989) 95-119.

In his 1887 obituary in the *Nuneaton Observer* Charles Newdigate was described as a Christian philanthropist and 'a man with whom one could easily differ but not easily dislike.'[48] He was an old style Tory who never considered himself a Conservative, but took his duties as a local squire very seriously. His estate spanned the industrial parish of Coton and the agricultural parish of Astley and he provided free schools for both. The *Daily News* called him a 'political and religious fanatic' yet a popular landlord who reduced rents in times of depression and provided unpublicised charity to those in need.[49] It was even believed that he sometimes maintained uneconomic pits merely to provide work for 'his colliers.'[50]

The Stratford family purchased the Merevale estate in 1649.[51] The land passed to the Dugdale family but the Stratford surname continued to be used. Unlike the Newdigates they were content to lease their coal bearing land and did not get directly involved in production until 1810. They however mirrored the Newdigates' political beliefs by becoming Conservative MPs for the county. Dugdale Strafford Dugdale (1773 to 1836) was MP for Warwickshire for 29 years from 1802 to 1831. His son William Stratford Dugdale (1801 to 1870) followed his father and became MP for North Warwickshire 1832 to 1847. His son William Francis Stratford Dugdale (1829 to 1882) went against this tradition and earned his living as a barrister and served as a local magistrate. He was to die in the Baddesley disaster of 1882.[52] His lawyer nephew, John Stratford Dugdale (1835 to 1920) briefly revived the tradition by serving as Conservative MP for Nuneaton 1886 to 1892.[53] The main expenditure on Baddesley Colliery was the sinking of Strafford Colliery in 1851 but the colliery then became increasingly dated. It had a reputation for parsimony and was described in a

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[48] *Nuneaton Observer,* 15 April 1887.

[49] *Daily News,* 11 March 1887.

[50] *Nuneaton Observer,* 15 April 1887. In a BBC radio broadcast for the Home Service on 14 April 1948 Lady Fitzroy Newdigate, the then owner of Arbury, claimed that Sir Charles almost bankrupted the family attempting to run his mines. *Griff on the Warwickshire Coalfield* Draft script p. 7. Copy at Nuneaton Library.

[51] *Victoria County History* Warwickshire, Volume Four (London, 1947) pp. 42-147.

[52] http://www.thepeerage.com/p6708.htm#i67074

[53] John Dugdale was trustee of the Baddesley Colliery while the sons of William Dugdale, killed in 1882, were minors.

letter to Reuben Smallman following the disaster by Garside Phillips, manager of Ansley Hall, as 'an old fashioned devil's arse of a pit.'[54] The need to economise is perhaps reflected in the census which reveals that the number of servants employed at the hall fell from eleven in 1861 to nine in 1871 and eight in 1881.[55]

Yet although the manager and consultant mining engineer were condemned for the Baddesley tragedy the owner emerged with a clear reputation. This was not simply because he had lost his life in the abortive rescue attempt. The 300 colliers were aware that the enterprise was not making a profit and yet production had been maintained. Following the 1882 Baddesley disaster which closed the colliery for a year, there was serious economic hardship in the surrounding villages. This led to the sinking of two new collieries. The first was a foolhardy venture at Baddesley Common which was sunk in an area where two seams had already been worked by earlier collieries. It began operating in 1884 but had to be abandoned when water broke in from earlier workings. The second was near the site of an earlier Mancetter colliery. Like its predecessor it had a shaft and a drift tunnel, and the coal and ironstone it produced was carried on the same mineral railway built in the 1830's.[56] Yet unlike the first Mancetter colliery this was to last a decade but by then Baddesley Colliery had revived. The decision to work these additional pits was influenced by social as well as economic motives.

Both landowning families left the running of their mines to professionals and although they served as MPs they did not use their position to advocate the coalowners' cause or even present themselves as experts on the coal industry. They both developed large collieries in the period of expansion before the First World War[57] and both collieries had a reputation for prosecuting men for breaches of the rules.[58]

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[54] From the *Mitchesson Papers*, quoted by L. Fretwell, *Warwickshire Coalfield* Volume Two (Warwickshire, 2005) p. 253. Mitchesson was the manager and Agent for Baddesley Colliery in the years before World War One.

[55] *Atherstone Census:* Merevale Hall 1861, 1871 and 1881.

[56] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) p. 110.

[57] *List of Mines* 1913 Baddesley 1,058 men; Newdigate 937 men.

[58] *Annual Report of Inspector of Mines* 1895 to 1913 records 208 prosecutions in Warwickshire; Newdigate Colliery was second and Baddesley Colliery fifth in the list of prosecutions, with Newdigate the highest individual instance when they prosecuted 14 miners in 1908.

With the exception of this recourse to the law courts, neither family can be said to be advocates of improved mine safety and indeed the Dugdale's frugality was a factor in the Baddesley disaster. The landowning coalowners displayed some paternalistic regard for those in their employ but failed to make a tangible contribution to mine safety.

The Newdigates ran Griff Colliery for thirty-one years when fatalities are recorded and suffered twelve deaths, an annual death rate of 0.344. Their Newdigate Colliery which they ran with others in three different companies suffered twenty-two deaths in sixteen years, an annual death rate of 1.375 or four times the level of Griff. Together these collieries had a death rate of 0.666. The greatest cause of death for both collieries was fall of coal, accounting for eight of the Griff deaths and thirteen of the Newdigate deaths, a total of 62 per cent. Baddesley Colliery ran throughout the period and suffered sixty-six deaths in sixty-two years, the highest number on the Warwickshire coalfield. The annual death rate was 1.060. The greatest cause of death was gas dominated by the 1882 disaster when twenty-three died in an explosion and nine suffocated underground, but to these must be added the three earlier gas explosion deaths of 1859, 1866 and 1872. There were fourteen deaths or 21 per cent from falls of coal and eleven underground haulage deaths, another 16 per cent, six on the incline plane. Only nineteen died in the thirty years after 1882, an annual death rate then of 0.633.[59]

Colliery Companies

The second group of coalowners were the companies. These ranged from small one man operations employing less than one hundred men, to medium sized collieries employing around 400 often dominated by one man, to large enterprises of over a thousand men ran by a board of directors.[60] The section takes account of both geographical location and the size of the enterprise. At Coventry the Whitten family ran the medium sized Wyken Colliery for around seventy years. At Nuneaton Sir

[59] All figures tabulated from *Annual Report of Inspector of Mines* 1895 to 1913.

[60] R. Church, *History of the British Coal Industry: Volume Three 1830 to 1913* (Oxford, 1986) p. 385; the average colliery size from the List of Mines was 235 employed underground in 1895 and 410 in 1913.

Alfred Hickman was an absentee owner who commuted weekly from Wolverhampton to his Haunchwood Colliery and successfully transformed it into a large enterprise of over a thousand employees worth a quarter of a million pounds. Reginald Stanley came to Nuneaton via the goldfields of the American west, and after first acquiring his brother's brick yards, he went on to gain Nuneaton and Charity Collieries as well as the Nuneaton Engineering Company where he developed the Stanley Header machine. In Tamworth there was George Skey who ran the small specialist Peel Colliery together with the medium sized Tame Valley Colliery. Finally just south of Tamworth was the Morris and Shaw owned Birch Coppice Colliery, a large concern that grew from the many and various entrepreneurial ventures of the Shaw family.

James Sibley Whitten (1810 to 1884) the owner of Wyken Colliery, came from an old Coventry family. He was a Liberal and non-conformist and served on the Coventry City Council from 1836 to 1858, and was elected as mayor in 1846.[61] His obituary notes that he promoted the St John's Ambulance Association, and was a trustee of the Mechanics Institute, the Coventry Building Society and both Sir Thomas White's and Smith's Charities.[62] As the colliery leased the land from Sir Thomas White's Charity there may have been a slight conflict of interest there. He moved into his Moat House residence in 1856 and was still there at the 1881 census where he is described as a colliery director and farmer of 256 acres, employing sixteen men, two boys and six women. The farm could be owned by Wyken Colliery as the colliery farm account reveals that Whitten was billed for wheat, flour, hay, corn, potatoes, pigs, poultry, butter and eggs.[63] Fretwell notes that he was the colliery manager for a time so he was more than just a financial director.[64] His son, Thomas Sibley Whitten succeeded him as manager and owner until his death from a pill overdose in 1898.

Wyken Colliery provided houses and a school for its workmen. The building possibly took place in 1858 as in that year there was an outlay of £197 recorded in the

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[61] Assorted papers, CRO Ac 101 series 12 passim, especially 101/12/8 and 9.

[62] Newspapers cuttings, Coventry Collection 1884-85 CRO.

[63] Tabulated from financial ledgers, CRO 285 6/1, 6/2, 6/3 and 6/4.

[64] L. Fretwell, *Warwickshire Coalfield* Volume Two (Warwick, c2005) p. 91.

ledgers. Of this £91 went on labour, £26 on bricks, £25 on timber, and £3 on iron with £33 on sundries. After this date maintenance reached a high of £56 in 1860 which may have included additional buildings and a low of £6 in 1866. For an average mean outlay of £23 they received an income of £51, and in the decade following their erecting, the colliery covered all cottage building and maintenance costs and made a total profit of £101.[65] They also provided a school for miners' children which ran in 1867 at a cost of £119. White's 1871 Directory describes Wyken School as 'a neat red brick structure in the Elizabethan style of architecture, containing accommodation for 350 children; the average attendance is 130.'[66] On the unfounded assumption that there was an equal division of the sexes, the master and mistress each had a class of sixty-five pupils. The directory also lists a Wyken Colliery Industrial Company Co-operative Society among the nine grocers in the village. If one adds to this that a Colliers Coal Account ledger exists from 1845 to 1852 that suggests that miners received a coal allowance to supplement their income, it is apparent that the company had a substantial welfare programme. [67]

Wyken Colliery existed throughout the period of study and suffered thirty deaths, an annual death rate of .0.484.[68] Falls of coal, the greatest cause of miner deaths usually around 40 per cent of the total, were only eleven or 27 per cent of the Wyken fatalities. One in 1874 was the only death in a Wyken ironstone mine. Most were caused by slip faults, small breaks in the coal strata, sometimes difficult to recognize and requiring more than the minimum number of props to support the roof. Blame was attributed to miners on two occasions. In 1907 a stallman fell knocking out a prop and in 1906 another illegally used a hammer to remove a prop rather than the safer ringer and chain method prescribed in the Special Rules which allowed the collier to stand some feet away under a supported roof.[69] There were three shaft deaths. In 1861 a sinker was hit by a falling pump due to a broken chain, in 1883 a carpenter fell from

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[65] Financial ledgers, CRO 285 6/1, 6/2, 6/3 and 6/4.

[66] F. White, *Directory of Warwickshire* (1871) pp. 661-3.

[67] A coal allowance was usual throughout the coalfield with Tamworth miners receiving 12 cwt a month and miners from the south 10 cwt. *Nuneaton Observer,* 28 September 1900.

[68] All figures calculated from *Annual Mine Inspector Report:* 1851 to 1913.

[69] *Annual Mine Inspector Report:* Midland Division 1906 and 1907.

a scaffold while repairing the shaft and in 1902 the sad case of a horsekeeper filling a horse bucket from a pipe at the bottom of the shaft when he was crushed by a descending cage.[70] There were thirteen deaths from underground haulage, eight of which occurred on the incline. The incline was a slope of some thirty degrees which ran down several hundred yards from the pit bottom to the roadways that led to the face. Runaway tubs were always a possibility although manholes were provided periodically for miners to take refuge. In 1889 the worst Warwickshire haulage disaster occurred when three miners were killed when the hook attaching their tub to the wire rope broke and it plummeted to the bottom.[71] Youth was also a factor in haulage deaths [72] as three were only fourteen years old. In 1861 a trammer boy[73] was killed on the incline and in 1893 and again in 1895 a door keeper and horse driver were crushed by tubs.[74] It was against the rules to ride in tubs but in 1896 an experienced thirty-one year old holer paid the penalty for disobedience. Two deaths were directly attributed to Wyken reluctance to adopt modern oncost practice. In 1890 and again in 1892 men died because horses worked in sling gears.[75] Sling gears were chains, which unlike shafts, gave the horse little control when pulling a train of tubs. There was one death in the 'miscellaneous underground' category when in 1900 a Wyken deputy had the dubious distinction of being the first in the Midland Division [76] to die from electrocution. His assistant ran off to find help yet if he had stayed, removed the deputy from the power source and offered artificial respiration, the man would have survived.[77] There were only two deaths on the surface, in 1911 and 1913 and both involving screenmen.[78] In the first a man was knocked off a tub by a shunter and crushed. The shunter driver had failed to give adequate warning and was later

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[70] *Annual Mine Inspector Report:* Midland Division 1861, 1883 and 1902.

[71] *Annual Mine Inspector Report:* Midland Division 1889.

[72] See Chapter Three, Underground Haulage Deaths.

[73] Trammers were employed to move the tubs or trams of coal.

[74] *Annual Mine Inspector Report:* Midland Division 1861, 1893 and 1895.

[75] *Annual Mine Inspector Report:* Midland Division 1890 and 1892. The Mine Inspector condemned this outdated practice.

[76] The Midland Division was the name given to the four county Midland coalfields of Derbyshire, Leicestershire, Nottinghamshire and Warwickshire.

[77] *Annual Mine Inspector Report:* Midland Division 1900.

[78] Screenmen sorted the coal at the surface, removing rock and sizing coal for sale.

fined £1 for the offence. The second incident also involved a locomotive as a night shift worker was run over when he took a short cut on his break.[79]

In 1881 Nuneaton Colliery was taken over by Sir Alfred Hickman (1830 to 1910) of Wolverhampton. He was born in Tipton in the Black Country where his father was an iron master and colliery owner. Fretwell claims that as the second son he was destined for a military education and as a lieutenant in the Fourth Dragoon Guards took part in the Battle of Balaclava in the Crimean War [80] but this is not corroborated by his entry in the *Oxford Dictionary of National Biography*.[81] Both sources agree that after severing the partnership with his elder brother he bought Spring Vale Blast Furnace in Bilston in 1867. A new Bessemer steel making process licensed in 1879 removed phosphorous in the slag and was a great improvement on the original 1856 process. Impressed with the experiments he conducted Hickman bought three and in 1884 formed the Staffordshire Steel and Ingot Company with a steel works next to his Bilston blast furnace. In 1897 he amalgamated the steel works and blast furnace into a single company, Alfred Hickman Limited. It was to guarantee supplies that he acquired Haunchwood Colliery in Nuneaton and ironstone quarries near Banbury. He sold slag from his blast furnace to railway companies for ballast, to farmers for fertilisers and to the newly formed Tarmac Company for road construction. In 1904 he provided land and capital for Tarmac to build a plant in Bilston and in 1905 became chairman of the company. He played a leading role in the Staffordshire Ironmasters Association and Wolverhampton Chamber of Commerce but also played a national role serving as president of the British Iron Trades Association and as a member of the MAGB.[82] When he died in 1910 his estate was valued at a million pounds with Haunchwood Colliery valued at £280,000. His family continued to own the colliery up to nationalisation in 1947.

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[79] *Annual Mine Inspector Report:* Midland Division 1911 and 1913.

[80] L. Fretwell, *Warwickshire Coalfield.* Volume Two (Warwick, c2005) p. 29.

[81]ODNB: Sir Alfred Hickman (1830-1910).

[82] ODNB: Sir Alfred Hickman; and *Nuneaton Chronicle,* 18 March 1910 and *Wolverhampton Chronicle,* 16 March 1910, both obituaries. The Mining Association of Great Britain was the employers association, their equivalent to the mine workers Mining Federation of Great Britain.

Like the Warwickshire landowning coalowners Hickman served as a Conservative MP for his native Wolverhampton in 1885 to 1886 and from 1892 to 1906. He was rewarded with a knighthood in 1891 and made a baronet in 1903.[83] Unlike his Warwickshire counterparts he played a major role in parliament as a leading spokesman for Black Country businessmen, particularly highlighting the difficulties resulting from high railway freight charges. He was a member of a Board of Trade Committee of 1900 and the Tariff Commission of 1904. He was also interested in the welfare of workers and unsuccessfully introduced a bill to grant workers loans to buy their homes. His obituary notes that before the passing of the Workers' Compensation Act in 1897 he introduced a liberal compensation scheme for injured workers and even a short lived profit sharing scheme for his employees.[84] He was a Staffordshire magistrate and long-time chairman of Wolverhampton Football Club but also enjoyed the life of a country gentleman being a member of the Albrighton Hunt and renting a Scottish estate for shooting and fishing. His obituary states he was popular amongst his Wolverhampton workforce, evidenced by the fact that he was not only the town's first Conservative MP but for twenty years he helped make it a party fortress.

There were fifteen deaths at Hickman's Haunchwood Colliery and a further eight at Tunnel, an annual death rate of 0.712.[85] Falls of coal accounted for twelve deaths or 44 per cent and the four haulage deaths were another 15 per cent. In only one fall of coal was the miner cited, a 1900 Tunnel stallman who had set insufficient timber. Two of the haulage deaths were deputies killed by runaway tubs on the incline and one a seventeen year old pony driver illegally riding in tubs. Of the two miscellaneous underground deaths one was a twenty-two year old Haunchwood collier who in 1889 crushed a finger and later died of 'erysipelas'[86] and in 1913 a sixty year old Tunnel labourer who slipped carrying a forty-eight pound box of candles and fell onto his knee, dying of septicaemia twenty-six days later. Of the three surface deaths two involved locomotives and one a labourer pushing at the buffers when other wagons

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[83] *Who Was Who*, (Oxford, 2007) Sir Alfred Hickman (1830-1910).

[84] *Nuneaton Chronicle*, 18 March 1910. Also mentioned in R. Trainer, *Black Country Elites: the exercise of authority in an industrial area 1830 to 1900* (Oxford, 1993) p. 167.

[85] All figures tabulated from *Annual Mine Inspector Report:* 1851 to 1913.

[86] A bacterial infection of the skin.

approached from behind and crushed him. Tunnel pit existed for twenty-two years of the period under study and suffered eight deaths, an annual death rate of 0.365. As a contrast the similarly sized Newdigate Colliery existed for sixteen years and suffered twenty-two deaths, an annual death rate of 1.375.

Another major Nuneaton colliery was led by Reginald Stanley (1837 to 1914). Although he was later to become a national figure in the coalmining industry, his early life reads like something out of an adventure novel.[87] Born in Cornwall, the son of an itinerant Methodist preacher and educated in Glasgow, he left for the USA in 1857 at the age of nineteen. He made his way from New York to St Louis and had a variety of jobs, ending up in the lumber camps of the Mississippi. In 1862 a Sioux Indian uprising killed five hundred and for two years he fought Indians and travelled with a party of trappers to the foothills of the Rocky Mountains. In 1864 he joined a party of prospectors to travel to the newly discovered goldfields of Montana. When they arrived they found that all the land was claimed, staked, worked and guarded. A companion Palmer, an ex-Cornish tin miner with some knowledge of geology, suspected that the gold bearing layers continued along the escarpment of hills and outcropped in a valley three miles away. They named the valley Last Chance Gulch and it was later to become the site of the state capital Helena.[88] After a few months they hit a rich vein of gold and for the rest of his life Stanley wore a gold ring made from the first nugget. The goldfields were plagued by bands of outlaws, claim jumpers and protection racketeers and Stanley joined the army of vigilantes who hunted them down. He was appointed the first Recorder and worked with a Judge Lynch, who given the lack of alternative punishments, became notorious for ordering the death penalty for violations of camp law. By 1866 at the age of twenty-eight he was part owner in a gold mine with $7 million in gold dust and employing seventy men. The partners secretly sold the mine and made a perilous journey to Philadelphia

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[87] Taken from R. Stanley, *Frontier Life.* (Nuneaton, undated); R. Rowley, *Reginald Stanley: a tribute. (*Nuneaton, 1988); *History of Montana 1739 to 1885* (Chicago, 1885) p. 1253 (copy Reginald Stanley Collection, Nuneaton Library); L. Fretwell. *Warwickshire Coalfield* Volume Three (Warwick, c2005) pp. 54-7.

[88] When news of Stanley's death reached Helena the town flag was put at half mast 25 August 1914 in his honour. Source Helena newspaper cutting Reginald Stanley Collection, Nuneaton Library. The town was named after Stanley's wife.

where they exchanged the gold for currency. In 1867, his fortune made, Stanley returned to England.

In 1866 Jacob Stanley and his brother-in-law had bought two Nuneaton brickyards but the firm was in financial difficulties when Reginald Stanley returned from America. As an act of generosity he bought the firm and renamed it Stanley Brothers. The original owners soon left while retaining a financial interest but the name was retained. It was always a family firm with one nephew managing his colliery, another managing his engineering works, yet another, a patent agent and consultant engineer, supervising the firm's many inventions and an artist brother as a designer in his brick and tile works. Stanley soon realised that it was a disadvantage for a brickyard not to be attached to a colliery and have access to the unsalable slack. He acquired the small Swan Lane Colliery in 1872 and the medium sized Nuneaton Colliery in 1877. In 1899 he embarked on an ambitious programme of expansion at both Nuneaton Colliery and the newly acquired Charity Colliery in Bedworth[89] and by 1913 Stanley Brothers was one of only three Warwickshire colliery companies to employ over two thousand men.[90]

In 1880 Stanley took over the engineering company of Hall and West and renamed it Nuneaton Engineering Company. It produced equipment for the brick and tile trade and the colliery and its inventions were many.[91] In 1871 it developed a steam press for malt kiln tiles that had a world reputation. It also introduced a kitchen press, various brick and tile machinery, and in September 1888 Stanley gave a demonstration of his new coal heading machine to a party of eighty from the Midlands Counties Institute of Mining Engineers at Nuneaton Colliery.[92] The brick and tile works also expanded, producing ridge tiles and finials, paving tiles, chimney

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[89] L.Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) pp. 54-63. Stanley had only acquired Charity to bridge the gap in production for his Brick and Tile Works to cover the exhaustion of old Nuneaton Colliery until coal from the new colliery came on line. He only later decided to sink deeper shafts at Charity to reach virgin seams. See AGM Stanley Brothers Ltd, *Nuneaton Observer,* 7 March 1902.

[90] *List of Mines* 1913: Nuneaton employed 1,301 and Charity 898.

[91] A journalist's description of a visit is included in Local Industries X1 Nuneaton Engineering Company. *Nuneaton Observer,* 8 October 1896.

[92] *Stanley Brothers: a short resume of the business of Stanley Brothers Limited, Nuneaton (*dated 1 March 1927) in Stanley Brothers Collection; Nuneaton Library.

pots, sanitation pipes, glazed sinks and white and coloured glazed bricks. In 1895 it became a limited company with branch works at Burslem in Staffordshire and Willenhall in Coventry. By 1907 it had seven yards in Nuneaton, clayfields of 200 acres and consumed 60,000 tons of slack annually.[93] At that time Stanley`s fortune was on the decline. His obituary in the *Nuneaton Chronicle* notes that he had suffered a financial loss in the Boer War from 'a dislocation in trade' from the export of heading machines to the Transvaal, and the 'depreciation in securities which followed.'[94] The company began to make a loss and in 1908 he was ousted as chairman and thwarted in his attempts to establish a rival company.[95] He was forced to resign in May 1909 and suffered a stroke in December.[96] He died in 1914 and was buried next to his wife. His gravestone reads; 'Founder and first recorder of Helena, capital of Montana, USA.' His buffalo coat with its fine Indian beadwork is on display at the British museum.

Stanley was a millionaire when he returned to England and did not need to work but could not deny his entrepreneurial spirit. He had married a French Canadian and although they had no children, they adopted two girls. His wife died in 1898[97] but despite his wealth the 1901 census reveals that he employed but three servants; a cook, a housemaid and a parlour maid.[98] His twelve bedrooms Manor Court home was in six acres of landscaped gardens. He was a devout Methodist and in 1886 rebuilt the Nuneaton Wesleyan Chapel at a personal cost of £3,600 and The Gate temperance hotel.[99] He represented Chilvers Coton ward as a Liberal councillor and in 1894 built the Liberal Club with a coffee room, non-alcoholic bar, billiards room, two

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[93] P. Simpson, 'Stanley's in Positions of Power', *Heartland Evening News,* 21 January 1994; and 'A Short Resume of the Business of Stanley Brothers Limited', *Nuneaton Chronicle,* 3 January 1927.

[94] *Nuneaton Chronicle,* 14 July and 25 September 1914.

[95] The change in leadership did not lead to a reversal of the company's fortunes. The AGM of 1911 revealed that they had not paid a dividend to shareholders for five years. *Nuneaton Observer,* 24 November 1911.

[96] Directors' Minute Book 1907-1913, WCRO CR2816/10.

[97] *Nuneaton Observer,* 16 December 1898.

[98] Census 1901. In the 1891 census he described himself as a colliery proprietor, brick and tile manufacturer and an engine and machine maker. In the 1901 census he is simply a colliery proprietor.

[99] R. Rowley, *Reginald Stanley* (Nuneaton, 1988) p. 24.

bowling greens, a smoke room, reading room, stage and assembly room.[100] Stanley had a reputation as a good employer refusing to join the Warwickshire sliding scale scheme of 1880 and continued working in the 1893 strike as he did not enforce wage reductions.[101] He also provided amenities for his employees. At his brick and tile works that employed 400 the firm furnished a reading room supplied with daily and weekly newspapers, and used for the occasional evening entertainment and Sunday service.[102] His particular passion was to establish a hospital for the town and from 1893 until his stroke in 1909 he was chairman of the Nuneaton Cottage Hospital Committee.[103] He became a magistrate in 1893[104] and also served on the Board of Guardians which administered the Poor Law in the town.[105] Like Hickman he was an entrepreneur with wide industrial interests and although he was concerned in providing welfare for his workers[106] coated with Methodist flavouring, there is no evidence that he made specific comments on mine safety.

There were no deaths in the small Swan Lane Colliery which ran from 1872 to 1878 and only four in the medium sized Nuneaton Colliery of 1877 to 1899. The creation of an expanded Nuneaton Colliery in 1899 led to a rapid increase in fatalities and twenty-four were to die between 1899 and 1913. He also took over and expanded Charity Colliery in 1899 and a further six deaths are recorded there. A total of thirty-two died in Stanley's forty-one years as a coalowner, an annual death rate of 0.780.[107] In the early years the annual death rate is only 0.148 but leaps to 2.000 in the years of colliery expansion. There were seventeen deaths from fall of coal, some 47 per cent of

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[100] R. Rowley, *Reginald Stanley* p. 27.

[101] *Nuneaton Observer,* 5 March 1880 and 1 September 1893. In both cases Stanley did not impose county wage reductions. Similarly in the strike of 1909 for 20 minutes snap time on the introduction of the Eight Hours Day Stanley Brothers had granted the 20 minutes. *Nuneaton Observer,* 2 July 1909.

[102] 'Visit to the Works of Stanley Brothers Ltd' In Meeting of the Incorporated Association of Municipal and County Engineers 12 October 1902, reported in *Heartland Evening News*. P. Lee, 'Birth of the modern brick makers and coal masters', *Heartland Evening News,* 19 and 28 August 1994.

[103] Stanley donated the site for the hospital. *Nuneaton Observer,* 22 September 1893.

[104] *Nuneaton Observer,* 23 June 1893. The article records his appointment as a magistrate and gives a summary of his contribution to the economic and political life of Nuneaton.

[105] L. Fretwell, 'Reginald Stanley', *Bedworth Echo,* 6 March 1996.

[106] Stanley Brothers continued working in the 1893 strike as they continued to pay the old rates of pay. *Nuneaton Observer,* 1 September 1893.

[107] All figures calculated from *Annual Mine Inspector Report:* 1851 to 1913.

the total. Blame is attributed on four occasions, one from a stallman's stumble that knocked out a prop and three from setting insufficient sprags. There were six underground haulage deaths, three from runaway tubs on the incline, four crushed by wagons at the surface and four killed in the shaft, three from a 1910 Nuneaton Colliery rope break.[108] Two Nuneaton miners died from explosives. In 1902 a storeman died from burns after opening a 50 lb box of explosives and in 1904 a stallman from a premature explosion of a squid.[109] There were two miscellaneous deaths. In 1908 a Nuneaton roadman was electrocuted and the 1910 Charity colliery filler that hit his head on a steel girder and died from tetanus fourteen days later.[110]

Two differently sized companies existed in the Tamworth area to the north run by George Skey and Peter Shaw. Skey was born in Bewdley in Worcestershire in 1819 into a prosperous Quaker family. In the 1861 census he describes himself as a coalowner and iron merchant, modifying the description in 1871 to coalowner and merchant. The census records that he and his wife employed four servants, a cook, two housemaids and a coachman.[111] His Wilnecote Works had a national reputation and a surviving advertisement of 1880 lists stoneware pottery; sanitary ware including sewage pipes and sinks; architectural and ornamental terracotta and buff, blue and red ornamental bricks. It also includes sulphuric acid, alum and sulphate of ammonia for sewage works etc. There is a depot at Wolverhampton, another at London St Pancras and two London show rooms at Berners Street and Oxford Street.[112] Skey's Quaker upbringing influenced his welfare provision for his workers. Mabel Smith writing in the *Tamworth Herald* notes that:

> *Moral guidance of the workers was not neglected and social evenings (with no alcohol) were started at the new Parish Hall which was built*

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[108] *Annual Mine Inspector Report:* Midland Division 1910. Inquest, *Nuneaton Observer,* 11 November 1911.

[109] *Annual Mine Inspector Report:* Midland Division 1902 and 1904. A squid was paper filled with gunpowder used to bring down the coal. Inquests, *Nuneaton Chronicle,* 21 March 1902 and 8 July 1904.

[110] *Annual Mine Inspector Report:* Midland Division 1908 and 1910.

[111] *Tamworth Census* 1861 and 1871.

[112] Advertisement in Kelly's, *Directory of Wiltshire*. (1880) p. 77.

especially for Skey's. Young people were encouraged to attend bible classes in the chapel in the work's yard. For many years this was used as a Sunday School and later as offices.[113]

Although he was a magistrate in both Staffordshire and Warwickshire there is no evidence of Skey serving on the local council. He retired in 1894 and relocated to his native Worcestershire.

There were only four deaths in the Skey owned Tame Valley Colliery and three in the Wilnecote Works Colliery centred on Peel, an annual death rate of only 0.105.[114] Three were from falls of coal; two occurred in the shaft and the two Wilnecote deaths from haulage and on the surface. It certainly deserved its reputation as a safe pit, despite Skey's equally deserved repute as an astute and frugal businessman.

The Shaw family had a strong tradition of coal mining enterprise in the Birch Coppice and Polesworth areas in the North of the coalfield. In the 1850's a Mr Shaw ran a number of small pits in Polesworth and the medium sized colliery of Gauby Knob. From the 1860's he developed the Birch Coppice Colliery which together with its sister pit of Hall End, was to develop into the largest colliery in the county.[115] Shaw had a tradition of working with different partners including Caldicott, Hambury and Morris but although a major contributor to the development of the northern area little is known of him.

As it is difficult to know which member of the Shaw family owned the various earlier collieries, [116] we will concentrate here on the Birch Coppice Colliery owned by Morris and Shaw. There were twelve deaths in the Birch Coppice Colliery and a further thirty in the Hall End sister pit, an annual death rate of 0.980.[117] Falls of coal

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[113] M. Smith, 'George Skey Clay works', *Tamworth Herald,* 14 January 2000.

[114] All figures tabulated from *Annual Mine Inspector Report:* 1851 to 1913.

[115] *List of Mines* 1902 and 1913. By 1902 Hall End was the largest mine in Warwickshire and one of only two mines to employ over a thousand men. It retained this position until 1913 when it was overtaken by Kingsbury in the North and Tunnel in the South.

[116] Hunt and Howell suggest that it was Mr H Shaw who ran the Polesworth collieries and Peter Shaw who ran Birch Coppice. See Chapter two.

[117] All figures tabulated from *Annual Mine Inspector Report:* 1851 to 1913.

was the main cause with five at Birch Coppice and sixteen at Hall End, a total of 50 per cent. Blame was attributed on four occasions, two for insufficient sprags and two for failing to use a ringer and chain to withdraw timber. There were twelve underground haulage deaths or 28.5 per cent. Nine of these involved teenagers between the ages of twelve to eighteen and here blame was applied more liberally. Three were illegally riding in tubs and a further two had disobeyed special rules. Excessive hours were the cause of the deaths of two teenage drivers who were both working a fifteen hour shift, one after thirteen days of employment. Two more pony drivers died because Hall End persisted in using sling gears and horses pulling tubs with chains had less control than those working in shafts. There were four miscellaneous deaths. A sixty-six year old collier died after being hit by iron pyrites thrown into a wagon; a fifty-nine year old horse keeper died of a haemorrhage 'while performing his duties'; a thirty-nine year old dayman died ten days after lacerating his thigh and a twenty-seven year old stoker died of scalds after falling into a pit of oil and steam. In 1873 an explosion of fire damp claimed a life and in 1883 a header was killed when his shot prematurely exploded. There were two surface deaths, both at Hall End. In 1883 a beam of wood fell on a banksman and in 1909 an engineman slipped and fell into the revolving drum of his engine.[118]

A striking dissimilarity between the landowners and the company leaders' examined above is that the latter group had a more direct input to their collieries development and did not look upon them as just a financial investment. There is increased evidence of welfare provision for workers particularly in the companies run by Whitten and Stanley, but again there is no evidence that the way they ran their companies contributed to a reduction in mine fatalities. Indeed Birch Coppice and Wyken Colliery's reluctance to adopt modern oncost haulage practice led to preventable deaths.

Mine Engineers

The third group of owners were mine engineers. These men were directly involved with the management and running the mines. W. Addenbrooke owned

[118] *Annual Mine Inspector Report:* Midland Division 1858 to 1913.

Charity Colliery in Bedworth and turned the small enterprise into a modern coal and iron company. William Garside Phillips ran the small Ansley Hall Colliery and Reuben Smallman the equally small Stockingford Colliery, one of the few drift mines on the Warwickshire coalfield. Edward Melly ran the medium to large Griff Colliery Company. Although a working general manager, he had a seat on the board and a great say in the economic development of the colliery.

Around 1858 the small William's Charity Colliery closed but a new Charity Colliery emerged in 1861 under the leadership of the mine engineer W Addenbrooke. Fretwell claims that the Addenbrooke family originated from Stoke on Trent and had moved to Bradley in the Black Country in 1799 to mine coal and produce iron. Legal problems with the lease forced the family to look for opportunities elsewhere and with the partnership of family member accountant James Pidcock and the financial backing of Lord Fisher of Packington, Bedworth was chosen.[119] It may be the fact that Charity also possessed a number of small ironstone mines that was the deciding factor as in 1870 the company changed its name to the Bedworth Coal and Iron Company. In 1871 they built two modern fifty foot high blast furnaces constructed by Bradley workmen. These were fired by gas manufactured by coking sheds on site with the surplus gas used to fire boilers of a foundry built next to the furnace. The furnace also used iron slag previously rejected as waste.[120] Nephew Gordon Addenbrooke managed the colliery with a Mr Milward managing the furnaces, foundry and brickworks. This bold venture faulted in 1872 when Addenbrooke suffered a stroke and with Pidcock already dead, the company was sub-let with Gordon Addenbrooke remaining as manager. The new owners inherited a modern colliery with recently sank coal and ironstone mines and a newly installed underground haulage rope system to replace the ponies yet it collapsed in 1879 with the loss of 500 jobs. The furnaces were closed down but the foundry was later utilised by Stanley Brothers to produce their coal cutting machines. It is interesting to speculate if the enterprise was fundamentally flawed or whether it was the removal of the innovative mine engineer creator that condemned it. Addenbrooke was a skilled coal and iron master with a

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[119] L. Fretwell, *Warwickshire Coalfield*, Volume Four (Warwick, c2005) pp. 29-31.

[120] Report of a visit by the Midland Institute of Mining and Mechanical Engineers. *Nuneaton Chronicle*, 23 August 1873.

proven record in the Black Country but Hawkesbury Colliery had attempted to introduce iron production to the Warwickshire coalfield some thirty years before and suffered a similar fate.[121] The local press attributed the failure simply to bad timing claiming that the 'higher quality of iron for which Bedworth ore was suitable was driven out by cheap steel.'[122] A new process in Middlesbrough to remove sulphur from inferior ores meant that they could be converted into steel that was now cheaper than the best iron and steel became an increasingly popular substitute.

There were eleven deaths during Addenbrroke`s tenure at Charity, three at ironstone mines. The annual death rate was 0.687.[123] Five of the deaths were from falls of coal, four from underground haulage, one from a gas explosion and one from lockjaw, the consequence of a pinched thumb.

North of Bedworth in Nuneaton two skilled mine engineers ran small to medium sized collieries. William Garside Phillips (1849 to 1927) was born in Hyde near Manchester.[124] The son of a miner he went to work in the pit from the age of nine and spent fourteen years there. Through hard work and ability he rose to gain his manager's certificate and in 1879 took over the almost bankrupt Ansley Hall Colliery. When Outram studied the leading coalowners during the 1926 lockout he was the only one to rise from such humble origins.[125] Garside Phillips was a colourful character.[126] Known as "Big Billy" to his men, he knew them all by name and could out swear any. In times of emergency he would strip to the waist to work alongside them and would expect his deputies and overmen[127] to do the same. He had the idiosyncrasy of referring to miners by military rank. Prior to the endless rope system, the old stableman was the 'horse sergeant' and those who worked the new haulage system were not 'doggies' but 'corporals.' As he had risen by self-improvement, he

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[121] See Chapter Two, Charity Colliery.

[122] *Nuneaton Observer,* 16 May 1878. This was adopted by Sir Alfred Hickman and described above.

[123] All figures calculated from *Annual Mine Inspector Report:* 1851 to 1913.

[124] H. Harrison, *Ansley Hall Colliery* private publication (Nuneaton, 1993) copy Nuneaton Library.

[125] Q. Outram, 'Class Warriors' in *Industrial Politics and the 1926 Mining Lockout: The Struggle For Dignity* (eds.) J. McIlroy, A. Campbell and K. Gildart (Cardiff ,2004).

[126] 'Field Marshall of the Warwickshire Coalfield', Obituary, *Nuneaton Chronicle,* 4 June 1929.

[127] An overman ran the colliery underground.

wished the same for others and in 1899 helped establish the Warwickshire Mining Students Association.[128] Not only was he president[129] he also gave lectures and sponsored the building of a new mining school that opened in 1896. He was also president of the Warwickshire Coalowners' Association and gave evidence to the Select Committee on the Eight Hour Day[130] and represented Warwickshire owners during the 1926 lockout. He was chairman of the Wages Board, county representative of the MAGB, and a president of the Midland Institute of Mining Engineers.[131] He was active in the Nuneaton Conservative Association and the Ansley Anglican church and was a magistrate and chairman of Atherstone Board of Guardian and Rural District Council. He was also a vice-chairman of Nuneaton Gas Company and the knowledgeable chairman of the Ansley Farmers' Discussion Club. His sons followed the family tradition with Joseph Phillips succeeding him as manager of Ansley Hall in 1905 and C. Phillips becoming manager of Eastwood Colliery in Nottingham.[132]

Phillips was liked and respected by his men He has risen from their ranks, could and would perform the tasks that they performed and addressed them by their Christian names. Despite being the leader of the WCA the trade union stated that 'he was noted for his straight dealing with his men and his word was to be relied upon.'[133] This does not mean that he was not without his critics. One Ansley Hall miner recalls that he was well-known for his frugality in running the pit, once denying an

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[128] The first meeting was reported in the *Nuneaton Observer,* 19 May 1899. In February 1900 they reported a membership of 43, £20 in the bank and had visited Newdigate, Griff and Ansley Hall collieries and were planning a trip to Rugby Portland Cement. They had read two papers. *Nuneaton Observer,* 2 February 1900. It must have lapsed as in 1907 there is a report of the formation of another Warwickshire Mining Students Association with Garside Phillips again as chairman. *Nuneaton Observer,* 31 May and 14 June 1907.He was still chairman in 1913 *Nuneaton Observer,* 3 October 1913.

[129] He stepped down after two years. *Nuneaton Observer,* 24 May 1901.

[130] *Nuneaton Chronicle*, 8 April 1910. Phillips described the Eight Hour Day as 'a very foolish Act.' He stated in Warwickshire it was not always possible to run two shifts and that a weekly total of hours was preferable.

[131] Garside Phillip's Presidential address to the Midland Institute of Mining Engineers. *Nuneaton Observer,* 8 September 1905. In 1906 a large group of Midland engineers together with four mine inspectors were treated to a tour of Griff Clara and Ansley Hall collieries, together with a visit to the Arbury estate. *Nuneaton Observer,* 25 May 1906.

[132] Obituary *Nuneaton Chronicle,* 4 January *1*929. Through the descendents of his son Joseph, William Garside Phillips was the great-grandfather of Captain Mark Phillips who married Princess Anne. See http://www.thepeerage.com/p18351.htm#i183509

[133] L. Fretwell, *Warwickshire Coalfield,* Volume Two (Warwick, c2005).

engineman the oil to run his engine and on another occasion complaining when someone had oiled a squeaking pulley as he liked to hear the noise to know the engine was running.[134] Yet his advocacy and sponsorship of the education of miners was perhaps his most tangible contribution to mine safety. He lived in a wing of Ansley Hall with the rest of the house as a colliery social club and institute containing a well-stocked library.[135] The colliery had a cricket team, bowling green and tennis club [136] and an Ansley Floral and Horticultural Society whose annual celebration became a major event in the village calendar. In 1907 the *Atherstone News* described the ninth annual meeting as an exhibition of fruit, vegetables and flowers as well as horses, cattle and sheep, with a professional singing comedy duo, fireworks display, brass band and dancing until nine in the evening.[137] The Ansley Church of England School opened in 1873 with twenty-six pupils on roll and was enlarged in 1896 to cater for two hundred recognising the expansion of the colliery.[138] The exact contribution of Garside Phillips to these amenities is not known but his commitment to his colliers and his community is undoubted. How welcome the pioneering steel cottages he built his workmen in the 1890's are not recorded.[139]

The owner of Stockingford Colliery was Reuben Smallman (1834 to 1900), who was a noted engineer with a national reputation. Born in Walsall, the son of a colliery manager, he became the mine engineer for Wyken Colliery where he married the owner's daughter.[140] He obtained finance for Stockingford Colliery from George Skey of Tame Valley Colliery, William Hambury of Glascote Colliery and Lord Fisher of

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[134] Evidence of James Hall (1988) held by Dr Bland, one of the authors of *Ansley Remembered*. Quoted by H. Harrison, *Ansley Hall Colliery.* Private publication (Nuneaton, 1993) p. 37.

[135] *Gentleman's Journal,* April 1909: supplement Nuneaton.

[136] Cricket mentioned *Nuneaton Chronicle,* 5 February 1897; bowling green on the Ordinance Survey Map 1914 Warwickshire sheet X7; and tennis by H. Harrison, *Ansley Hall Colliery* private publication (Nuneaton ,1993) p. 49.

[137] *Atherstone News,* 9 August 1907.

[138] School log book,. WCRO CR2403.

[139] For a journalist's description of the surface buildings, pit visit and the hall see Local Industries V1 Ansley Hall Colliery Company. *Nuneaton Observer,* 11 September 1896.

[140] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) pp. 2-8.

Packington. He was the consultant mining engineer for a number of local collieries,[141] leader of the WCA[142] and president of the Institute of Mining Engineers. He was awarded the gold Albert Medal for his role in leading the abortive rescue attempt in the 1882 Baddesley Colliery disaster but as his obituary in the *Nuneaton Chronicle* of 1900 reported; 'he has unfortunately suffered very much since from the serious injuries he had sustained.'[143] He continued as chairman of the Board of Examiners for the Midland Mining District which tested prospective managers and under managers. His invention of the Smallman clip revolutionised the endless rope system which prior to this had to be stopped so that tubs could be attached and released by spanners.[144] When the Smallman clip handle was pushed down, the lips of the clip closed and locked onto the moving rope and when the handle was raised, the lips would part. They were sold in boxes of twenty-five throughout the world and proved to be an international success. It was not until the early years of the 20th century that the USA, Germany and Belgium produced their imitations. The clip continued to be produced at Stockingford until 1960. Fretwell claims that he was also one of the first in 1871 to advocate that stone dust be placed on the floors of coal mines to minimise the effects of explosions by smothering the flames. This is standard practice in every coal mine today.[145] Similarly Church notes that the first coal heading machine was produced by Stanley and in use at his Nuneaton Colliery.[146] The Stanley Heading Machine was made at the Bedworth foundry, assembled at Stanley's Stockingford Works, and named after the manufacturer but the idea for a heading machine driven by a rotating disc came from Smallman.

It could be argued that Smallman made a significant contribution to reducing mine fatalities. His advocacy of the application of stone dust reduced potential deaths

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[141] These included Wyken, whose owner was his father-in-law, Tame Valley whose owner was his financial partner and neighbouring Ansley Hall.

[142] See for example *Nuneaton Observer,* 9 and 16 May 1878.

[143] Obituary, *Nuneaton Chronicle,* 2 March 1900.

[144] E. Bainbridge, 'On Recent Improvements in the Mechanical Engineering of Coal Mines', *Proceedings of the Institute of Mechanical Engineers* 41 (1890) 360-95.

[145] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) p. 7.

[146] R. Church, *The History of the British Coal Industry: Volume Three1830 to 1914* (Oxford, 1986) p. 343.

from explosions and the modern machine cutting of coal eventually removed miners from the source of the greatest cause of fatalities namely falls of coal. Yet he was ostracised by his fellow coalowners and none attended his funeral. They believed him partly responsible for the Baddesley disaster by introducing Gillett to the Dugdales who had recommended using an underground steam engine to drain their mine. That this system worked well in his Stockingford Colliery, neighbouring Nuneaton Colliery and many in Gillett's native Derbyshire was immaterial.[147] Gillett had been condemned by the Inquiry and the fact that an owner had died somehow made it more than an 'ordinary' disaster. In their report of his funeral the *Nuneaton Chronicle* went to great lengths to excuse the absence of the Mine Inspector, but as the Dugdale family sent a wreath, it can be assumed that they at least did not hold him culpable.[148]

There were fifteen deaths at Ansley Hall and thirteen at Stockingford Colliery. Ansley Hall had an annual death rate of 0.384 and Stockingford 0.325.[149] At Ansley Hall a third of the deaths were the result of falls, two of which died despite using a ringer and chain to remove props. Another third died at underground haulage three on the incline plane. Four were crushed on the surface and in 1913 a stallman died after dropping a candle into his powder box. At Stockingford falls were more prevalent, the seven deaths accounting for 54 per cent of the total. The only blame was directed at a thirty-nine year old stallman for setting insufficient sprags yet the area had been passed by a deputy who was later censured by a coroner's jury and downgraded to a dataller or dayman. [150] Again a man died removing props with a ringer and chain. There were five underground haulage deaths, four on the incline, and in 1899 a blacksmith was crushed by trucks at the surface. The worst accident occurred in 1872

[147] It was not exactly the same. In his evidence to the Baddesley Inquiry he stated that 'He would not have placed the boiler in the position it was for fear of fire.' He believed it too far from the shaft and that thirty foot of brickwork up the return airway would not 'obviate the fear of fire.' *Nuneaton Observer*, 8 August 1884.

[148] *Nuneaton Chronicle*, 2 March 1900. Poor attendance was attributed to bad weather and the railway timetable.

[149] All figures tabulated from *Annual Mine Inspector Report:* 1851 to 1913.

[150] Daymen were generally employed to perform pit maintenance rather than production.

when three miners aged fourteen; fifteen and sixteen were killed when illegally riding tubs up the drift tunnel when the coupling broke.[151]

By the 1880's pits at Griff were in need of new capital and the Newdigate family then preferred a guaranteed income to the risk of enterprise. In 1882 they granted a thirty-five year lease to a new Griff Colliery Company for minimum annual royalties of £1,500. The two principal shareholders were Andrew Knowles of Lancashire and Emerson Bainbridge who had interests in the North East and East Midlands and they appointed Edward Melly (1857 to 1941) as their manager. Melly became an important individual in his adopted town.[152] Born to a wealthy family of Liverpool merchants, he went to school at Rugby before training to be a mine engineer at Sheffield. He was only twenty-five when he became the first manager of Griff Colliery Company later becoming a director and then managing director of the company. He was president of both Nuneaton Borough Football Club and the Nuneaton Operatic and Dramatic Society. He was also a member of the hospital board, a Liberal borough councillor and mayor 1908 to 1910 and again in 1926. Hospital provision appeared to be a particular interest of his. He made donations to help found the Cottage Hospital in 1893[153] and acted as its financial secretary, and in 1916 leased Weddington Hall to establish a Red Cross Hospital there and largely paid for the equipment to make it operational. During the war he was also honorary secretary and president of the local National Society for the Prevention of Cruelty to Children.[154] In 1890 he donated Pingle Fields as a public park and in 1907 the year Nuneaton became a borough, he sold the town Riversley Park named after his Liverpool home. He then donated £600 to build the town a museum and art gallery there and from when it opened in 1917 until his death he was honorary curator. He died in 1941 at the age of eighty-four in an air raid that destroyed his house and also killed his wife.

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[151] *Annual Mine Inspector Report:* Midland Division 1871 to 1913.

[152] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) pp. 112-113.

[153] For a description of the eight bed hospital see *Nuneaton Observer,* 22 September 1893.

[154] *E.F.Melly – Nuneaton's Unknown Benefactor.* Extracts from display at the Nuneaton Museum and Art Gallery (November 1997).

The existence of the Griff Minute Book gives us some insight into Melly's thoughts. In 1903 he reported proudly that the Griff tonnage mined per fatal accident was twice the Warwickshire average, four times that of South Wales and 40 per cent above the Midland average. His motives were not purely altruistic as 'the disruption to output[155] and consequent increase in costs had to be minimised.'[156] His business acumen had benefits to the workforce. Once anticipating a strike he stockpiled coal and sold it at inflated prices during the resulting shortage. The profits that were made financed the electrification programme of 1912.[157] However it would be churlish to attribute his efforts to the profit motive alone. His personal motto was 'a good reputation is better than a gold belt' and his donations and service to Nuneaton bear testament to this.[158]

There were thirty-four deaths at the Griff Colliery Company in its thirty-one years existence up to 1913, an annual death rate of 1.096.[159] Falls of coal dominate with eighteen or 53 per cent of the total. Blame was attributed on only two occasions. In 1909 a dayman had been told by a deputy to put up props by a slip and fatally neglected to do this. In 1913 the death of a twenty-two year old getter was laid at the door of management. Working under a faulty roof with a slip along it, his task was to remove the girders behind a retreating longwall face. He failed to perform this using a ringer and chain and went to check what next to attempt when the roof fell. At the inquest the coroner criticised the management for giving this dangerous job to a man of only two years' experience.[160] There were six underground haulage deaths, four crushed by tubs and two run over on the incline. There were also six deaths at the

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[155] In South Wales when a man was killed in the pit all worked stopped and colliers followed the corpse home in procession. I have no evidence that this happened in Warwickshire but a death would halt production. An inquest into the death of an Alvecote Colliery miner in a cage accident in 1891 stated that the men stopped work and ascended the pit. *Nuneaton Observer,* 28 August 1891.Similarly when a man was killed at Arley in 1913 the Inquest reported that 'All men left off work and did not resume.' *Nuneaton Observer,* 28 February 1913.

[156] Griff Minute Book,. WCRO CR 136/V/68.

[157] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) p. 111.

[158] A. Miller, *The Gold Belt* (Nuneaton, 2003) p. 7. Miller was a local artist commissioned by Nuneaton Council to produce a mural for the town.

[159] All figures tabulated from *Annual Mine Inspector Report:* 1851 to 1913.

[160] *Annual Mine Inspector Report:* Midland Division 1909 and 1913. Inquest, *Nuneaton Observer* 23 April 1909 and 12 September 1913.

surface and blame was more liberally applied. In 1894 the death of a shunter driver was attributed to 'fly shunting being done against the rules.'[161] There were also two strange deaths of experienced banksmen. In 1898 a fifty-six year old banksman thought he could stop a train of sixteen tubs descending an incline by standing in front of it and in 1904 a fifty-four year old banksman was determined to pass through an opening while wagons were being lowered into it.[162] Other deaths included a dataller killed by exhaust steam, a deputy killed by a cage fall when the steel rope broke, another deputy killed by the fire damp he ignited and the sad case of an incline attendant who returned too early to work following an accident and died of sepsis meningitis and pleurisy.[163]

Comparisons and Conclusions

From the above analysis of Warwickshire coalowners it is possible to draw some tentative conclusions. Both landowners and one company leader were Conservative MPs. As a contrast Whitten and Stanley from the colliery companies and Melly of the mine engineers were local councillors affiliated to the Liberal Party. All the large companies made welfare provision for their workers even if their motives were sometimes suspect. Stanley and Skey fostered a religious approach to leisure and Melly followed the company policy of using housing as a means of enforcing economic discipline. Most evidence of welfare comes from the southern area of the coalfield but this does not necessarily indicate a less paternal form of management in the north. Although the frugality of Skey was legion, Morris and Shaw were once the largest Warwickshire colliery company and it may be the lack of surviving data that restricts a fuller analysis. It was the mine engineers however that had the greatest impact on mine safety by their commitment to education. Garside Phillips led the campaign to educate miners and Smallman the curriculum for mine managers in the Midland District.

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[161] 'Fly shunting' was when the shunter, in charge of coupling wagons, rode with the locomotive driver. He was only allowed to do this when he was not performing this task. The man was a dayman and had no need to rush. A shunter worked with and was not necessarily the locomotive driver. Inquest, *Nuneaton Observer,* 9 February 1894.

[162] Inquests, *Nuneaton Observer,* 17 June 1898 and March 23 1904.

[163] *Annual Mine Inspector Report:* Midland Division 1888 to 1913.

Table 5.1 shows the comparative annual death rates of the selected Warwickshire coalowners. What is apparent is that it is the size of colliery and not the mode of ownership that is significant. The Warwickshire coalfield employed but 4,000 men in 1854 and was still only 5,000 in 1889. The following years saw the rapid expansion of the coalfield and by 1913 19,000 were employed. Two thirds of these colliers were employed in the newly sank deep mines and it is there that the death toll mounts. There are four large collieries that have an annual death rate of over ten a decade.[164] The Stanley Company's expanded Nuneaton Colliery from 1899 had twenty deaths a decade. The two landowners also figure on the list with Newdigate Colliery suffering thirteen deaths a decade and Dugdale's Baddesley Colliery ten. The mine engineer Melly who oversaw the expansion of the Griff Colliery Company also had a rate of ten a decade. The companies that suffered between six and nine deaths a decade were the large Morris and Shaw's Hall End Colliery which had seven, Hickman's large Haunchwood Colliery combined with its sister colliery at Tunnel which also had seven, six in the post disaster Baddesley Colliery which developed in the 20th century into a large colliery, and six in the medium sized Addenbrooke's Charity Colliery. Seen separately Hickman's medium sized Haunchwood Colliery had four deaths a decade whereas the larger Tunnel pit had only three. Strangely Stanley's large Charity Colliery had only four deaths a decade yet his Nuneaton Colliery developed at the same time heads the list. Others to achieve below five deaths a decade was the four of the medium sized Wyken Colliery, the three of the two medium to small mine engineer run collieries of Ansley Hall and Stockingford, three of the early medium sized Newdigate Griff Colliery and two to Morris and Shaw's medium size Birch Coppice Colliery. Skey's small Wilnecote Colliery and Trent Valley Colliery have a combined death rate of only one a decade and justify their reputation as safe pits.

[164] All figures tabulated from *Annual Mine Inspector Report:* 1851 to 1913.

Table 5:1 Comparative Annual Death Rates of Warwickshire Coalowners

	Deaths	Annual Death Rate
Landowners		
Newdigate		
1851-1882 Griff	12	0.344
1897-1913 Newdigate	22	1.375
1851-1882 and 1897-1913	34	0.666
Dugdale		
1851-1913 Baddesley	66	1.060
1883-1913 post disaster Baddesley	19	0.687
Companies		
Whitten		
1851-1913 Wyken	30	0.484
Addenbrooke		
1863-1879 Charity	11	0.633
Hickman		
1881-1913 Haunchwood	15	0.468
1891-1913 Tunnel	8	0.363
1881-1913 Haunchwood and Tunnel	23	0.712
Stanley		
1872-1878 Swan Lane	0	0.000
1877-1913 Nuneaton	28	0.777
1900-1913 Charity	6	0.461
1872-1913 all	34	0.829
Skey		
1859-1913 Wilnecote Works	4	0.074
1870-1913 Tame Valley	3	0.070
1859-1913 all	7	0.129
Morris and Shaw		
1858-1899 and 1911-1913 Birch Coppice	12	0.250
1875-1913 Hall End	30	0.790
1858-1913 all	42	0.763
Mine Engineers		
Garside Phillips		
1874-1913 Ansley Hall	15	0.384
Smallman		
1871-1913 Stockingford	13	0.309
Melly		
1882-1913 Griff	34	1.096

A general rule would appear to be the larger the colliery the more the deaths that could be expected. The table does throw up some interesting anomalies. Why should Stanley's Nuneaton Colliery suffer so many deaths when his Charity Colliery was less than a quarter of these? Why should Hickman's large Tunnel pit performance be so good compared to neighbouring Nuneaton and Griff collieries? Despite their involvement in the worst Warwickshire tragedy, landowners appear to be exonerated.

The post disaster Baddesley Dugdale performance was better than a number of companies and although the Newdigate`s relatively good figures at Griff were destroyed by their later venture into mining, their successor at Griff suffered a similar appalling death rate when they expanded the colliery, despite being led by an experienced and knowledgeable mine engineer Finally why should the performance of the medium sized Birch Coppice Colliery be significantly superior to other similarly sized contemporary collieries?

Mine Inspectors saw it as their remit to identify the cause of fatalities and apportion blame in the hope of preventing a similar tragedy occurring. The greatest cause of deaths were falls of coal yet in this area they were often content to simply describe the incident or condemn the geological factors of slips and bumps. Table 5.2 shows a breakdown of deaths in the collieries studied. In the expanding Nuneaton Colliery from 1899 falls were 44 per cent of deaths; at Newdigate Colliery this rose to 60 per cent; at the post disaster Baddesley Colliery it was 47 per cent; at Hall End Colliery it was 55 per cent and at the Griff Colliery Company, 55 per cent. Only at the Stanley owned Charity Colliery is the 25 per cent deaths from falls less than the Warwickshire average of 40 per cent for a large colliery. It would appear that there was an increasing danger in working the deeper seams of coal and by 1913 this was nearly a half of all Warwickshire fatalities. In only three collieries did underground haulage deaths exceed those from falls of coal. These were the Stanley Charity Colliery and the two medium sized collieries of Ansley Hall and Wyken, all with a favourable death rate of under five a decade. It is therefore those collieries that were able to minimise deaths from falls of coal that were rewarded with a lower death rate.

Table 5:2 Breakdown of Deaths in selected Warwickshire Collieries

Colliery	Total	Fall	Shaft	Haulage	MU	Gas	Explosives	Surface	Sundries
Baddesley	66	14	3	11	1	35		1	1
Griff	46	26	3	8	1	1		6	1
Griff (Newdigate)	12	8	2	1				1	
Griff (Griff Col Co)	34	8	1	6	1	1		6	1
Charity	33	14		12		2		2	1
Charity (Addenbrooke)	11	5		4		1			1
Charity (Stanley)	8	2		5					1
Wyken	30	11	3	13	1			2	
Nuneaton	29	15	4	4	1		3	2	
Nuneaton (Stanley all)	28	15	4	4	1		2	2	
Nuneaton (Stanley exp)	25	11	4	4	1		2	2	
Newdigate	23	14	1	3	1			3	1
Stockingford	14	8		5				1	
Ansley Hall	14	4		5			1	4	
Wilnecote Works	3		1	1				1	
Tame Valley	9	5	1	1		2			

Key: MU Miscellaneous Underground, non-haulage.
Source: Annual Mine Inspector Reports 1951 to 1913

What blame can therefore be laid at the door of the mine owners? A fatality in the mine would not only cause economic dislocation to production but the resulting investigation could raise the possibility of legal penalties and from its publication in journals like the *Colliery Guardian*, the moral censure of their peers. Smallman for example was ostracised by many Warwickshire owners following the Baddesley disaster despite his heroic attempts at rescue.[165] As the consultant mine engineer for the colliery he had introduced the Dugdale's to Gillett from Derbyshire and was seen to share some moral responsibility for the erection of the underground pump. Few owners attended his funeral in 1900. In 1903 Melly proudly reported to his board of directors Griff's good safety record claiming that in tonnage raised per death they were twice the county average and four times better than South Wales. [166] He was not averse to commenting on neighbouring collieries and declared the problems experienced at Newdigate Colliery was due to an unwillingness to invest in it and poor management up to 1905. The parsimony of William Stratford Dugdale in not bricking the area above a newly installed engine and providing a wooden rather than steel conduit to remove exhaust smoke was a significant cause of the Baddesley disaster, together with the criminal negligence of his mine officials who failed to monitor a known smouldering fire despite routine inspection. The refusal to allow

[165] L. Fretwell, *Warwickshire Coalfield* Volume Three (Warwick, c2005) pp. 5-7.

[166] J. Wale, 'The Griff Colliery Company, Warwickshire 1892 to 1914: a case study in business history', *Midland History* 14 (1989) 113.

horses to work in shafts rather than the simple chains to pull tubs caused preventable deaths at both Wyken and Hall End collieries. But George Skey of Tame Valley and Peel had an equal reputation for frugality yet his collieries had the best safety record of those studied. Coalowners walked a difficult path. If they leant towards safety at the expense of income, profits could suffer. If they inclined towards income at the expense of safety, they could fail for a different reason. The exemplars above reveal that there were some prone to the latter course but there is not enough evidence to condemn coalowners as a whole.

Despite the evidence of paternalism and philanthropy noted above, Warwickshire coalowners were typical Victorian businessmen who ran their collieries to make a profit. Even Garside Phillips, the advocate of miner education, could display irritating penny pinching in denying an engineman the necessary oil to run his engine. Yet the discussion of the role of trade unions in Chapter Four confirmed that Warwickshire miners received superior pay and working conditions to many in other areas including the neighbouring counties of the Midland Division. Sir Alfred Hickman MP revealed to the House of Commons in 1900 that Warwickshire colliers were working an Eight Hour Day some eight years before an act was passed to extend this to miners nationally.[167] Similarly in the union campaign for a minimum wage in 1911 the General Secretary of the Warwickshire Miners Association made known to a conference of the Miners' Federation of Great Britain that Warwickshire had already negotiated one. It was the checkweighman who decided if money had to be made up and informed the manager. If there were any problems he contacted the Employers Association 'and they compel them.'[168] At a November Special Conference of the MFGB a South Wales delegate complained that nothing had been achieved 'except in Warwickshire where it is said something great has been accomplished through the generosity of the employers.'[169] It is evident that the Warwickshire trade union was fortunate in being able to negotiate with employers that did not display the intransigence exhibited by their counterparts in other areas.

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[167] *Parliamentary Debates*: Sir Alfred Hickman House of Commons (28 February 1900) cc 1300.

[168] Special Conference: South Wales Dispute; New Mines Bill and Abnormal Places (13-14 June 1911) MRC MSS429MFGB 4/8 William Johnson p. 99.

[169] Special Conference Minimum Wage (14-15 November 1911) MRC MSS429MFGB 4/8 p. 58.

Good practice developed in a colliery through the auspices of the masters or the men had no guarantee of being adopted by collieries elsewhere. This required the compulsion that only a government could provide. It is to the development and shape of State intervention that we must turn to in the following chapter.

Chapter Six: The State

How far should the State involve itself with the welfare of its working citizens? The abuses of laissez-faire capitalism came under increasing scrutiny in the early 19th century from the beacon of publicity. Reports of mining disasters and the appalling working conditions in the coal industry, debated in parliament and recorded in the press, galvanised a movement for reform that culminated in the 1842 Coal Mines Act. This act prohibited the employment underground of women and boys less than ten years of age, and restricted those working winding engines to over the age of fifteen. By 1850 provision was made for the appointment of inspectors of mines to examine and report on mines to parliament. Although Page Arnot asserts that the powers granted were so limited as to be meaningless,[1] it nevertheless established the principle of inspection, and the right of the State to legislate for the safe conduct of the industry. Slowly a Mine Inspectorate emerged. The Act of 1850 set the number of inspectors as six and demanded the keeping of accurate mine workings maps and the notification of any fatality. In 1855 Inspectors were doubled to twelve, and a standard of safety was embedded in the introduction of seven General Rules, relating to ventilation, the fencing of shafts, signalling, and the working of winding engines and boilers. In addition each colliery was required to draw up and have approved its own Special Rules that reflected their individual working requirements. These General Rules were increased periodically to reflect the evolving science and technology of the industry, rising to fifteen in 1860, thirty-one in 1872; thirty-nine in 1887, before being replaced in 1911 with an elaborate code of general regulations, and the power given to the Secretary of State, to amend and add to them without further legislation. This chapter analyses this contribution of the State to improvements in mine safety.

Mills in her recent study, has presented a negative view of State intervention:

> *Behind the assumption of progress portrayed in the historical literature lies a story of missed opportunity and indifference by the British*

[1] R. Page Arnot, *The Miners Years of Struggle: a History of the MFGB from 1910* (London, 1953) p. 35.

government that resulted in large numbers of men dying unnecessarily in the pursuit of the nation's mineral wealth.[2]

The government only responded to perils faced by workers in the coal industry when faced with sustained and persistent demands for remedial action. In the 1840's the visible problem was explosions in mines. To protect themselves from criticism they appointed scientists to investigate and report and only when voluntary measures had failed did they become directly involved. The early Mine Acts were tentative steps rather than bold advances. The *Mining Journal* dismissed the 1850 Act as 'a sop'[3] and described the situation in 1855 as 'absolutely disgraceful to the government and derogatory to the dignity of the office, and any measure which upholds and continues it will meet with deserved reprobation.'[4] The succession of Select Committees and Royal Commissions that followed were again attempts to deflect criticism by gathering information, without any guarantee of subsequent action. In the last quarter of the century the government did become more proactive supporting scientific investigations into the causes of mine explosions and in 1902 establishing a committee to study the safe use of electricity when it remained a minor cause of fatalities. Nevertheless when it was not facing calls for intervention as with the declining ironstone industry or the invisible cancer of occupational disease, Mills asserts that 'the government adopted an attitude of indifference towards the welfare of labour.'[5]

Section one asks the question why the State decided to intervene in the running of the coal industry in the 19th century. Despite its limitations all attempts at explanation are centred on a 1958 theory postulated in a short article by MacDonagh. This has not prevented historians applying different weight to the various factors that have been put forward. Section two examines the Mine Records Office which was the first concrete example of intervention. Even so it was the dominating personality of Robert

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[2] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) p. 243.

[3] *Mining Journal*, 27 July and 17 August 1850.

[4] *Mining Journal*, 27 January 1855.

[5] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* p. 244.

Hunt who shaped which direction that intervention should take. Section three examines the creation of a Mine Inspectorate and the difficulties it encountered in establishing its authority and influence. Section four chronicles the meagre attempts at fostering the education of mine workers so that they could comprehend the increasing awareness of mine safety. In Warwickshire it was not until 1891 that a Warwickshire School of Mines was established. Section five charts the development of professional mine managers to run mines. From their inception the Mine Inspectorate, mostly appointed from the northern coalfields where viewers held sway, were appalled that in the south uneducated butties were allowed to run the pits. It was not until 1872 and 1887 that mine managers and then undermanagers were required to obtain qualifications in competency. Section six examines the role of the law courts in enforcing mine safety. The establishment of general and special rules from 1855 meant that miners and in theory, owners could be prosecuted for infringements but it was not until the publication of statistics in the 1890's that we can analyse Warwickshire in any detail. Section seven looks at the development of mine rescue which only received official support in the early years of the 20th century. Section eight analyses the limitations to State intervention.

Why State Intervention?

The origin of State intervention has been seen in the Tory belief in social responsibility[6] and the radical philosophy of Utilitarianism which saw a need to provide the greatest good for the greatest number.[7] Liberal historians from Boyd in 1879 to Bryant in 1975 have viewed the development of mining health and safety as an inevitable chronology of progress led by great men.[8] In 1958 MacDonagh postulated a new approach which viewed history as a process which was not affected

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[6] See J. Hart, 'Nineteen Century Social Reform: a Tory Interpretation', *Past and Present* 31.1 (July 1965) 39-61. This grew from 'noblesse oblige', the view that social position brings with it responsibilities to those less fortunate.

[7] A. Dicey, *The Debt of Collectivism to Benthamism: lectures on the relationship between law and public opinion in England during the 19th century* (London, 1905) challenged by J. Brebner, 'Laissez-faire and State Intervention in 19th century Britain', *Journal of Economic History* V111 (1948) 59-73 and J. Aydellote, 'Conservative and Radical Interpretations of early Victorian Social Legislation', *Victorian Studies* (December 1967) 225-36.

[8] R. Boyd, *Coal Mine Inspection: its history and results* (London, 1879); A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975).

by individuals or ideology.[9] The Government intervened only when obliged to do so by events that were 'intolerable to society.' It proposed a legislative solution but endangered interests brought political influence to bear and forced compromise which according to Mills; 'culminated in emasculated law insufficient to remove the original abuse but with the potential for widening state regulation.'[10] Mine Inspectors with experience of having to uphold an inefficient law, would then make proposals to remove the defects one at a time. His analysis does loosely fit the early years yet this five stage model which specified stages of reform from identifying the problem to bureaucratic solution has been criticised by Parris in 1960 for its concepts of 'intolerability' and 'History as a process.'[11] Parris claimed the MacDonagh model only fitted his specialist area of emigrant regulation and reiterated the claim that the philosophy of Utilitarianism underpinned any theory of a revolution in government.[12] How far the State and industry knowingly sacrificed health for profit is a matter of conjecture. Unlike deaths from explosions, occupational illness was less visible to society and given the scope of medical knowledge at the time, no obvious solution was apparent. When experts disagreed as in the role of coal dust in explosions, corrective legislation was inevitably delayed. Mills adds a number of further influences upon the Government including the extent of public sympathy, the degree of trade union pressure, the positive response of the workforce and the current economic performance of the industry.[13]

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[9] O. MacDonagh, 'Nineteen century Revolution in Government: a reappraisal', *Historical Journal* 1:1 (1958) 52-67.

[10] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) pp. 4-6.

[11] H. Parris, 'Nineteenth Century Revolution in Government: a reappraisal reappraised', *Historical Journal* 3:1 (1960) 17-37, reprinted P. Stansky (ed.), *The Victorian Revolution: Government and Society in Victorian Britain* (New York, 1973) pp. 29-57.

[12] For a clear review of the arguments see E. Paul, 'Laissez Faire in Nineteenth-Century Britain: Fact or Myth?', *Literature of Liberty* 3.4 (1980) 5-38, reprinted by Library of Economics and Liberty http://www.econlib.org/library/Essays/LtrLbrty/fplLNB.html.

[13] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) pp. 1-6.

Table 6:1 Main Parliamentary Papers on the Coal Industry

1835	Report from the Select Committee on Accidents in Mines
1842	Children's Employment Commission
1845	Report on the Explosion at Haswell Colliery and on the Means of Preventing Similar Occurrences (Lyell and Faraday)
1846	Report on the Explosion at Jarrow Colliery (Playfair)
1849	Report from the Select Committee on Dangerous Accidents in Coal Mines
1850	Report on the Working of Collieries (Blackwell)
1850	Report on the Ventilation of Collieries (Phillips)
1852	Report from the Select Committee on the Causes and Frequency of Explosions in Coal Mines
1852-3	Report from the Select Committee on the Causes of the Numerous Accidents in Coal Mines and the Best Means for their Prevention
1854	Report from the Select Committee on the Causes of the Numerous Accidents in Coal Mines and the Best Means for their Prevention
1865	Report from the Select Committee on the Operation of the Act for the Regulation and Inspection of Mines and the Complaints of Miners
1871	Report on the Truck Commission Act
1871	Report of the Royal Commission to Inquire into the Several Matters Relating to Coal in the United Kingdom
1873	Report from the Select Committee on the Present Dearness and Scarcity of Coal
1881	Report of the Royal Commission on Accidents from Explosions and Other Causes in Mines
1890	Reports of the Royal Commission on Mining Royalties
1894	Report of the Royal Commission on Explosions from Coal Dust in mines
1903	Reports of the Royal Commission to Inquire into the Subject of the Coal Resources of the United Kingdom
1904	Report of the Departmental Committee on the Use of Electricity in Mines
1907	Report of the Departmental Committee to Inquire into the Possible Economic Effects of a Limit of Eight Hours to the Working Hours of Coal Miners
1907	Report of the Royal Commission of Mines
1908	Report of the Departmental Committee on the Truck Acts
1909	Report of the Royal Commission on the Causes and Means of Preventing Accidents

The development of State intervention is relatively straightforward to chart and is summarised in Table 6:1. In less than fifteen years the Government had moved from restricting child labour and commissioning reports from respected scientists, to imposing good practice in General and Special Rules. From the Act of 1872 the principle of intervention was embedded and a more proactive stance was taken to update the coal industry in line with technological and scientific advances, exemplified by the 1894 Act that addressed the role of coal dust in colliery explosions. In the early years of the 20th century there was a spate of committee

reports and a Royal Commission which resulted in tackling the problem of the use of electricity before it became an issue in mine safety and an Act of 1910 that completely overhauled the Inspection of mines. By 1913 the government had established a Safety Research Board whose work would have a dramatic influence on mine safety in the inter-war years.

Yet the relative importance of factors that led to this intervention has proved to be more problematic. The widening of the franchise can be seen from the 1832 Act that established an electorate of around 650,000. This rose to two million or 40 per cent of the male population in 1867 and nearly six million or 60 per cent in 1885, and with the adoption of universal male suffrage in 1918, about twenty-one million.[14] Any government needed to take cognisance of this increasing and more literate electorate served by national and local newspapers[15] as exemplified by the 1885 Act when the Conservative government was forced through fear of public disorder to introduce measures far more radical than initially proposed. The role of the trade unions in fostering an awareness of safety issues has been discussed in Chapter Four. Particularly after the election of two Lib-Lab mining MPs in 1874 they continually petitioned parliament for reforms although the legislation that was passed rarely satisfied their optimistic expectations.[16] There were always more coalowner MPs than miner MPs throughout our period of study[17] and Mills claims that the Home Office was selective with expansion of the law and avoided issues that could lead to friction with owners.[18] The 1862 Hartley Colliery disaster[19] revealed the need for collieries to

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[14] Adapted from F. Craig, *British Electoral Facts 1832 to 1887* (London, 1989).

[15] In the north of the Warwickshire coalfield was the *Tamworth Herald* and in the south the *Nuneaton Observer* and the *Nuneaton Chronicle.* Such weekly newspapers reprinted stories from the national dailies like the *Times.*

[16] An example is the 1880 Employers' Liability Act which they hoped would penalise employers with poor safety records. Many employers simply contracted out while others turned to insurance to cover potential damages awards and the insurance companies did not base premiums on records of safety.

[17] R. Gregory, *The Miners and British Politics 1906 to 1914* (Oxford, 1968), has shown that between 1885 and 1910 there were 24 coalowners in the House of Commons. In contrast there were 6 miner MPs from 1885 and 12 more from 1900 to 1909. pp. 15-16.

[18] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) p. 126.

[19] Hartley Colliery 1862, a beam from a winding engine snapped and fell into the single shaft where 204 miners had no means of escape and died from suffocation.

have two shafts and legislation was quickly passed[20] but the 1867 Royal Commission Report was not followed by legislation until 1872.[21] Any government needed to weigh the views of the trade unions, the coalowners and their own officials the mine inspectorate before embarking upon a legislative solution to a perceived problems, but they also had to note how those views were being received by their electorate.

The first practical State involvement in the coal industry could hardly be termed as intervention. The government merely agreed that a new Mining Records Office would accept the plans of abandoned mines if owners wished to deposit them there. However the appointment of a new Keeper of Mining Records in 1845 who interpreted his role in a much more proactive way was to transform its importance.

Mining Records Office

An 1835 Select Committee 'to enquire into the nature, cause and extent of those lamentable catastrophes which have occurred in the mines of Great Britain,' recommended a better system of ventilation, the use of safety lamps, accurate plans of the workings, education for miners, mine visits and that owners 'did not neglect their responsibilities.'[22] There was no recommendation for legislation but coalowners did take up the call for the recording of plans for mines. Particularly in the North-East where there had been extensive deep working of coal seams, it was a constant danger that miners would break into old workings and suffer a deadly inundation of gas or water. Perhaps more important to entrepreneurs, they could sink a shaft only to discover that seams had been worked out by an earlier colliery. The Geological Survey had been established in 1835 with a Museum of Practical Geology attached to exhibit rocks and minerals which had an application of geology to industry.[23] In 1840 the government agreed to the request of the Newcastle based British Society, a group

[20] The need for an upcast and downcast had been made in 1935 but then ignored. *Report of the Select Committee on Accidents in Mines* (1835) 603 V.11.

[21] For coalowners views on legislation see *Parliamentary Debates* (1872) 21 June cm 183-90; 25 June cm 508-27; 2 July cm 663-4.

[22] *Report of the Select Committee on Accidents in Mines* (1835) 603 V.1.

[23] C. Thompson, *Plans of Abandoned Mines: History of Custody* (1964) paper published by Your Archives, website of the National Archives, and H. Woodward, *The History of the Geological Society of London* (London, 1907).

of coalowners, MP`s and professors of geology, to establish a repository of abandonment mine plans at the newly established Mining Record Office at the museum. In 1845 Robert Hunt was appointed Keeper of Mining Records. He expanded the activities of his office by travelling round to the mining districts to encourage owners to deposit plans. They developed such a trust that owners were also prepared to release production and sales figures that would allow the creation of regional aggregates without revealing individual performance to possible competitors. Hunt's annual *Mineral Statistics* first appeared in 1853, mainly concerned with metalliferous mining.[24] He produced coal mining statistics from 1854 and continued producing his annual volume until he retired in 1881. He also included a list of mines with their owners arranged according to Inspectoral districts. The Coal Mine Act of 1850 had made the making of plans a statutory duty and the act of 1872 made it compulsory to deposit plans of abandoned mines at the new Mining Records Office at the Home Office. From 1872 through to 1882 there were two mining records offices, collecting the same information. It is a tribute to Hunt's charisma that mine owners continued to supply him with information that they now had a statutory obligation to give to the mining Inspectorate. His *Mineral Statistics* continued to be produced while the Inspectorate merely retained the data obtained by them for internal use. Only from 1884 did the statistics appear in the *Annual Report* of the Inspector of Mines, produced by the same men who had worked under Hunt. It had been coalowners who had petitioned for the compulsory keeping of plans of underground working and that abandonment plans be deposited in a central depository. State legislation had ensured that this good practice was universally adopted but the contribution of Hunt whose personality persuaded owners to part with sensitive information must not be undervalued.

The contribution of Hunt was recognised at the time. In 1854 he was elected a member of the Royal Society and in 1855 a member of the Royal Statistical Society.[25] Yet he was fully aware that he was a pioneer in a new field and in later additions of the *Mineral Statistics* he amended totals upwards to compensate for earlier under

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[24] The ODNB: Robert Hunt (1807-1887) states that the Volume One of the Geological Survey was in 1846 on copper and tin mining in Cornwall but 1853 was the first national survey of minerals.

[25] ODNB: Robert Hunt (1807-1887).

reporting. Church suggests that that these corrections did not go far enough and that perhaps 8.5 per cent needs to be added to annual production figures.[26] The reasons for this are understandable. It took time to gain the trust of owners and some six million tons were not reported in Lancashire and South Wales. Before 1864 he reported coal sales rather than coal production and this omitted around four million tons of colliery consumption in the North-East alone. There were idiosyncratic local measurements like the Staffordshire boat load that was difficult to interpret and not even a nationally agreed figure of how many hundredweight a ton should consist of. Not surprisingly many historians believe accurate production figures are only available after the 1872 Coal Mines Act which managed to iron out many of these anomalies. By that date the principle of State intervention was well established but it had taken time to reach that level of acceptance.

Mine Inspectors

In many ways coal mining in the early 19th century was according to Mills; 'invisible to the public eye.'[27] Owners disliked any enquiry into pit deaths that would impinge upon their management practice and discouraged them if possible.[28] Inquests into deaths in the North-East only began in 1813 and juries were largely under the control of the owners.[29] The *Newcastle Journal* even claimed to have acceded to a request from owners not to report disasters.[30] But mining deaths could not be hidden from view. In 1812 an explosion at Felling Colliery that killed ninety-two attracted a public outcry that led to the formation of the Sunderland Society in 1813. They commissioned the scientist Sir Humphry Davy who invented a wire gauze safety lamp and believing their work completed, the Society disbanded. Local men like the Reverend Hodgson were active in broadcasting the plight of miners by publishing his

[26] R. Church, *The History of the British Coal Industry: Volume Three 1830 to 1914* (Oxford, 1986) pp. 3-8. For example in 1854 Hunt gives a figure of 64.5 million tons. Church's revised figure is 71.5 million tons.

[27] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) p. 39.

[28] R. Boyd, *Coal Mine Inspection: its History and Results* (London, 1879) pp. 26-7.

[29] C. Challinor and B. Ripley, *Miners` Association: a Trade Union in the age of the Chartists* (Whitley Bay, 1990) p. 205.

[30] M. Flynn, *The History of the British Coal Industry: Volume 2 1700 to 1830* (Oxford 1984) p. 413.

emotive sermons and John Sykes compiled lists of deaths from disasters that were presented to the 1835 Select Committee as the only available statistics of fatalities.[31] National newspapers were outside the influence of coalowners and the *Times* in 1821 published an article criticising colliery management.[32] The specialist *Mining Journal* was established in 1835 with a stated mission to reduce accidents by reporting fatalities and advocating enforceable legislative remedies.[33] In 1839 an explosion in St Hilda Colliery killed fifty-two and again a committee was formed as a result. The South Shields Committee set itself the task of investigating accidents and reported after three years calling for the compulsory registration of mining plans, the establishment of Inspectors of Mines, the prohibition of the underground employment of women and children and the better scientific education of mine engineers.[34] It even negotiated with Durham University to provide the requisite training for mine engineers. By then the government had begun its own limited inquiry into the coal industry which addressed one of the proposals of the Committee.

In 1840 the Childrens' Employment Commission began an investigation into the condition of children employed in mines. It was convened at the behest of Lord Ashley[35] who wished to gather empirical evidence to support a limitation of child employment. The scale of inquiry was impressive. There were four commissioners, none of whom had any knowledge of the coal mining industry. These were the economist Thomas Tooke,[36] Dr Thomas Southwood, active in public health reform and one of the three commissioners of the 1833 Royal Commission on Employment

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[31] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) pp. 40-6.

[32] The editorial suggested managerial failures in appointing competent 'overseers' to enforce safety on a workforce that saw accidents as 'ill luck' rather than 'an incident necessarily connected with their business or the result of culpable inattention.' *Times*, 1 November 1821

[33] A. Wilson, *The Pick and the Pen* (London, 1979) p. 24.

[34] F. Linsley, *The North of England Institute of Mining Engineers and the Establishment of the College of Physical Science at Newcastle Upon Tyne.* Public lecture University of Newcastle upon Tyne (9 July 1971) copy NEIMME website.

[35] ODNB: Lord Ashley, Earl of Shaftesbury (1801-1885). He was known as 'The Poor Man's Earl' for his support of better treatment of the working classes. His causes included factory reform, child chimney sweeps, ragged schools and reform of the lunacy laws.

[36] ODNB: Thomas Tooke (1774-1858). This mainly covers his economic theory, particularly his six volume *History of Prices* published between 1837 and 1857.

of Children in Factories; and two factory inspectors, Leonard Homer and Robert Sanders. Some twenty sub-commissioners were appointed to serve under them, each allocated one or more coal districts on which to report. Mitchell was the commissioner for Warwickshire and Leicestershire. They interviewed some 4,000 witnesses and the report was illustrated with twenty-six drawings depicting various aspects of the employment of women and children.[37] In particular Lancashire and West Yorkshire commissioners discovered that miners sometimes worked naked and this was shown in a number of the drawings. The fact that young girls would regularly be exposed to the sight of men working naked led to a moral outcry which certainly assisted Ashley in the passing of the bill. It conveniently ignored the truth that girls raised in mining district would daily see fathers and brothers strip to wash pit grime from their bodies in a tin bath. Some commissioners appeared to equate opportunity with licence with Commissioner Symons in a section entitled 'Prostitution in Pits' concluded that; 'it is not to be supposed but that where opportunity prevails sexual vices are of common occurrence.'[38] Kirby has questioned the sexual implications of nudity in the pits.[39] He suggests that accounts of promiscuity probably resulted more from imagination and gossip than from reporting actual events. Nevertheless Lord Ashley stressed the need for moral and spiritual education and not just to discourage sexual excess. In the *Quarterly Review*[40] he stated that the;

> *two great demons in morals and politics, Socialism and Chartism, are stalking through the land (producing) an incurable cancer of the population. (Moral education would provide) understanding of the delusionary nature of radical political panaceas.*[41]

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[37] A. Bryant, *Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 31.

[38] Scrivens, *Employment of Children in Mine: West Riding and Cumberland,* (London, 1842) XV1 p. 196.

[39] P. Kirby, 'Child labour, public decency and the iconography of the Children`s Employment Commission of 1842', *Manchester Papers in Economic and Social History* 62 (2007) 17-20.

[40] *Quarterly Review* was a literary and political publication founded in 1809. It ceased publication in 1967. It was said to promote social reform.

[41] A. Heesom, 'The Coal Mines Act of 1842: Social Reform and Social Control', *Historical Journal* 24.1 (1981) 70; see also R. Johnson, 'Educational Policy and Social Control in Early Victorian England', *Past and Present* 49 (1970) 96-119.

The 1842 Coal Mines Act was passed with relatively little opposition although the apologists for the coalowners in the House of Lords [42] succeeded in reducing the ages of boys excluded from the pits from thirteen down to ten and women from only working underground.[43] It was only in the committee stage that they realised that they would need some kind of enforcement and appointed Seymour Tremenheere as the first – and only – mine inspector, with very limited powers compared to the factory inspectorate.[44] Tremenheere came from a wealthy family with a tradition of public service.[45] In 1839 he gave up his employment as a barrister and accepted the post of the first Inspector of Schools on an annual salary of £500, rejecting an offer from a Calcutta law firm that offered £3,000 a year. In 1843 he accepted an extra £100 a year to become the first Inspector of Mines and brought to the post his technique of fact finding and reporting that he had developed in his previous position. He would visit an area and interview all strata of society and read back their statements for verification. He would then consult any documentary evidence like pay sheets or contracts of employment. He was not a mine engineer and never went underground or reported any account concerning machinery or methods of working.[46] This was mainly in deference to coalowners who had objected to this in the 1842 Act [47] but as he lacked any practical mining experience, the exercise would have been pointless. He

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[42] This may be harsh. Heeson in his study of the Opposition of 1842 concluded that owner's opposition 'was not yet exclusively of their own interest.' Their fear that excluding women from pits would lead to hardship was proved to be correct and their limitation of the age of children was often a genuine belief that early employment was necessary to create an able collier. See A. Heesom', The Northern Coalowners and the Opposition to the Coal Mines Act of 1842', *International Review of Social History* 25.2 (1980) 236-71. Quote 271.

[43] A good account is found in A. Bryan, *Evolution of Health and Safety in Mines* (Letchworth, 1975) pp. 31-5.

[44] The limitations are apparent when as late as 1851 Tremenheere discovered women working underground in South Wales. F. Hodges, 'The Miner and his Trade Union', in Mining Association of Great Britain, *An Historical Review of Coal Mining* (London, 1924) p. 336. In 1866 a woman illegally employed by a butty was killed in a Monmouthshire ironstone mine. *The Times*, 5 July 1866.

[45] O. Edmonds and E. Edmonds, 'An Account of the Founding of HM Inspectorate of Mines and the Work of the First Inspector Hugh Seymour Tremenheere', *British Journal of Industrial Medicine* 20 (1963) 210-17; and E. Edmonds and O. Edmonds, *I was there: the memoirs of H S Tremenheere* (London, 1965).

[46] He described his job title as 'absurd as I had nothing to do with the Inspection of Mines.' E. Edmonds and O. Edmonds, *I was there: the memoirs of H S Tremenheere* (London, 1965) p. 103.

[47] Lord Londonderry representing the North-East coalowners, argued for the 'entire omission' of the clause on inspection. *Parliamentary Debates* (1843) LXV cc 578-79, 587-8. Reported *Morning Post*, 26 July 1842.

then made a number of recommendations that were later to be adopted. These included the reporting of fatal and non-fatal accidents; training of managers; pithead baths and improved housing for miners; and an early kind of joint consultative machinery where miners should appoint a small committee to improve communication with managers. Some of these would have to wait until the 20th century before fruition.[48]

Tremenheere reflected the prevailing views of his times. A spate of gas explosions in South Wales and the North-East led him to call in his 1847 Report for a government officer as a surveyor of mines to diffuse knowledge on the best system of ventilation. He was against compulsion believing that:

> *It would materially interfere with the application of capital and of individual skill and enterprise and lead the Government altogether beyond its legislative function.' Compulsion would 'transfer the responsibility for their (collieries) safe and proper management from the proprietors to the Government.*[49]

He believed in what Bryan terms 'the moral and intellectual approach to mine safety.'[50] If an accident was shown to be the result of an owner or manager failing to adopt a practice previously recommended by the Inspector and in successful use in other collieries, the adverse publicity would prevent a reoccurrence. The Government response was to appoint a number of eminent scientists to investigate the explosions [51] and set up a Select Committee in 1849 to investigate 'The Best Means of Preventing the Occurrence of Dangerous Accidents in Mines.' Its conclusions mirrored those of Tremenheere that Inspectors should but report and offer advice and it voiced his fears

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[48] It was not until Nationalisation that such a committee was established. In Warwickshire the first pit head bath was not built until 1928 at Pooley Hall Colliery. Yet there is archaeological evidence that the Romans had pit head baths at their Welsh gold mine. See P.Lewis and G.Jones, 'The Dolauchi Gold Mines: Surface evidence, *The Antiquaries Journal* 49.2 (September 1969) 244-72.

[49] Tremenheere, *Annual Report of the Inspector of Mines* 1847.

[50] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 39.

[51] Lyell and Faraday, Report *on the Explosion at the Haswell Colliery and on the means of preventing similar occurrences*. (London, 1845); L. Playfair, *Report on the Explosion at Jarrow Colliery*. (London, 1846).

that if their authority was increased 'owners and managers would try to evade the responsibility which naturally belongs to them and which it is not only desirable not to withdraw but rather if possible increase.'[52] Yet the call for Inspectors with some power of intervention continued. It came from the reports of coroners' juries, from the newspapers in the colliery districts and from the trade unions.[53] In 1844 a meeting of 20,000 Durham miners petitioned parliament for Inspectors who would check ventilation, ropes and machinery[54] and in his 1849 evidence to the Select Committee, the Jarrow miners' representative proposed Inspectors who could impose on the spot fines.[55] Two further reports on mine safety were commissioned and presented to parliament in 1850.[56] Both reinforced earlier findings and called for the appointment of Inspectors, the technical training of managers and the establishment of mining schools. Parliament at last acquiesced to the growing evidence that technically qualified Mine Inspectors would be beneficial to the safety of the mining industry.

The 1850 Coal Mines Act appointed four Mine Inspectors, rising to six in 1851. Unlike Tremenheere they had to possess a mining background but not be practising mine agents or owners. The *Mining Journal* was content with the calibre of the men chosen declaring that; 'they are possessed of the requisite practical knowledge to perform effectively their arduous and difficult duties.'[57] Their role was now more directed towards safety and they had the power to enter and examine coal mines (ironstone mines from 1860), view the working plans of the colliery and receive notice of fatal accidents. They could take no direct steps to promote education but could use every opportunity to point out its advantages. Enforcement rested on the right to call managers before them and give advice but they could not initiate prosecutions without first informing the Secretary of State. Edmonds notes that:

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[52] Select Committee Report *On the Best Means of Preventing the Occurrence of Dangerous Accidents in Mines*. (London, 1849) quoted A. Bryan, *Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 49.

[53] A. Bryan, *Evolution of Health and Safety in Mines* p. 40.

[54] R. Fynes, *History of Northumberland and Durham Miners* (1879) (Sunderland, 1923).

[55] A. Bryan, *Evolution of Health and Safety in Mines* p. 48

[56] S. Blackwell, *Report on the Working of Collieries*, (London, 1850); and J. Phillips, *Report on the Ventilation of Collieries*, (London, 1850).

[57] *Mining Journal*, 7 December 1850.

> *For five years these original six strove to persuade management and their letters requesting installation of safety precautions or amending unsatisfactory conditions are a model of politeness and courtesy. Herein perhaps lay the germ of the complaint to be voiced for many years that they were the tools of the management.*[58]

As the tools of the State they were certainly undervalued.[59] Their initial salary was only £400 a year compared to the £1,000 received by factory inspectors.[60] This was more than a manager could earn but considerably less than a competent mine agent. They received expenses but no secretarial assistance to cope with the average eighty letters a week sent to and from them. They gained scant support when prosecutions were deemed necessary and in 1854 Inspector Mackworth complained of 'the practical immunity from all responsibility, criminal or civil, of the managers of mines.'[61] Coalowners, or their family and friends, acted as magistrates in the coal districts and the jury was often composed of men that worked for the same owner and whose first consideration was protecting their employment. Cases often failed to get that far as coroners' juries believing that blame was split between the management and the neglect of the deceased, opted for a verdict of 'accidental death' which unlike 'manslaughter' precluded future prosecution. Job states that they;

> *walked a tightrope between the aspirations of the colliers who wanted change and the owners who resisted it. Yet when they tried to introduce safety measures that directly affected the output and pay of the colliers, it was now they that resisted.*[62]

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[58] O and E. Edmonds, 'Account of the Founding of HM Inspectors of Mines', *British Journal of Industrial Medicine* 20 (1963) 215.

[59] B. Job, 'The British Mine Inspectorate: the Early Years', *Bulletin of the Peak District Mines Historical Society* 11.4 (Winter 1991) 193-194.

[60] This may explain why Blackwell resigned and immediately accepted the post of a head viewer paid £1,200 a year. Tremenheere was on a salary of £700 a year. B. Job, 'The British Mine Inspectorate 1851 to 1913: Its Development and Effectiveness with particular reference to colliery explosions', (Unpublished PhD thesis, University of Keele 1992) p. 46.

[61] B. Job, 'The British Mine Inspectorate: the Early Years', *Bulletin of the Peak District Mines Historical Society* 11.4 (Winter 1991) 194.

[62] B. Job, 'The British Mine Inspectorate: the Early Years' 194.

Despite such difficulties their contribution to mine safety was gradually accepted by the industry and their recommendations became the basis of future legislation.[63]

However the Mine Inspectors never worked in isolation. Following two more Select Committees into mining safety in 1852 and 1854 [64] a consensus emerged on the beneficial application of general rules to all coal mines. This was a contrast to the lament of the 1835 Select Committee which thought it impossible to lay down general rules for mining due to the great dissimilarity in mining conditions in different parts of the country.[65] A meeting was convened in London in 1853 with forty-nine representatives from different coal districts, the six mine Inspectors and four delegations from workmen. Bryan makes the point that the;

> *practice of incorporating in the statutes rules already tested in the field and proven to be effective, is but a simple application of that well known principle behind the development of all legislation affecting health and safety in mines, namely to bring the standard of the worst managed mines into line with that of the best.*[66]

From consulting all interested parties the 1855 Act imposed seven General Rules concerning ventilation, fencing of pits, signalling in the shaft and the requirements of winding engines and steam boilers. Falls of coal, the most prolific cause of fatalities, was intentionally excluded as it was believed that there was too wide a variation in different coal seams and coal districts. The number of Mine Inspectors doubled to twelve, each in their own district and their Annual Reports appeared to chart a steady decline in accidents. The number of lives lost in raising a million tons of coal fell

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[63] For an overview of the development of the Mine Inspectorate without the technical detail see D. Morrah, 'An Historical Outline of Coal Mining Legislation', in Mining Association of Great Britain *Historical Review of Coal Mining* (London, 1924) pp. 301-20.

[64] Select Committee Report *Causes of the Frequency of Explosions in Coal Mines,* (London, 1852); and Select Committee Report *Accidents in Coal Mines,* (London, 1854). Report, *Times,* 30 June 1854.

[65] *Report of the Select Committee on Accidents in Mines,* (1835) 603 1X.Quoted in R. Boyd, *Coal Mines Inspection: its History and Results* (London, 1879) pp. 36-7; and R. Galloway, *Annals of Coal Mining and the Coal Trade* First Series (London, 1904) p. 523.

[66] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 58.

from 19.35 in 1851 to 10.95 in 1861.[67] Yet accidents continued and a Select Committee set up in 1865 reported in 1867,[68] the worst year for mining fatalities, when 1,484 died. The Act of 1872 was largely based upon this report. Inspectors were doubled with each receiving a deputy and two further Inspectors were appointed to cover the rising number of metalliferous mines. Managers now required certification, abandonment plans had to be deposited with a new Mining Office, workers could appoint men at their own expense to inspect their mine and boys under sixteen were restricted to a ten hour day. The General Rules which had risen to fifteen in 1860 now reached thirty-one. These now included safety lamp inspection of all gassy seams before the men could work and that all such reports should be recorded in a colliery book; lengthy blasting regulations and the provision of man holes on incline planes and roadways where men could take shelter from passing tubs. The 1887 Act again followed the recommendations of a Royal Commission Report.[69] Bryan claims that it;

> *amplified and made more specific many of the requirements of the 1872 Act, made no changes in legislative policy but was largely concerned with developing already established principles in the light of increasing scientific and technical knowledge, improved mining practice and more administrative experience.*[70]

General rules were increased to thirty-nine and now included watering of areas before blasting and the provision of ambulance or stretcher with splints and bandages for immediate use.

The appointment of deputy inspectors for each of the twelve mining divisions in the 1872 Act was supposed to allow Inspectors more time for 'spontaneous inspection' but this failed to materialise.[71] By 1878 Home Office instructions changed

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[67] *Annual Report of the Inspector of Mines* 1851 and 1861 quoted in A. Bryan, *The Evolution of Health and Safety in Mines*.(Letchworth, 1975) p. 61.

[68] Select Committee Report *To Inquire into the operation of the Act for the Regulation and Inspection of mines and into the complaints contained in petitions from miners.* (London, 1867).

[69] Royal Commission Report *Accidents in Mines and Means of their Prevention.* (London, 1881 and 1886).

[70] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 67.

[71] A. Bryan, *The Evolution of Health and Safety in Mines* pp. 90-1.

further increasing their panorama of power by commending them to 'abate any practice which in the opinion of the Inspector is dangerous though not expressly forbidden by the statute.'[72] The passing of the 1887 Act further augmented the work and responsibilities of the Inspectorate and more deputies were appointed. The decline in metal mining at this time led to the two Metalifferous Inspectors to be abolished, the first in 1891 and the second in 1901, but as the Quarries Act of 1894 brought quarries of over twenty feet in depth under the Mine Inspectorate, more deputies were appointed. By the time of the 1906 Royal Commission into mine safety the Inspectorate was comprised of twelve Inspectors in charge of the twelve divisions and twenty-six assistant inspectors, of whom three were appointed for the inspection of metalliferous mines and quarries only. In 1908 two new posts were created. Professor Redmayne from Birmingham University was appointed to the Home Office as HM Chief Inspector of Mines and Robert Nelson HM Electrical Inspector of Mines. Yet still there were calls for a more far reaching reorganisation. Speaking in the 1910 parliamentary debate on accidents in mines Henry Twist MP[73] reported that the Liverpool Inspector had spent ninety days visiting collieries where fatal accidents had occurred and another ninety days at coroners' inquests:

> *Surely that is not inspection of mines. It is simply inquiry into the causes of deaths and the Inspector is only an instrument of the coroner's jury. While performing that duty he cannot be said to be inspecting mines at all.*[74]

The Royal Commission recommended radical changes to the Inspectorate. In 1910 they reorganised the twelve divisions into six geographical areas based on major coalfields. Warwickshire became part of the thirty-one counties of the Midland and Southern Division under Inspector Johnston. The staff were organised into three main grades of Divisional, Senior and Junior Inspectors with two subordinate grades of Sub Inspector of Mines who were to make detailed inspections of roadways and working

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[72] PP (1878) LX1 p. 1.

[73] *Who Was Who:* Henry Twist MP (1870-1934) Labour MP and miners' agent.

[74] *Parliamentary Debates:* (16 June 1910) Volume 17, cc 1489-1490.

places, and Special Inspectors to examine the horses working in mines. Bryan summarised as follows:

> *With the completion of these changes the enlarged establishment numbered ninety-two, comprising at headquarters a Chief, a Deputy Chief and an Electrical Inspector and in the field seven Divisional, thirteen Senior and thirty-two Junior Inspectors, together with twenty-two Sub Inspectors of Mines, eight Sub Inspectors of Quarries and eight Inspectors of Horses.*[75]

This was a far cry from Tremenheere's lonely voice in the early 1840's.

The State had established a comprehensive safety inspectorate but their prognosis and remedies for dangers needed to be understood by the men who worked the pits.

Education

Dr Mitchell in his 1841 *Report on Children in Mines in Warwickshire* noted that four out of every five colliers he interviewed could not read.[76] He interviewed a number of children and their answers revealed the dearth of education. Even the two who claimed they could read did not know the number of weeks in a year or had heard of places like Ireland, France and the USA. One of the readers, a sixteen year old, who had already worked eleven years in the pit, would still attend school five nights a week after a twelve hour shift.[77] In 1854 James Darlington, a Lancashire coalowner who later ran Hawkesbury Colliery gave evidence to a Select Committee on the reading abilities of four collieries in different parts of the country. At Hawkesbury in Bedworth he claimed that 55 per cent could read, falling to 40 per cent of those aged between fifteen and twenty. When it came to writing he also noted the inferiority of underground workers to those that worked at the surface. Those who

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[75] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 91.

[76] Mitchell,: *On the Employment of Children and Young Persons in the mines of Warwickshire and Leicestershire coal fields and on the State, Condition and Treatment of such children and young persons.* (London, 1842) pp. 103-10.

[77] Mitchell, *On the Employment of Children and Young Persons in the mines of Warwickshire and Leicestershire coal fields and on the State, Condition and Treatment of such children and young persons* Evidence 72 William Crutchelove p. 108.

could write a signature were 50 per cent of surface workers and 35 per cent of those working underground, falling to 40 per cent and 35 per cent respectively for the younger miners. Those who could write a letter were 41 per cent of surface workers and 25 per cent of underground workers, again falling to 20 per cent and 18 per cent for younger miners.[78] From such unpromising results owners would have difficulty in finding those capable of rising to positions of authority or simply reading or comprehending the increasingly detailed regulation that were put before them. This can be illustrated from the report of an Inquest in 1892. At Stockingford Colliery the jigger, the youth in charge of the jig chain on the incline, had removed the 'monkey' or stop block before attaching a loaded tub to the chain and the tub ran down the incline killing a boy then ascending to fetch candles. Under questioning the jigger revealed that he had a copy of the rules but as he could not read, they had to be explained to him. In his summing up the coroner stated that if the man had 'been possessed of reasonable intellect' he would now be on a charge of manslaughter, but that 'the responsibility rested more on the management for employing him.'[79]

In 1857 the Midland Inspector of Mines, Mr Hedley, debated the problem of creating a class of intelligent and educated practical managers. If boys stayed at mining school until the age of fifteen or sixteen 'few if any would be disposed to go into the mines to work.'[80] Even if they did, those earmarked for management would cause jealousy with the men. 'Good managers must be known to be a good worker, know local conditions, and have good natural ability and man management skills. Such qualities are not evident in youth.'[81] Hedley recommended a five point plan:

1. Boys should be educated until the age of thirteen or until they could read, write and do basic arithmetic. Adults could attend evening school. To promote school attendance a Tremenheere style prize scheme named after the first

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[78] Evidence SP (1854) 1X Q680, quoted in B. Mitchell, *Economic Development of the British Coal Industry* (Cambridge, 1984) p. 353.

[79] *Nuneaton Observer,* 18 March 1892. The Stockingford miners considered the verdict a slur on their popular manager who had risen from the ranks, and 106 of a workforce of 148 signed a petition expressing their confidence in his record of safety. *Nuneaton Observer,* 25 March 1892.

[80] *Annual Report of the Inspector of Mines:* Midland Division 1857.

[81] *Annual Report of the Inspector of Mines:* Midland Division 1857.

Inspector of Mines, would reward annual attendance, attendance for a certain period, proficiency and good conduct. When this had been introduced in other districts it had worked well.

2. Periodic lectures should be held at the colliery on subjects to do with mining, particularly the dangers and the need for the Special Rules. The emphasis should be upon practical application rather than scientific theory.
3. Reading rooms and libraries should be established at all large collieries with smaller collieries combining to provide the facility. In addition a museum should be set up; 'of minerals, fossils, and natural curiosities of the district collected by the lads and the workmen.'
4. Local societies should be established of 'managers of mines and intelligent workmen,' to hold monthly or bi-monthly lectures on the working of mines, ventilation, economy and the practice of other districts.
5. A national college should be established. The Government School of Mines in Jermyn Street, London, although 'excellent', was too far from the mining districts for regular attendance. The North of England was in the process of establishing a mining institute, but its emphasis would be upon the pillar and bord system extensively used in the North-East, Lancashire and Wales. The longwall system used in the Midlands, Scotland and the South-West, merited a second mining institute being established in the Midlands.[82]

[82] *Annual Report of the Inspector of Mines:* Midland Division 1857.

Progress was made. In 1861 Hedley reported that nearly all collieries had stopped employing children under twelve and that some were leaving the mine for half a day two days a week to attend the National School.[83] Some collieries like Wyken provided a school for colliery children. In 1867 it ran at a cost of £110.[84]

Colliery schools had been reported in most pit villages of the North-East in the 1842 Childrens' Employment Commission Report.[85] In proposing the Commission in 1840 Ashley had asserted that his primary aim was to bring these children within the reach of education[86] but coalowners were largely against this. John Buddle,[87] the influential viewer that ran Lord Londonderry's collieries, voiced their concern that schooling beyond the age of ten would be detrimental to the industry as boys would seek employment as a clerk rather than pit work.[88] The apparent threat to social order in the 1840's from strikes and Chartism whose leadership was drawn from self taught primitive Methodists, led to a change of view.[89] Adam Smith in his *Wealth of Nations* had asserted that education would advance respect for 'lawful superiors' and Malthus in his *Essay on Population* the 'prevention of crime and the promotion of industry,

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[83] *Annual Report of the Inspector of Mines:* Midland Division 1861. National Schools were elementary schools usually connected to the local Anglican Church. They were more numerous than the non-conformist Lancaster schools. In 1870 they were supplemented by State run Board schools free from denominational influence. In 1903 School Boards were replaced by Local Education Authorities.

[84] Wyken financial ledger. CRO 285/2/2.

[85] R. Colls, 'Oh Happy English Children: Coal, Class, and Education in the North-East', *Past and Present* 73 (November 1976) 89-90. There are no colliery schools mentioned in the Warwickshire Report.

[86] Ashley, *Parliamentary Debates* (1849) LV 1274. He continued to stress this. See A. Heesom, 'The Coal Mines Act of 1842: Social Reform and Social Control', *Historical Journal* 24 (1981) 81-2.

[87] ODNB: John Buddle (1773-1843).

[88] Citing his own experience and that of other colliery officials, Buddle was convinced that additional education could be obtained in later life when "the occasion arose." See A. Heesom, 'The Coal Mines Act of 1842: Social Reform and Social Control', *Historical Journal* 24 (1981) 85; and NCB Papers NCB/JB/1788.

[89] See J. Benson, 'The Motives of 19th century Colliery Owners in Promoting Day Schools', *Journal of Educational Administration* 3 (1970).

morality and regular conduct.'[90] For Fromm writing in 1967 'inner compulsion' would replace 'outward force'[91] but Tremenheere was more succinct:

> *To teach children to read, to write and to cipher may be within the capacity of many an ordinary labouring man made into a schoolteacher after some accident disabled him from work. But all persons are now agreed that this in not education. Education was needed to fortify the mind against attempts at misdirection against agitators of their own class.*[92]

The attitude of coalowners towards education had changed by the 1850's[93] and by 1865 the chief agent of Lord Londonderry attributed company involvement in schools, reading rooms, churches and chapels, lectures, friendly societies, fetes and teas as 'killing strikes by kindness.'[94] Duffy saw the increase in colliery schools as an attempt by the Anglican Church to counter Methodist influence[95] and Heesom was prepared to concede that altruistic paternalism was at least part of the motives of coalowners.[96] Yet for Colls this was nothing less than a 'struggle for cultural hegemony' between owners and pitmen.[97] Even if one rejects Colls assertion that school were there to replace the Rights of Man with morality lessons on Carelessness

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[90] A. Smith, *The Wealth of Nations* (1776) (Oxford, 1976) p. 788; T. Malthus, *Essay on Population.* (1798) (London, 1914) p. 259.

[91] E. Fromm, 'Individual and Social Origins of Neurosis', in C. Kluckholm and W. Murray (eds.), *Personality in Nature, Society and Culture* (New York, 1967) p. 517.

[92] Tremenheere, *Report: State of the Population in the Mining Districts.* (1849) 1109 XX11 p. 9 and p. 14. The trade union leader Martin Jude later refuted the claim that teachers were former miners. Evidence to *Second Report of Select Committee on Accidents in Coal Mines* (1852-53) PP 740 11 pp. 8-9.

[93] The official history of Londonderry's collieries dates the beginning of educational social policy to the 1850's. *History of the Londonderry Collieries.* (Seaham, 1946), DCRO D/Lo/B 228 p. 8.

[94] Letter J. Dalglish to Lord Vane (23 August 1865), DCRO Londonderry MSS D/Lo/C 127.

[95] B. Duffy, 'Debate: Coal, Class and Culture', *Past and Present* 90 (1981) 142-51, particularly p. 146.

[96] A. Heesom, 'Debate: Coal, Class and Culture', 136-42, particularly p. 139.

[97] R. Colls', Oh Happy English Children: Coal, Class, and Education in the North-East', *Past and Present* 73 (November 1976) 76.

and Industry, neither were they there to develop safety awareness in future employees.[98]

Evening classes are not recorded in Warwickshire until the 1890's. In July 1891 the County Council placed an advertisement in the *Colliery Guardian* for a lecturer at a new Warwickshire School of Mining to be situated in Nuneaton.[99] In August the *Nuneaton Observer* announced that George Bailes had been appointed and that a series of fortnightly lectures would begin in October in eight centres stretching from Foleshill in the south to Dosthill in the north.[100] The lectures would be enlivened with magic lantern illustrations and free to all, but enrolled students for a fee of 5/- for the course would receive additional benefits. At the end of each lecture enrolled students would attend a class for discussion and explanation and be presented with printed notes intended to build into a text book of colliery practice. A set of exercises for home study would later be marked by Mr Bailes. At the end of the course an optional exam would be held simultaneously at all centres and certificates and prizes of books on mining awarded. The syllabus for the thirteen week course stressed practical knowledge.

1. Geology of the district.
2. Sinking and securing of shafts.
3. Explosives, blasting and the dangers of coal dust.
4. Methods of working coal and precautions to be taken when approaching old workings.
5. Gases in mines.
6. Lighting of workings: safety lamps.
7. Ventilation of mines.
8. Securing of roof and sides.

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[98] The view that working class militancy could be blunted by education was mirrored in South Wales. See A. Powell and G. Thomas, *The Rise and Fall of the South Wales Coal Industry* (Port Talbot, 1999) p. 25.

[99] *Nuneaton Observer,* 3 July 1891. The local MP John Dugdale boasted to his constituents that this was the first time a County Council had placed such an advertisement. It was Garside Phillips of Ansley Hall Colliery that was the founder of Warwickshire Mining Students Association in 1899.

[100] *Nuneaton Observer,* 28 August 1891. The centres were Foleshill, Bedworth, Nuneaton, Stockingford alternating with Hartshill, Baddesley, Glascote alternating with Amington, Wilnecote and Dosthill.

9. Mechanics and strengths of materials.
10. Engineering: boilers.
11. Winding and haulage.
12. Drainage of mines.
13. Safety provisions of the Mines Acts and special rules.

The newspaper article predicted that 'doubtless the time will come when in the appointment of colliery officials, underlookers or firemen only those that hold a first or second class certificate will be chosen.' [101]

In 1891 the Mine Inspector confirmed that classes for 'technical instruction in mining' had been set up in Nottinghamshire and Warwickshire, and that at the end of the course; 'an optional exam took place, and certificates and prizes awarded in accordance with the standard of merit they had obtained.'[102] In Warwickshire there were 'nine' centres with one hundred and seventy-three students on roll. The average attendance was thirty-nine, and at classes for the exam, sixteen. In 1891 Warwickshire employed 6,111 miners.[103] Between 1892 and 1894 one hundred and forty-eight sat the elementary exam and one hundred and seven were successful, a pass rate of 72 per cent. Between 1893 and 1894 forty-three had moved on to the advanced exam and thirty-four achieved success, a pass rate of 79 per cent. In 1894 the first sixteen students sat the honours exam, but only five were deemed successful, a pass rate of 31 per cent[104] It was Stokes who set and marked the Warwickshire examinations and in his report to the Technical Education Committee of 1893 he stated that 'a miner should be able to read a plan or make a sketch with the same feasibility that he reads a newspaper.'[105] The advanced students of 1894 did not heed these words as the low pass rate was ascribed to 'poor sketches to illustrate answers, failure to read a colliery

[101] *Nuneaton Observer,* 28 August 1891.

[102] *Annual Report of the Inspector of Mines:* Midland Division 1891.

[103] *Annual Report of the Inspector of Mines:* Midland Division 1891.

[104] *Nuneaton Observer,* 11 May 1892; 16 June 1893 and 15 June 1894.

[105] *Nuneaton Observer,* 16 June 1893. In 1900 William Johnson proudly informed a trade union meeting that a student from the school had drawn a map for the coroner's guidance at an Inquest he had attended. *Nuneaton Observer,* 2 March 1900.

plan and inability to measure the quantity of air passing through a mine.'[106] Inspector Stokes reported the continuation of these free lectures in 1898: 'Lecturers visit the mining centres and the workmen and youths can obtain the benefit of the instruction without interfering with their daily toil or drawing upon their hard earned wages.'[107] There were even reports of miners from Leicestershire crossing the county border to attend lectures.[108] By 1902 Beales was editing a monthly publication entitled *Mining Examiner* and for two pence students could obtain lecture notes, and read reports on local colliery workings.[109] Yet Inspector Stokes' statistical analysis could not hide the fact that the number taking up this opportunity was lamentably small.[110]

In an editorial of 1906 the *Nuneaton Observer* lamented the poor attendance of only 30 per cent in the previous year but attributed this not to the working of double shifts noted in the report of the Mining School but to poor mathematics teaching in day schools which needed to be addressed as; 'over 60 per cent of boys went to work in the collieries.'[111] The following year attendance had risen to 52 per cent of the 165 on roll but there were reports that some on the county council believed that too much was being spent on the Mining School in comparison with the results achieved.[112] By 1910 the chairman of the Education Committee was complaining of the 'least satisfactory report he had ever had on the Mining School.' It was apparent that the system of instruction needed revamping and Mr McTrusty was appointed from Wigan Mining and Technical College as the new mining lecturer. Mr Bailes had been forced to resign in 1905 when he was declared bankrupt and the examination classes had been taken by Mr Briggs from Birmingham University. Now those under the age of

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[106] *Nuneaton Observer,* 15 June 1894.

[107] *Annual Report of the Inspector of Mines:* Midland Division 1898.

[108] Annual prize giving ceremony, *Nuneaton Observer,* 4 October 1895.

[109] *Nuneaton Observer,* 14 February 1902. This was a prelude to disaster. Bailes began a company with a London financier to promote the coal industry by buying shares. The company collapsed in the bad trade year of 1904 and in 1905 Bailes was forced to resign his lectureship and was declared a bankrupt. *Nuneaton Observer,* Nuneaton Petty Sessions 2 June and Warwickshire Assizes 28 July 1905.

[110] The figures Stokes gave were for enrolled students. This did not include others that attended the free lectures.

[111] *Nuneaton Observer,* 20 July 1906.

[112] *Nuneaton Observer,* 20 September 1907. An attendance of two hundred was not reached until 1909. *Nuneaton Observer,* 1 October 1909.

sixteen would be required to attend a preliminary year to study English, arithmetic and basic mining. The three year senior course would include electricity, geology, machinery, mechanics and mining arithmetic with practical work introduced at the latter stages.[113]

The basic problem was to overcome the prejudice that intelligence was incompatible to working in the mine. The *Colliery Guardian* of 1884 reported the annual meeting of the Midland Institute of Mining, Civil and Mechanical Engineers. Mr A.M. Chambers complained of 'the most serious difficulty of getting properly educated and intelligent men into the positions of managers, deputies and other offices about the mine.'[114] If a boy passed standard six he was deemed 'too clever to go into the pit.'[115] William Garside Phillips, the owner and manager of Ansley Hall Colliery, had risen from working in the pits and was the main instigator for the promotion of a Warwickshire School of Mines.[116] It began in rented rooms adjoining Nuneaton Police Station but had moved to a purpose built Mining School in 1896. After a decade of its existence it proudly reported that twenty-six former students were now managers or undermanagers of mines.[117] The *Nuneaton Chronicle* published an article to celebrate its fiftieth anniversary in 1941.[118] The School then had a full time staff of five and boasted one hundred and fifty on roll. The Head of School was a Mr Thomas, a Cardiff University graduate who had been in post since 1919. The article noted that when the school opened there had been problems in obtaining adequate managers, who tended to come from university and lacked practical experience, or had risen from the colliery but did not always possess sufficient technical knowledge. As a contrast the School was now an established route

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[113] *Nuneaton Observer*, 4 November 1910. When in 1911 only 16 obtained certificates the Education Committee decided to not hold a presentation ceremony. *Nuneaton Observer,* 7 July 1911.

[114] *Colliery Guardian,* 8 August 1884.

[115] *Colliery Guardian,* 8 August 1884.

[116] Q. Outram', Class Warriors', in J. McIlroy, A. Campbell and K. Gildart (eds.), *Industrial Politics and the 1926 miners lockout: the Struggle for Dignity* (Cardiff, 2004). Phillips was the only coalowner with this humble pedigree.

[117] *Nuneaton Observer,* 19 July 1901.

[118] *Nuneaton Chronicle,* 22 August 1941.

to progress in the profession and it proudly presented a long list of graduates who held management positions in Warwickshire and in other coalfields.

Professional Mine Management

In 1851 Inspector Charles Morton railed against the use of butties to run mines. He claimed; 'Under this system supervision by the coalmaster of his bailiff is lax and irregular and by degrees the butty becomes almost the sole controller of the colliery and those who work therein.'[119] He calls then uneducated men with little capital 'to whom remuneration derived from the proprietors on the one hand and the labourers on the other, is the chief object, regardless often of the permanent welfare of both.'[120] As a contract could be terminated at short notice, the butty had little incentive in incurring the cost of adequate ventilation or maintaining the shaft and tram roads. Tools and timber were grudgingly supplied and the responsibility for safety was delegated to the individual miner.[121] Morton also noted the preponderance of butties who owned tavern and shops where miners were forced to spend their money at inflated prices.[122] Owners were reluctant to abandon this system of management which allowed them to receive their financial rewards while standing back from the process and responsibilities of production. However increasingly legislation forced them to take accountability for those employed in their pits and the higher financial demands of the deeper pits were beyond the resources of a butty.[123] In 1879 Evans, the Midland Inspector, told the Royal Commission that the new larger mines could not have been run by the mine management previously in place.[124] Both economic and

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[119] *Annual Report of the Inspector of Mines* 1851 p. 12.

[120] *Annual Report of the Inspector of Mines* 1851 p. 12.

[121] This anti butty theme was a constant to early mine inspectors. Matthias Dunn, one of the original four, had contrasted in the *Miners Journal,* 10 March 1849 the professional viewer in the North-East with the temporary character of butties in the South.

[122] This was outlawed under the Truck Acts but as late as 1896 there was a strike at Hockley Hall Colliery over an official who gave preferential treatment at work to those who patronised his wife's shop and bullied those who did not. He was found guilty under the Truck Acts and censored. *Nuneaton Observer,* 13 November 1896.

[123] See A. Griffin, 'Policies of Coal Mining Firms in the 19th and 20th century', *Colliery Guardian,* 226 January 1978 pp. 52-3; and W. Garside and H. Gospel, 'Employers and Managers: their organisational structure and changing industrial strategies', n C. Wrigley (ed.) *A History of British Industrial Relations 1875 to 1914* (Amherst, 1992) p. 102.

[124] *Royal Commission: Preliminary Report* (1881) p. 53.

legislative considerations conspired to make the butty increasingly anachronistic in all but the smallest pits.[125]

In the *Colliery Guardian* of December 1867 W. Smyth, a Mine Inspector and later president of the Geological Society, called for an increased professionalism in the mining industry. 'As long as we find collieries managed by a shopkeeper or joiner, or half educated young gentleman, a nephew of the owner, we must expect that accidents will occur which would be preventable under better auspices.'[126] When certified managers had first been proposed in 1861 the same newspaper had dismissed it as 'too childish for serious discussion.'[127] In 1872 owners and managers were for the first time liable for dereliction of duty for non compliance of colliery rules with a penalty of £20. The Act of 1872 also demanded the certification of mine managers, and the 1887 Act, extended this to a second class certificate for undermanagers. The examination of managers varied in each district and in 1881 Midland Inspector Evans complained to the Royal Commission that he felt that some areas had made it too easy.[128] It was not until 1911 that a national board was established ending the practice of local boards setting their own examinations and enforcing a national standard for certification.[129] In the Midland district candidates for either exam had to be twenty-three years old with five years mining experience.[130] In 1903 two years scientific and practical study at an accredited college or institution could count for two of the five years. Candidates had to sign to keep exam papers secret and at the time of the exam could not use any books or notes. Indeed exam paper exemplars were not published until 1910 and 1911 in the case of Warwickshire. All had to provide four documents. The first was a paid up authorisation from the Secretary of State, costing 2/- for the first class certificate and 1/- for the second. Secondly, a signed declaration from the

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[125] The Little Butty system based around stallmen continued to flourish until nationalisation. See Chapter Five.

[126] *Colliery Guardian,* December 1867.

[127] *Colliery Guardian,* 23 March 1861.

[128] See R. Boyd, *Coal Mine Inspection: its History and Results* (London, 1879); and *Royal Commission Report on Accidents in Mines,* (1881) p. 54. I

[129] B. Job, 'The British Mine Inspectorate 1851 to 1913: Its Development and Effectiveness with particular reference to colliery explosions', (Unpublished PhD thesis, University of Keele 1992) p. 222,

[130] *Annual Report of the Inspector of Mines:* Midland Division 1872; 1887; 1903; and 1910.

candidate and a witness, that they had the necessary five years' experience. Thirdly, a character reference called a 'certificate of sobriety and good conduct' signed by a clergyman, minister or magistrate, and a second separate certificate signed by two 'responsible members of the district – names and addresses supplied.' Lastly they needed a certificate of ability and experience from their employer, or two 'competent others' such as mine engineers. The four county Midland district set up the examination centre at Nottingham and the two days of exams were held in October. This was increased to three days in 1888 with the inclusion of the undermanager's certificate. The ten man board who appointed examiners and set subjects, consisted of three mine owners, three mine engineers, three unnamed 'others' who were not owners or engineers, and the Inspector of Mines.

In 1911 the newly created thirty-one coalfields Midland and Southern district transferred the exam centre to Birmingham University and held the exams in April.[131] In both cases figures are given for the district and Warwickshire's entrants are not differentiated. Between 1873 and 1912 693 sat the managers exam and 296 were successful, a pass rate of 42 per cent. Usually around seventeen a year took the exam, but this was as high as forty-six in the initial three years. Between 1888 and 1912 1,137 sat the undermanager's exam with 573 gaining success, a pass rate of almost 50 per cent. The annual average was forty-five, but as with the first class certificate, there was an initial rush of eighty-three for the first three years. The manager's first class exam was in eight parts:

1. Writing on the 1887 Coal Mines Act, and the Special Rules of the district in which the candidate resides.
2. Arithmetic.
3. The winning and working of mines of coal, ironstone, shale and fire clay.
4. Machinery.
5. Ventilation.
6. Safety of mines and the opening of works closed for a period.
7. Surveying and plans.

[131] *Annual Report of the Inspector of Mines:* Midland and Southern Division 1911-1913.

8. First aid, St John's Ambulance.

The undermanager's second class certificate had seven parts:

1. Writing on the 1887 Act and special rules
2. Reading.
3. Arithmetic.
4. Use of anemometer, barometer and water gauge.[132]
5. Ventilation and the use of safety lamps.
6. The practical working of mines.
7. First aid, St John's Ambulance.

The 1911 Act extended the principle of state certification to include deputies, examiners, and firemen.[133] This brought the lower tiers of management under similar State control. The late 19th century had seen an increasing domination of the industry by larger firms with Church noting that between 1895 and 1913 the average colliery size rose from 235 to 410 underground employees.[134] There was a growing tendency to employ professional firemen as shot firers, a task previously undertaken by the hewers. The terms 'deputy' and 'examiner' tended to be used interchangeably depending upon the tradition of the particular coalfield, but Ackers noted a subtle distinction that had developed. The deputy was employed on the coal producing day shift whereas those who performed these duties on other shifts were known as examiners and received a lower rate of pay.[135] The 1887 Act had allowed for 'competent persons' to make mine inspections and assist managers with their duties, the standard of competency left to the manager to decide. The 1911 Act now demanded a certificate of competency, hearing and eye tests every five years, an inspection of each working district twice a shift where previously there had been one,

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[132] An anemometer measures the air passing through a mine. A barometer measures atmospheric pressure.

[133] *Annual Report of the Inspector of Mines:* Midland and Southern Division 1911.Deputies were responsible for checking districts for safety before men could commence work; examiners were deputies on the non-production shift and firemen were specialists in setting explosives.

[134] R. Church, *History of the British Coal Industry: Volume Three 1830 to 1913* (Oxford, 1986) p. 389.

[135] P. Ackers, 'Christian Brethren; Union Brother', (Unpublished PhD thesis, University of Wolverhampton, 1993) p. 208.

and that a deputy should be employed full time on their statutory duties except when involved in shot firing or measuring work.

The appointment of Mine Inspectors who were required to publish annual reports helped disseminate information. This was assisted in 1858 with the establishment of the *Colliery Guardian* which reproduced whole or summaries of these reports, together with a wealth of detail concerning winning and working techniques. Mine engineers began to band together to promote good practice. The first was the 1852 North of England Institute of Mining and Mechanical Engineers,[136] but these were joined by institutes in South Wales in 1864, South Staffordshire and East Worcestershire in 1867, Midland in 1869, Chesterfield and Midland in 1871 and North Staffordshire in 1872. In 1889 the Federation of Institutes could claim 1,239 [137] members, rising to 3,277 in 1914. The Federation began publishing its *Transactions* from its foundation year of 1889. Church calculates that by 1890 there was a mine engineer in every colliery, and two for every thousand colliers, rising to three by 1900. Reflecting the spread of new technology an Association of Mining Electrical Engineers was created in Manchester in 1909.[138] Kitteringham believed that together: they 'helped establish a collective identity among engineers that resulted in a commitment to their profession where previously their commitment might only have been to their own mining operation and themselves.'[139] This was apparent in 1890 when the *Colliery Guardian* reported the President of the National Association of Colliery Managers as saying that the first duty of a manager was to provide safety for the men he employed.[140]

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[136] There was an earlier Institute of Mining Engineers established in the 1780`s, then defunked. See B. Brough,.' Historical Sketch of the First Institute of Mining Engineers', *Transactions of the Institute of Mining Engineers* XV11 (1888-89) 2-13.

[137] R. Church,. *The History of the British Coal Industry: Volume 3 1830 to 1914*.(Oxford, 1986) pp. 428-9.

[138] R. Buchman, *The Engineers: a history of the Engineering profession in Britain 1750 to 1914* (London, 1989) p. 99.

[139] D. Kitteringham, 'Health and Safety in the Collieries of the East Midlands 1850 to 1911', (Unpublished PhD thesis, University of Nottingham, 2005) p. 40.

[140] *Colliery Guardian*, 12 September 1890 p. 400.

Yet the lack of suitable educational facilities continued to frustrate progress. The London based Royal School of Mines was established in 1837 to offer instruction in Mining Science. It was renamed in 1851 the School of Mines and Science but its influence was limited. Between 1855 and 1895 it produced only 500 associates, only 10 per cent of which entered the coal industry as managers or mine engineers. This failure led to many to call for the establishment of Schools of Mining in the mining districts, but progress was slow. It was not until 1880 that leading coalowners endowed a Chair of Mining at Armstrong College of Physical Science at Newcastle and within a few years this had overtaken the Government School of Mines as the main source of mine engineers.[141] In 1882 Sheffield had established an evening institute, appointing a Professor of Mining in 1890 and a Department of Mining and Metallurgy in 1910. Birmingham University established a Professor of Mining in 1883 to head a Department of Coalmining and Colliery Management, but it lapsed through lack of funds. It was revived in 1902 under Professor Redmayne, a graduate from Newcastle and a future Chief Inspector of Mines, to train mine engineers and managers in practical mining experience and relevant scientific theory. By then there were professors of mining in Glasgow, Cardiff, Manchester and Leeds and Durham University offered a degree in mining. In 1907 the Royal School of Mines (the prefix 'Royal' had been added in 1863) merged with City and Guilds College and the Royal College of Science to become Imperial College of the University of London. Such slow progress compares unfavourably with Britain's European competitors. In Germany a state run Freiberg Mining Academy had been established in 1776 in Saxony. It was located in the heart of the mining area and acted as a centre for a network of mining schools in each mining district.[142] The model had been copied by France in 1783[143] and enshrined in the Napoleonic decrees of 1810.[144]

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[141] Between 1871 and 1885 89 students from Armstrong College became mine engineers of which four were coalowners and three assistant government inspectors. See R. Church, *The History of the British Coal Industry 1830 to 1914* (Oxford, 1986) p. 430.

[142] R. Church, *The History of the British Coal Industry 1830 to 1914* (Oxford, 1986) pp. 428-31.

[143] As early as 1871 Louis XV1 of France established the first Inspectorate of Mines. B. Job, 'The British Mine Inspectorate 1851 to 1913: Its Development and Effectiveness with particular reference to colliery explosions', (Unpublished PhD thesis, University of Keele 1992) p. 32.

Sir Richard Redmayne[145] progressed from the ranks of colliery management to be a professor of mining and then the first HM Chief Inspector of Mines. In his autobiography he outlined how he devised the schemes of work and list of equipment required for his new Department of Mining at Birmingham University.[146] Appointed in 1902 there was then only the London School of Mines and Newcastle University as national examples of higher education so he was encouraged to travel to the USA and Canada where Schools of Mining had a long tradition. He visited most of them and discovered that in America the emphasis in the laboratory, the classroom and the field was upon the actual conditions the students would encounter in their work. In America managers were expected to hold a diploma from a technical college whereas in Britain a system of pupillage persisted. He also noted what he termed the 'ruthless' approach of American mine engineers.

> *It does not matter how new or how imposing the plant, mining or otherwise, which he has. If anything more efficient, ie by which he can secure more money, comes along, down comes the existing plant and away to the scrap heap it goes: no one will buy it, no one wants it, for they are all moving in the same direction.*[147]

Redmayne was impressed with the success of the system that stressed the practical application of scientific theory and remembered the constant comment that Britain would need to adopt American mining practice to remain internationally competitive. On his return to Birmingham he encouraged his students to spend at least a year in a colliery before embarking upon degree study. The first two years were to be spent studying pure science and the third year on the application of the scientific knowledge acquired. Any specialist research was left for post graduate study. Each summer vacation he held a school of practical mining to allow students to see methods in actual use which had been described in the classroom, and to give them practice in

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[144] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 110. In his 1849 Report Tremenheere revealed that he had visited mining schools in France, Belgium and Germany. See Bryan, *Evolution of Health and Safety* p. 51.

[145] *Who Was Who:* Sir Richard Redmayne (1865-1955) ODNB: Sir Richard Redmayne (1865 to 1955).

[146] R. Redmayne, *Men, Mines and Memories* (London, 1942) pp. 43-50.

[147] R. Redmayne, *Men, Mines and Memories* p. 46.

land surveying and in geological survey and mapping. The teaching and equipment at the School of Mining were described in the *Transactions of the Institution of Mining and Metallurgy.*[148] Redmayne noted that 'this scheme has, with various modifications, been almost universally adopted since by most of the great technical universities.'[149] His book with Bulman, *Colliery Working and Management* first published in 1896 became the standard text for aspiring managers and his five volumes of *Modern Practice in Mining* is a comprehensive account of how mines were run in the inter-war years. In 1906 he served on the committee that studied the economic effects of introducing an Eight Hour Day for miners and in 1908 he resigned his professorship to become the first Chief Inspector of Mines. In that year he became Chairman of the Royal Commission appointed to study the causes and prevention of accidents in mines and as HM Chief Inspector of Mines he was one of the two principal architects of the comprehensive Coal Mines Act of 1911.[150]

In 1904 the Institute of Mining Engineers held their AGM at Birmingham University where Redmayne read a paper on his Mining Department outlining schemes of work and listing facilities.[151] The University attracted three types of student; the irregular students who studied part of the first year programme, the diploma students who took the two year course and degree students who took the three year course. There were regular visits to local collieries on a Saturday and an annual Summer School. In 1904 the Summer School had visited the clay and iron working in the North-East of England and in 1905 the gold, manganese, lead and slate mines of Wales. The Mining Department consisted of a large museum of various colliery machinery, a budding library, a draughting room for surveying and drawing, a classroom for advanced students, two laboratories and an experimental mine.[152] The meeting attracted representatives from other academic institutions offering mining

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[148] *Transactions of the Institute of Mining and Metallurgy X111* (1903/4) pp. 245-55.

[149] R. Redmayne, *Men, Mines and Memories* (London, 1942) p. 50.

[150] ODNB*:* Sir Richard Redmayne, and Obituary, *Times*, 29 December 1955.

[151] R. Redmayne, *The Mining Department of the University of Birmingham: a paper read before the Institute of Mining Engineers 14 September 1904* (London, 1905) pp. 1-68. Copy held at Cadbury Research Library: Special Collections 35 University Archive 8/iii/2/3.

[152] R. Redmayne, *The Mining Department of the University of Birmingham* pp. 3-11.

qualifications including an American from the Massachusetts Institute of Technology and many published praise and criticism of the Birmingham scheme. Professor Hardwick of Sheffield compiled a table of the twelve British institutions that offered a mining diploma outlining subjects taught and schemes of work.[153] (see Table 6:2) Although he observed that 'the weight attached to certain subjects differs a great deal'[154] there is a consistency in the courses. Most had an entrance examination with the exception of Birmingham and Durham who both required evidence of matriculation in science, and Sheffield had a preliminary year. The diploma course usually took two to three years but this rose to four years at Wigan and a possible five years at Sheffield. Birmingham, Durham and Glasgow offered a degree course and Sheffield an Associateship in Metallurgy which it described as equivalent to an honours science degree. All involved laboratory work, visits to collieries and evidence of employment at a colliery before the award could be obtained. The subjects studied were usually a foundation year of applied mathematics, physics and chemistry, geology, surveying and mechanical drawing. The second year included courses on mining, metallurgy, engineering and electrical engineering with Wigan and Sheffield offering an ambulance course. Oxford was the only institution to put French or German translation as one of their four compulsory subjects but Latin or a modern language was included in a number of entrance examinations. The American representative succinctly pointed out that in his country the professional journals provided translations of any relevant foreign mining research.

The most telling criticism came from the three Sheffield representatives. Ordinary miners who aspired to colliery management could not afford the time or fees to follow the academic route Their University had developed close links with the providers of local mining education and offered a part time evening and Saturday afternoon access to courses. In the past six years they had trained sixty-one practical men in the skills of teaching and a further one hundred and forty-three had taken the Saturday programme on electricity in mines. In its thirteen year existence some 10,700 Derbyshire and West Riding mining students had achieved various qualifications with

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[153] R. Redmayne, *The Mining Department of the University of Birmingham* pp. 24-33.

[154] R. Redmayne, *The Mining Department of the University of Birmingham* p. 23.

ten day students and fifteen evening students gaining the degree.[155] Redmayne's rejoinder that the local authorities provided excellent mining courses could not hide the fact that the University offered nothing to working miners.[156]

Table 6:2 Institutes of Higher Education approved by the Home Secretary for the Diploma of Mining 1904

University of Birmingham
University College Bristol
Armstrong College: University of Durham
University of Glasgow
Glasgow and West of Scotland Technical College
University of Leeds
Royal School of Mines, London
University of Oxford
University College Sheffield
University College South Wales
Wigan Mining and Technology College
University of Cambridge: course in preparation

Source: Professor Hardwick of Sheffield, in R. Redmayne *The Mining Department of the University of Birmingham:* Institute of Mining Engineers, London 1905 p24-33.

Education was the passport to success and William Garside Phillips, manager and owner of Ansley Hall Colliery, was an example of what a working miner could achieve. However if the 'carrot' did not work owners were prepared to turn to the 'stick' of the law courts to enforce adherence to safety regulation.

[155] R Redmayne, *The Mining Department of the University of Birmingham* pp. 20-2 and 41-2.

[156] In 1905 Warwickshire County Council established an annual scholarship to the Birmingham course. The successful applicant received £45 in year one; £50 in year two and £55 in year three. *Nuneaton Observer,* 14 April 1905. With the resignation of the disgraced lecturer in 1905 Mr Briggs from Birmingham University was appointed to take the honours and advanced class. *Nuneaton Observer*, 6 July 1906 and in 1907 Professor Redmayne gave lectures for the newly re-constituted Warwickshire Mining Students Association. *Nuneaton Observer,* 16 August and 27 September 1907. In 1908 he presented the prizes at the Warwickshire School of Mining. *Nuneaton Observer,* 2 October 1908.

Prosecution

The introduction of General and Special Rules in 1855 brought with it the prospect of punishment for those who ignored or disobeyed them.[157] Trade Unions were unhappy with the fact that miners' offences could be punished by imprisonment whereas owners merely faced a fine,[158] and that some owners even interpreted Special Rules to include compulsory attendance at Sunday service or shaving before reporting to work.[159] Although these early anomalies were removed the Act continued to be applied unfairly. The mine inspectors reported the prosecution of a number of Warwickshire owners. In 1863 Wood and Greenwood, owners of Tame Valley Colliery, were fined 21/- for neglecting to give notice of both a gas explosion and the opening of a new colliery. In 1890 the manager of Griff Colliery was fined £20 with two guineas costs for allowing boys under sixteen to move railway wagons. This followed the inquest of a fifteen year old crushed at the buffers. In 1892 Mr Heap, owner of Bedworth Railway Colliery, was fined £5 with 16/- costs for failure to forward a plan of an abandoned mine and in 1901 the manager at Baddesley Colliery was fined a total of £17 and the undermanager £5:10:0 for allowing fire damp to build up in the mine and gunpowder to be used in an explosion. Finally in 1907 the owner of Kingsbury Colliery was fined £1:4:0 for employing a thirteen year old in the mine. The boy had been injured underground and it was found that he had worked thirteen consecutive night shifts. There were thus five prosecutions of Warwickshire coalowners or their surrogates in the period of study.[160]

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[157] General Rules applied to all collieries. Special Rules were drawn up in each District to supplement this taking note of local conditions.

[158] 1855 Act: 18th and 19th Vict. Cap 108. Section X1.

[159] D. Morrah, 'A Historical Outline of Coal Mining Legislation', in Mining Association of Great Britain *Historical Review of Coal Mining* (London, 1924) p. 313.

[160] *Annual Report of the Inspector of Mines: Midland Division* 1863; 1890; 1892; 1901; and 1907.

Table 6:3 Prosecutions of Warwickshire Miners for Breaches of Colliery Regulations 1895 to 1913.

Collieries	Numbers	Collieries	Numbers
Griff	32	Skey	8
Newdigate	23	Sir Alfred Hickman	7
Kingsbury	21	Stanley	7
Tamworth	17	Morris and Shaw	6
Baddesley	14	Pooley Hall	6
Stockingford	13	Arley	4
Exhall	12	Merry and Cunningham	4
Collycroft	12	Ansley Hall	3
Wyken	9	Glascote	2
Hockley Hall	8		

Source: Annual Mine Inspector Reports 1895 to 1913.

Prosecution of men was not unusual [161] but the passing of the 1888 Special Rules allowed this to be more formalised. The mine inspector began publishing these prosecutions in 1892 listing the date of the offence, occupation of the accused, the offence, the rule broken and the fine and costs awarded. It was not until 1895 that the name of the company was given, allowing Warwickshire to be disseminated from the Midland District.[162] Between 1895 and 1913 there were two hundred and eight Warwickshire miners prosecuted in some twenty collieries. These are shown in Table 6:3.[163] The highest individual case is Newdigate, which prosecuted fourteen miners in 1908. Pooley Hall Colliery prosecuted thirteen men in 1901 for absenteeism following a month when 20 per cent of the workforce had committed this offence but this was for breach of contract and not for an infringement of colliery rules.[164] Offences were listed under eleven headings: ventilation; safety lamps; smoking; explosives; timbering; tubs; electricity; disobeying orders, animals; intoxication and miscellaneous. The three most numerous, all around 20 per cent, were smoking, timbering and tubs, with disobeying orders 13 per cent and explosives 12 per cent the only other significant categories. Most fines were around £1 including costs, and only

[161] For example Charity Colliery in Bedworth was particularly harsh. The *Nuneaton Chronicle* lists prosecution of Charity men 29 November; 6 December and 13 December 1878.

[162] *Annual Report of the Inspector of Mines:* Midland Division 1895-1910; and Midland and Southern Division 1911-1913.

[163] For the development of the collieries see Chapter Two.

[164] A similar breach of contract occurred in 1913 when Stockingford Colliery prosecuted 20 men for 'taking holidays' claiming that on average 25 men a day committed this offence. *Nuneaton Observer,* 7 February 1913.Atherstone Petty Sessions, *Nuneaton Observer,* 1 November 1901.

seventeen were £2 and above. There appears to be little consistency in fines with much depending upon the whim of the magistrate. The highest fine of £5 'without costs' was awarded against two Stanley Colliery holers in 1909 that holed fifteen feet without sprags. A third was fined £3:7:6 for holing only twelve feet without sprags. Six of the £2 plus fines were in the timbering category. The third highest fine of £4:17:6 were against a Newdigate colliery dataller who assaulted the manager. Four of these £2 fines were in the smoking category, but why they should be more serious than the other thirty-eight smoking offenders is not clear. Only eight of the prosecutions were dismissed and only one led to a custodial sentence. In 1903 a Morris and Shaw Birch Coppice horse driver was sentenced to fourteen days hard labour for ripping the tongue out of a horse.[165]

On average sixteen Warwickshire miners were prosecuted every year and perhaps a closer analysis of offences will give a clearer understanding of why this was so. Of the eight ventilation offences, three were for breaking open a door, two were for failure to close a door and one was described as cutting off ventilation. Half of the eight safety lamp offences were concerned with possessing an unlocked lamp or a device to unlock. The others were breaking a safety lamp, lighting a candle in a heading, being asleep in charge of a safety lamp, and swinging a pick within nine inches of a lamp. The forty-two smoking offences included nineteen possessing matches, nine possessing cigarettes, seven possessing pipe and matches and seven for smoking.[166] The forty-two timbering offences are more homogeneous. Insufficient sprags account for twenty-four, with setting timber too far eight, and not setting props, five. Three were for allowing men to work under coal not spragged and two for knocking out props without the use of ringer and chain. The forty-three tub offences cover the whole area of safety. Ten were for riding in tubs with one case of allowing men to ride illegally, and two cases of getting out of a moving train. There were eight cases of walking when the train was moving, six of going in front of tubs and one of

[165] Statistics tabulated from *Annual Report of the Inspector of Mines:* Midland Division 1895-1910; and Midland and Southern Division 1911-1913.

[166] Miners had nowhere to leave their pipe or cigarettes that they smoked on their way to work and had 'hiding places' outside the colliery. It is easy to see how simple forgetfulness or rushing when late could lead to an oversight.

allowing the use of a dangerous plane. Three were cited for neglecting to use lockers, three for neglecting to use stop blocks and one for neglecting to use the safety barrier. Two failed to couple tubs, two did not set tubs properly and one for putting a tub on the rope when he lacked the authority to do so. There were also two cases of not reporting a breach of the rules. There were no electricity offences, but twenty-seven disobeying orders. There were four cases of disobeying a deputy, and one of failing to inspect workings when ordered to do so. There were five cases of passing through or taking down a fence, two not reporting gas and one of failing to build enough pack. Four men were cited for taking their pick on the cage, three for refusing to leave a cage and two for the suicidal act of getting on a moving cage. Finally, two entered districts where they were not working, one man was found sleeping and there were two cases of assault. There were seven cases of animal cruelty, six for hitting a horse and one for tearing the tongue from a horse that refused to move. There were but three cases of intoxication, all in the north of the county. A Tamworth miner stayed three hours in the pub neglecting his boiler, a Baddesley man was found drunk in charge of a boiler and a Morris and Shaw miner went to work drunk. In the miscellaneous section, two were employed underground longer than permitted, one man put a tree in a manhole and one was guilty of walking on the sidings. There were only seven prosecutions for animal cruelty in eighteen years, but a table produced in 1912 perhaps gives a clearer picture. Inspector Johnston reported that there were 594 horses employed on the Warwickshire coalfield. In that year seven died from injury and two from disease, and a further twenty-eight had to be destroyed because of injury, six from disease and two from old age Thus forty-five horses or 7.5 per cent of the total were destroyed in the year. A further five were injured by ill treatment and one hundred and twenty-three injured at work. This means more than 29 per cent of Warwickshire horses were injured or killed in 1912.[167]

The analysis above may give an insight into what managers considered the most important breaches of mine safety. Of the three main offences timbering and tubs are both reflected in the major causes of mine fatalities yet it is more difficult to explain

[167] *Annual Report of the Inspector of Mines:* Midland and Southern Division 1912. It would appear that a horse was seventy times more likely to be killed in a colliery than a man.

why smoking should command similar attention. There was not a single Warwickshire fatality attributed to smoking and its contribution to the inevitable respiratory problems of older miners was not then understood. The repercussions of breaches in the rules fell unequally upon managers and the men. In 1911 the Chief Inspector of Mines gave a summary of prosecutions for that year. There were sixty-one mine owners or managers prosecuted with twenty-five convictions; a conviction rate of 41 per cent. There were 1,408 mines prosecuted with 1,339 convictions; a conviction rate of 95 per cent.[168] How effective prosecution was as a tool to reduce accidents is also open to debate. South Wales had the highest incidence of prosecutions yet fatalities there were always above the national average.

The use of education and the law courts were dissimilar approaches with the common aim of reducing accidents in mines. When accidents resulted in a number of injured and dead they would need to be recovered and this was particularly difficult if the accident was the product of a gas explosion. The next section will reveal that the technology available to rescuers was not equal to their bravery for most of our period and that it was only in the years before the First World War that Britain at last made meaningful provision for mine rescue.

Mine Rescue

The Baddesley mining disaster of 1882 [169] typifies all that was good and bad in the old system of mine rescue. Nine died from suffocation following a fire in a wooden conduit that was meant to take the smoke from a newly installed underground steam pumping engine to the surface. A further twenty-three would be rescuers died in a gas explosion. This rescue attempt which included the Baddesley owner and all the management team was led by Reuben Smallman, owner of Stockingford Colliery and a skilled mining engineer. One of the rescuers that died was Roland Till, who worked in the neighbouring Birch Coppice Colliery. The survivors were joined on the surface by the consultant mining engineer from Derby, two mine inspectors and the owners or managers from Bedworth Colliery, Ansley Hall Colliery, Hawkesbury Colliery,

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[168] *Annual Report of the Chief Inspector of Mines:* General Report 1911 pp 126-7.

[169] See Chapter Three for the Baddesley disaster.

Amington Colliery and Pooley Hall Colliery. When the decision was taken to seal the mine, the manager of Bedworth Charity Colliery took charge of this task. Management and men of the Warwickshire coalfield had answered the distress call of a sister colliery, but despite creditable leadership, they simply did not possess the equipment to tackle the chocking smoke and poisonous gas.

To be effective mine rescue requires a self-contained breathing apparatus, a safety lamp that can be used in an explosive and oxygen deficient environment (that is electric), training in the use of the equipment and competence in administering first aid.[170] There were a number of attempts to develop a breathing apparatus and in the year before the Baddesley disaster Henry Fleuss gave a demonstration of his design to the Chesterfield and Derbyshire Institute of Mining and Mechanical Engineers.[171] Without an adequate source of illumination the breathing apparatus could not be used and although a pioneer in its development, Britain lagged behind Europe in its deployment. By 1901 France and Austria made its accessibility mandatory and it was available though still voluntary in the mines of Germany.[172] In 1908 Redmayne presented the annual prizes at the Warwickshire School of Mining and used the occasion to speak on mine rescue. He noted that in Russia, Germany and France the training of miners in rescue stations was compulsory but that in Britain it was being introduced piecemeal. [173]

In 1906 a student at Birmingham University School of Mining won the prize for the best article to be published in the *Mining Society Journal.*[174] In it he attempted to cost the provision of life saving equipment to be used by a rescue team following an explosion. His requirements for a four man team was

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[170] A good summary is J. Ritson, 'Mine Rescue', In Mining Association of Great Britain *Historical Review of Coal Mining*. (London, 1924) pp. 229-52.

[171] R. Foreggel, 'Development of Mine Rescue and the underwater breathing apparatus appliances of Henry Fleuss', *Journal of the Social History of Medicine and Allied Sciences* 1 (January 1974) 317-30.

[172] D. Kitteringham, 'Health and Safety in the Collieries of the East Midlands 1850 to 1911', (Unpublished PhD thesis, University of Nottingham, 2005) pp. 110-14.

[173] *Nuneaton Observer,* 2 October 1908.

[174] G. Poole, 'Life Saving Apparatus for Use after Explosions', *Quarterly Journal of the Birmingham University Mining Society* 1.4 (1906) 12-14.

- 4 Fleuss appliances at £20 each £80
- 4 Fleuss safety lamps at £14 each £56
- 4 oxygen bottles; at £4:10 a bottle and 15/- oxygen £21
- Tools, brandy and stretchers £16
- Picks and timbering, supplied by the colliery -

For an outlay of £167 a colliery or number of collieries connected by telephone could obtain rudimentary cover. The man judging the essays was Redmayne who in 1908 became the first HM Chief Inspector of Mines.

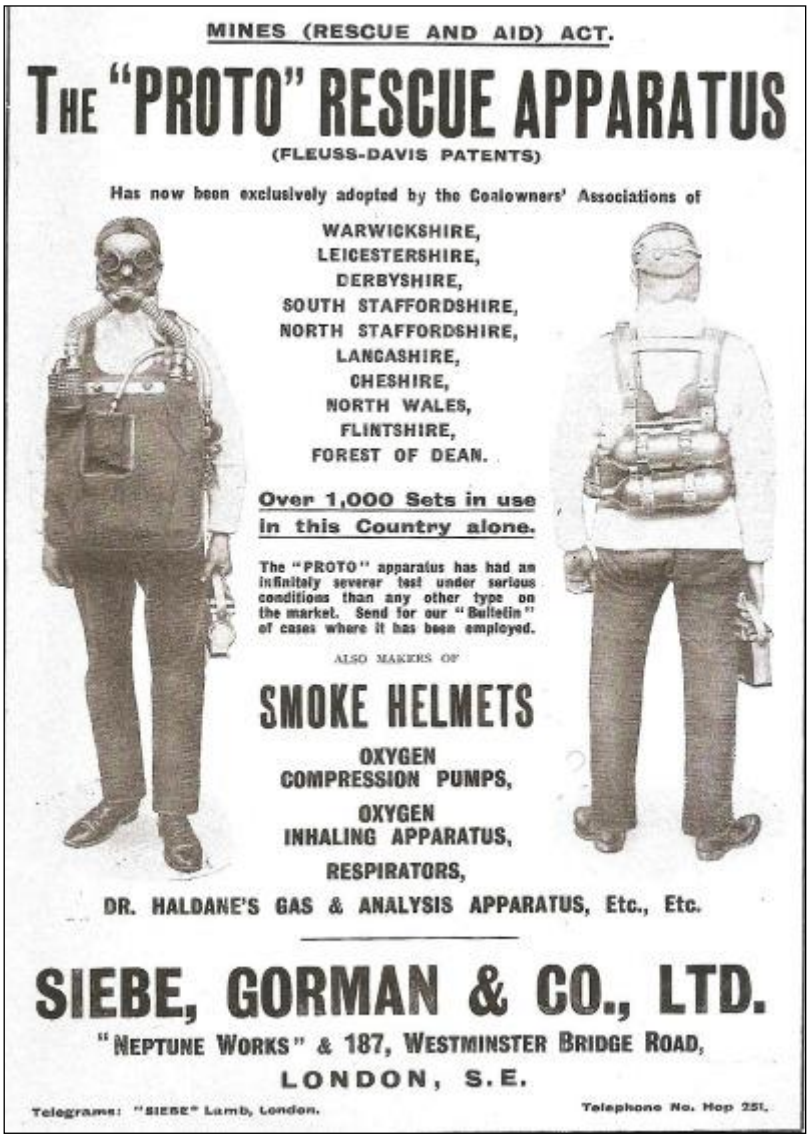

Illustration 6:1 An Advertisement for Rescue Apparatus (1915)
Source: Advertisement Birmingham University Mining Society Journal February 1915.

In 1910 a mine rescue station was established at Birmingham University 'for the South Staffordshire and Midland district' and they held an exhibition of equipment for mine owners and managers.[175] It was not until 1911 that the government established a professional response team known as a rescue brigade.[176] There was to be one brigade in mines of less than 250 men, two brigades in mines of 350 to 500 men, three brigades in mines of 500 to 800 men, and four brigades in mines of over 800 men. Each brigade was to consist of at least five men, and led by a man known as a captain. All were to be employed at the mine and selected on their underground knowledge, coolness in a crisis and powers of endurance. As well as being physically fit, they had to posses St John Ambulance first aid qualifications. They were to receive training in the reading of mine maps, the use and construction of breathing apparatus, the properties and detection of poisonous and inflammable gases, and the appliances used in mine rescue and recovery. Each station had to possess fifteen sets of breathing apparatus; twenty electric hand pumps, each capable of giving light for four hours; four oxygen reviving apparatus; a first aid box; cages of birds and mice,[177] and a car had to be kept on permanent standby.

In 1912 a few months before the Act came into operation the lecturer of the Warwickshire School of Mining gave a talk on mine rescue to a meeting of the Warwickshire Mining Students Association. In his introduction to the lecture Garside Phillips stated that 'there was scarcely a single person in the Midland District that had any practical experience of rescue equipment.'[178] Rescue brigades had been sent 'at the owner's expense' to train at Birmingham University from where Mr McTrusty had obtained a set of equipment weighing thirty pounds and the students tried in on. In

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[175] *Nuneaton Observer,* 25 February 1910.

[176] *Annual Report of the Inspector of Mines:* Midland and Southern Division 1911.The details are given in the *Nuneaton Observer,* 26 May 1911. A few areas had begun to introduce them before the legislation; see J. Ritson, 'Mine Rescue', in Mining Association of Great Britain *Historical Review of Coal Mining* (London, 1924) pp. 229-52.

[177] Small animals breathe more quickly than humans and thus succumb to gas before miners and are a visible sign that gas is present. When in 1911 an article in the *Nuneaton Observer* suggested that a modern safety lamp could detect black damp (carbon dioxide) and white damp, the lecturer of the Warwickshire School of Mining wrote a letter to the paper claiming that the author had confused fire damp with white damp and that only mice or canaries were an adequate indication of the presence of white damp. *Nuneaton Observer,* 7 July 1911.

[178] *Nuneaton Observer,* 9 February 1912.

Warwickshire a central rescue station was established at Wilnecote colliery to serve the smaller collieries in the northern area of Warwickshire, and a training centre was set up at Haunchwood Colliery in Nuneaton utilising buildings from old brickworks that had closed in 1884. The payment for the centre was funded on a percentage of the respective outputs of the collieries that used it, and in return the centre provided apparatus, equipment and training, carried out in an old brick kiln. The canary farm of over 200 birds for all local pits was situated at Haunchwood and an early photograph showing the graduation of the first six man brigade reveals that it employed a full time trainer.[179] Before 1914 the centre had its own ambulance funded by local owners and men, a great improvement on the bath chair that had been used to transport injured miners home.[180] By 1913 further training centres had been established at the Bedworth collieries of Charity and Exhall where they had already repaid their investment. In May 1912 a serious fire had occurred at Exhall Colliery and although no one was injured the rescue team using their apparatus were able to tackle the fire and save the pit from closure.[181] As early as 1910 Inspector Johnston reported that mine engineers were working in an experimental mine established at the Birmingham University Department of Mining and were developing through practical tests the type of apparatus needed in rescue.[182] In 1912 he gave the results of exams held at the university, which served both the Black Country and Shropshire collieries as well as Warwickshire. The full fireman's certificate had been obtained by 827; the certificate for gas testing and hearing only, 942; the certificate for hearing only, 114 and the certificate for air measurement and hearing only, two. There had been 51 failures.

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[179] J. Bland and H. Norgrove, *Galley Common Remembered* (Birmingham 1990) p. 12.

[180] In 1908 the Inquest on a Griff stallman killed by a fall of coal from a roof bump were critical of the fact that the injured man was taken to hospital on a milk float and recommended that the colliery purchase an ambulance. *Nuneaton Observer,* 28 August 1908. In 1911 it was reported that an injured Griff miner was transported home in the company ambulance. *Nuneaton Observer,* 31 March 1911. At Exhall in 1912 an injured man was transported to Coventry and Warwick Hospital in the company horse ambulance, *Nuneaton Observer,* 13 September 1912, and at Baddesley in 1913 a fatally injured man was taken to Birmingham General Hospital in the company car. *Nuneaton Observer,* 27 June 1913.

[181] Reported in a lecture to the Warwickshire Students Association, *Nuneaton Observer,* 21 February 1913.

[182] *Annual Report of the Inspector of Mines:* Midland and Southern Division 1910.

Inspector Johnston could report; 'Certified firemen are now employed at practically every mine in the district.'[183]

This chapter has charted the development of the Mining Records Office, the establishment of the Mine Inspectorate, the move to professional management of mines, the feeble attempts to foster the education of miners, the vigorous use of the law to enforce safety measures and the emergence of a practical system of mine rescue. But how successful was the State in reducing accidents in mines?

The Limitations of State Intervention

The progress of legislation had an undeniable impact upon safety in mines. The call to deposit old plans of abandoned mines grew from the best practice established in the North-East of England and evolved from the voluntary system of the 1840's to the compulsion imposed from 1872. The appointment of Mine Inspectors and their increasing numbers and powers came initially from calls following a number of horrific gas explosions of the 1840's that claimed many lives. Similarly the requirement that mines should have two shafts was the direct result of the Hartley Colliery disaster of 1862 where over two hundred suffocated because their single shaft access was blocked. A series of Select Committees and Royal Commissions into accidents in mines recommended further innovation. The certification of mine managers in 1872, extended to undermanagers in 1888, was again an attempt to impose best practice upon all. Research revealed the necessity to use safety lamps in gassy seams, the use of tested and approved patent explosives in dry dusty seams from 1896 and from 1905 a code for the growing use of electricity. Yet accidents remained persistently high and would not significantly decline until the late twentieth century.[184]

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[183] *Annual Report of the Inspector of Mines:* Midland and Southern Division 1912.

[184] In 1976 the Chief Safety Engineer of the NCB identified six areas which had contributed to improved mine safety. 1. Legislation. 2. Fundamental research. 3. Safety campaigning. 4 Organised safety measures (establishing a safety department). 5 Training of miners. 6. Technology. He claimed that only legislation could be said to have had a positive impact in the 19th century. J. Collinson, 'Making Mines Safer Yet', *The Mining Engineer* 136 187 (November 1976) p. 83.

The reason for this decline in the 20th century has been summarised by Habibi as an increase in systematic research, the widespread dissemination of safety education for miners and the adoption of ATM or Advanced Technology Mining.[185] The Safety in Mines Research Board was established in 1913 and began to have an impact in the inter-war years. Explosions decreased due to a stricter control of permitted explosives and improvement in ventilation which eventually led to statutory requirement in respect of the quality of mine air. The testing of electrical equipment to a flameproof level also prevented the ignition of gas. The nationalization of the industry in 1947 led to a programme to train all miners in basic safety procedure with further specific training for certain types of collier. The National Safety Committee from the 1960's promoted inter-colliery rivalry by providing cash prizes and trophies that rewarded safety attainment in different sized collieries.[186] The ATM movement from the 1970's attempted to remove the miner from danger areas by introducing remote control or automatic operation. Deaths fell below a thousand in 1933, below five hundred in 1955 and below one hundred in 1970.[187] It is not realistic to suggest that such measures could have been introduced earlier. The research of the nineteenth century, often promoted by enlightened employers, required the injection of government finance for prolonged existence. The training initiative of the 1950's came in the era of nationalization when a single industry employer had the benefit of a more literate workforce that was required to remain at school until the age of fifteen. The technology of the ATM movement was simply not available.

It appears somewhat churlish of Mills to accuse the 19th century State of not possessing the values and beliefs prevalent in a society a century later. As a burgeoning democracy slowly expanding the parameters of power, parliament needed to bring that electorate with it especially in the latter period as well as responding to their concerns and aspirations. The constant trade union demands that the State should take over the everyday safety supervision in the mines was never realistic as the cost

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[185] E. Habibi, 'A Safety Analysis of Industrial Accidents with specific reference to the Coal Industry', (Unpublished PhD thesis, University of Bradford, 1991) pp, 158-63.

[186] In some cases this led to the under reporting of minor accidents and injuries.

[187] E. Habibi, 'A Safety Analysis of Industrial Accidents with specific reference to the Coal Industry', (Unpublished PhD thesis, University of Bradford, 1991) pp. 215-16.

of employing the necessary vast army of officials was prohibitive. Yet the coalowners' assertion that as they provided capital for their enterprises they should have unfettered control of their collieries became increasingly anachronistic. In theory the 1850 Act was a temporary measure that needed to be renewed in 1855 and again in 1860 and Morrah claimed that the real function of the new Inspectors was 'to collect facts as to the sources of danger rather than to compel preventative or remedial measures.'[188] It took time for the seed of State intervention to germinate but in less than twenty years they had moved from prohibiting the employment of children in mines to imposing good practice through legislation. It took that period to gather the necessary data to bolster argument and advances in science and technology to provide practical solutions to known problems. Even the influential *Colliery Guardian* of 1861 had dismissed the need for qualified managers yet came to support their introduction in the Act of 1872. When science failed to prove the influence of coal dust in mine explosions in the 1880's the problem lay unaddressed for over a decade, yet even when they did prove that poorly illuminated safety lamp mines were the cause of miners' nystagmus, it required the technological provision of superior electric lighting before that disease could be tackled. The Safety in Mines Research Board was only established in 1913 and the government could be criticised in not funding scientific and technological advances at an earlier date. But yet again this arose from the findings of a lengthy Royal Commission and protracted parliamentary debate that created the climate for change. Perhaps critics are guilty of attributing to the State too much power over the economy. Just as the government of today is powerless to prevent the export of manufacturing jobs to low labour cost Asian economies the government of the 19th century had to keep one eye on the international competiveness of the British coal industry, especially when a third of production was exported.

[188] D. Morrah, 'An Historical Outline of Coal Mining Legislation', in Mining Association of Great Britain *An Historical Review of Coal Mining* (London, 1924) p. 311.

Conclusions

In 1893 the lecturer of the Warwickshire School of Mining gave an interview to the *Nuneaton Observer.* He claimed that in the expanding coalfield men were recruited from the fields, brickyards and stone quarries and managers imported from outside the district. As the county possessed fewer 'born miners' many men were 'incapable of placing a proper interpretation upon the rules under which they work' and were designed for their safety.[1] While it is difficult to argue with Mr Beales' assertion that a better trained and educated workforce would have a greater understanding of the dangers that surrounded them, his implied conclusion that Warwickshire would suffer a higher incidence of accidents than elsewhere proved to be erroneous. From an examination of accident fatalities from 1850 through to 1913 this study has shown that paradoxically the 1890's was the safest period for the Warwickshire miner.[2] From a zenith in the 1880's caused by the Baddesley disaster of 1882, fatalities fell in the county and were consistently below the national average. The areas of danger did change. While underground haulage deaths remained consistently around a quarter of the total, shaft deaths which approached nearly a third of fatalities in the 1850's then rapidly declined as cage winding replaced the skip and lifting fences were applied universally around the pits. With the exception of the 1880's when gas explosion replaced the fall of coal as the major cause of death, it was a minor cause of fatality reflecting Warwickshire's relatively few gassy coal seams. Surface deaths were insignificant until the 1880's when the increasing adoption of steam locomotives to replace horse drawn transport led to more banksmen being crushed by wagons. With the exception noted above, falls of coal was the greatest cause of fatalities and with the move to deeper pits in the 1890's it became increasingly dominant and was approaching half of all deaths by 1913.[3] Nevertheless the overall trend was to a decline in mining fatalities and the aim of this study has been to identify the contribution to this decline from the miner, the coalowner and the State.

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[1] *Nuneaton Observer,* 10 February 1893.

[2] See Chapter Three, Conclusions.

[3] Figures tabulated from *Annual Report of the Inspector of Mines* 1851 to 1913.

From 1840 through to the 1870's most Warwickshire miners were in the employ of butties who ran the pits on contract from the coalowners. The professional mine engineers known as viewers who were in charge of the collieries of the North-East and were the main source of recruitment for the new safety Mine Inspectorate, were critical of such men who placed so little regard on mine safety but Midland coalowners were reluctant to abandon a system which gave them the rewards without the responsibilities of production. Butties delegated considerations of safety to the men and given the short duration of many contracts, were reluctant to invest in safety measures that could impact their projected profits. Miners were fully aware that adherence to the orders of butties was necessary for sustained employment even if such obedience could have fatal consequences.[4] An individual miner could have little impact on mine safety[5] and a collective voice was only available with the establishment of the first Warwickshire miners' union in 1872, but this had collapsed by 1880. It was therefore not until the creation of the WMA in the late 1880's that any meaningful input into mine safety could be realised.

How far miners utilised this opportunity is difficult to measure. The masculine environment of the pit bred an acceptance of risk taking that undermined safety measures.[6] Falls of coal were the greatest cause of death and although the overwhelming majority are attributed to the difficult Warwickshire geology of slips and bumps, the Annual Reports of the Mine Inspectors also contains numerous examples of experienced colliers who chose to ignore basic safety precautions. Some failed to set sufficient sprags or returned too soon to undercut coal that had failed to fall when sprags were removed. Others decided to remove sprags with a hammer

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[4] At Hawkesbury Colliery in 1850 and Victoria Colliery in 1853 men died because of butty insistence to remain in the pit and await the dispersal of gas. *Annual Report of the Inspector of Mines:* 1850 and 1853.

[5] For example in 1863 a Cumbrian miner complained to the Inspector of the poor ventilation in his Whitehaven colliery. He was sacked but a subsequent inspection proved the claim but the prosecution was dismissed in the courts. Four months later four were killed in a gas explosion at the colliery. *Annual Report of the Inspector of Mines:* Northumberland and Cumbria Division 1863.

[6] See for example A. Weyman, D. Clark and T. Cox, 'Developing a Factor Model of Coalminers' attributions to risk taking at work', *Work and Stress* 17.4 (October-December 2003) 306-20; and A. McIvor and R. Johnston, *Miner's Lung: a History of Dust Disease in British Coalmining (*Aldershot, 2007).

rather than use the proscribed method of a ringer and chain.[7] When we turn to underground haulage Warwickshire suffered twice the national death rate and although much of this can be attributed to the necessity to work on an incline of some thirty degrees, the mean age of twenty years old for haulage fatalities reflects the youth of many oncost workers. This corroborates Bedington's findings that age was the most significant factor in accidents and that those in their teens and early twenties are most likely to fall victim.[8] Yet mining families and their trade unions made little attempt to limit the employment of younger children in the mines.[9]

In the 1840's the MAGB had campaigned for an Inspectorate which had the technical knowledge to approve the safety of underground workings and the power to enforce their findings. They were disappointed with the Mines Inspectorate that was created in 1850 which appeared to be little more than a servant of the coroners' court[10] and with the creation of the MNU in 1863 they renewed their campaign for a powerful Inspectorate that could rigorously enforce mine safety. Yet these optimistic aspirations were received with coolness in a society that was only slowly extending its political democratic base and coming to terms with the need to remove the most blatant abuses of uncontrolled capitalism. It was unlikely that any government would sanction the expense of employing a vast army of officials to inspect every seam worked in every colliery. Even when trade unions successfully applied political pressure the results could be unsatisfactory. In the late 1870's the TUC sought redress for industrial accidents and succeeded in gaining the support of 300 parliamentary candidates for a bill, but the resulting Employers Liability Act of 1880 was not what they had hoped for.[11] Around a quarter of employers simply 'opted out' of the act by increasing their contributions to accident relief funds and the rest turned to insurance

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[7] Safety legislation is described in Chapters Three and Four.

[8] R. Bedington, 'The Growth and Awareness of Health and Safety at work 1780 to 1900', (Unpublished PhD thesis, University of Aston 1983) pp. 8-10.

[9] As late as 1911 miners voted against a proposal to employ only boys of sixteen down the pits retaining the age of fourteen. MFGB Annual Conference Report (October 1911) p. 173. MRC MSS429MFGB 4/8.

[10] See Petition of coalminers of Northumberland and Durham to House of Commons, *Times*, 3 January 1853.

[11] J. Benson, 'Trade Unionism and the Use of the Law: English Coalminers' Unions and Legal Redress for Industrial Accidents', *Historical Studies in Industrial Relations* 3 (March 1997) p. 34.

to ensure heavy damages did not fall upon a single enterprise.[12] The subsequent trade union campaign against contracting out and the use of insurance fell on deaf ears. At the local level the Warwickshire Miners' Association was successful in the early 1890's in forcing two reluctant Conservative MPs to promise support for an Eight Hour Day from bank to bank, but an act was not passed until 1908.[13]

If the trade unions' political campaign to gain concessions from the State was disappointing, their efforts to punish employers with poor safety records in the courts appeared a total failure. Benson could unearth only five cases where damages were awarded to miners under the common law 1860 to 1897 and only forty cases of compensation being paid under the Employers' Liability Act 1881 to 1897.[14] Defence lawyers were able to construct a number of apparently insurmountable barriers to scotch any compensation claim. Employers could point to the premium paid on wages for this dangerous work and assert that by signing a contract of employment miners were accepting that risk. The myth of 'common employment' meant that a worker was responsible for their actions and could not sue a fellow 'worker' then widely defined to include those in a supervisory role. It was also a common belief that most accidents were the cause of worker carelessness and that any contributory negligence nullified claims. Courts were also reluctant to place any additional burden on British industry that could have a debilitating influence on international competitiveness. Not many workers were prepared to follow this unpredictable legal path to industrial redress. High costs would inevitably eat into any compensation that was awarded and the souring of relations between employer and employee might jeopardise the small but assured payments that most owners were prepared to concede. Even if one accepts the MNU assertion that any measure of success must include the pressure on employers

[12] Bartrip and Burman, *The Wounded Soldiers of Industry* (Oxford, 1983) pp. 172-3 and 213.

[13] The two MPs initially declined support in 1890 but had changed their minds as the elections of 1891 approached. *Nuneaton Observer,* 25 April 1890 and 10 April 1891.

[14] Under the Employers' Liability Act there were 19 payments to injured miners and 21 to dependents of those killed. J. Benson, 'Trade Unionism and the Use of the Law: English Coalminers' Unions and Legal Redress for Industrial Accidents', *Historical Studies in Industrial Relations* 3 (March 1997) p. 46.

to sometimes make out of court settlements, it is difficult to view the policy as one of achievement.[15]

Yet it would be mistaken to dismiss trade union efforts as a failure. Benson asserts that;

> *there can be little doubt that in the clear and audible articulation of miners' grievances on this issue the unions played a crucial role both in forcing accident compensation onto the legislative agenda and still more importantly, keeping it there.*[16]

In the 1840's the government responded to popular pressure by appointing a succession of eminent scientists to investigate the recurring explosions in coal mines and it was their accumulative recommendations that led to the establishment of a safety Mine Inspectorate.[17] With the revival of mining trade unions in the 1860's the government established a Select Committee with specific instructions to examine miners' grievances and the Coal Mine Act of 1872 was a direct consequence of this.[18] It has already been noted above that the growing numbers and spatial concentration of miners afforded them political influence and court cases even when lost were reported in both national and local newspapers. The emergence of powerful unions in the late 1880's with the resources to survive strikes gave them economic power that prompted the unprecedented government intervention to force a settlement in two national disputes.[19] The focus of union policy may be open to criticism. Their campaign for the eight hour day was motivated more by the need to limit coal production to sustain its price and therefore wages[20] although publicly they voiced the very real concern that

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[15] A. Wilson and H. Levy, *Workmen's Compensation* (Oxford, 1939) p. 75.

[16] J. Benson', Trade Unionism and the Use of the Law: English Coalminers' Unions and Legal Redress for Industrial Accidents', *Historical Studies in Industrial Relations* 3 (March 1997) p. 38.

[17] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) pp. 47-53.

[18] Select Committee Report *To Inquire into the operation of the Act for the Regulation and Inspection of mines and into the complaints contained in petitions from miners,* (London, 1867).

[19] The strike of 1893 by the MFGB and the first national coal strike of 1912.

[20] For example the MFGB one week strike of 1892 was an attempt to defray the reduction in wages that South Wales and the North-East – not in the Federation – had suffered.

tired men were more prone to accidents.[21] Similarly economic considerations prevented them applying a like concern to eliminate the dangerous practices of working double shifts[22] or limiting the employment of young boys underground.[23] Yet this does not negate their unquantifiable success in keeping the issue of mine safety in the public and political eye.

Coalowners too made a significant contribution to mine safety. It was their concerns regarding the use of safety lamps which provoked the first government Select Committee to inquire into accidents in mines in 1835.[24] It was the coalowners who called for a national repository for abandonment plans that led to the creation of a Mines Record Office in 1840 and a coalowner dominated conference of 1853 which demanded general safety rules that should be applicable to every coal mine.[25] It was coalowners who endowed a Chair at Armstrong College, Durham in 1880 to train mine engineers and this quickly surpassed the ineffectual London based School of Mining as a source for mine managers.[26] It was coalowners too who sponsored safety research at the turn of the century that was to develop into a government Safety Research Board of 1913 that was to have such an impact on mining fatalities in the inter-war years.[27] As a corollary to this it was coalowners who led the attack on the 1842 bill and succeeded in reducing the age of children excluded from the pits from a proposed thirteen down to ten years of age, and excluding women only from working

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[21] See Johnson's argument for the Eight Hour Day to Warwickshire MPs, *Nuneaton Observer,* 25 April 1890.

[22] For example the deaths of two Hall End teenagers working double shifts. *Annual Report of the Inspector of Mines:* Midland Division 1896 and 1897.

[23] The high number of teenage deaths from oncost work meant that the mean age of death in Warwickshire was only 20 compared to 32 for face workers and 40 for surface workers. Yet the MFGB would not support international calls to raise the age of underground workers to 16 and rejected the suggestion when it was mooted at the Annual Conference of 1911. International Conference Report (August 1911) p. 34. MRC MSS429MFGB 4/7; and Annual Conference Report (October 1911) p. 173. MRC MSS429MFGB 4/8.

[24] *Report of the Select Committee on Accidents in Mines,* (1835) 603 V1.

[25] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 57.

[26] See R. Church, *The History of the British Coal Industry 1830 to 1914* (Oxford, 1986) p. 430.

[27] For example in 1908 Mr Garforth, a former president of the employers Mining Association of Great Britain, paid £10,000 on experiments to test stone dust as a means of smothering explosions in coal mines. *Nuneaton Observer*, 25 September 1908 and the report, 1 October 1909.

underground.[28] When the government became more proactive in mine safety from the 1870's it was the power of the owner's political lobby that made them exclude any issue that proved to be controversial.[29] The intransigence of coalowners was recorded in the press from 1842 through to 1916 and this undermined the efforts of the few to advance mine safety.[30] Too many, particularly in South Wales, appeared to be motivated by a ruthless pursuit of profits with little regard for the workers or communities where that wealth was gained.

One aim of this study was to investigate if the mode of colliery ownership had any bearing on mine safety. The hypothesis was advanced that as mine engineers were the acknowledged experts on mine safety the pits that they controlled without the overbearing presence of a board of directors may display a greater evidence of mine safety than colliery companies. The position of landowners was more difficult to predict. Unlike the directors of colliery companies, they would stand back from the process of production and how would the managers that ran their collieries react to this greater freedom of action? The results showed conclusively that it was not the form of management but the size of the enterprise that was the dominating factor. Fatalities increased in the large deep mines that became more common at the turn of the century and were more susceptible to deaths from falls of coal and men crushed by wagons on the surface. The reason for the different fatality rates of similar sized collieries was also immediately apparent. In all collieries with a high death rate falls of coal was the greatest cause, usually well above the Warwickshire average of 40 per cent. In all collieries with a death rate of under five a decade falls of coal were significantly below the Warwickshire average. An interesting comparison is the two Stanley owned collieries that were both expanded after 1899 and ran by the same manager until 1907. Nuneaton Colliery suffered twenty deaths a decade during this period with falls of coal accounting for 47 per cent. As a contrast Charity Colliery

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[28] See A. Heesom, 'The Northern Coalowners and the Opposition to the Coal Mines Act of 1842', *International Review of Social History* 25.2 (1980) pp. 236-71.

[29] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) p. 126.

[30] *The Times*, 11 July 1842 and 27 November 1916.

suffered a death rate of fewer than five a decade with falls of coal responsible for 25 per cent.[31]

Although paternalistic welfare was evident from all modes of ownership, the greatest contribution to mine safety came from two mining engineers. Garside Phillips was the driving force behind the creation of the Warwickshire School of Mining based in Nuneaton. This gave miners an accessible inroad into the practical knowledge of their industry and was to develop in the 20th century as a route to a career in mine management.[32] Reuben Smallman was in charge of developing and maintaining the high quality examinations for prospective managers and undermanagers in the Midland District. He advocated the application of stone dust to smother flames in colliery explosions, developed the Smallman clip which made oncost haulage safer and was the architect of a coal cutting machine which was to eventually remove miners from the most hazardous area of danger at the coal face. It could be argued that Reginald Stanley was the 'Boulton to his Watt' as without Stanley's resources and business acumen his plans for a rotating disc coal cutting machine would have remained on the drawing board.

However not all Warwickshire coalowners were as progressive. Although the fault should perhaps lie with the manager, Dugdale's parsimony in not insisting that the roof above a newly installed underground boiler should be bricked or that the conduit to remove smoke was to be steel instead of wood, led to the greatest single loss of life on the Warwickshire coalfield in the Baddesley disaster.[33] At Hall End and Wyken collieries the continued use of outdated oncost haulage practice led to preventable deaths as horses in sling gears had less control over heavy coal tubs than those working in shafts. At Hall End again their willingness to allow teenagers to work double shifts led to preventable deaths. At coroners' inquests the lack of training was often cited when teenagers in charge of the jig engine on the incline would blatantly

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[31] See the conclusion in Chapter Five.

[32] This was recognised at the time. The 1896 report on the School of Mining noted that in its five year existence eleven pupils had moved into management. *Nuneaton Observer,* 19 June and 31 July 1896. After a decade this had increased to 26. *Nuneaton Observer,* 19 July 1901.

[33] See Baddesley disaster in Chapter Three.

disregard safety rules that had been merely read to them if they were illiterate.[34] It was also revealed in an inquest that it was not against colliery regulations to leave trains of wagons without applying the brakes on the lines or in sidings, and that as brakes were often only on one side of the wagon, it was not always easy to perform this.[35] Such an obvious application of common sense would have saved the lives of many banksmen. It would be wrong however to blame deaths simply on the unwillingness of certain coalowners to invest in their collieries or a disregard for safety in the pursuit of profits. Some like Hickman and Stanley ensured that their new deep pits were equipped with the latest technology although Newdigate Colliery was not similarly endowed, yet deaths remained high. George Skey had an almost legendary reputation for frugality yet his collieries had the best safety record of the entire group selected for study. Yet, at Peel and Beauchamp pits, seams of coal, clay and alum had to be extracted separately, requiring the employment of steady experienced men and it may well have been their collective experience rather than any contribution from Skey that kept fatalities low.

The State was pushed reluctantly into intervention in the coal industry. It was Lord Ashley's revelations of working conditions that forced a shocked parliament to agree to regulate child employment in 1842 and the cumulative recommendations of Select Committees set up to assuage public disquiet at deaths in colliery explosions that led to the establishment of safety mine Inspectors in 1850. The early Inspectorate was financially underfunded and given the dominating influence of coalowners in the courts, was forced to rely upon moral argument rather than legal compulsion to advance mine safety. From the Act of 1872 state intervention was more embedded and the diffusion of scientific and technological innovation became more pronounced. Some advances like the adoption of a ringer and chain to remove sprags, became part of the Special Rules of 1888 and could be enforced by colliery regulation[36] but in many instances the Inspectorate still had to rely on persuasion. The Midland Inspector could advocate that horses should work in shafts rather than sling gears or that the

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[34] Inquest, *Nuneaton Observer,* 18 March 1892.

[35] Inquest, *Nuneaton Observer,* 23 May 1890.

[36] For a summary of changing General Rules see A. Bryan, *The Evolution of Health and Safety in Mines.*(Letchworth, 1975) pp. 140-5.

primary battery should be used for blasting but collieries were free to ignore this advice with fatal consequences to the workforce.[37] Towards the end of the period of study there is evidence that legislation had a positive impact on the technological development of the Warwickshire coalfield. In a survey of 1900 gunpowder had dominated blasting in the county but by 1912 the use of patent explosives had leapt to fifty per cent as a direct consequence of government enforcement.[38] The Mine Inspectorates' campaign to have all collieries run by a professional management team was more successful. Certification was required of managers in 1872, of undermanagers in 1887 and of minor officials in 1911. This was assisted by the growth of Associations of Mine Engineers from the 1860's and the establishment of official industry publications like the *Colliery Guardian* to help disseminate knowledge. Education was neglected with the technical education committee of the county council only establishing a Warwickshire School of Mining in 1891 but it was the Midland Mining Inspector who took on the role of examiner for the school.

Mills has been critical of the slow pace of State intervention and the neglect of areas like occupational disease and the declining ironstone industry which lacked the visibility to promote an 'agent of change.'[39] In contrast Bryan has charted the growth of State intervention from a single inspector in 1842 to a body of ninety-two by 1911.[40] The succession of Select Committees and Royal Commissions were no guarantee of legislative redress but usually marked significant progress in the pursuit of mine safety. The State had to balance the conflicting demands of trade unions, coalowners and their electorate to achieve a consensus and not all problems offered an immediately apparent solution. A climate of change needed to be developed by identifying a problem, hearing evidence from all sides in a Select Committee, debating proposals in parliament and publicising that debate in the press. Mills may

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[37] Against sling gears, *Annual Report of the Inspector of Mines:* Midland Division 1889, Deaths from sling gears, *Annual Report of the Inspector of Mines:* Midland Division 1890, 91 and 92. Against high tension batteries, *Annual Report of the Inspector of Mines:* Midland Division 1893. Death from high tension battery, *Annual Report of the Inspector of Mines:* Midland Division 1900 and 1907.

[38] Garside Phillips: 'Evidence to the Squibs Committee: to inquire into the squibs for the purpose of firing shots in naked light mines', (11 December 1912). 280.

[39] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800 to 1914* (Aldershot, 2010) pp. 4-6.

[40] A. Bryan, *The Evolution of Health and Safety in Mines* (Letchworth, 1975) p. 91.

retort that not all problems were subjected to such scrutiny but the influential government Safety Research Board of 1913 that grew from the Act of 1911 would not have been deemed worthy of consideration in a parliament of the mid-19th century.

Trade unions were successful in promoting a publicity campaign that highlighted the problems of the mining industry to the wider public. Yet it was largely enlightened coalowners who pushed for the establishment of legally enforced General and Special Rules to ensure that all collieries adopted best practice in mine safety. Mine engineers developed the technology to improve working conditions like the Smallman clip to make underground haulage safer, and their Institutes and industry publications ensured this knowledge was widely disseminated. But it was the element of compulsion explicit in State intervention that ensured that such measures were adopted. The State may be criticised for the pace of this intervention and on reliance upon legal penalty rather than industrial education but it was the most important factor in the reduction in mining fatalities.[41]

In conclusion this thesis has attempted to make a significant contribution to the historiography of the British coal industry. It has focussed on a minor coalfield that has largely escaped the attention of historians. Although Warwickshire contributed less than two per cent to national coal output in 1913 its importance to the local economy was significant with two thirds of boys leaving school finding work in the collieries.[42] The examination of local coalowners has undermined the stereotype of the uncaring capitalist that is so apparent in the existing literature. Warwickshire owners were prepared to negotiate with a trade union characterised by moderate leadership and reasonable demands and Warwickshire miners were rewarded with superior pay and conditions even when compared to other counties of the East Midland coalfield. The thesis also builds on the recent work of Mills and McIvor who have began to shine a light upon the neglected but important area of health and safety

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[41] In 1976 the Chief Safety Engineer of the NCB identified six areas which had contributed to improved mine safety. 1. Legislation. 2. Fundamental research. 3. Safety campaigning. 4 Organised safety measures (establishing a safety department). 5 Training of miners. 6. Technology. He claimed that only legislation could be said to have had a positive impact in the 19th century. J. Collinson, 'Making Mines Safer Yet', *The Mining Engineer* 136 187 (November 1976) 83.

[42] Editorial, *Nuneaton Observer,* 20 July 1906.

in the coal industry.[43] Although safety if not health was a prominent theme for trade unions, parliament and the press in the 19th century, few have attempted to analyse the factors that led to the declining number of fatalities. This study of Warwickshire has identified the impact of technological change, education and legislation on mine safety. Further local and regional studies will enhance our understanding of the relative importance of these agents of change and the contribution they made to improving working conditions in the British coal industry.

[43] C. Mills, *Regulating Health and Safety in the British Mining Industries 1800-1914*.(Farnham, 2010); A. McIvor and R. Johnson, *A History of Dust Disease in British Coalmining*.(Aldershot, 2007).

Bibliography

Archive Collections

Cadbury Research Library: Special Collections:
Poole G. Life Saving Apparatus for Use after Explosions *Quarterly Journal of the Birmingham University Mining Society* 1.4 (1906-7) pp 12-14. 35 6/111/12.

Redmayne R. The Mining Department of the University of Birmingham: a paper read before the Institute of Mining Engineers 14 September 1904 (London, 1905) pp 1-68. 35 8/1V/2/3.

Coventry Records Office:
Wyken Colliery Accounts CRO 285, particularly Ledgers CRO 285/2/1, 2/2, 2/3 and 2/4. Fortnightly sales books CRO 285/6/1, 6/2, 6/3 and 6/4.

Durham County Records Office:
Londonderry MSS D Lo, particularly *History of the Londonderry Collieries* (1946) D Lo B 228.

Modern Records Centre, University of Warwick:
Annual Volume of Proceedings of the Miners' Federation of Great Britain 1895 to 1913 MSS429MFGB 4/2, 4/3, 4/4, 4/5, 4/6, 4/7, 4/8, 4/9, and 4/10.

Warwickshire County Records Office:
Newdigate family of Arbury WCRO 136, particularly Griff Account Books WCRO 136/V.

Warwickshire Miners' Association Executive Minute Book Volume One and Two WCRO281.

Government Publications

Annual Mine Inspector Reports: Midland Division 1851 to 1913.

Census of Fertility and Occupation (1911) Part Two p. CXV111**.**

Mitchell J. Report on the Employment of Children and Young Persons in the mines of the Warwickshire and Leicestershire coalfields, and on the State, Condition and Treatment of such Children and Young Persons. pp 89-110 of *Employment of Children Report* (London, 1842).

Hunt R. *Mineral Statistics.* (Geological Survey) 1854 to 1881.

Newspapers

Atherstone News.

Bedworth Echo.

Colliery Guardian.

Heartland Evening News.

Miners Journal.

Mining Journal.

Nuneaton Chronicle.

Nuneaton Observer.

The Miner.

Tamworth Herald.

Unpublished Theses

Ackers P. 'Christian Brethren; Union Brother,' (Unpublished PhD thesis, University of Wolverhampton 1993).

Ardeyfic E. 'The Development of Canals in Warwickshire and their Influence on the Social and Economic Geography of the County,' (Unpublished PhD thesis, University of Birmingham 1974).

Bedington R. 'The Growth and Awareness of Health and Safety at Work 1780 to 1900,' (Unpublished PhD thesis, University of Aston 1983).

Bunker R. 'Some Aspects of Population Growth and Structure in the Warwickshire coalfield from 1800,' (Unpublished MA thesis, University of Birmingham 1952).

Calvert R. 'An Examination of Education and Training in the Coal Mining Industry from 1840 to 1947 with special reference to the work and influence of the Mine Inspectorate,' (Unpublished MPhil thesis, University of Nottingham 1970).

Cholmondersley A. 'The Growth of Miners` Trade Unionism on the Warwickshire Coalfield 1870-1919,' (Unpublished MA dissertation, Wolverhampton Polytechnic 1983).

Grant E. 'The Spatial Development of the Warwickshire Coalfield,' (Unpublished PhD thesis, University of Birmingham 1977).

Habibi E. 'A Safety Analysis of Industrial Accidents,' (Unpublished PhD thesis, University of Bradford 1991).

Job B. 'The British Mine Inspectorate 1851 to 1913: Its Development and Effectiveness with particular reference to colliery explosions.' (Unpublished PhD thesis, University of Keele 1992).

Kitteringham D. 'Health and Safety in the Collieries of the East Midlands 1850 to 1911,' (Unpublished PhD thesis, University of Nottingham 2005).

Mills C. 'Safety and Health Provision in the British mining industry with particular reference to non-ferrous metals 1800 to 1914,' (Unpublished PhD thesis, University of Exeter 2004).

Ridgway J. 'Marriage, Family and Work: Coalmining family history in Lower Gornal in the late 19th century,' (Unpublished MA dissertation, Wolverhampton Polytechnic 1989).

Wale J. 'Entrepreneurs and Managers in the British Coal Industry 1990 to 1914,' (Unpublished PhD thesis, University of Oxford 1986).

White A. 'Sixty Years of Coalmining Enterprise on the north Warwickshire estates of the Newdigates of Arbury 1680 to 1714,' (Unpublished MA thesis, University of Birmingham 1969).

White A. 'Economic Growth in Eighteenth Century Warwickshire: a study of the rise of the Warwickshire coalfield with particular reference to Sir Roger Newdigate of Griff,' (Unpublished PhD thesis, University of Birmingham 1972).

Articles and Chapters in Books

Allen J. 'Some early Newcomen engines and the legal disputes surrounding them,' *Transactions of the Newcomen Society* 41 (1968-9) 181-201.

Aydelotte J. 'Conservative and Radical Interpretations of Early Victorian Social Legislation,' *Victorian Studies* X (December 1967) 223-36.

Bartrip P. 'British Government Inspection 1832 to 1875; some observations,' *Historical Journal* 25.3 (1982) 603-26.

Beales H. 'Historiographical Studies 5: The Basic Industries of England 1850 to 1914,' *Economic History Review* 5 (April 1939) 99-112.

Benson J. 'Colliery Disaster Funds 1860 to 1897,' *International Review of Social History* 19 (1974) 73-65.

Benson J. 'English Coalminers` Trade Union Accident Funds 1860 to 1900,' *Economic History Review* 28 (1975) 405-16.

Benson J. 'The Thrift of English Coalminers 1860 to 1895,' *Economic History Review* 31.3 (1978) 410-11.

Benson J. 'Trade Unionism and the Use of the Law: English Coalminers' Unions and Legal Redress for Industrial Accidents 1860 to 1897,' *Historical Studies in Industrial Relations* 3 (March 1997) 27-48.

Benson J. 'Coalowners, Coal miners and Compulsion: Pit Clubs in England 1860 to 1880,' *Business History* 44.1 (2002) 47-60.

Benson J. 'Coalminers, Coalowners and Collaboration: the Miners` Permanent Relief Fund in England 1860 to 1895,' *Labour History Review* 68.2 (2003) 181-94.

Berger S. and Evans N. 'Two Faces of King Coal: the impact of Historiographical Tradition on Comparative History of the Ruhr and South Wales coalfields,' in Berger S, Croll A and Laporte N (eds.), *Towards a Comparative History of Coalfield Societies* (Aldershot, 2005) pp 29-42.

Brebner J. 'Laissez-Faire and State Intervention in 19th century Britain,' *Journal of Economic History* V111 (1948) 59-73.

Brough B. 'Historical Sketch of the First Institute of Mining Engineers,' *Transactions of the Institute of Mining Engineers* XV11 (1888-89) 2-13.

Brown J. 'The Thick coal of Warwickshire,' *Transactions of the Federated Institute of Mine Engineers* 33 (1906-07) 502-29.

Bruley S. 'The Politics of Food: Family, Community and Collective Feeding in South Wales in the General Strike and Miners' lockout of 1926,' *Twentieth Century British History* (2007) 54-77.

Buxton N. 'Entrepreneurial Efficiency in the British Coal Industry between the wars,' *Economic History Review* XX111 (1970) 476-497.

Church R. 'Employers, Trade Unions and the State,' in Feldman G and Tenfelde K (eds.), *Workers, Owners and Politics in Coal Mining: an international comparison of industrial relations* (Oxford, 1990) pp 12-29.

Colls R. 'Oh Happy English Children: Coal, Class, and Education in the North-East,' *Past and Present* (November 1976) 75-99.

Court W. 'A Warwickshire Colliery in the Eighteenth Century,' *Economic History Review* 7 (1936/7) 221-8.

Cromwell V. 'Interpretation of 19th century Administration: an analysis,' *Victorian Studies* 1X (March 1966) 245-55.

Dintenfass M. 'Family, Training and Career in the British Coal Industry in the Era of Decline,' *Business and Economic History* 22.1 (Fall 1993) 273-84.

Duffy B. 'Debate: Coal, Class and Culture,' *Past and Present* 90 (1981) 142-51.

Edmonds O. and Edmonds E. 'An Account of the Founding of HM Inspectorate of Mines and the work of the first inspector, Hugh Seymour Tremenheere,' *British Journal of Industrial Medicine* 20 (1963) 210-17.

Evans E. 'Social History' Articles. Making History. Institute of Historical Research www.history.ac.uk/makinghistory

Foreggel R. 'Development of Mine Rescue and the underwater breathing apparatus appliances of Henry Fleuss,' *Journal of the Social History of Medicine and Allied Sciences* 1 (January 1974) 317-30.

Friedlander D. 'Demographic Patterns and Socio-economic Characteristics of the Coal mining Population in England and Wales in the 19th century,' *Economic Development and Cultural Change* 22.1 (1973) 39-51.

Goffe R. 'The Butty System and the Kent Coalfield,' *Bulletin of the Society for the Study of Labour History* 74 (Spring 1977) 41-55.

Grant E. 'Changing Perspectives of the Warwickshire Coalfield,' in Slater G and Jarvis F (eds.), *Field and Forest* (Norwich, 1982) pp 325-46.

Griffin A. 'Policies of Coal Mining Firms in the 19th and 20th century,' *Colliery Guardian* 226 (January 1978).

Haines M. 'Fertility, Nuptiality and Occupation: a Study of mid 19th century Coal mining Populations,' *Journal of Interdisciplinary History* 8.2 (1977) 245-80.

Harris J. 'The Employment of Steam Power in the 18th century,' *History* 52 (1967) 133-40.

Hart J. 'Nineteenth Century Social Reform: a Tory Interpretation,' *Past and Present* V111 (July 1965) 39-61.

Heesom A. 'The Northern Coalowners and the Opposition to the Coal Mines Act of 1842,' *International Review of Social History* 25.2 (1980) 236-71.

Heesom A. 'The Coal Mines Act of 1842: Social Reform and Social Control,' *Historical Journal* 24.1 (1981) 69-88.

Heesom A. 'Debate: Coal, Class and Culture,' *Past and Present* 90 (1981) 136-42.

Hodges F. 'The Miner and his Trade Union,' In Mining Association of Great Britain *An Historical Review of Coal Mining* (London, 1924) pp 334-50.

Hogenkamp B. ‘A Mining Film without a Disaster is like a Western without a Shootout: Representations of Coal Mining Communities in Feature Films,’ in Berger S, Croll A and Laporte N (eds.), *Towards a Comparative History of Coalfield Societies* (Aldershot, 2005) pp 86-98.

Louis.‘Mining,’ in Oliver.T (ed.), *Dangerous Trades* (1902) (London, 2004) pp 530-2.

Job B. ‘The British Mine Inspectorate in the Early Years,’ *Bulletin of the Peak District Mines Historical Society* 11.4 (Winter 1991) 193-4.

Job B. ‘The Formation and Early Development of the Mine Inspectorate 1850 to 1872,’ *Mining Engineer* (March 1994) 249-55.

Johnson R. ’Educational Policy and Social Control in Early Victorian England,’ *Past and Present* 49 (1970) 96-119.

Joyce P. ‘The Return of History: Postmodern and the Politics of Academic History in Britain,’ *Past and Present* 158 (1998) 207-35.

Kendrick J. ‘Sinking Operations at Kingsbury Colliery, Warwickshire,’ *Transactions of the Federated Institute of Mining Engineers* 13 (1896-97) 259-76.

Kerr C. and Siegel A. ‘The Inter-industry Propensity to Strike: an international comparison,’ in Kornhauser A, Dubin R and Ross A (eds.), *Industrial Conflict* (New York, 1954) pp 189-212.

Kirby P. ‘Child labour, public decency and the iconography of the Childrens’ Employment Commission of 1842,’ *Manchester Papers in Economic and Social History* 62 (October 2007) 1-23.

Lee P. ‘Birth of the modern brick makers and coalmasters,’ *Heartland Evening News*, 19 and 26 August 1994.

Lee W. ‘History of Organisation in the Coal Industry,’ in Mining Association of Great Britain *Historical Review of Coal Mining* (London, 1924) pp 351-77.

Linsley F. ‘*The North of England Institute of Mining Engineers and the Establishment of the College of Physical Science at Newcastle-upon-Tyne,*’ Public lecture University of Newcastle-upon-Tyne (9 July 1971) copy NEIMME website.

MacDonagh O. ‘Nineteenth Century Revolution in Government: a Reappraisal,’ *Historical Journal* (1958) 52-67, reprinted in Stansky P (ed.), *The Victorian Revolution: Government and Society in Victorian Britain* (New York, 1973) pp 5-27.

MacDonagh O. ‘Coal Mining Regulation: the First Decade 1842 to 1852,’ in Robson, (ed.), *Ideas and Institutions of Victorian Britain* (London, 1967) pp 58-86.

McCloskey D. ‘International Differences in Productivity? Coal and steel in the USA and Britain before World War One,’ in McCloskey D (ed.), *Essays on a Mature Economy: Britain after 1840* (London, 1971) pp 285-304.

Mitchell J. ‘The East Warwickshire coalfield,’ in Wise M (ed.), *Birmingham and its Regional Setting* (Birmingham, 1950) pp 289-302.

Morrah D. ‘A Historical Outline of Coal Mining Legislation,’ in Mining Association of Great Britain *Historical Review of Coal Mining* (London, 1924) pp 301-20.

Neath G. ‘An historical survey of the Warwickshire coalfield with particular reference to Griff,’ transcript of talk given to the Warwickshire Young Miners Association (9 December 1959) copy Nuneaton Library.

Outram Q. 'The Stupidest Men in England: The Industrial Relations Strategy of the Coalowners between the lockouts 1923 to 24,' *Historical Studies in Industrial Relations* (1997) 65-95.

Outram Q. 'Class Warriors: the Coalowners,' in McIlvoy J, Campbell A and Gildart K (eds.), *Struggle For Dignity: industrial politics and the 1926 industrial lockout* (Cardiff, 2009) pp 107-36.

Parris H. 'Nineteenth Century Revolution in Government: a reappraisal reappraised,' *Historical Journal* (1960) 17-37, reprinted in Stansky P. (ed.), *The Victorian Revolution: Government and Society in Victorian Britain* (New York, 1973) pp 29-57.

Paul E. 'Laissez Faire in Nineteenth-Century Britain: Fact or Myth?,' *Literature of Liberty* 3.4 (1980). 5-38.

Phillips W. 'Underground Haulage by Endless Rope at Ansley Hall Colliery,' *Transactions of the Institute of Mining Engineers* 3 (1891-92) 847-54.

Redmayne R. 'The Mining Department of the University of Birmingham,' *Institute of Mining Engineers* (London 1905) 1-68.

Rimlinger G. 'International Differences in the Strike Propensity of Coal Miners: experience in four countries,' *Industrial and Labour Relations Review* 12.3 (1959) 389-405.

Ritson J. 'Mine Rescue,' in Mining Association of Great Britain *Historical Review of Coal Mining* (London, 1924) pp 229-52.

Robert D. 'Jeremy Bentham and the Victorian Administrative State,' *Victorian Studies* 11 (1959) 193-210.

Rolands M. 'Stonier Parrott and the Newcomen Engine,' *Transactions of the Newcomen Society* 41 (1968-69) 49-67.

Sheppard M. 'The Origin and Incidence of the term Labour Aristocracy,' *Bulletin of the Society for Labour History* 37 (1978) 51-67.

Smith A. 'Brief History of Coalmining in Warwickshire,' *Transactions of the Federated Institute of Mining Engineers* 34 (1907-08) 365-7.

Smith G. '*The Making of Oral History,'* www.history.ac.uk/makinghistory/articles/oral_history

Stearns P. 'Working Class Women in Britain,' in Vicinus M. (ed.), *Suffer and be Still: Women in the Victorian Age* (Indiana, 1972) pp. 100-20.

Supple B. 'No Bloody Revolutions but for Obstinate Reactions: British coalowners in their context 1919 to 1920,' in Coleman D. and Mathias P. (eds.), *Enterprise and History: Essays in honour of Charles Wilson* (Cambridge, 1984) pp 212-36.

Swallow F. 'Coalmining in Warwickshire with special reference to the use of Stanley coal heading machine in the rapid development and working of Nuneaton Colliery,' *Transactions of the Federated Institute of Mine Engineers* 26 (1903-04) 530-46.

Taylor A. 'Labour Productivity and Technological Innovation in the British Coal Industry 1850 to 1914,' *Economic History Review* X1V (1961) 48-67.

Taylor A. 'The Coal Industry,' in Alcroft D. (ed.), *The Development of British Industry and Foreign Competition* (London, 1968) pp 37-70.

Thompson C. '*Plans of Abandoned Mines: History of Custody,*' (1964) paper published by Your Archives, website of the National Archives.

Thomas D. 'The Growth and Direction of the Foreign Trade of Coal during the last half century,' *Journal of the Royal Statistical Society* LXV1 (1903) 439-522.

Vincent D. 'Love, Death and the 19th century working class,' *Social History* 5.2 (1980) 223-47.

Wale J. 'The Griff Colliery Company 1882 to 1914: a case study in business history,' *Midland History* 14 (1989) 95-119.

Webb R. 'A Whig Inspector,' *Journal of Modern History* 27.4 (1955) 352-64.

Weyman A. Clarke D. and Cox T. 'Developing a Factor Model of Coalminers' Attributions to risk taking at work,' *Work and Stress* 17.4 (2003) 306-20.

Books

Anderson M. *Family Structure in 19th century Lancashire* (Cambridge 1971).

Ashton T. and Sykes J. *The Coal Industry in the Eighteenth Century* (Manchester, 1929).

Barron H. *The 1926 Lockout: Meanings of Community in the Durham coalfield* (Oxford, 2010).

Bartrip P. and Burman.S. *The Wounded Soldiers of Industry* (Oxford, 1983).

Baylies C. *The History of the Yorkshire Miners 1881 to 1918* (London, 1993).

Benson J. *British Coalminers in the 19th century: a social history* (Dublin, 1980).

Benson J. *Miners of Staffordshire 1840 to 1914* (Keele, 1993).

Beynon H. and Austrin T. *Masters and Servants: Class and Patronage in the Making of a Labour Organisation; the Durham miners and the English Political Tradition.* (London, 1994).

Bland J. and Norgrove H. *Galley Common Remembered* (Birmingham 1990).

Boyd R. *Coal Mines Inspection: its History and Results* (London, 1879).

British Coal Corporation. *Coventry Colliery* (Leicester, undated c1980`s).

Brodribb A. *Excavation at Shakenoak Farm near Wilcote, Oxfordshire. Part One sites A and D. Part Two sites B and H* (private publication, 1968 and 1971).

Bruley S. *The Women and Men of 1926: a gender and social history of the general strike and miners' lockout in South Wales* (Cardiff, 2010).

Bryan A. *The Evolution of Health and Safety in Mines* (Letchworth, 1975).

Buchman R. *The Engineers: a history of the Engineering profession in Britain 1750 to 1914* (London, 1989).

Bulmer M. *Mining and Social Change: Durham County in the 20th century* (London, 1976).

Burgess K. *The Origins of British Industrial Relations: the 19th century experience* (London, 1975).

Burt T. *From Pitman to Privy Counsellor: An Autobiography* (London, 1924).

Buxton N. *The Economic Development of the British Coal Industry* (London, 1978).

Campbell A. *The Lanarkshire Miners: a social history of their trade union 1775 to 1874* (Edinburgh, 1979).

Campbell A. *The Scottish Miners 1874 to 1939* (Aldershot, 2000).

Campbell G. *Miners Insurance Funds: their Origin and Extent* (London, 1880).

Carr G. *Pit Women: coal communities in northern England in the early 20th century* (London, 2001).

Challinor R. *The Lancashire and Cheshire Miners* (Newcastle-upon-Tyne, 1972).

Challinor R. and Ripley B. *Miners' Association: a trade union in the age of Chartists* (Whitley Bay, 1990).

Checkland S. *The Rise of Industrial Society in England 1815 to 1885* (London, 1964).

Church R. *History of the British Coal Industry: Volume Three 1830 to 1913* (Oxford, 1986).

Church R. and Outram Q. *Strikes and Solidarity: Coalfield Conflict in Britain 1889 to 1866* (Cambridge, 1998).

Coombes B. *These Poor Hands: the autobiography of a miner working in South Wales* (London, 1939).

Craig F. *British Electoral Facts 1832 to 1887 Parliamentary Research Service* (London, 1989).

Davis T. *Starving in Bedworth: will not pay the loan* (Coventry, 1990).

Dennis N. Henriques C. and Slaughter C. *Coal Is Our Life: an analysis of a Yorkshire mining community* (London, 1956).

Dicey A. *The Debt of Collectivism to Benthamism: Lectures on the Relationship between Law and Public Opinion in England during the 19th century* (London, 1905).

Edmonds O. and Edmonds E. *I Was There: the Memoirs of H.S.Tremenheere* (London, 1965).

Emery N. *The Coalminers of Durham* (Stroud 1992).

Evans E. *Mabon: a Study of Trade Union Leadership* (Cardiff, 1959).

Fagge R. *Power, Culture and Conflict in the Coalfields: West Virginia and South Wales 1900 to 1922* (Manchester, 1996).

Flynn M. *The History of the British Coal Industry: Volume Two 1700 to 1830* (Oxford, 1984).

Fordham D. *Coal and Water: an Industrial History of Arbury* (private publication, 2010).

Francis H. and Smith D. *The Fed: a history of the South Wales miners in the 20th century* (London, 1980).

Fretwell L. *The Warwickshire Coalfield Four Volumes* (Warwick, c2005).

Fuller T. *The History of the Worthies of England* (London, 1662).

Fynes R. *The Miners of Northumberland and Durham: a history of their political and social progress* (Sunderland, 1923).

Galloway R. *History of Coal Mining in Great Britain* (London, 1898).

Galloway R. *Annals of Coal Mining and the Coal Trade* (London, 1904).

Gersuny C. *Work Hazards' and Industrial Conflict* (Hannover, 1981).

Gier J. and Mercier L. *(eds.), Mining Women: Gender in the Development of a Global Industry, 1670 to the present day* (New York, 2006).

Gilbert D. *Class, Community and Collective Action: social change in two British coalfields 1850 to 1926* (Oxford, 1992).

Gospel.H. *Markets, Firms and Management of Labour in Modern Britain* (Cambridge, 1992).

Gregory R. *The Miner and British Politics 1906 to 1914* (Oxford, 1968).

Griffin A. *The Miners of Nottingham* (Nottingham, 1955).

Griffin A. *Mining in the East Midlands 1550 to 1947* (London, 1971).

Griffin C. *The Leicestershire and South Derbyshire Miners 1840 to 1914* (Coalville, 1981).

Hadfield C. *The Canals of the East Midlands* (Newton Abbot, 1966).

Haines M. *Fertility and Occupations: Population Patterns in Industrialisation* (New York 1979).

Hallam W. *Miners' Leaders: thirty portraits and biographical sketches* (London, 1894).

Harrison R. (ed.) *Independent Collier: the coal miner as Archetypal Proletarian Reconsidered* (Sussex, 1978).

Higgs.E. *Making Sense of the Census* (London, 1989).

Hodges F. *My Adventures as a Labour Leader* (London, 1925).

Howell H. *Geology of the Warwickshire Coalfield. (Memoirs of the Geological Survey)* (London, 1858).

Jevons H.S. *The British Coal Trade* (London, 1915).

Jewitt L. *Ceramic Art of Great Britain* (London, 1878).

John A. *By the Sweat of their Brow: women workers in the Victorian coal industry* (London, 1980).

John A. *Unequal Opportunities: Womens' Employment in Britain 1800 to 1918* (Oxford, 1986).

Powell A. and Thomas G. *The Rise and Fall of the South Wales Coal Industry* (Port Talbot, 1999).

Kirby M. *The British Coalmining Industry 1870 to 1946* (London, 1977).

Lawrence A. *Bedworth* (Coventry, 1951).

Levine A. *Industrial Retardation in Britain 1880 to 1914* (London, 1967).

Mann T. *Tom Mann's Memoirs* (London, 1923).

McIvor A. and Johnston R. *Miner's Lung: a History of Dust Disease in British Coalmining* (Aldershot, 2007).

Mills C. *Regulating Health and Safety in the British Mining Industries 1800-1914* (Aldershot, 2010).

Mitchell B. *The Economic Development of the British Coal Industry 1800 to 1914* (London 1984).

Moore R. *Pitmen, Preachers and Politics: the effects of Methodism on a Durham mining community* (Cambridge, 1974).

Nef J. *The Rise of the British Coal Industry* (London, 1932).

Oxford Dictionary of National Biography.

Page Arnot R. *The Miners: a history of the MFGB to 1910* (London, 1947).

Page Arnot R. *The Miners: Years of Struggle. A history of the MFGB from 1910* (London, 1953).

Pamely C. *The Colliery Manager's Handbook* (London, 1898).

Parker T. *Red Hill: a mining community* (Sevenoaks, 1986).

Perks R. and Thomson A. *The Oral History Reader* (London, 1998).

Redmayne R. *Men, Mines and Memories* (London, 1942).

Redmayne R. and Bulman H. *Coalmining and the Coal Miner* (London, 1920).

Rosen J. (ed.) *Medicine in the Mining Industry* (London, 1972), in particular Lawrence et al, Accidents pp 252-72 and Williams, Beat Disease pp 199-208.

Rowe J. *Wages in the Coal Industry* (London, 1923).

Rymer E. *The Martyrdom of the Mine* (Middlesbrough, 1898).

Samuel R. (ed.) *Miners, Quarrymen and Saltworkers History Workshop Series* (London, 1977).

Shorter E. *The Making of the Modern Family* (New York 1975).

Simon J. *Public Health Reports* (London, 1887).

Smillie R. *My Life For Labour* (London, 1924).

Smith T. *The Miners` Guide* (Birmingham, 1836).

Stanley Brothers: a short resume of the business of Stanley Brothers Limited, of Nuneaton (dated 1 March 1927).

Supple.B. *The Royal Exchange Assurance: a History of Insurance 1720 to 1970* (Cambridge, 1970).

Victoria County History; Warwickshire (London, 1908).

Waller R. *The Dukeries Transformed: the social and political development of a 20th century coalfield* (Oxford, 1983).

Walters R. *The Economic and Business History of the South Wales Steam Coal Industry 1840 to 1918* (New York, 1977).

Webb S. and Webb B. *History of Trade Unionism* (London, 1976).

Williams C. *Capitalism, Community and Conflict: The South Wales Coalfield 1898 to 1947* (Cardiff, 1998).

White A. *Men and Mining in Warwickshire* (Coventry, 1970).

White C. and Williams S (eds.). *Struggle or Starve: women's lives in the South Wales valleys between the two World Wars* (Powys, 1998).

Williams J. *The Derbyshire Miners* (London, 1962).

Wilson A. *The Pick and the Pen* (London, 1979).

Wilson A. and Levy H. *Workmen's Compensation* (Oxford, 1939).

Wilson J. *A History of the Durham Miners' Association 1870 to 1904* (Durham, 1907).

Wilson J. *Memories of a Labour Leader* (London, 1910).

Woodward H. *The History of the Geological Society of London* (London, 1907).

Zweig F. *Men in the Pits* (London, 1949).